FOIA/PA NO: 2016-0071

RECORDS BEING RELEASED IN PART

The following types of information are being withheld:

Ex. 1: ☐ Records properly classified pursuant to Executive Order 13526
Ex. 2: ☐ Records regarding personnel rules and/or human capital administration
Ex. 3: ☐ Information about the design, manufacture, or utilization of nuclear weapons
☐ Information about the protection or security of reactors and nuclear materials
☐ Contractor proposals not incorporated into a final contract with the NRC
☐ Other_____
Ex. 4: ☐ Proprietary information provided by a submitter to the NRC
☐ Other_____
Ex. 5: ☐ Draft documents or other pre-decisional deliberative documents (D.P. Privilege)
☐ Records prepared by counsel in anticipation of litigation (A.W.P. Privilege)
☐ Privileged communications between counsel and a client (A.C. Privilege)
☐ Other_____
Ex. 6: ■ Agency employee PII, including SSN, contact information, birthdates, etc.
☐ Third party PII, including names, phone numbers, or other personal information
Ex. 7(A): ☐ Copies of ongoing investigation case files, exhibits, notes, ROI's, etc.
☐ Records that reference or are related to a separate ongoing investigation(s)
Ex. 7(C): ☐ Special Agent or other law enforcement PII
☐ PII of third parties referenced in records compiled for law enforcement purposes
Ex. 7(D): ☐ Witnesses' and Allegers' PII in law enforcement records
☐ Confidential Informant or law enforcement information provided by other entity
Ex. 7(E): ☐ Law Enforcement Technique/Procedure used for criminal investigations
☐ Technique or procedure used for security or prevention of criminal activity
Ex. 7(F): ■ Information that could aid a terrorist or compromise security

Other/Comments:_____
_____

Duke Energy®

T. PRESTON GILLESPIE, JR.
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September 27, 2012

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station, Units 1, 2, and 3
Docket Nos. 50-269, -270, and -287
Emergency Plan Implementing Procedures Manual
Volume C, Revision 2012-07

Please find attached for your use and review copies of the revision to the Oconee Nuclear Station Emergency Plan.

This revision is being submitted in accordance with 10 CFR 50.54(q) and does not reduce the effectiveness of the Emergency Plan or the Emergency Plan Implementing Procedures. If there are any questions or concerns pertaining to this revision please call Pat Street, Emergency Planning Manager, at 864-873-3124.

By copy of this letter, two copies of this revision are being provided to the NRC, Region II, Atlanta, Georgia.

Sincerely,

TPGillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

Attachments:
Revision Instructions
EPIP Volume C - Revision 2012-07
50.54(q) Evaluation(s)

AX45
NRR

xc: w/2 copies of attachments

Mr. Victor McCree, Regional Administrator
U.S. Nuclear Regulatory Commission - Region II
Marquis One Tower
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Atlanta, GA 30303-1257

w/copy of attachments

Mr. John Boska, Project Manager
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U. S. Nuclear Regulatory Commission
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Rockville, MD 20852
(send via E-mail)

w/o attachments

NRC Senior Resident Inspector
Oconee Nuclear Station

September 27, 2012

OCONEE NUCLEAR STATION

SUBJECT: Emergency Plan Implementing Procedures
Volume C Revision 2012-07

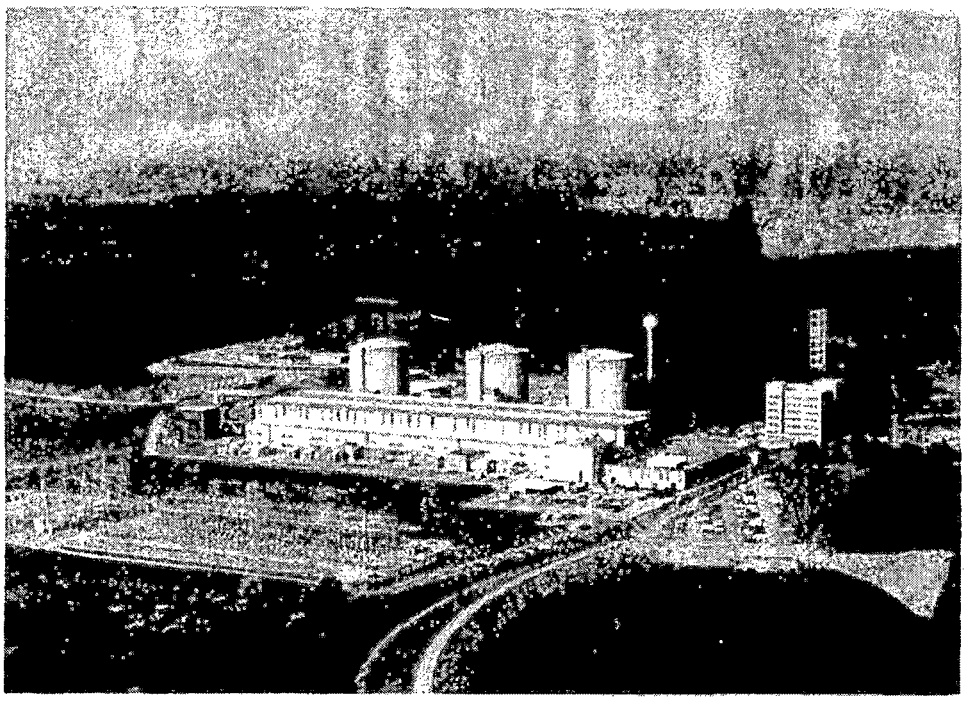
Please make the following changes to the Emergency Plan Implementing Procedures, Volume C:

REMOVE	INSERT
Cover Sheet Rev. 2012-06	Cover Sheet Rev. 2012-07
Table of Contents Page 1, 2, & 3	Table of Contents Page 1, 2, & 3
RP/0/B/1000/001 - Rev. 030	RP/0/B/1000/001 - Rev. 031
RP/0/B/1000/031 - Rev. 005	RP/0/B/1000/031 - Rev. 006
SR/0/B/2000/001 - Rev. 011	SR/0/B/2000/001 - Rev. 012
SR/0/B/2000/003 - Rev. 024	SR/0/B/2000/003 - Rev. 025

Pat Street
ONS Emergency Planning Manager

Duke Energy®

OCONEE NUCLEAR STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURES
VOLUME C



APPROVED:

T L Patt

Terry L. Patterson
Safety Assurance Manager

9/19/12

Date Approved

9/19/12

Effective Date

VOLUME C
REVISION 2012-07
SEPTEMBER 2012

VOLUME C
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Duke Energy
Oconee Nuclear Station
Emergency Classification

Procedure No.
RP/0/B/1000/001

Revision No.
031

Electronic Reference No.
OX002WOS

Reference Use

PERFORMANCE

This Procedure was printed on 09/19/12 at 07:20:55 from the electronic library as:

(ISSUED) - PDF Format

Compare with Control Copy every 14 calendar days while work is being performed.

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* Date

Procedure Completion Approved* Date

**Printed Name and Signature*

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do NOT mark on barcodes.

Printed Date: *09/19/2012*

Enclosure No.: *FULL*

Revision No.: *031*

Procedure No.: *RP/0/B/1000/001*

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

(1) ID No. RP/0/B/1000/001

PROCEDURE PROCESS RECORD

Revision No. 31

PREPARATION

(2) Station OCONEE NUCLEAR STATION

(3) Procedure Title Emergency Classification

(4) Prepared By* Donald A. Crowl Date: 9/8/12

(5) Requires NSD 228 Applicability Determination?

☒ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation.

☐ No (Revision with minor changes)

(6) Reviewed By* Ray Watermall/Ray Waterman (QR)(KI) Date 9-8-12

Cross-Disciplinary Review By* _____ (QR)(KI) NA RAW Date 9-8-12

Reactivity Mgmt Review By* _____ (QR) NA RAW Date 9-8-12

Mgmt Involvement Review By* _____ (Ops. Supt.) NA RAW Date 9-8-12

(7) Additional Reviews

Reviewed By* _____ Date _____

Reviewed By* _____ Date _____

(8) Approved By* Peter M. Gross Date 9/8/12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification:

☐ Unit 0 ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 Procedure performed on what unit?

☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

Emergency Classification

NOTE: This procedure is an implementing procedure to the Oconee Nuclear Site Emergency plan and must be forwarded to Emergency Planning within seven (7) working days of approval.

1. Symptoms

1.1 This procedure describes the immediate actions to be taken to recognize and classify an emergency condition.

1.2 This procedure identifies the four emergency classifications and their corresponding Emergency Action Levels (EALs).

1.3 This procedure provides reporting requirements for non-emergency abnormal events.

1.4 The following guidance is to be used by the Emergency Coordinator/EOF Director in assessing emergency conditions:

1.4.1 Definitions and Acronyms are italicized throughout procedure for easy recognition. The definitions are in Enclosure 4.10 (Definitions/Acronyms).

1.4.2 The Emergency Coordinator/EOF Director shall review all applicable initiating events to ensure proper classification.

1.4.3 The BASIS Document (Volume A, Section D of the Emergency Plan) is available for review if any questions arise over proper classification.

1.4.4 IF An event occurs on more than one unit concurrently,

THEN The event with the higher classification will be classified on the Emergency Notification Form.

A. Information relating to the problem(s) on the other unit(s) will be captured on the Emergency Notification Form as shown in RP/0/B/1000/015A, (Offsite Communications From The Control Room), RP/0/B/1000/015B, (Offsite Communications From The Technical Support Center) or SR/0/B/2000/004, (Notification to States and Counties from the Emergency Operations Facility).

1.4.5 IF An event occurs,

AND A lower or higher plant operating mode is reached before the classification can be made,

THEN The classification shall be based on the mode that existed at the time the event occurred.

1.4.6 The Fission Product Barrier Matrix is applicable only to those events that occur at Mode 4 (Hot Shutdown) or higher.

A. An event that is recognized at Mode 5 (Cold Shutdown) or lower shall not be classified using the Fission Product Barrier Matrix.

1. Reference should be made to the additional enclosures that provide Emergency Action Levels for specific events (e.g., Severe Weather, *Fire*, Security).

1.5 **IF** A transient event should occur,

THEN Review the following guidance:

1.5.1 **IF** An Emergency Action Level (EAL) identifies a specific duration

AND The Emergency Coordinator/EOF Director assessment concludes that the specified duration is exceeded or will be exceeded, (i.e.; condition cannot be reasonably corrected before the duration elapses),

THEN Classify the event.

1.5.2 **IF** A plant condition exceeding EAL criteria is corrected before the specified duration time is exceeded,

THEN The event is **NOT** classified by that EAL.

A. Review lower severity EALs for possible applicability in these cases.

NOTE: Reporting under 10CFR50.72 may be required for the following step. Such a condition could occur, for example, if a follow up evaluation of an abnormal condition uncovers evidence that the condition was more severe than earlier believed.

1.5.3 **IF** A plant condition exceeding EAL criteria is not recognized at the time of occurrence, but is identified well after the condition has occurred (e.g.; as a result of routine log or record review)

AND The condition no longer exists,

THEN An emergency shall **NOT** be declared.

- Refer to NSD 202 for reportability

1.5.4 IF An emergency classification was warranted, but the plant condition has been corrected prior to declaration and notification

THEN The Emergency Coordinator must consider the potential that the initiating condition (e.g.; Failure of Reactor Protection System) may have caused plant damage that warrants augmenting the on shift personnel through activation of the Emergency Response Organization.

A. IF An ***Unusual Event*** condition exists,

THEN Make the classification as required.

1. The event may be terminated in the same notification or as a separate termination notification.

B. IF An ***Alert, Site Area Emergency,*** or ***General Emergency*** condition exists,

THEN Make the classification as required,

AND Activate the Emergency Response Organization.

1.6 Emergency conditions shall be classified as soon as the Emergency Coordinator/EOF Director assessment determines that the Emergency Action Levels for the Initiating Condition have been exceeded.

2. Immediate Actions

2.1 Determine the operating mode that existed at the time the event occurred prior to any protection system or operator action initiated in response to the event.

2.2 **IF** The unit is at Mode 4 (Hot Shutdown) or higher

AND The condition/event affects fission product barriers,

THEN GO TO Enclosure 4.1, (Fission Product Barrier Matrix).

2.2.1 Review the criteria listed in Enclosure 4.1, (Fission Product Barrier Matrix) and make the determination if the event should be classified).

2.3 Review the listing of enclosures to determine if the event is applicable to one of the categories shown.

2.3.1 **IF** One or more categories are applicable to the event,

2.3.2 **THEN** Refer to the associated enclosures.

2.3.3 Review the EALs and determine if the event should be classified.

A. **IF** An EAL is applicable to the event,

THEN Classify the event as required.

2.4 **IF** The condition requires an emergency classification,

THEN Initiate the following:

- for Control Room - RP/0/B/1000/002, (Control Room Emergency Coordinator Procedure)
- for TSC - RP/0/B/1000/019, (Technical Support Center Emergency Coordinator Procedure)
- for EOF - SR/0/B/2000/003, (Activation of the Emergency Operations Facility)

2.5 Continue to review the emergency conditions to assure the current classification continues to be applicable.

3. Subsequent Actions

3.1 Continue to review the emergency conditions to assure the current classification continues to be applicable.

4.0 Enclosures

Enclosure 4.1
Fission Product Barrier Matrix

DETERMINE THE APPROPRIATE CLASSIFICATION USING THE TABLE BELOW: ADD POINTS TO CLASSIFY. SEE NOTE BELOW

RCS BARRIERS (BD 5-7)		FUEL CLAD BARRIERS (BD 8-9)		CONTAINMENT BARRIERS (BD 10-13)	
Potential Loss (4 Points)	**Loss (5 Points)**	**Potential Loss (4 Points)**	**Loss (5 Points)**	**Potential Loss (1 Point)**	**Loss (3 Points)**
RCS Leakrate ≥ 160 gpm	RCS Leak rate that results in a loss of subcooling.	Average of the 5 highest CETC ≥ 700° F	Average of the 5 highest CETC ≥ 1200° F	CETC ≥ 1200° F ≥ 15 minutes <u>OR</u> CETC ≥ 700° F ≥ 15 minutes with a *valid* RVLS reading 0"	Rapid unexplained containment pressure decrease after increase <u>OR</u> containment pressure or sump level not consistent with LOCA
SGTR ≥ 160 gpm		*Valid* RVLS reading of 0"	Coolant activity ≥ 300 µCi/ml DEI	RB pressure ≥ 59 psig <u>OR</u> RB pressure ≥ 10 psig and no RBCU or RBS	Failure of secondary side of SG results in a direct opening to the environment with SG Tube Leak ≥ 10 gpm in the <u>SAME</u> SG
Entry into the PTS (Pressurized Thermal Shock) Operation NOTE: PTS is entered under either of the following: • A cooldown below 400°F @ > 100°F/hr. has occurred. • HPI has operated in the injection mode while NO RCPs were operating.	1RIA 57 or 58 reading ≥ 1.0 R/hr 2 RIA 57 reading ≥ 1.6 R/hr 2 RIA 58 reading ≥ 1.0 R/hr 3RIA 57 or 58 reading ≥ 1.0 R/hr	NOTE: RVLS is <u>NOT</u> valid if one or more RCPs are running <u>OR</u> if LPI pump(s) are running <u>AND</u> taking suction from the LPI drop line.	Hours Since SD / RIA 57 OR RIA 58 R/hr / R/hr 0 - <0.5 / ≥ 300 / ≥ 150 0.5 - < 2.0 / ≥ 80 / ≥ 40 2.0 - 8.0 / ≥ 32 / ≥ 16	Hours Since SD / RIA 57 OR RIA 58 R/hr / R/hr 0 - < 0.5 / ≥ 1800 / ≥ 860 0.5 - < 2.0 / ≥ 400 / ≥ 195 2.0 - 8.0 / ≥ 280 / ≥ 130	SG Tube Leak ≥ 10 gpm exists in one SG. <u>AND</u> the other SG has secondary side failure that results in a direct opening to the environment <u>AND</u> is being fed from the affected unit.
HPI Forced Cooling	RCS pressure spike ≥ 2750 psig			Hydrogen concentration ≥ 9%	Containment isolation is incomplete and a release path to the environment exists
Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment

UNUSUAL EVENT (1-3 Total Points)	ALERT (4-6 Total Points)	SITE AREA EMERGENCY (7-10 Total Points)	GENERAL EMERGENCY (11-13 Total Points)
<u>OPERATING MODE:</u> 1, 2, 3, 4	<u>OPERATING MODE:</u> 1, 2, 3, 4	<u>OPERATING MODE:</u> 1, 2, 3, 4	<u>OPERATING MODE:</u> 1, 2, 3, 4
4.1.U.1 Any potential loss of Containment	4.1.A.1 Any potential loss or loss of the RCS	4.1.S.1 Loss of any two barriers	4.1.G.1 Loss of any two barriers and potential loss of the third barrier
4.1.U.2 Any loss of containment	4.1.A.2 Any potential loss or loss of the Fuel Clad	4.1.S.2 Loss of one barrier and potential loss of either RCS or Fuel Clad Barriers	4.1.G.2 Loss of all three barriers
		4.1.S.3 Potential loss of both the RCS and Fuel Clad Barriers	

NOTE: An event with multiple events could occur which would result in the conclusion that exceeding the loss or potential loss threshold is <u>IMMINENT</u> (i.e., within 1-3 hours). In this IMMINENT LOSS situation, use judgment and classify as if the thresholds are exceeded.

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. *RCS LEAKAGE* (BD 15) OPERATING MODE: 1, 2, 3, 4 A. Unidentified leakage ≥ 10 gpm B. Pressure boundary leakage ≥ 10 gpm C. Identified leakage ≥ 25 gpm • Includes SG tube leakage 2. *UNPLANNED* LOSS OF MOST OR ALL SAFETY SYSTEM ANNUNCIATION/ INDICATION IN CONTROL ROOM FOR > 15 MINUTES (BD 16) OPERATING MODE: 1, 2, 3, 4 A. *Unplanned* loss of > 50% of the following annunciators on one unit for > 15 minutes: Units 1 & 3 1 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 3 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 Unit 2 2 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, & 16 AND Loss of annunciators or indicators requires additional personnel (beyond normal shift complement) to safely operate the unit (CONTINUED)	1. *UNPLANNED* LOSS OF MOST OR ALL SAFETY SYSTEM ANNUNCIATION/ INDICATION IN CONTROL ROOM (BD 20) OPERATING MODE: 1, 2, 3, 4 A. *Unplanned* loss of > 50% of the following annunciators on one unit for > 15 minutes: Units 1 & 3 1 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 3 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 Unit 2 2 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, & 16 AND Loss of annunciators or indicators requires additional personnel (beyond normal shift complement) to safely operate the unit AND *Significant plant transient in progress* OR Loss of the OAC and ALL PAM indications (END)	1. INABILITY TO MONITOR A SIGNIFICANT TRANSIENT IN PROGRESS (BD 22) OPERATING MODE: 1, 2, 3, 4 A. *Unplanned* loss of > 50% of the following annunciators on one unit for > 15 minutes: Units 1 & 3 1 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 3 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, & 18 Unit 2 2 SA1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, & 16 AND A *significant transient* is in progress AND Loss of the OAC and ALL PAM indications AND *Inability to directly monitor* any one of the following functions: 1. Subcriticality 2. Core Cooling 3. Heat Sink 4. RCS Integrity 5. Containment Integrity 6. RCS Inventory (END)	

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
3. INABILITY TO REACH REQUIRED SHUTDOWN WITHIN LIMITS (BD 17) OPERATING MODE: 1, 2, 3, 4 A. Required operating mode not reached within TS LCO action statement time **4. *UNPLANNED* LOSS OF ALL ONSITE OR OFFSITE COMMUNICATIONS (BD 18)** OPERATING MODE: All A. Loss of all onsite communications capability (Plant phone system, PA system, Pager system, Onsite Radio system) affecting ability to perform Routine operations B. Loss of all onsite communications capability (Selective Signaling, NRC ETS lines, Offsite Radio System, AT&T line) affecting ability to communicate with offsite authorities. **5. FUEL CLAD DEGRADATION (BD 19)** OPERATING MODE: All: A. DEI - >5µCi/ml (END)			

UNUSUAL EVENT

1 ANY *UNPLANNED* RELEASE OF GASEOUS OR LIQUID RADIOACTIVITY TO THE ENVIRONMENT THAT EXCEEDS TWO TIMES THE SLC LIMITS FOR 60 MINUTES OR LONGER (BD 25)

OPERATING MODE: All

A. *Valid* indication on radiation monitor RIA 33 of ≥ 4.06E+06 cpm for > 60 minutes (See Note 1)

B. *Valid* indication on radiation monitor RIA-45 of ≥ 9.35E+05 cpm or RP sample reading of ≥ 6.62E-2uCi/ml Xe 133 eq for > 60 minutes (See Note 1)

C. Liquid effluent being released exceeds two times SLC 16.11.1 for > 60 minutes as determined by Chemistry Procedure

D. Gaseous effluent being released exceeds two times SLC 16.11.2 for > 60 minutes as determined by RP Procedure

NOTE 1: If monitor reading is sustained for the time period indicated in the EAL AND the required assessments (procedure calculations) cannot be completed within this period, declaration must be made on the *valid* Radiation Monitor reading.

(CONTINUED)

ALERT

1. ANY *UNPLANNED* RELEASE OF GASEOUS OR LIQUID RADIOACTIVITY TO THE ENVIRONMENT THAT EXCEEDS 200 TIMES RADIOLOGICAL TECHNICAL SPECIFICATIONS FOR 15 MINUTES OR LONGER (BD 30)

OPERATING MODE: All

A. *Valid* indication of RIA-46 of ≥ 2.09 E+ 04 cpm or RP sample reading of ≥ 6.62 uCi/ml Xe 133 eq for > 15 minutes. (See Note 1)

B RIA 33 HIGH Alarm

AND

Liquid effluent being released exceeds 200 times the level of SLC 16.11.1 for > 15 minutes as determined by Chemistry Procedure

C. Gaseous effluent being released exceeds 200 times the level of SLC 16.11.2 for >15 minutes as determined by RP Procedure

(CONTINUED)

SITE AREA EMERGENCY

1. BOUNDARY DOSE RESULTING FROM ACTUAL/IMMINENT RELEASE OF GASEOUS ACTIVITY (BD 35)

OPERATING MODE: All

A. *Valid* reading on RIA 46 of ≥ 2.09E+05 cpm or RIA 56 reading of ≥ 17.5 R/hr or RP sample reading of 6.62E+01 uCi/ml Xe 133 eq for > 15 minutes (See Note 2)

B. *Valid* reading on RIA 57 or 58 as shown on Enclosure 4.8 (See Note 2)

C. Dose calculations result in a dose projection at the *site boundary* of:

≥ 100 mRem TEDE or 500 mRem CDE adult thyroid

D. Field survey results indicate *site boundary* dose rates exceeding ≥100 mRad/hr expected to continue for more than one hour

OR

Analyses of field survey samples indicate adult thyroid dose commitment of ≥ 500 mRem CDE (3.84 E^{-7} µCi/ml) for one hour of inhalation

NOTE 2: If actual Dose Assessment cannot be completed within 15 minutes, then the *valid* radiation monitor reading should be used for emergency classification.

(CONTINUED)

GENERAL EMERGENCY

1. BOUNDARY DOSE RESULTING FROM ACTUAL/ IMMINENT RELEASE OF GASEOUS ACTIVITY (BD 39)

OPERATING MODE: All

A. *Valid* reading on RIA 46 of ≥ 2.09E+06 cpm or RIA 56 reading of ≥ 175 R/hr or RP sample reading of 6.62E+02uCi/ml Xe 133 eq for ≥ 15 minutes (See Note 3)

B. *Valid* reading on RIA 57 or 58 as shown on Enclosure 4.8 (See Note 3)

C. Dose calculations result in a dose projection at the *site boundary* of:

≥ 1000 mRem TEDE

OR

≥ 5000 mRem CDE adult thyroid

D. Field survey results indicate *site boundary* dose rates exceeding ≥1000 mRad/hr expected to continue for more than one hour

OR

Analyses of field survey samples indicate adult thyroid dose commitment of ≥ 5000 mRem CDE for one hour of inhalation

NOTE 3: If actual Dose Assessment cannot be completed within 15 minutes, then the *valid* radiation monitor reading should be used for emergency classification.

(END)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
2 UNEXPECTED INCREASE IN PLANT RADIATION OR AIRBORNE CONCENTRATION (BD 27) OPERATING MODE: All A. LT 5 reading 14" and decreasing with makeup not keeping up with leakage WITH fuel in the core B. *Valid* indication of *uncontrolled* water decrease in the SFP or fuel transfer canal with all fuel assemblies remaining covered by water AND Unplanned *Valid* RIA 3, 6 or Portable Area Monitor readings increase. C. 1 R/hr radiation reading at one foot away from a damaged storage cask located at the ISFSI D. *Valid* area monitor readings exceeds limits stated in Enclosure 4.9. NOTE: This Initiating Condition is also located in Enclosure 4.4., (Loss of Shutdown Functions). High radiation levels will also be seen with this condition. (END)	**2. RELEASE OF RADIOACTIVE MATERIAL OR INCREASES IN RADIATION LEVELS THAT IMPEDES OPERATION OF SYSTEMS REQUIRED TO MAINTAIN SAFE OPERATION OR TO ESTABLISH OR MAINTAIN COLD SHUTDOWN (BD 32)** OPERATING MODE: All A. *Valid* radiation reading ≥ 15 mRad/hr in CR, CAS, or Radwaste CR B. *Unplanned*/unexpected *valid* area monitor readings exceed limits stated in Enclosure 4.9 **3. MAJOR DAMAGE TO IRRADIATED FUEL OR LOSS OF WATER LEVEL THAT HAS OR WILL RESULT IN THE UNCOVERING OF IRRADIATED FUEL OUTSIDE THE REACTOR VESSEL (BD 33)** OPERATING MODE: All A. *Valid* RIA 3*, 6, 41, OR 49* **HIGH** Alarm * - Applies to Mode 6 and No Mode Only B. **HIGH** Alarm for portable area monitors on the main bridge or SFP bridge C Report of visual observation of irradiated fuel uncovered D. Operators determine water level drop in either the SFP or fuel transfer canal will exceed makeup capacity such that irradiated fuel will be uncovered NOTE: This Initiating Condition is also located in Enclosure 4.4., (Loss of Shutdown Functions). High radiation levels will also be seen with this condition. (END)	**2. LOSS OF WATER LEVEL IN THE REACTOR VESSEL THAT HAS OR WILL UNCOVER FUEL IN THE REACTOR VESSEL (BD 38)** OPERATING MODE: 5, 6 A. Failure of heat sink causes loss of Mode 5 (Cold Shutdown) condition AND LT 5 indicates 0 inches after initiation of RCS makeup B. Failure of heat sink causes loss of Mode 5 (Cold Shutdown) condition AND Either train ultrasonic level indication less than 0 inches and decreasing after initiation of RCS makeup NOTE: This Initiating Condition is also located in Enclosure 4.4., (Loss of Shutdown Functions). High radiation levels will also be seen with this condition. (END))	

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
(CONTINUE TO NEXT PAGE)	**1. FAILURE OF RPS TO COMPLETE OR INITIATE A Rx SCRAM (BD 44)** OPERATING MODE 1, 2, 3 A. *Valid* reactor trip signal received or required WITHOUT automatic scram AND DSS has inserted Control Rods OR Manual trip from the Control Room is successful and reactor power is less than 5% and decreasing **2. INABILITY TO MAINTAIN PLANT IN MODE 5 (COLD SHUTDOWN) (BD 46)** OPERATING MODE: 5, 6 A. Loss of LPI and/or LPSW AND Inability to maintain RCS temperature below 200° F as indicated by either of the following: RCS temperature at the LPI Pump Suction OR Average of the 5 highest CETCs as indicated by ICCM display OR Visual observation (CONTINUED)	**1. FAILURE OF RPS TO COMPLETE OR INITIATE A Rx SCRAM (BD 50)** OPERATING MODE: 1, 2 A. *Valid* reactor trip signal received or required WITHOUT automatic scram AND DSS has NOT inserted Control Rods AND Manual trip from the Control Room was NOT successful in reducing reactor power to less than 5% and decreasing **2. COMPLETE LOSS OF FUNCTION NEEDED TO ACHIEVE OR MAINTAIN MODE 4 (HOT SHUTDOWN) (BD 51)** OPERATING MODE: 1, 2, 3, 4 A. Average of the 5 highest CETCs ≥1200° F shown on ICCM B. Unable to maintain reactor subcritical C. EOP directs feeding SG from SSF ASWP or station ASWP (CONTINUED)	**1. FAILURE OF RPS TO COMPLETE AUTOMATIC SCRAM AND MANUAL SCRAM NOT SUCCESSFUL WITH INDICATION OF CORE DAMAGE (BD 53)** OPERATING MODE: 1, 2 A. *Valid* Rx trip signal received or required WITHOUT automatic scram AND Manual trip from the Control Room was NOT successful in reducing reactor power to < 5% and decreasing AND Average of the 5 highest CETCs ≥1200° F on ICCM (END)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. **UNEXPECTED INCREASE IN PLANT RADIATION OR AIRBORNE CONCENTRATION (BD 42)** OPERATING MODE: All A. LT 5 reading 14" and decreasing with makeup not keeping up with leakage WITH fuel in the core B. *Valid* indication of *uncontrolled* water decrease in the SFP or fuel transfer canal with all fuel assemblies remaining covered by water AND Unplanned *Valid* RIA 3, 6 or Portable Area Monitor readings increase. C. 1 R/hr radiation reading at one foot away from a damaged storage cask located at the ISFSI D. *Valid* area monitor readings exceeds limits stated in Enclosure 4.9. NOTE: This Initiating Condition is also located in Enclosure 4.3., (Abnormal Rad Levels/Radiological Effluent). High radiation levels will also be seen with this condition. (END)	3. **MAJOR DAMAGE TO IRRADIATED FUEL OR LOSS OF WATER LEVEL THAT HAS OR WILL RESULT IN THE UNCOVERING OF IRRADIATED FUEL OUTSIDE THE REACTOR VESSEL (BD 48)** OPERATING MODE: All A. *Valid* RIA 3*, 6, 41, OR 49* HIGH Alarm *Applies to Mode 6 and No Mode Only B. HIGH Alarm for portable area monitors on the main bridge or SFP bridge C Report of visual observation of irradiated fuel uncovered D. Operators determine water level drop in either the SFP or fuel transfer canal will exceed makeup capacity such that irradiated fuel will be uncovered NOTE: This Initiating Condition is also located in Enclosure 4.3, (Abnormal Rad Levels/Radiological Effluent). High radiation levels will also be seen with this condition. (END)	3. **LOSS OF WATER LEVEL IN THE REACTOR VESSEL THAT HAS OR WILL UNCOVER FUEL IN THE REACTOR VESSEL (BD 52)** OPERATING MODE: 5, 6 A. Failure of heat sink causes loss of Mode 5 (Cold Shutdown) conditions AND LT-5 indicates 0 inches after initiation of RCS Makeup B. Failure of heat sink causes loss of Mode 5 (Cold Shutdown) conditions AND Either train ultrasonic level indication less than 0 inches and decreasing after initiation of RCS makeup NOTE: This Initiating Condition is also located in Enclosure 4.3, (Abnormal Rad Levels/Radiological Effluent). High radiation levels will also be seen with this condition. (END)	

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. LOSS OF ALL OFFSITE POWER TO ESSENTIAL BUSSES FOR GREATER THAN 15 MINUTES (BD 55) OPERATING MODE: All A. Unit auxiliaries are being supplied from Keowee or CT5 AND Inability to energize either MFB from an offsite source (either switchyard) within 15 minutes. **2. *UNPLANNED LOSS OF REQUIRED DC* POWER FOR GREATER THAN 15 MINUTES (BD 56)** OPERATING MODE: 5, 6 A. *Unplanned* loss of vital DC power to required DC busses as indicated by bus voltage less than 110 VDC AND Failure to restore power to at least one required DC bus within 15 minutes from the time of loss (END)	**1. LOSS OF ALL OFFSITE AC POWER AND LOSS OF ALL ONSITE AC POWER TO ESSENTIAL BUSSES (BD 57)** OPERATING MODE: 5, 6 Defueled A. MFB 1 and 2 de-energized AND Failure to restore power to at least one MFB within 15 minutes from the time of loss of both offsite and onsite AC power **2. AC POWER CAPABILITY TO ESSENTIAL BUSSES REDUCED TO A SINGLE SOURCE FOR GREATER THAN 15 MINUTES (BD 58)** OPERATING MODE: 1, 2, 3, 4 A. AC power capability has been degraded to a single power source for > 15 minutes due to the loss of all but one of the following: Unit Normal Transformer (backcharged) Unit SU Transformer Another Unit SU Transformer (aligned) CT4 CT5 (END)	**1. LOSS OF ALL OFFSITE AC POWER AND LOSS OF ALL ONSITE AC POWER TO ESSENTIAL BUSSES (BD 59)** OPERATING MODE: 1, 2, 3, 4 A. MFB 1 and 2 de-energized AND Failure to restore power to at least one MFB within 15 minutes from the time of loss of both offsite and onsite AC power **2. LOSS OF ALL VITAL DC POWER *(BD 60)*** OPERATING MODE: 1, 2, 3, 4 A. *Unplanned* loss of *vital* DC power to required DC busses as indicated by bus voltage less than 110 VDC AND Failure to restore power to at least one required DC bus within 15 minutes from the time of loss (END)	**1. PROLONGED LOSS OF ALL OFFSITE *POWER AND ONSITE AC POWER* (BD 62)** OPERATING MODE: 1, 2, 3, 4 A. MFB 1 and 2 de-energized AND SSF fails to maintain Mode 3 (Hot Standby) (1) AND At least one of the following conditions exist: Restoration of power to at least one MFB within 4 hours is NOT likely OR Indications of continuing degradation of core cooling based on Fission Product Barrier monitoring (END)

Loss of Power - Emergency Action Levels (EALs) apply to the ability of electrical energy to perform its intended function, reach its intended equipment. ex. - If both MFBs, are energized but all 4160V switchgear is not available, the electrical energy can not reach the motors intended. The result to the plant is the same as if both MFBs were de-energized. (4)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. *FIRES/EXPLOSIONS* WITHIN THE PLANT (BD 65) OPERATING MODE: All NOTE: Within the plant means: Turbine Building Auxiliary Building Reactor Building Keowee Hydro Transformer Yard B3T B4T Service Air Diesel Compressors Keowee Hydro & associated Transformers SSF A. Fire within the plant not extinguished within 15 minutes of Control Room notification or verification of a Control Room alarm B. Unanticipated *explosion* within the plant resulting in *visible damage* to permanent structures/equipment • includes steam line break and FDW line break (Continued)	1. *FIRE/EXPLOSION* AFFECTING OPERABILITY OF PLANT SAFETY SYSTEMS REQUIRED TO ESTABLISH/MAINTAIN SAFE SHUTDOWN (BD 70) NOTE: Only one train of a system needs to be affected or damaged in order to satisfy this condition. A. *Fire/explosions* AND *Affected safety-related system parameter* indications show degraded performance OR Plant personnel report *visible damage* to permanent structures or equipment required for safe shutdown (Continued)	(CONTINUE TO NEXT PAGE)	(CONTINUE TO NEXT PAGE)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
2. CONFIRMED SECURITY CONDITION OR THREAT WHICH INDICATES A POTENTIAL DEGRADATION IN THE LEVEL OF SAFETY OF THE PLANT (BD 67) OPERATING MODE: All A. Security condition that does not involve a HOSTILE ACTION as reported by the Security Shift Supervisor B. A *credible* site-specific security threat notification C. A validated notification from NRC providing information of an aircraft threat **3. OTHER CONDITIONS EXIST WHICH IN THE JUDGEMENT OF THE EMERGENCY DIRECTOR WARRANT DECLARATION OF A NOUE. (BD 69)** OPERATING MODE: All A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs. (END)	**2 HOSTILE ACTION WITHIN THE OWNER CONTROLLED AREA OR AIRBORNE ATTACK THREAT. (BD 72)** A. A HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA as reported by the Security Shift Supervisor. B. A validated notification from NRC of an AIRLINER attack threat within 30 minutes of the site. **3. OTHER CONDITIONS EXIST WHICH IN THE JUDGEMENT OF THE EMERGENCY DIRECTOR WARRANT DECLARATION OF AN ALERT (BD 75)** OPERATING MODE: All A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels. (END)	**1. HOSTILE ACTION within the PROTECTED AREA (BD 76)** OPERATING MODE: All A. A HOSTILE ACTION is occurring or has occurred within the PORTECTED AREA as reported by the Security Shift Supervisor. **2. OTHER CONDITIONS EXIST WHICH IN THE JUDGEMENT OF THE EMERGENCY DIRECTOR WARRANT DECLARATION OF A SITE AREA EMERGENCY. (BD 78)** OPERATING MODE: All A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary. (END)	**1. A HOSTILE ACTION RESULTING IN LOSS OF PHYSICAL CONTROL OF THE FACILITY (BD 79)** OPERATING MODE: All A. A HOSTILE ACTION has occurred such that plant personnel are unable to operate equipment required to maintain safety functions B. A HOSTILE ACTION has caused failure of Spent Fuel Cooling Systems and IMMINENT fuel damage is likely for a freshly off-loaded reactor core in pool. **2. OTHER CONDITIONS EXIST WHICH IN THE JUDGMENT OF THE EMERGENCY DIRECTOR WARRANT DECLARATION OF A GENERAL EMERGENCY. (BD 81)** OPERATING MODE: All A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels off-site for more than the immediate site area. (END)

Natural Disasters, Hazards and Other Conditions Affecting Plant Safety

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1. NATURAL AND DESTRUCTIVE PHENOMENA AFFECTING THE *PROTECTED AREA* (BD 83)	1. NATURAL AND DESTRUCTIVE PHENOMENA AFFECTING THE PLANT *VITAL* AREA (BD 89)	(CONTINUE TO NEXT PAGE)	(CONTINUE TO NEXT PAGE)
OPERATING MODE: All A. Tremor felt and *valid* alarm on the strong motion accelerograph B Tornado striking within *Protected Area* Boundary C. Vehicle crash into plant structures/systems within the *Protected Area* Boundary D. Turbine failure resulting in casing penetration or damage to turbine or generator seals (CONTINUED)	OPERATING MODE: All A. Tremor felt and seismic trigger actuates (0.05g) NOTE: Only one train of a safety-related system needs to be affected or damaged in order to satisfy these conditions. B. Tornado, high winds, missiles resulting from turbine failure, vehicle crashes, or other catastrophic event. AND *Visible damage* to permanent structures or equipment required for safe shutdown of the unit. OR Affected safety system parameter indications show degraded performance. (CONTINUED)		

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
2. NATURAL AND DESTRUCTIVE PHENOMENA AFFECTING KEOWEE HYDRO CONDITION B (BD 85) OPERATING MODE: All A. Reservoir elevation ≥ 805.0 feet with all spillway gates open and the lake elevation continues to rise B. Seepage readings increase or decrease greatly or seepage water is carrying a significant amount of soil particles C New area of seepage or wetness, with large amounts of seepage water observed on dam, dam toe, or the abutments D. Slide or other movement of the dam or abutments which could develop into a failure E. Developing failure involving the powerhouse or appurtenant structures and the operator believes the safety of the structure is questionable **3. NATURAL AND DESTRUCTIVE PHENOMENA AFFECTING JOCASSEE HYDRO CONDITION B (BD 86)** OPERATING MODE: All A. Condition B has been declared for the Jocassee Dam (CONTINUED)	**2. RELEASE OF TOXIC/FLAMMABLE GASES JEOPARDIZING SYSTEMS REQUIRED TO MAINTAIN SAFE OPERATION OR ESTABLISH/ MAINTAIN MODE 5 (COLD SHUTDOWN) (BD 91)** OPERATING MODE: All A. Report/detection of *toxic gases* in concentrations that will be life-threatening to plant personnel B. Report/detection of flammable gases in concentrations that will affect the safe operation of the plant: • Reactor Building • Auxiliary Building • Turbine Building • Control Room **3. TURBINE BUILDING FLOOD (BD 93)** OPERATING MODE: All A. Turbine Building flood requiring use of AP/1,2,3/A/1700/10, (Turbine Building Flood) **4. CONTROL ROOM EVACUATION HAS BEEN INITIATED (BD 94)** OPERATING MODE: All A. Evacuation of Control Room AND ONE OF THE FOLLOWING: AND Plant control IS established from the Aux shutdown Panel or the SSF OR Plant control IS BEING established from the Aux Shutdown Panel or SSF (CONTINUED)	**1. CONTROL ROOM EVACUATION AND PLANT CONTROL CANNOT BE ESTABLISHED (BD 96)** OPERATING MODE: All A. Control Room evacuation has been initiated AND Control of the plant cannot be established from the Aux Shutdown Panel or the SSF within 15 minutes **2. KEOWEE HYDRO DAM FAILURE (BD 97)** OPERATING MODE: All A. Imminent/actual dam failure exists involving any of the following: • Keowee Hydro Dam • Little River Dam • Dikes A, B, C, or D • Intake Canal Dike • Jocassee Dam - Condition A (CONTINUED)	(CONTINUE TO NEXT PAGE)

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
4 RELEASE OF TOXIC OR FLAMMABLE GASES DEEMED DETRIMENTAL TO SAFE OPERATION OF THE PLANT (BD 87) OPERATING MODE: All A. Report/detection of toxic or flammable gases that could enter within the site area boundary in amounts that can affect normal operation of the plant B. Report by local, county, state officials for potential evacuation of site personnel based on offsite event	5. OTHER CONDITIONS WARRANT CLASSIFICATION OF AN *ALERT* (BD 95) OPERATING MODE: All A. Emergency Coordinator judgment indicates that: Plant safety may be degraded AND Increased monitoring of plant functions is warranted (END)	3. OTHER CONDITIONS WRRANT DECLARATION OF SITE AREA EMERGENCY (BD 98) OPERATING MODE: All A. Emergency Coordinator/EOF Director judgment (END)	1. OTHER CONDITIONS WARRANT DECLARATION OF GENERAL EMERGENCY (BD 99) OPERATING MODE: All A. Emergency Coordinator/EOF Director judgment indicates: Actual/imminent substantial core degradation with potential for loss of containment OR Potential for *uncontrolled* radionuclide releases that would result in a dose projection at the site boundary greater than 1000 mRem TEDE or 5000 mRem CDE Adult Thyroid (END)
5. OTHER CONDITIONS EXIST WHICH WARRANT DECLARATION OF AN *UNUSUAL EVENT* (BD 88) OPERATING MODE: All A. Emergency Coordinator determines potential degradation of level of safety has occurred (END)			

All RIA values are considered GREATER THAN or EQUAL TO

HOURS SINCE REACTOR TRIPPED	RIA 57 R/hr		RIA 58 R/hr*	
	Site Area Emergency	General Emergency	Site Area Emergency	General Emergency
0.0 - < 0.5	5.9E+003	5.9E+004	2.6E+003	2.6E+004
0.5 - < 1.0	2.6E+003	2.6E+004	1.1E+003	1.1E+004
1.0 - < 1.5	1.9E+003	1.9E+004	8.6E+002	8.6E+003
1.5 - < 2.0	1.9E+003	1.9E+004	8.5E+002	8.5E+003
2.0 - < 2.5	1.4E+003	1.4E+004	6.3E+002	6.3E+003
2.5 - < 3.0	1.2E+003	1.2E+004	5.7E+002	5.7E+003
3.0 - < 3.5	1.1E+003	1.1E+004	5.2E+002	5.2E+003
3.5 - < 4.0	1.0E+003	1.0E+004	4.8E+002	4.8E+003
4.0 - < 8.0	1.0E+003	1.0E+004	4.4E+002	4.4E+003

*** RIA 58 is partially shielded**

NOTE: This Initiating Condition is not intended to apply to anticipated temporary increases due to planned events (e.g.; incore detector movement, radwaste container movement, depleted resin transfers, etc.).

MONITOR NUMBER	UNITS 1, 2, 3	
	UNUSUAL EVENT 1000x NORMAL LEVELS mRAD/HR	*ALERT* mRAD/HR
RIA 7, Hot Machine Shop Elevation 796	150	≥ 5000
RIA 8, Hot Chemistry Lab Elevation 796	4200	≥ 5000
RIA 10, Primary Sample Hood Elevation 796	830	≥ 5000
RIA 11, Change Room Elevation 796	210	≥ 5000
RIA 12, Chem Mix Tank Elevation 783	800	≥ 5000
RIA 13, Waste Disposal Sink Elevation 771	650	≥ 5000
RIA 15, HPI Room Elevation 758	NOTE*	≥ 5000

NOTE: RIA 15 normal readings are approximately 9 mRad/hr on a daily basis. Applying 1000x normal readings would put this monitor greater than 5000 mRad/hr just for an *Unusual Event*. For this reason, an *Unusual Event* will **NOT** be declared for a reading less than 5000 mRad/hr.

1. List of Definitions and Acronyms

NOTE:	Definitions are italicized throughout procedure for easy recognition.

1.1 **ALERT** - Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

1.2 **BOMB** – Refers to an explosive device suspected of having sufficient force to damage plant systems or structures.

1.3 **CONDITION A** - Failure is Imminent or Has Occurred - A failure at the dam has occurred or is about to occur and minutes to days may be allowed to respond dependent upon the proximity to the dam.

1.4 **CONDITION B** - Potentially Hazardous Situation is Developing - A situation where failure may develop, but preplanned actions taken during certain events (such as major floods, earthquakes, evidence of piping) may prevent or mitigate failure.

1.5 **CIVIL DISTURBANCE** - A group of persons violently protesting station operations or activities at the site.

1.6 **EXPLOSION** - A rapid, violent, unconfined combustion, or catastrophic failure of pressurized/energized equipment that imparts energy of sufficient force to potentially damage permanent structures, systems, or components.

1.7 **EXTORTION** - An attempt to cause an action at the station by threat of force.

1.8 **FIRE** - Combustion characterized by heat and light. Sources of smoke, such as slipping drive belts or overheated electrical equipment, do NOT constitute *fires*. Observation of flames is preferred but is NOT required if large quantities of smoke and heat are observed.

1.9 **FRESHLY OFF-LOADED CORE** - The complete removal and relocation of all fuel assemblies from the reactor core and placed in the spent fuel pool. (Typical of a "No Mode" operation during a refuel outage that allows safety system maintenance to occur and results in maximum decay heat load in the spent fuel pool system).

1.10 **GENERAL EMERGENCY** - Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guidelines exposure levels offsite for more than the immediate area.

1.11 **HOSTAGE** - A person(s) held as leverage against the station to ensure demands will be met by the station.

1.12 **HOSTILE ACTION** - An act toward an NPP or its personnel that includes the use of violent force to destroy equipment, takes HOSTAGES, and/or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, PROJECTILES, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Non-terrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)

1.13 **HOSTILE FORCE** - One or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.

1.14 **IMMINENT** - Mitigation actions have been ineffective, additional actions are not expected to be successful, and trended information indicates that the event or condition will occur. Where IMMINENT timeframes are specified, they shall apply.

1.15 **INTRUSION** – A person(s) present in a specified area without authorization. Discovery of a BOMB in a specified area is indication of INTRUSION into that area by a HOSTILE FORCE.

1.16 **INABILITY TO DIRECTLY MONITOR** - Operational Aid Computer data points are unavailable or gauges/panel indications are NOT readily available to the operator.

1.17 **LOSS OF POWER** – Emergency Action Levels (EALs) apply to the ability of electrical energy to perform its intended function, reach its intended equipment. Ex. – If both MFBs, are energized but all 4160v switchgear is not available, the electrical energy can not reach the motors intended. The result to the plant is the same as if both MFBs were de-energized.

1.18 **PROJECTILE** – An object directed toward a NPP that could cause concern for its continued operability, reliability, or personnel safety.

1.19 **PROTECTED AREA** – Typically the site specific area which normally encompasses all controlled areas within the security PROTECTED AREA fence.

1.20 **REACTOR COOLANT SYSTEM (RCS) LEAKAGE** – RCS Operational Leakage as defined in the Technical Specification Basis B 3.4.13:

RCS leakage includes leakage from connected systems up to and including the second normally closed valve for systems which do not penetrate containment and the outermost isolation valve for systems which penetrate containment.

A. Identified LEAKAGE

LEAKAGE to the containment from specifically known and located sources, but does not include pressure boundary LEAKAGE or controlled reactor coolant pump (RCP) seal leakoff (a normal function not considered LEAKAGE).

LEAKAGE, such as that from pump seals, gaskets, or valve packing (except RCP seal water injection or leakoff), that is captured and conducted to collection systems or a sump or collecting tank;

LEAKAGE through a steam generator (SG) to the Secondary System (primary to secondary LEAKAGE): Primary to secondary LEAKAGE must be included in the total calculated for identified LEAKAGE.

B. Unidentified LEAKAGE

All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE.

C. Pressure Boundary LEAKAGE

LEAKAGE (except primary to secondary LEAKAGE) through a nonisolable fault in an RCS component body, pipe wall or vessel wall.

1.21 **RUPTURED** (As relates to Steam Generator) - Existence of Primary to Secondary leakage of a magnitude sufficient to require or cause a reactor trip and safety injection.

1.22 **SABOTAGE** - Deliberate damage, mis-alignment, or mis-operation of plant equipment with the intent to render the equipment inoperable. Equipment found tampered with or damaged due to malicious mischief may not meet the definition of SABOTAGE until this determination is made by security supervision.

1.23 **SECURITY CONDITION** – Any Security Event as listed in the approved security contingency plan that constitutes a threat/compromise to site security, threat/risk to site personnel, or a potential degradation to the level of safety of the plant. A SECURITY CONDITION does not involve a HOSTILE ACTION.

1.24 **SAFETY-RELATED SYSTEMS AREA** - Any area within the *Protected area* which contains equipment, systems, components, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation.

1.25 **SELECTED LICENSEE COMMITMENT (SLC)** -Chapter 16 of the FSAR

1.26 **SIGNIFICANT PLANT TRANSIENT** - An *unplanned* event involving one or more of the following:

(1) Automatic turbine runback>25% thermal reactor power
(2) Electrical load rejection >25% full electrical load
(3) Reactor Trip
(4) Safety Injection System Activation

1.27 **SITE AREA EMERGENCY** - Events are in process or have occurred which involve actual or likely major failures of plant functions needed for the protection of the public. or HOSTILE ACTION that results in intentional damage or malicious act; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevents effective access to equipment needed for the protection of the public. Any releases are NOT expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the Site Boundary.

1.28 **SITE BOUNDARY** - That area, including the *Protected Area*, in which DPC has the authority to control all activities including exclusion or removal of personnel and property (1 mile radius from the center of Unit 2).\

1.29 **TOXIC GAS** - A gas that is dangerous to life or health by reason of inhalation or skin contact (e.g.; Chlorine).

1.30 **UNCONTROLLED** - Event is not the result of planned actions by the plant staff.

1.31 **UNPLANNED** - An event or action is UNPLANNED if it is not the expected result of normal operations, testing, or maintenance. Events that result in corrective or mitigative actions being taken in accordance with abnormal or emergency procedures are UNPLANNED.

1.32 **UNUSUAL EVENT** - Events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

1.33 **VALID** - An indication or report or condition is considered to be VALID when it is conclusively verified by: (1) an instrument channel check; or, (2) indications on related or redundant instrumentation; or, (3) by direct observation by plant personnel such that doubt related to the instrument's operability, the condition's existence, or the report's accuracy is removed. Implicit with this definition is the need for timely assessment.

1.34 **VIOLENT** - Force has been used in an attempt to injure site personnel or damage plant property.

1.35 **VISIBLE DAMAGE** - Damage to equipment or structure that is readily observable without measurements, testing, or analyses. Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component. Example damage: deformation due to heat or impact, denting, penetration, rupture.

1.36 **VITAL AREA** - An area within the protected area where an individual is required to badge in to gain access to the area and that houses equipment important for nuclear safety. The failure or destruction of this equipment could directly or indirectly endanger the public health and safety by exposure to radiation.

Operating Modes Defined In Improved Technical Specifications

MODES

MODE	TITLE	REACTIVITY CONDITION (K_{eff})	% RATED THERMAL POWER (a)	AVERAGE REACTOR COOLANT TEMPERATURE (°F)
1	Power Operation	≥0.99	> 5	NA
2	Startup	≥0.99	≤5	NA
3	Hot Standby	<0.99	NA	≥250
4	Hot Shutdown (b)	< 0.99	NA	250 > T > 200
5	Cold Shutdown (b)	< 0.99	NA	≤ 200
6	Refueling (c)	NA	NA	NA

(a) Excluding decay heat.

(b) All reactor vessel head closure bolts fully tensioned.

(c) One or more reactor vessel head closure bolts less than fully tensioned

1. Instructions For Using Enclosure 4.1 – Fission Product Barrier Matrix

1.1 If the unit was at Hot S/D or above, (Modes 1, 2, 3, or 4) and one or more fission product barriers have been affected, refer to Enclosure 4.1, (Fission Product Barrier Matrix) and review the criteria listed to determine if the event should be classified.

1.1.1 For each Fission Product Barrier, review the associated EALs to determine if there is a Loss or Potential Loss of that barrier.

NOTE: An event with multiple events could occur which would result in the conclusion that exceeding the loss or potential loss thresholds is imminent (i.e. within 1-3 hours). In this situation, use judgement and classify as if the thresholds are exceeded.

1.2 Three possible outcomes exist for each barrier. No challenge, potential loss, or loss. Use the worst case for each barrier and the classification table at the bottom of the page to determine appropriate classification.

1.3 The numbers in parentheses out beside the label for each column can be used to assist in determining the classification. If no EAL is met for a given barrier, that barrier will have 0 points. The points for the columns are as follows:

Barrier	Failure	Points
RCS	Potential Loss	4
	Loss	5
Fuel Clad	Potential Loss	4
	Loss	5
Containment	Potential Loss	1
	Loss	3

1.3.1 To determine the classification, add the highest point value for each barrier to determine a total for all barriers. Compare this total point value with the numbers in parentheses beside each classification to see which one applies.

1.3.2 Finally as a verification of your decision, look below the Emergency Classification you selected. The loss and/or potential loss EALs selected for each barrier should be described by one of the bullet statements.

EXAMPLE: Failure to properly isolate a 'B' MS Line Rupture outside containment, results in extremely severe overcooling.

PTS entry conditions were satisfied.

Stresses on the 'B' S/G resulted in failure of multiple S/G tubes.

RCS leakage through the S/G exceeds available makeup capacity as indicated by loss of subcooling margin.

Barrier	EAL	Failure	Points
RCS	SGTR > Makeup capacity of one HPI pump in normal makeup mode with letdown isolated	Potential Loss	4
	Entry into PTS operating range	Potential Loss	4
	RCS leak rate > available makeup capacity as indicated by a loss of subcooling	Loss	5
Fuel Clad	No EALs met and no justification for classification on judgment	No Challenge	0
Containment	Failure of secondary side of SG results in a direct opening to the environment	Loss	3

RCS _5_ + Fuel _0_ + Containment _3_ = Total _8_

A. Even though two Potential Loss EALs and one Loss EAL are met for the RCS barrier, credit is only taken for the worst case (highest point value) EAL, so the points from this barrier equal 5.

B. No EAL is satisfied for the Fuel Clad Barrier so the points for this barrier equal 0.

C. One Loss EAL is met for the Containment Barrier so the points for this barrier equal 3.

D. When the total points are calculated the result is 8, therefore the classification would be a *Site Area Emergency.*

E. Look in the box below "*Site Area Emergency*". You have identified a loss of two barriers. This agrees with one of the bullet statements. The classification is correct.

1 References:

1. PIP O-05-02980
2. PIP O-05-4697
3. PIP O-06-0404
4. PIP O-06-03347
5. PIP O-09-00234
6. PIP O-10-1055
7. PIP O-10-01750
8. PIP O-11-02811

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

PROCEDURE PROCESS RECORD

(1) ID No. RP/0/B/1000/001

Revision No. 31

PREPARATION

(2) Station OCONEE NUCLEAR STATION

(3) Procedure Title Emergency Classification

(4) Prepared By* Donald A. Crowl [signature] Date: 9/8/12

(5) Requires NSD 228 Applicability Determination?

☒ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation.

☐ No (Revision with minor changes)

(6) Reviewed By* RAY WATERMAN / Ray Waterman (QR)(KI) Date 9-8-12

Cross-Disciplinary Review By* ______ (QR)(KI) NA RAW Date 9-8-12

Reactivity Mgmt Review By* ______ (QR) NA RAW Date 9-8-12

Mgmt Involvement Review By* ______ (Ops. Supt.) NA RAW Date 9-8-12

(7) Additional Reviews

Reviewed By* ______ Date ______

Reviewed By* ______ Date ______

(8) Approved By* PATRICK M STREET / [signature] Date 9/8/12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* ______ Date ______

Compared with Control Copy* ______ Date ______

Compared with Control Copy* ______ Date ______

(10) Date(s) Performed ______

Work Order Number (WO#) ______

COMPLETION

(11) Procedure Completion Verification:

☐ Unit 0 ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 Procedure performed on what unit?

☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* ______ Date ______

(12) Procedure Completion Approved ______ Date ______

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

Appendix C. 228. APPLICABILITY DETERMINATION (Rev. 8)

PART I – ACTIVITY DESCRIPTION

DUKE ENERGY CAROLINAS, LLC SITE	UNIT(S)
☒ Oconee ☐ McGuire ☐ Catawba	☒ Unit 1 ☒ Unit 2 ☒ Unit 3

ACTIVITY TITLE/DOCUMENT/REVISION: Emergency Classification, revision 31

PART II – PROCESS REVIEW

For each activity, address all of the questions below. If the answer is "YES" for any portion of the activity, apply the identified process(es) to that portion of the activity. Note: It is not unusual to have more than one process apply to a given activity.

Will implementation of the above activity require a change to the:

1.	Technical Specifications (TS) or Operating License?	☒ NO	☐ YES	If YES, process as a license amendment per NSD 227.
2.	Quality Assurance Topical?	☒ NO	☐ YES	If YES, seek assistance from Independent Nuclear Oversight.
3.	Security Plans? (See Appendix H)	☒ NO	☐ YES	If YES, process per the Nuclear Security Manual.
4.	Emergency Plan?	☐ NO	☒ YES	If YES, process per the Emergency Planning Functional Area Manual.
5.	Inservice Testing Program Plan?	☒ NO	☐ YES	If YES, process per site IST Program for ASME code compliance and related facility changes.
6.	Inservice Inspection Program Plan?	☒ NO	☐ YES	If YES, process per Materials, Metallurgy and Piping Inservice Inspection FAM for ASME code compliance and related facility or procedure changes.
7.	Fire Protection Program Plan?	☒ NO	☐ YES	If YES, evaluate activity in accordance with NSD 320.
	7a- Utilize Appendix E to address Fire Protection Program Plan Impact.		☐ YES	Check to confirm use of Appendix E Screening Questions.
8.	Regulatory Commitments?	☒ NO	☐ YES	If YES, process per NSD 214.
9.	Code of Federal Regulations?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance Group.
10.	Programs and manuals listed in the Administrative Section of the TS?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance Group.

PART IIIa – 10 CFR 72.48 APPLICABILITY

For each activity, address the question below. If the answer to question 11 is "YES," and questions 14 and 17 are answered "NO," then process the activity per NSD 211 – 10 CFR 72.48 does apply.

11.	Does the activity involve SSCs, procedures or conduct tests or experiments that support/impact the loading or transport of the canister/cask to the ISFSI, the ISFSI facility, spent fuel cask design?	☒ NO	☐ YES

PART IIIb – 10 CFR 50.59 APPLICABILITY

For each activity, address all of the questions below. If the answer to question 18 is "YES," then 10 CFR 50.59 does not apply. If the answer to question 18 is "NO," then process the activity per NSD 209 – 10 CFR 50.59 applies.

12.	Does the activity involve a procedure, governed by NSD 703 that has been excluded from the 10 CFR 50.59 process per NSD 703, Appendix N and the exclusion status remains valid?	☐ NO	☒ YES
13.	Does the activity involve an administrative procedure governed by NSD 100 that does not contain information regarding the operation and control of Structures, Systems, and Components?	☒ NO	☐ YES
14.	Does the activity involve a type of Engineering Change that NSD 301 excludes from the 10 CFR 50.59 and/or 10 CFR 72.48 Processes? Consult NSD 301 for assistance.	☒ NO	☐ YES
15.	Does the activity involve (a) maintenance activities that restore SSCs to their as-designed condition (including activities that implement approved design changes) or (b) temporary alterations supporting maintenance that will be in effect during at-power operations for 90 days or less?	☒ NO	☐ YES
16.	Does the activity involve a UFSAR modification that NSD 220 excludes from the 10 CFR 50.59 Process? Consult NSD 220 for assistance.	☒ NO	☐ YES
17.	Does the activity involve NRC and/or Duke Energy Carolinas, LLC approved changes to the licensing basis?	☒ NO	☐ YES
18.	Are **ALL** aspects of the activity bounded by one or more "YES" answers to questions 1 through 17, above?	☐ NO	☒ YES

PART IV – UFSAR REVIEW

19.	Does the activity require a modification, deletion, or addition to the UFSAR to satisfy the UFSAR content requirements of 10 CFR 50.34(b), 10 CFR 50.71(e), or Regulatory Guide (RG) 1.70? Consult NSD 220 for assistance. IF YES, process per NSD 220.	☒ NO	☐ YES

PART V – SIGNOFF

(Print Name) Donald A. Crowl (Sign) _____ Date 9/08/12

Applicability Determination Preparer

Form 703-2. Procedure Change Process Record
(R08-10)

Duke Energy

PROCEDURE CHANGE PROCESS RECORD

(1) ID No.RP/0/B/1000/001

Revision No.31

(2) Station: OCONEE NUCLEAR STATION

(3) Procedure Title: Emergency Classification Procedure

(4) Section(s) of Procedure Affected: SEE ATTACHED

(5) Requires NSD 228 Applicability Determination?

☒ Yes (Procedure change with major changes) - Attach NSD 228 documentation.

☐ No (Procedure change with minor changes)

(6) Description of Change: *(Attach additional pages, if necessary.)*

Revised the emergency classification procedure enclosure 4.3 to add threshold values for unit vent sampling as a compensatory measure. Unit vent sampling is performed on the 6th floor auxiliary building at sampling equipment where manual grab samples are retrieved per HP/0/B/1000/060-D. Additionally, the use of RIA 56 was added as a compensatory measure for site area emergency and general emergency classifications.

This change allows for classification of gaseous radiological releases in the event of a loss of either RIA-45 or 46. This change only clarifies the values to be used in the event normal monitoring is not available.

See attached pages.

(7) Reason for Change:

This change only clarifies the values to be used in the event normal monitoring is not available.

(8) Prepared By* Donald A. Crowl Date 9/08/12

(9) Reviewed By* RAY WATERMAN / Ray Waterman (QR)(KI) Date 9-8-12

Cross-Disciplinary Review By* _____ (QR)(KI) NA RDW Date 9-8-12

Reactivity Mgmt. Review By* _____ (QR) NA RDW Date 9-8-12

Mgmt. Involvement Review By* _____ (Ops. Supt.) NA RDW Date 9-8-12

(10) Additional Reviews

Reviewed By* _____ Date _____

Reviewed By* _____ Date _____

(11) Approved By* PETER M STUBER Date 9/8/12

* *Printed Name and Signature*

§50.54(q) Screening Evaluation Form

Activity Description and References: RP/0/B/1000/001, Emergency Classification procedure rev 31 BLOCK 1

See attached sheet for all changes..

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3

☐ The change is editorial or typographical

☒ The change is not editorial or typographical

Change Type: BLOCK 4

☐ The change does conform to an activity that has prior approval

☒ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
☐ §50.47(b)(2) – Onsite Emergency Organization
☐ §50.47(b)(3) – Emergency Response Support and Resources
☒ **§50.47(b)(4) – Emergency Classification System***
☐ **§50.47(b)(5) – Notification Methods and Procedures***
☐ §50.47(b)(6) – Emergency Communications
☐ §50.47(b)(7) – Public Education and Information
☐ §50.47(b)(8) – Emergency Facility and Equipment
☐ **§50.47(b)(9) – Accident Assessment***
☐ **§50.47(b)(10) – Protective Response***
☐ §50.47(b)(11) – Radiological Exposure Control
☐ §50.47(b)(12) – Medical and Public Health Support
☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
☐ §50.47(b)(14) – Drills and Exercises
☐ §50.47(b)(15) – Emergency Responder Training
☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment

Results:		BLOCK 7
☐ The activity can be implemented without performing a §50.54(q) effectiveness evaluation ☒ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation		
Preparer Name: Donald A. Crowl	Preparer Signature	Date: 9/08/12
Reviewer Name: Ray Waterman	Reviewer Signature Ray Waterman	Date: 9-8-12

Revision 12

§50.54(q) Effectiveness Evaluation Form

Activity Description and References: Revised enclosure 4.3, page 1 of 2 to include radiological gaseous sample values for threshold values of each of the classification levels in the event the normal instrumentation is unavailable (RIA 45 or 46). Additionally, added the use of RIA 56 in lieu of RIA 46 as a compensatory measure if RIA 46 is unavailable. BLOCK 1

Activity Type: BLOCK 2

☒ The activity is a *change* to the *emergency plan*
☐ The activity affects implementation of the *emergency plan*, but is not a *change* to the *emergency plan*

Impact and Licensing Basis Determination: BLOCK 3

1. *Reg. guide 1.219 D. Emergency Classification System 50.47(b)(4)A standard scheme of emergency classification and action levels is in use.*

NUREG 0654, planning stand section D a standard emergency classification and emergency action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial response measures. Evaluation criteria 1 and 2.

Compliance Evaluation and Conclusion: BLOCK 4

1. Evaluation:

50.47 (b)(4) The addition of threshold values using unit vent sampling as a contingency to normal used monitors to support this function. This method is used during unavailability of normally used monitors and provides for contingency sampling in support of this function.

CFR 50 Appendix E, section B. 1 requires a means to be used to determine the magnitude of, and for continually assessing the impact of, the release of radioactive materials is described, including emergency action levels that are to be used as a criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies, and the emergency action levels that are to be used for determining when and what type of protective measures should be conceded within and outside the site boundary to protect health and safety. Additional monitoring and sampling values are being provided to enhance the ability to use other means of identification of when release threshold values are being challenged.

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

Reduction in Effectiveness (RIE) Evaluation and Conclusion: BLOCK 5

1. Evaluation:

There is no reduction in effectiveness due to the addition of gaseous sample values and other means of monitoring radiological release levels to determine event classifications levels.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

Effectiveness Evaluation Results BLOCK 6

☒ The activity does continue to comply with the requirements of §50.47(b) and §50 Appendix E **and** the activity does not constitute a reduction in effectiveness. Therefore, the activity can be implemented without prior approval.

☐ The activity does not continue to comply with the requirements of §50.47(b) and §50 Appendix E **or** the activity does constitute a reduction in effectiveness. Therefore, the activity cannot be implemented without prior approval.

Preparer Name: Donald A. Crowl	Preparer Signature	Date: 9/8/12
Reviewer Name: RAY WATERMAN	Reviewer Signature	Date: 9-8-12
Approver Name: PATRICK M STURGET	Approver Signature	Date: 9/8/12

EAL Change Review Form

Change Description and References: BLOCK 1

Revised the emergency classification procedure enclosure 4.3 to add threshold values for unit vent sampling as a compensatory measure. Unit vent sampling is performed on the 6th floor auxiliary building at sampling equipment where manual grab samples are retrieved per HP/0/B/1000/060-D. Additionally, the use of RIA 56 was added as a compensatory measure for site area emergency and general emergency classifications.

This change allows for classification of gaseous radiological releases in the event of a loss of either RIA-45 or 46. This change only clarifies the values to be used in the event normal monitoring is not available.

Change Type: BLOCK 2

☒ The change is considered a *difference* from the approved wording.
☐ The change is considered a *deviation* from the approved wording.

Change Verification: BLOCK 3

Item	Yes	No	N/A	Resolution/Comments
Initiating Condition				
IC identification number is correct	☒	☐	☐	Click here to enter text.
Wording is consistent with the NRC approved IC	☐	☒	☐	Site specific instrumentation is referenced; however, the values used are consistent with NRC approved IC.
EAL /FPB				
EAL/FPB identification number is correct	☐	☐	☒	Click here to enter text.
Wording is consistent with the NRC approved EAL / FPB	☐	☒	☐	Site specific instrumentation is referenced; however, the values used are consistent with NRC approved IC..
Threshold values or conditions remain specific to ensure generic criteria are not substituted reducing clarity and accuracy of the EAL.	☒	☐	☐	Click here to enter text.
Sequencing/nesting logic format is correct	☒	☐	☐	Click here to enter text.
Source document inputs used for calculations and in thresholds are correct	☒	☐	☐	Click here to enter text.
Site specific content wording/tables/values are correct and specific: • Operations procedures are consistent with the change • Instrument/display number and noun name are provided • Alarm setpoints are equal to or below EAL/FPB values • Radiation monitor values account for background • Procedure references are correct	☒	☐	☐	Click here to enter text.
The EAL/FPB Matrix is legible and intuitively organized	☒	☐	☐	Click here to enter text.

Mode Applicability				
Operational mode alignment is consistent with the EAL licensing basis	☒	☐	☐	Click here to enter text.
[redacted]ical Bases				
Site specific bases is consistent with the EAL threshold	☒	☐	☐	Click here to enter text.
Bases for calculations and threshold values are consistent with the technical bases approved by the NRC	☒	☐	☐	Click here to enter text.
Source document inputs used for calculations and in thresholds are correct	☒	☐	☐	Click here to enter text.
Site specific bases remains accurate and consistent with the EAL technical bases approved by the NRC	☒	☐	☐	Click here to enter text.
Site specific bases has appropriate level of detail and is unambiguous	☒	☐	☐	Click here to enter text.
The change does not cause a change to the logic of the EAL scheme (i.e. gaps in classification thresholds)	☒	☐	☐	Click here to enter text.
Conflicts with the EAL/FPB wording have not been introduced	☒	☐	☐	Click here to enter text.

References				
Source document references are correct	☒	☐	☐	Click here to enter text.
[redacted]rce document references are current	☒	☐	☐	Click here to enter text.
Definitions				
Wording is consistent with the license basis definitions approved by the NRC for the EALs and EAL technical bases	☒	☐	☐	Click here to enter text.
Other Manual Content				
Wording is consistent with the license basis definitions approved by the NRC for the EALs and EAL technical bases	☒	☐	☐	Click here to enter text.

Change Validation: BLOCK 4

Method

☐ In-Plant Walkdown ☐ Simulator ☐ Other (Specify)
☐ Training ☒ Tabletop ☐ N/A

Item	Yes	No	N/A	Resolution/Comments
EAL / FPB				
Information and/or values are available in all facilities where classifications are required to be made	☒	☐	☐	Click here to enter text.
Instrumentation and computer points are compatible: • Instrument/display designation matches • Instrument/display units are correct • Proper significant digits are indicated and within the accuracy capabilities of the instrument/display • The instrument/display range is on scale for the threshold value • Instrument/display provides separation for escalating values	☒	☐	☐	Click here to enter text.
[redacted]onditions are easily recognizable and able to support declaration within 15 minutes.	☒	☐	☐	Click here to enter text.

Information and/or values are easily obtained and able to support declaration within 15 minutes	☒	☐	☐	Click here to enter text.
The change does not introduce a time delay to classification	☒	☐	☐	Click here to enter text.

nge Justification: BLOCK 5

There is no reduction in effectiveness due to the addition of gaseous sample values and other means of monitoring radiological release levels to determine event classifications levels.

EAL Change Review Results: BLOCK 6

☒ The EAL change can be implemented without prior NRC approval.
☐ The EAL change cannot be implemented without prior NRC approval.

Preparer Name: Donald A. Crowl	Preparer Signature	Date: 9/8/12
Reviewer Name: Ray Waterman	Reviewer Signature Ray Waterman	Date: 9-8-12
Approver Name: Patrick M Stiles	Approver Signature	Date: 9/8/12

Procedure Title: Emergency Classification Procedure

SUMMARY OF CHANGES: (DESCRIPTION AND REASON)

Revised the emergency classification procedure enclosure 4.3 to add threshold values for unit vent sampling as a compensatory measure. Unit vent sampling is performed on the 6th floor auxiliary building at sampling equipment where manual grab samples are retrieved per HP/0/B/1000/060-D. Additionally, the use of RIA 56 was added as a compensatory measure for site area emergency and general emergency classifications.

This change allows for classification of gaseous radiological releases in the event of a loss of either RIA-45 or 46. This change only clarifies the values to be used in the event normal monitoring is not available.

Reference attached.

Valid indication of RIA-46 of ≥ 2.09 E+04 cpm or RP sample reading of ≥ 6.62 μCi/mL Xe 133 eq for > 15 minutes.

Enclosure 4.3
Abnormal Rad Levels/Radiological Effluent

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1 ANY *UNPLANNED* RELEASE OF GASEOUS OR LIQUID RADIOACTIVITY TO THE ENVIRONMENT THAT EXCEEDS TWO TIMES THE SLC LIMITS FOR 60 MINUTES OR LONGER (BD 25)	1. ANY *UNPLANNED* RELEASE OF GASEOUS OR LIQUID RADIOACTIVITY TO THE ENVIRONMENT THAT EXCEEDS 200 TIMES RADIOLOGICAL TECHNICAL SPECIFICATIONS FOR 15 MINUTES OR LONGER (BD 30)	1. BOUNDARY DOSE RESULTING FROM ACTUAL/IMMINENT RELEASE OF GASEOUS ACTIVITY (BD 35)	1. BOUNDARY DOSE RESULTING FROM ACTUAL/ IMMINENT RELEASE OF GASEOUS ACTIVITY (BD 39)
OPERATING MODE: All	OPERATING MODE: All	OPERATING MODE: All	OPERATING MODE: All
A. *Valid* indication on radiation monitor RIA 33 of ≥ 4.06E+06 cpm for > 60 minutes (See Note 1)	A. *Valid* indication on RIA 46 of ≥ 2.09E+04 cpm for >15 minutes (See Note 1)	A. *Valid* reading on RIA 46 of ≥ 2.09E+05 cpm for >15 minutes (See Note 2) ← Insert #2	A. *Valid* reading on RIA 46 of ≥ 2.09E+06 cpm for ≥15 minutes (See Note 3) ← Insert #3
B. *Valid* indication on radiation monitor RIA 45 of ≥ 9.35E+05 cpm for > 60 minutes (See Note 1)	B RIA 33 HIGH Alarm AND Liquid effluent being released exceeds 200 times the level of SLC 16.11.1 for > 15 minutes as determined by Chemistry Procedure	B. *Valid* reading on RIA 57 or 58 as shown on Enclosure 4.8 (See Note 2)	B. *Valid* reading on RIA 57 or 58 as shown on Enclosure 4.8 (See Note 3)
C. Liquid effluent being released exceeds two times SLC 16.11.1 for > 60 minutes as determined by Chemistry Procedure	C. Gaseous effluent being released exceeds 200 times the level of SLC 16.11.2 for >15 minutes as determined by RP Procedure	C. Dose calculations result in a dose projection at the *site boundary* of: ≥ 100 mRem TEDE or 500 mRem CDE adult thyroid	C. Dose calculations result in a dose projection at the *site boundary* of: ≥ 1000 mRem TEDE OR ≥ 5000 mRem CDE adult thyroid
D. Gaseous effluent being released exceeds two times SLC 16.11.2 for > 60 minutes as determined by RP Procedure	(CONTINUED)	D. Field survey results indicate *site boundary* dose rates exceeding ≥100 mRad/hr expected to continue for more than one hour OR Analyses of field survey samples indicate adult thyroid dose commitment of ≥ 500 mRem CDE (3.84 E^{-7} μCi/ml) for one hour of inhalation	D. Field survey results indicate *site boundary* dose rates exceeding ≥1000 mRad/hr expected to continue for more than one hour OR Analyses of field survey samples indicate adult thyroid dose commitment of ≥ 5000 mRem CDE for one hour of inhalation
NOTE 1: If monitor reading is sustained for the time period indicated in the EAL AND the required assessments (procedure calculations) cannot be completed within this period, declaration must be made on the *valid* Radiation Monitor reading.		NOTE 2: If actual Dose Assessment cannot be completed within 15 minutes, then the *valid* radiation monitor reading should be used for emergency classification.	NOTE 3: If actual Dose Assessment cannot be completed within 15 minutes, then the *valid* radiation monitor reading should be used for emergency classification.
(CONTINUED)		(CONTINUED)	(END)

Valid indication on radiation monitor RIA-45 of ≥ 9.35 E+05 cpm or RP sample reading of ≥ 6.62 E-2 μCi/mL Xe 133 eq for > 60 minutes

Insert #2 Valid reading on RIA 46 of ≥ 2.09 E+05 cpm or RIA 56 reading of ≥ 17.5 R/hr or RP sample reading of 6.62 E+01 μCi/mL Xe 133 eq for > 15 minutes

Insert #3 Valid reading on RIA 46 of ≥ 2.09 E+06 cpm or RIA-56 reading of ≥ 175 R/hr or RP sample reading of 6.62 E+02 μCi/mL Xe 133 eq for > 15 minutes

TYPED COPY OF CHANGES

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
1 ANY *UNPLANNED* RELEASE OF GASEOUS OR LIQUID RADIOACTIVITY TO THE ENVIRONMENT THAT EXCEEDS TWO TIMES THE SLC LIMITS FOR 60 MINUTES OR LONGER (BD 25) OPERATING MODE: All A. *Valid* indication on radiation monitor RIA 33 of ≥ 4.06E+06 cpm for > 60 minutes (See Note 1) B. *Valid* indication on radiation monitor RIA-45 of ≥ 9.35E+05 cpm or RP sample reading of ≥ 6.62E-2uCi/ml Xe 133 eq for > 60 minutes (See Note 1) C. Liquid effluent being released exceeds two times SLC 16.11.1 for > 60 minutes as determined by Chemistry Procedure D. Gaseous effluent being released exceeds two times SLC 16.11.2 for > 60 minutes as determined by RP Procedure NOTE 1: If monitor reading is sustained for the time period indicated in the EAL AND the required assessments (procedure calculations) cannot be completed within this period, declaration must be made on the *valid* Radiation Monitor reading. (CONTINUED)	1. ANY *UNPLANNED* RELEASE OF GASEOUS OR LIQUID RADIOACTIVITY TO THE ENVIRONMENT THAT EXCEEDS 200 TIMES RADIOLOGICAL TECHNICAL SPECIFICATIONS FOR 15 MINUTES OR LONGER (BD 30) OPERATING MODE: All A. *Valid* indication of RIA-46 of ≥ 2.09 E+ 04 cpm or RP sample reading of ≥ 6.62 uCi/ml Xe 133 eq for > 15 minutes. (See Note 1) B RIA 33 HIGH Alarm AND Liquid effluent being released exceeds 200 times the level of SLC 16.11.1 for > 15 minutes as determined by Chemistry Procedure C. Gaseous effluent being released exceeds 200 times the level of SLC 16.11.2 for >15 minutes as determined by RP Procedure (CONTINUED)	1. BOUNDARY DOSE RESULTING FROM ACTUAL/IMMINENT RELEASE OF GASEOUS ACTIVITY (BD 35) OPERATING MODE: All A. *Valid* reading on RIA 46 of ≥ 2.09E+05 cpm or RIA 56 reading of ≥ 17.5 R/hr or RP sample reading of 6.62E+01 uCi/ml Xe 133 eq for > 15 minutes (See Note 2) B. *Valid* reading on RIA 57 or 58 as shown on Enclosure 4.8 (See Note 2) C. Dose calculations result in a dose projection at the *site boundary* of: ≥ 100 mRem TEDE or 500 mRem CDE adult thyroid D. Field survey results indicate *site boundary* dose rates exceeding ≥100 mRad/hr expected to continue for more than one hour OR Analyses of field survey samples indicate adult thyroid dose commitment of ≥ 500 mRem CDE ($3.84\ E^{-7}$ µCi/ml) for one hour of inhalation NOTE 2: If actual Dose Assessment cannot be completed within 15 minutes, then the *valid* radiation monitor reading should be used for emergency classification. (CONTINUED)	1. BOUNDARY DOSE RESULTING FROM ACTUAL/ IMMINENT RELEASE OF GASEOUS ACTIVITY (BD 39) OPERATING MODE: All A. *Valid* reading on RIA 46 of ≥ 2.09E+06 cpm or RIA 56 reading of ≥ 175 R/hr or RP sample reading of 6.62E+02uCi/ml Xe 133 eq for ≥ 15 minutes (See Note 3) B. *Valid* reading on RIA 57 or 58 as shown on Enclosure 4.8 (See Note 3) C. Dose calculations result in a dose projection at the *site boundary* of: ≥ 1000 mRem TEDE OR ≥ 5000 mRem CDE adult thyroid D. Field survey results indicate *site boundary* dose rates exceeding ≥1000 mRad/hr expected to continue for more than one hour OR Analyses of field survey samples indicate adult thyroid dose commitment of ≥ 5000 mRem CDE for one hour of inhalation NOTE 3: If actual Dose Assessment cannot be completed within 15 minutes, then the *valid* radiation monitor reading should be used for emergency classification. (END)

Duke Energy
Oconee Nuclear Station

JOINT INFORMATION CENTER EMERGENCY RESPONSE PLAN

Procedure No.
RP/0/B/1000/031

Revision No.
006

Electronic Reference No.
OX0091CY

Reference Use

PERFORMANCE

This Procedure was printed on 09/19/12 at 07:48:14 from the electronic library as:

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Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* Date

Procedure Completion Approved* Date
**Printed Name and Signature*

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do **NOT** mark on barcodes.

Printed Date: *09/19/2012*

Enclosure No.: *FULL*

Revision No.: *006*

Procedure No.: *RP/0/B/1000/031*

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

(1) ID No. RP/0/B/1000/031

PROCEDURE PROCESS RECORD

Revision No. 006

PREPARATION

(2) Station **Oconee Nuclear Station**

(3) Procedure Title **RP/0/B/1000/031, Joint Information Center Emergency Response Plan**

(4) Prepared By* Donice Kelley Donice Kelley Date September 11, 2012

(5) Requires NSD 228 Applicability Determination?

☐ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation

☒ No (Revision with minor changes)

(6) Reviewed By* Ray Waterman | Ray Waterman (QR) (KI) Date 9-12-12

Cross-Disciplinary Review By* _____ (QR) (KI) NA RJW Date 9-12-12

Reactivity Mgmt. Review By* _____ (QR) NA RJW Date 9-12-12

Mgmt. Involvement Review By* _____ (Ops. Supt.) NA RJW Date 9-12-12

(7) Additional Reviews

Reviewed By* _____ Date _____

Reviewed By* _____ Date _____

(8) Approved By* Patrick M. Street Patrick M. Street Date 9/13/12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification:

☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved* _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

1. Symptoms

1.1 Conditions exist such that the Oconee Joint Information Center Emergency Response Plan has been activated to support a nuclear emergency.

2. Immediate Actions

2.1 Government Agency Liaison position will be filled once emergency reaches a "degrading Alert" or a Site Area Emergency.

2.2 Distribution Coordinator position will be filled at initial activation of the JIC.

2.3 Administrative Support position will be filled upon decision to activate the JIC.

2.4 Registration Support position will be filled upon decision to activate the JIC.

2.5 Media Monitor position will be filled upon decision to activate the JIC.

2.6 Teleproductions Support Coordinator position will be filled once emergency reaches a "degrading Alert" or a Site Area Emergency.

2.7 Media Liaison position will be filled upon decision to activate the JIC.

2.8 News Manager position will be filled upon decision to activate the JIC.

2.9 Public Spokesperson position will be filled upon decision to activate the JIC.

2.10 ONS JIC Technical Liaison position will be filled upon decision to activate the JIC.

3. Subsequent Actions

3.1 Respond as required by enclosures designated for the individual position.

3.2 Activate/deactivate the ONS media center by following the process outlined in Enclosure 4.13 (Process For Media Center Activation/Deactivation).

4. Enclosures

4.1 Government Agency Liaison Activation Checklist

4.2 Distribution Coordinator Activation Checklist

4.3 Administrative Support Activation Checklist

4.4 Registration Support Activation Checklist

4.5 Media Monitor Activation Checklist

4.6 Teleproductions Support Coordinator Activation Checklist

4.7 Media Liaison Activation Checklist

4.8 News Manager Activation Checklist

4.9 Public Spokesperson Activation Checklist

4.10 ONS JIC Technical Liaison Checklist

4.11 Process For Accessing JIC Forms

4.12 Process For Accessing Nuclear News Releases

4.13 Process For Media Center Activation/Deactivation

1. Government Agency Liaison Activation Checklist

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE: For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 **Nuclear only**: Contact INPO at 9-800-321-0614 (backup: 9-770-644-8000) and NEI by emailing:NEIresponsecenter@nei.org to inform of the drill/emergency and let them know they will be receiving news releases. Please provide the following information:

- Your name and company
- A phone number where you can be reached
- The affected station and unit
- The situation (drill or event) and classification - direct them to call you, if they need more information. (you may be asked to leave a message on an answering machine when calling INPO)

☐ 1.4 Work with news manager to ensure JIC is declared JIC operational/activated in a timely manner. Remember that JIC declaration must be coordinated with Charlotte JIC.

☐ 1.5 Determine and discuss extent of state/county participation with Duke Energy News Manager.

☐ 1.6 Serve as the single point of contact for agency representatives reporting to the JIC and for internal business units/groups such as governmental affairs, regulatory affairs, business and community relations managers, etc.

- Assist agencies with room familiarization, use of equipment, etc.
- Determine number of copies of news releases needed for federal/county/state Public Information Officers (PIOs). Give this number to the admin support personnel as quickly as possible after JIC activation
- Determine names of PIOs participating in news conferences and give this information to the admin support personnel so that name cards can be made
- Verify state rumor control personnel in the JIC have copies of the Oconee Emergency Planning Calendar and all news releases
- Use the government agency seating chart located in your notebook to document agency participation and seating.

☐ 1.7 Ensure the following information is posted on a status board or electronic log in the JIC and encourage JIC participants to check the board periodically.

- Oconee JIC status (operational, activated, deactivated), with date and time
- Event classification, with date, and time
- Major issues/concerns/rumors and their resolution

☐ 1.8 Work with administrative support personnel to ensure that all state/county/federal/Duke news releases pertaining to a change in classification are displayed in the Media Center at the SAME TIME.

- Use the Government Liaison ENF - Release chart template (located in the Gov. Agency Liaison folder on "charf01\ccr_jicdrive) to track and verify news release and ENF receipt and distribution.

NOTE: The Government Agency Contact list in the JIC procedures cart or on the JIC drive (under telephone folder) may be referred to for phone numbers. PIOs in the JIC may also be able to relay information.

☐ 1.9 Ensure state, risk and host county emergency operations centers (EOCs) are notified when:

- The JIC is Operational
- The JIC is Activated
- A media center is being established
- News releases/news updates are being faxed.
- As needed to determine if/when agency representatives will report to the JIC.

☐ 1.10 Perform a cursory review of agency news releases for accuracy of Duke Energy related information such as classification, time of declaration, Duke Energy actions, etc.

☐ 1.11 Keep state/county/federal PIOs up-to-date on event/plant conditions and emergency classification. If other JICs are activated, utilize a bridge line for room updates so other JICs can hear the updates.

☐ 1.12 In preparing for news conferences:

- Serve as liaison between the News Manager and the state and counties to determine news conference times
- Notify the Charlotte JIC of the news conference time
- Request that the media liaison assigned to media center announce/post the time for the next news conference and provide updates if the news conference will be postponed/delayed.
- Determine if additional visual aids are needed by state/county PIOs and work with admin support and/or the distribution coordinator to obtain requested visual aids.
- Work with the news manager to review the ONS slide deck located in the nuclear visuals folder on the JIC drive (\\charf01\ccr_jic) to identify/verify visuals for the news conference briefings.
- Ensure name tents for each PIO have been placed in the media center by the administrative support team.
- Ensure all agencies coordinate media/news conference briefings within the JIC prior to attending the news conferences.

NOTE: The following protocol should be used when using the JIC-EOF Conference Bridge (9-704-382-8080/9-866-385-2663 Conferee Code (b)(6))

- Identify yourself and your location
- Take turns speaking - do not interrupt
- Acknowledge receipt of information
- Repeat back to ensure important/sensitive information is received/understood
- Re-direct long discussions to a phone line

☐ 1.13 Be available/ready to establish contact with the Charlotte JIC and state and county liaisons over the JIC-EOF Conference Bridge by calling, 9-704-382-8080/ 9-866-385-2663 and entering conferee code (b)(6).

☐ 1.14 Ensure that the shelter/evacuation map located in the JIC and media center is properly coded for the protective action decisions provided by the state and counties.

☐ 1.15 Notify the news manager and the Charlotte JIC (via the JIC-EOF Conference Bridge 9-704-382-8080/9-866-385-2663 conferee code (b)(6)) of issues or concerns expressed by state/county/federal PIOs.

☐ 1.16 Verify that Duke Energy news releases are being provided to federal/state/county PIO representatives and state rumor control in the JIC.

☐ 1.17 Verify that Duke Energy news releases are being received by the state/county emergency operations centers (EOCs). This may be done by monitoring the email distribution list or share drives set up by the agencies to share information. (Discuss this with the Emergency Communications Planner.)

☐ 1.18 Verify with the admin support personnel that the Media Liaisons in the Media Center and the Media Monitor are getting copies of all news releases.

☐ 1.19 Prepare and conduct turnover with next shift if applicable. Review current status, outstanding issues, items for follow up, etc.

☐ 1.20 Ensure checklist is complete (all boxes checked or n/a). Give completed checklist to Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

1. Distribution Coordinator Activation Checklist

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE:	For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 Discuss administrative needs with the News Manager and/or Government Agency Liaison and then contact Administrative Support personnel to report to the JIC to manage the following functions, as needed:

- Fax support
- Copy support
- Internal JIC distribution
- Media monitoring

☐ 1.4 Provide oversight and direction for Administrative Support personnel in the following areas:

- Copy
  - o Ensure Emergency Notification Forms (ENFs) are copied on green paper.
  - o Ensure Emergency Alert System (EAS) messages are copied on blue paper.
- Distribution
  - o Remind administrative support that Duke and agency news releases pertaining to a change in classification should be taken to the media center at the SAME TIME.
  - o Carry a mobile phone, if available, when distributing information between facilities.
- FAX
  - o Ensure faxes are sent/received in a timely manner - especially the Emergency Notification Form (ENF)
  - o Ensure federal, state and county news releases are faxed to the Charlotte JIC
  - o Ensure faxes sent are recorded on the Fax Log Sheet
- Media monitoring - ensure coordination with teleproductions and assist in radio/TV set up as needed.

☐ 1.5 Notify Facilities, IT/IM, and Security of JIC activation and the need for their support. Request at least one representative from each group respond to the JIC. (PIP 08-1713, CA 14)

☐ 1.6 If needed, ensure a media center has been properly set up.

☐ 1.7 Work with the Charlotte JIC to determine the number of additional staff being sent to ONS and ensure appropriate arrangements are made for hotels, meals, snacks, etc.

☐ 1.8 Ensure that a registration process (i.e. sign-up sheets and security) is implemented for the Joint Information Center and the Media Center. Request security officers to provide registration support (one for JIC, one for media center - as applicable).

☐ 1.9 Carry a mobile phone (if available) when distributing information between the facilities.

☐ 1.10 Assist in setting up bridge lines, if needed, to allow multiple agencies/JICs to listen to discussions in the JIC.

☐ 1.11 Maintain a file folder for all documents associated with this event, such as:

- news releases
- approved talking points and messages
- county/state news releases
- government agency news releases
- emergency notification forms (ENFs)
- all other documents created/used to support the event

☐ 1.12 Ensure name cards are created and taken to the media center for PIOs who will speak during news conferences.

☐ 1.13 If needed, ensure emails/share drives are being monitored for agency news releases that may be shared in a central distribution point.

☐ 1.14 If requested, contact corporate services to secure a vendor capable of creating news conference transcripts ("Word" format preferable). Refer to the JIC reference manual for number to call.

☐ 1.15 Prepare and conduct turnover with next shift. Review current status, outstanding issues, items for follow up, etc.

☐ 1.16 At the end of the drill/exercise/event (i.e. deactivation of the JIC):

- Notify Security, IT/IM, and Facilities to cease support of the JIC/media center.
- Contact the Media Monitor and Media Center Liaisons to close down their operations.
- Have Administrative Support personnel replenish JIC supplies, forms and checklists.

☐ 1.17 Ensure the checklist is complete (all boxes checked or n/a).

☐ 1.18 Ensure the following forms are collected and given to the Corporate Communications Emergency Planner.

- Completed activation checklist for each Oconee public affairs participant
- Duke, federal, state, county news releases
- Emergency Notification Forms (ENFs)
- EAS notification forms
- Other federal or state documents received/issued in relation to the event (i.e., state of emergency declaration, etc.)
- All sign-in sheets/rosters from the JIC and media center.

2. Sign Off

Completed By: _____ Date: _____

1. Administrative Support Activation Checklist

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE: For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 Turn copy/fax machines on, ensure they are filled with paper, and check them for operability. Report any equipment problems to the Distribution Coordinator.

☐ 1.4 Work with the Government Agency Liaison to provide administrative support to state/county/federal participants. Determine:

- Number of copies needed for Duke, federal, state and county PIOs
- Distribution of faxes, news releases, ENFs, incoming faxes and other documents within the JIC

☐ 1.5 Create name tents for each spokesperson (Duke, state and county) and place name tents at the speakers table in the Media Center PRIOR to the first news conference.

1.5.1 Obtain names of PIO spokespersons for Duke and Federal, State and County agencies

1.5.2 Use the name tent template of the JIC share drive (charf01\ccr_jic) to create personalized name tents for each PIO

1.5.3 Place name tents at the speakers' table in the media center PRIOR to the first news conference

1.5.4 Update name tents as needed (as new PIOs report for duty) and reverify prior to each news conference.

☐ 1.6 For copying, review copy list (in JIC Reference Manual) to assure familiarity with the number and type of copies:

- Blue paper should be used when copying state Emergency Alert System (EAS) messages
- Green paper should be used when copying Duke's Emergency Notification Forms (ENFs)
- White paper should be used when copying all other materials

☐ 1.7 If requested, monitor your email or a share drive for state/county/federal news releases being shared via a central distribution system.

NOTE: Emergency Notification Forms (ENFs) should only be given to the Duke representatives in the Technical Liaison room and to the Government Agency Liaison. They should **NOT** be given to state/county representatives unless specifically requested.

☐ 1.8 For distribution of information within the JIC and Media Center:

1.8.1 Work with the Government Agency Liaison to determine distribution of news releases and other information to federal, state and county officials located in the JIC.

1.8.2 Distribute copies to the JIC staff and Media Monitors as outlined in the distribution lists established for each identified document (refer to the JIC Reference Manual).

1.8.3 Provide copies of news releases/updates to the Media Liaisons for media representatives in the Media Center.

NOTE: Distribution of information is very important and should be carried out in a timely manner.

1.8.4 Coordinate distribution of Duke and agency news releases pertaining to a change in classification to ensure news releases are displayed in the media center at the SAME TIME.

☐ 1.9 Post a copy of each ENF and news releases (Duke, state, county, NRC) in the JIC.

☐ 1.10 For faxing support:

- Ensure that the following information is being sent to the Charlotte JIC:
  - o A copy of every state/county/federal news release
  - o A copy of any state/county or federal document received/issued which pertains to the event

☐ 1.11 If asked, support media center set up by referring to Enclosure 4.13. (Process for Media Center Activation/Deactivation).

☐ 1.12 Before the end of each day, check JIC files and replenish forms/checklists as necessary.

☐ 1.13 Prepare and conduct turnover with next shift. Review current status, outstanding issues, items for follow up, etc.

☐ 1.14 Ensure checklist is complete (all boxes checked or n/a). Give completed checklist to Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

1. Registration Support Activation Checklist

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE: For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 Report to Distribution Coordinator for assignment as a JIC Registrar or Media Center Registrar.

Process for JIC Registrars:

1.3.1 Have all entrants sign the registration log (log is at front of JIC cart - cart may be in storeroom or near front of the Joint Information Center).

1.3.2 Offsite Agency Access: For entry, off-site agency personnel must have a picture ID showing their name.

1.3.2.1 Ask for a driver's license, in addition to county/state/federal identification, if the government ID does not have a picture.

1.3.3 Duke Employee Access: A Duke ID is required for Duke employees reporting to the JIC.

1.3.3.1 Verify the person matches the name and picture on the ID.

1.3.3.2 Find the name of the person entering on the roster/ERO list. If the name is not listed, contact the News Manager or Emergency Communications Manager for validation/verification.

1.3.4 If any problems occur, notify Security and the Government Agency Liaison or News Manager. Allow Security to handle the situation.

NOTE:	Duke and Government Agency personnel entering the Media Center for news conferences are **NOT** required to sign in.

Process for Media Center Registrars:

1.3.5 Have all entrants sign the registration log.

1.3.6 A media or picture ID is required for reporters entering the ONS Media Center:

1.3.6.1 If a picture ID is not available, request that the Duke Media Liaison give permission for entry.

1.3.6.2 Request that all Media Personnel display their media/picture ID in a clearly visible manner (i.e. use the green media ID cards with a neck chain, etc.).

1.3.6.3 All non-media entrants should display their agency/company IDs.

1.3.7 If any problems arise, notify Security and the Duke Energy Media Liaison. Allow Security to handle the situation.

☐ 1.4 Prepare and conduct turnover with next shift. Review current status, outstanding issues, items for follow up, etc.

☐ 1.5 Ensure checklist is complete (all boxes checked or n/a). Give completed checklist to the Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

1. Media Monitor Activation Checklist

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE: For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 Report to the Media Monitor Room.

NOTE: Teleproductions Support Coordinator should be contacted if there are problems with TVs, DVRs, radios or other equipment.

☐ 1.4 Verify TV sets and VCRs are operable.

1.4.1 Obtain remote controllers from Distribution Coordinator; if needed.

1.4.2 Tune TVs to local CBS, ABC, and NBC stations and to CNN if enough TVs are available.

1.4.3 Ask the Distribution Coordinator for a listing of local cable numbers, if needed.

☐ 1.5 Verify SIM cards, DVRs/DVDs are available for recording radio AND TV broadcasts.

☐ 1.6 Contact the Media Coordinator in the Charlotte JIC (9-704-382-0611):

1.6.1 Tell them which stations you will monitor.

1.6.2 Give them a phone number where you can be reached.

☐ 1.7 Contact the JIC Administrative Support personnel and request copies of all news releases (expect to get information about once per hour – contact the Administrative Support personnel if you are not getting information).

☐ 1.8 Monitor and record only information relating to the emergency.

1.8.1 Monitor and record EAS messages from the following common control program radio station: Oconee WFBC 93.5.

1.8.2 Monitor and record radio and TV broadcasts covering the event.

1.8.3 Work with teleproductions to set up a second tuner to pick up recording stations, if tuner #1 is full.

NOTE: IMPORTANT!

The Media Coordinator should be immediately contacted in the Charlotte JIC (9-704-382-0611) when:

- A discrepancy is noted between news releases and the information being provided over radio and TV

- You believe the Charlotte JIC should be aware of the coverage (the tone of the reporting, what is being said and or implied, etc.)

☐ 1.9 At the end of the event or when the recordings are full, label them with the station(s) monitored, the date(s) and the time(s).

☐ 1.10 When the event is terminated, work with teleproductions to turn off all equipment. Collect the recordings and give them to the teleproductions staff to burn the information to a DVD if it will be archived.

☐ 1.11 Prepare and conduct turnover with next shift. Review current status, outstanding issues, items for follow up, etc.

☐ 1.12 Ensure checklist is complete (all boxes checked or n/a). Give completed checklist to Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

Teleproductions Support Coordinator Activation Checklist

1. Teleproductions Support Coordinator Activation Checklist

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE:	For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 Determine if additional people are needed to support the emergency from a teleproductions standpoint. If yes, contact the Media Coordinator (9-704-382-0611) in the Charlotte JIC to obtain additional resources.

☐ 1.4 Setup the Oconee Media Center for videotaping and broadcasting news conferences.

☐ 1.5 Verify a TV monitor is setup in the Oconee JIC to receive live news conference feed from the Oconee Media Center.

☐ 1.6 Verify audio feed setup from the Oconee Media Center to the Charlotte JIC and other JICs locations as needed.

☐ 1.7 Provide guidance in setting up the Oconee Media Monitoring Area:

- Ensure TVs, DVDs, radios and recorders are operable
- Provide SIM cards, DVRs/DVDs for recording
- Ensure person serving as Media Monitor knows how to operate all equipment

☐ 1.8 Provide a wireless microphone for use by audience in asking questions.

☐ 1.9 Provide real-time viewing of news conferences for the Oconee JIC.

☐ 1.10 Provide real-time listening and/or viewing capability for other locations of news conferences from the Oconee Media Center.

☐ 1.11 Direct and supervise teleproductions activities in the Media Center.

☐ 1.12 Give final copies of recordings to the Corporate Communicators Emergency Planner after the event.

☐ 1.13 Prepare and conduct turnover with next shift. Review current status, outstanding issues, items for follow up, etc.

☐ 1.14 Ensure checklist is complete (all boxes checked or n/a). Give completed checklist to the Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

1. Media Liaison Activation Checklist

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE: For drills, all written and verbal communication must be prefaced with the words "'THIS IS A DRILL".

☐ 1.3 Obtain the most current information concerning the event:

- Emergency Notification Forms (ENFs) - ENF's are a resource document only and should **NOT** be given to the media or anyone outside of JIC staff.
- News releases/updates
- Approved messages
- Nuclear Briefing Book
- Other sources of information include the JIC share drive, the CSC Sharepoint at http://wss.duke-energy.com/sites/Customer_Service_Event_Communications/default.aspx, the technical liaison bridge, and the internet

☐ 1.4 Report to the Oconee Media Center as needed to provide information to the media.

☐ 1.5 Contact the Media Coordinator in Charlotte via the JIC media bridge line (9-704-382-8080/9-866-385-2663 conferee code [redacted]) or their direct phone (9-704-382-0611) to provide:

1.5.1 Current status at the Oconee Media Center (number of media outlets, general context of questions, issues raised, etc.)

1.5.2 A number where you can be reached.

NOTE: Media Liaisons should work with the Media Coordinator, Media Integrator, and the EOF/ONS JIC Technical Liaisons to address/answer questions in a timely manner.

☐ 1.6 Serve as a primary source of contact for Duke Energy information by answering media questions and providing support information to the media.

☐ 1.7 During news conferences, one Media Liaison MUST dial the JIC-EOF Conference Bridge (9-704-382-8080/9-866-385-2663, conferee code (b)(6)) to keep abreast of plant status:

1.7.1 If the classification changes during the news conference, VERIFY that the states/counties have been officially notified and then discretely notify the News Manager via blackberry, email or written note.

NOTE: The following protocol should be observed when using the JIC-EOF Conference Bridge:

- Identify yourself and your location
- Take turns speaking - do not interrupt
- Acknowledge receipt of information
- Repeat back to ensure important/sensitive information is received/understood
- Re-direct long discussions to a phone line

☐ 1.8 Report to the Media Coordinator or Media Integrator (via the JIC Media bridge 9-704-382-8080/9-866-385-2663 conferee code (b)(6)):

- Any request for information that appears to be based on rumor
- Any media request that you cannot readily answer (this will allow the issue to be researched and addressed in a timely manner by you or the spokesperson)

CAUTION: News releases from Duke, state and counties relating to actions being taken for a change in classification must be displayed at the SAME TIME.

☐ 1.9 Serve as Media Center "host/hostess" by:

- Ensuring media outlets have appropriate materials/news releases/updates
- Announcing and post the time of the next news conference (when notified by the News Manager)
- Displaying and distributing news releases/updates in a timely manner
- Working with Government Agency Liaison to update shelter/evacuation map after the state/county spokespersons arrive for the news conference/briefing to announce public protective actions (Caution: Do **NOT** update prior to their arrival.)
- Ensuring Duke maintains positive control of the Media Center

☐ 1.10 If a problem/issues arises, contact the Government Agency Liaison in the Oconee JIC (9-864-624-4363 or 4363) or News Manager at (9-864-624-4362 or 4362) for assistance.

☐ 1.11 Prepare and conduct turnover with next shift. Review current status, outstanding issues, items for follow up, etc.

☐ 1.12 Ensure checklist is complete (all boxes checked or n/a). Give completed checklist to Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

1. News Manager Activation Checklist

NOTE:	Manual means of providing information to the Public Spokesperson must be used **IF** WEBEOC is **NOT** available.

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE:	For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 Contact the public information manager in the Charlotte JIC (9-704-382-0610) concerning Oconee JIC activation status:

- Once all Duke personnel are staffed, report that the Oconee JIC is "operational" and document the time.
- Once the state and county PIOs are staffed and ready, report that the Oconee JIC is "ready for activation".
- Coordinate ONS and Charlotte JIC activation such that the declared activation time is the same for both facilities. If other JICs are participating, coordinate activation with them as well.
- Document the official time the Oconee JIC is "activated".

☐ 1.4 Discuss sources and collection of information with the ONS JIC Technical Liaison. Information should flow from the EOF to the ONS JIC and Charlotte JIC. Information gathered by the ONS JIC Technical Liaisons from the Ops bridge line should be verified with the EOF.

☐ 1.5 Prepare the public spokesperson for news conferences by:

- Reviewing the news conference form (located in public affairs' file cabinet)
- Verifying information has been provided by EOF/ONS JIC technical liaison (EOF logs, etc.)
- Providing copies of all news releases/bulleted updates
- Reviewing rumors and customer/media inquiries for inclusion if appropriate
- Reviewing event history and station fact sheets as appropriate.
- Developing messages and talking points based on current conditions and issues/rumors which need to be addressed
    - o If injuries/fatalities are involved, review the corporate guideline "Responding to Serious Injuries or Fatalities" (located on the JIC drive, \charf01\ccr_jic\procedures-guidance folder) with the public spokesperson PRIOR to news conferences\briefings.
    - o To quickly address the media after event classification/upgrade, refer to the prepared initial event messages located in the "Nuclear Messages" folder in the Nuclear folder on the JIC drive.

☐ 1.6 As soon as possible, and prior to the news conference/briefing, share the spokesperson's talking points/message block with the Public Information Coordinator located in the Charlotte EOF to allow this information to be incorporated into news releases/updates. Ensure there is good information flow between the ONS JIC, the Charlotte JIC and the EOF.

☐ 1.7 Ensure Charlotte JIC allows ONS Spokesperson/News Manager to review the news release prior to approval in the EOF. (PIP 08-1713, CA 14)

☐ 1.8 Work with the government agency liaison in the Oconee JIC and the public information manager in the Charlotte JIC to:

- Determine a time for pre-news conference briefing with state/county/federal PIOs
- Set a time for news conferences/briefings and ensure the Charlotte JIC knows the designated time
- Determine visual aids needed for news conference. Visual aids for each station can be found on the JIC drive (\\charf01\ccr_jic) in the nuclear visuals folder.
- Assign media liaison stationed in the Oconee Media Center to the JIC-EOF Conference Bridge (9-704-382-8080/9-866-385-2663, conferee code (b)(6)) to keep up with plant status and emergency classification and to notify you via text, email or note if conditions change.
- Verify phone is available for the media liaison in the media center

NOTE: During smaller or informal news briefings, the Public Spokesperson should be encouraged to speak from the podium in the media center to allow videotaping and recording. If conducting a phone interview, a conference phone or phone with a second line should be used to allow the news manager to listen in with minimal interference.

☐ 1.9 Accompany and assist the public spokesperson during all news briefings, news conferences and interviews.

☐ 1.10 When preparing for news conferences with state and county public information officers, complete the news conference agenda form (located in the corporate communications' file cabinet) during the pre-news conference briefing. If other JICs are participating, ensure a conference bridge is available so information can be shared.

☐ 1.11 Serve as the news conference moderator/facilitator by using information gathered on the news conference agenda form during the pre-news conference briefing. Always use the suggested guidelines on the news conference agenda form for opening and closing each session.

Prior to beginning news conference:

- Ensure all people at the speakers table have a name card or a title card
- Ensure all people at the speakers table have a place to sit - obtain additional seats if needed
- Ensure participants' cell phones/pagers are off or set to vibrate during news conferences.
- Ensure a media liaison in the media center is monitoring the JIC-EOF Conference Bridge (9-704-382-8080/9-866-385-2663, conferee code (b)(6)) to keep you informed of major changes in plant status or classification levels. They should notify you via text, email or written note once they verify states and counties have been notified.

NOTE: A news conference should be stopped if a change in emergency classification occurs while the conference is being held. Words to use are shown on the agenda form. Do NOT share specific upgrade information unless you are certain state and county agencies have been notified.

☐ 1.12 Work with the news manager in the Charlotte EOF to keep the NRC representatives in the EOF up to date on communication activities.

☐ 1.13 Document key decisions, calls and contacts using ERO Facility Log sheets or a notepad.

☐ 1.14 Coordinate JIC deactivation with the Charlotte JIC.

☐ 1.15 Complete turnover sheet for next shift and conduct turnover by reviewing current status, outstanding issues, items for follow up, etc.

☐ 1.16 Verify all checklist and information sheets have been properly completed/signed and leave paperwork for the Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

1. Public Spokesperson Activation Checklist

NOTE:	Manual means of providing information to the Public Spokesperson must be used **IF** WEBEOC is **NOT** available.

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE:	For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 Work with the news manager and ONS JIC technical liaison to gather information.

☐ 1.4 Review news releases, TSC/EOF logs, event histories, fact sheets, guidelines for injuries/fatalities and other information appropriate to the event.

NOTE:	The ONS JIC Technical Liaison can get copies of TSC and EOF logs as needed to provide a chronological list of events.

☐ 1.5 Obtain a chronology of events in preparation for the news conference.

☐ 1.6 Request the ONS JIC technical liaisons make you aware of any significant change in plant status - whether you are in the JIC or a news conference.

☐ 1.7 Review all news releases/bulleted updates for approval prior to release and prior to each news conference. (PIP 08-1713, CA 14)

☐ 1.8 Keep in contact with other public spokespersons located at the visitor's center or Charlotte EOF to keep abreast of information being provided to the media from the plant site.

☐ 1.9 Review all documented escalated rumor information about plant status and/or misinformation revealed by media queries.

☐ 1.10 Request news manager arrange for visual aids that will be needed (if appropriate) for press conference. Visual aids are located on the JIC share drive in the nuclear/nuclear visuals folder.

NOTE: Do NOT speculate during the news conference. Information should relate to plant status and plant recovery. Do not discuss public protective actions and state/county response.

Do NOT provide information related to the location of off-site assembly points.

CAUTION: Do NOT make reference to projected dose or rad data from the ENF during a news conference. Any reference to dose should be based on actual dose at the site boundary.

☐ 1.11 Provide brief update to state/county PIO representatives prior to each news conference at the pre-news conference briefing.

☐ 1.12 As requested, provide updates and address issues or concerns of key internal and external stakeholders such as

- Duke Energy board of directors
- Governor of South Carolina
- ECOC

☐ 1.13 Document day decisions, calls, and contacts.

☐ 1.14 Complete turnover sheet for next shift and conduct turnover by reviewing current status, outstanding issues, items for follow up, etc.

☐ 1.15 Verify all checklists and information sheets have been properly completed/signed and leave paperwork for Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

1. ONS JIC Technical Liaison Activation Checklist

NOTE:	Manual means of providing information to the Public Spokesperson must be used if **IF** WEBEOC is **NOT** available.

☐ 1.1 Sign in on JIC staffing board.

☐ 1.2 Put on position badge.

NOTE:	For drills, all written and verbal communication must be prefaced with the words "THIS IS A DRILL".

☐ 1.3 If needed, access the EOF technical liaisons by using the wireless headset/mobile phone and dial the JIC-EOF Conference Bridge: Duke Voice Conferencing System at 9-704-382-8080, (toll free 9-866-385-2663) conferee code (b)(5).

1.3.1 Instructions for using the wireless phone/headsets are located near the phones/headsets.

1.3.2 Directions for accessing the conference and bridge line are in the Joint Information Center (JIC) Reference Manual, located in the Corporate Communications' file cabinet.

1.3.3 When using the JIC conference and bridge lines, observe the following protocol:

- Identify yourself and your location
- Take turns speaking - do not interrupt
- Acknowledge receipt of information
- Repeat back to ensure important/sensitive information is received/understood
- Re-direct long discussions to a phone line - this is very important to ensure that all parties who need access to the bridge have it and that bridge integrity is maintained

☐ 1.4 A second, dedicated EOF-ONS JIC Technical Liaison Bridge line must be activated to allow one Charlotte and one ONS JIC Technical Liaison to be in constant contact with each other. To activate this dedicated line, dial the Duke Voice Conferencing System at: 9-704-382-8080 (or toll-free 9-866-385-2663) and enter conferee code (b)(6) (PIP 08-1713, CA 14)

CAUTION: It is imperative that the bridge lines be accessed quickly. Example of alternate communication equipment that may be used if the "normal" headset is not working include:

- another cellular phone with a headset
- a mobile belt pack unit which uses batteries
- a stationary head set

A standard desk phone may be used with assistance from IM/IT in getting a mobile headset to work. A complete search of entire storage cabinet should be made if batteries are needed.

☐ 1.5 Ensure computer is aligned to print to Oconee - EOF - ONE0F101.

☐ 1.6 Work with the EOF technical liaison in Charlotte to gather technical information on the event and document this information.

- Access WebEOC following directions at the front of your notebook or EP FAM Section 3.15. This will allow you to view the ENFs on line (ENFs generated by the control room are not on WebEOC) and the TSC and EOF logs.
- Another source of information is the OPS bridge line at 9-864-885-4908. It is important to note that public affairs responders are NOT allowed to talk on this bridge line - this is LISTEN only access. If access to this line is lost or denied, contact the EP Planner in the TSC (9-864-885-3712) for assistance. Also note that information from this line should be verified through the EOF technical liaisons prior to public release.
- Using the DAE, access SDS-Oconee (use Simulator Part-Task for drills) for graphic information of plant status and parameters.
- Refer to "JIC Questions Based on Initiating Event" located in your notebook to anticipate questions that may be asked.

☐ 1.7 Provide information to public spokesperson, as appropriate.

☐ 1.8 Maintain a chronological listing of significant events or obtain copies of the EOF and TSC logs as needed.

CAUTION: IT IS MANDATORY that information pertaining to classification changes has been verified with the EOF Technical Liaison and has been shared with states and counties BEFORE being shared with any entity outside Duke Energy.

CAUTION: Discussions relating to dose are always based on actual dose at the site boundary only. Do NOT use projected dose information or ENF dose information at any time. Raddose V page 3 meets this criteria.

- ☐ 1.9 Ensure the EOF Technical Liaisons in Charlotte obtain and provide Raddose V page 3 for radiological release information and that this information is aligned with information being provided to the spokesperson.
- ☐ 1.10 Continue to monitor and update information relative to radiological releases.
- ☐ 1.11 Work with the EOF Technical Liaisons in Charlotte to track down information to dispel rumors.
- ☐ 1.12 Provide feedback/information to the JIC concerning community issues/concerns and situational updates.
- ☐ 1.13 Complete turnover sheet for next shift and conduct turnover by reviewing current status, outstanding issues, items for follow up, etc.
- ☐ 1.14 Verify all checklists and information sheets have been properly completed/signed and leave paperwork for the Distribution Coordinator.

2. Sign Off

Completed By: _____ Date: _____

1. Process For Accessing Nuclear Forms and Messages

1. Turn on/log on computer.

2. Double click on "My Computer" icon.

3. Double click on the ccr_jic on charf01 drive.

   a. If drive is not listed, select Map Network Drive on the tool bar and type the following path: \\CHARF01\CCR_JIC; then, click OK.

4. Double click on Nuclear folder

   a. Double click on the Nuclear Forms folder and then double click on the forms you wish to view/use.

   b. For nuclear messages, double click on the Nuclear Messages folder and then double click on the messages you wish to view/use.

   c. Print forms/messages by clicking on print icon on tool bar.

1. Process For Accessing News Releases

1. Turn on/log on computer
2. Double click on "My Computer" icon
3. Double click on the ccr_jic on charf01 drive.
   a. If drive is not listed, select Map Network Drive on the tool bar and type the following path:_\\CHARF01\CCR_jic; then, click OK.
4. Double click on the Nuclear Folder
5. Double click on the News Releases - Updates folder
   a. Double click on appropriate station - CNS, MNS, ONS, Dual Station Event
   b. Double click on **Drill** or **Emer** as appropriate.
   c. Select the appropriate news release-update template (Alert, SAE, GE) by double clicking on the appropriate document.
   d. As template is completed, re-name and save each new document using a chronological numbering system (e.g.: alert1.doc, alert2.doc, GE1.doc, etc.) **Always label the final news release/update as "Final" to avoid confusion.**
   e. Print the document by selecting the print icon on the tool bar.

1. Process For Media Center Activation/Deactivation

☐ 1.1 Talk to the Government Agency Liaison or Media Liaisons to determine reference materials needed at the Media Center.

NOTE: Equipment/phones are located in the JIC admin room.

Corporate Communications Emergency Planner and/or News Manager should be contacted for assistance in opening the room and placing the equipment.

Phone jacks are located on the sidewall of the auditorium.

A high priority request should be submitted to SPOC (9-704-382-7762) if phones do not work properly.

☐ 1.2 Setup Oconee Media Center by obtaining and placing the following equipment and materials:

- Six-eight (6-8) tables
  - 3 at front of room for speakers
  - 2 for phone bank at side of room
  - 1 at back of room for media information
  - 1 small table outside entrance for registration/security
- Approximately thirty (30) chairs
- Podium
- Six to eight (6-8) media phones
- Six (6) easels
- Oconee Emergency Planning Calendars (minimum of 25)
- Oconee Transient Brochures - English and Spanish (minimum of 25)
- Oconee fact sheets
- Oconee Station/Visitor Brochures (minimum of 25 of each kind)
- Bios for appropriate Duke spokesperson
- Media registration book
- Media green tags
- Agency name cards for all public spokespersons: Oconee County, Pickens County, South Carolina, FEMA, NRC and Duke Energy
- Note pads and pencils (minimum 25 of each)

- Overhead projector and/or light show, as needed
- Transparencies (if they will be used)
- JIC Reference Manual (for Duke use only)
- Duke Energy logo for speaker's podium, if needed
- Portable hands-free phone
- Two (2) flipcharts
- Posters of EPZ, plant schematic, description of evacuation routes, etc.
- Magnetic shelter/evacuation map (to be used when public protective actions are given by state/county representatives)

☐ 1.3 Close the Media Center when instructed by the Distribution Coordinator or the Corporate Communications Emergency Planner.

1.3.1 Return all equipment to the JIC admin room. Collect supplies and materials for return to the Oconee JIC or the plant.

1.3.2 Give materials developed as a result of the event to the Distribution Coordinator (i.e., news media registration form, news releases, etc.).

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

(1) ID No. RP/0/B/1000/031

PROCEDURE PROCESS RECORD

Revision No. 006

PREPARATION

(2) Station **Oconee Nuclear Station**

(3) Procedure Title **RP/0/B/1000/031, Joint Information Center Emergency Response Plan**

(4) Prepared By* Donice Kelley Donice Kelley Date September 11, 2012

(5) Requires NSD 228 Applicability Determination?

☐ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation

☒ No (Revision with minor changes)

(6) Reviewed By* Ray Waterman | Ray Waterman (QR) (KI) Date 9-12-12

Cross-Disciplinary Review By* _____ (QR) (KI) NA RDW Date 9-12-12

Reactivity Mgmt. Review By* _____ (QR) NA RDW Date 9-12-12

Mgmt. Involvement Review By* _____ (Ops. Supt.) NA RDW Date 9-12-12

(7) Additional Reviews

Reviewed By* _____ Date _____

Reviewed By* _____ Date _____

(8) Approved By* Patrick M. Street Patrick M. Street Date 9/13/12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification:

☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved* _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

§50.54(q) Screening Evaluation Form

Activity Description and References: **Oconee RP/0/B/1000/031, Joint Information Center Emergency Response Plan, Revision 6** BLOCK 1

Text in {brackets} is the reason for the change (e.g., drill critique item, change in technology, and consistency with Charlotte JIC process).

Enclosure 4.1 Government Agency Liaison Activation Checklist

1. Step 1.3 - - Updated step to include notification of NEI per NEI protocol document. Clarified information that should be provided to these agencies. {Corporate Communications (Corp Comm) Critique item 8/9/2011}
2. Step 1.5 - - Added new step 1.5 to prompt the government agency liaison to determine level of state/county participation by talking with the News Manager. Renumbered subsequent steps. {Ensures alignment with Charlotte JIC procedure.}
3. Step 1.6 (previously 1.5) - - Updated step to include that the Government Agency Liaison is not only the single point of contact for agency representatives, but also the single point of contact for internal business units such as governmental affairs, district managers, etc. {Ensures alignment with Charlotte JIC procedure.}
4. Step 1.6 (previously 1.5) - - Added bullet # 5 to have the Government Agency Liaison use a seating chart to document agency participation. {Corp Comm Critique item 4/28/2011}
5. Step 1.7 (previously 1.6) - - Added statement to prompt JIC participants to check the status board and electronic log periodically. {Corp Comm Critique item 8/9/2011}
6. Step 1.8 (previously 1.7) - - Added a bullet to prompt the Government Agency Liaison to use a template form to track and verify receipt and distribution of new releases and other pertinent information given to the states and counties. {Corp Comm Critique items 4/28/2011 and 8/9/2011}
7. Step 1.9 (previously 1.8) - - Added a bullet to prompt the Government Agency Liaison to verify, when necessary, if/when an agency representative will report to the JIC. {Ensures alignment with Charlotte JIC procedure.}
8. Step 1.11 (previously 1.10) - - Reworded the statement to clarify that the Government Agency Liaison should not "verify" but should "keep" agency PIOs up to date. {Editorial}
9. Step 1.11 (previously 1.10) -- Added a statement to have the Government Agency Liaison ensure that adequate bridge lines are established if multiple JICs are activated. {Change to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management.}
10. Step 1.12 (previously 1.11) - - Added wording to existing bullet #3 to ensure that the Media Liaison in the Media Center will provide update if the news conference will be delayed. {Ensures alignment with Charlotte JIC procedure.}
11. Step 1.12 (previously 1.11) - - Added wording to existing bullet #5 to clarify that the admin support team place name tents in the media center. {Clarification}.
12. Step 1.12 (previously 1.11) - Added a new bullet to prompt the Government Agency Liaison to work with the news manager to verify visuals for the news conference/briefings. {Corp Comm Critique Item 2/19/2012}
13. Step 1.12 (previously 1.11) - - Added a new bullet to ensure that all agencies coordinate within the JIC prior to attending news conferences. {Corp Comm Critique 8/9/2011}
14. Step 1.17 (previously 1.16) - - Added wording to clarify places where news releases/information may be shared between agencies. {Needed to supports use of multiple JICs.}

Enclosure 4.2 Distribution Coordinator Activation Checklist

15. Step 1.4 - - Added sub-bullets under the "Copy" bullet to clarify that ENFs should be copied

on Green paper and that EAS messages should be copied on Blue paper. {Ensures alignment with Charlotte JIC procedure.}

16. Step 1.4 - - Added clarification under the "Distribution" bullet that news releases pertaining to the same classification SHOULD BE (not "are") carried to the media center at the same time and added a bullet to have the person doing distribution to carry a phone, if possible, when moving between facilities to ensure they can be reached. {Ensures alignment with Charlotte JIC procedure.}
17. Step 1.4 - - Added wording under the "Media monitoring" bullet to prompt the distribution coordinator to assist with the setup or radios and TVs in the ONS JIC if needed. {Needed due to having a new media monitoring system in the ONS JIC.}
18. Step 1.6 - Deleted step. Renumbered following steps as appropriate. {No longer needed due to new media monitoring system}.
19. New Step 1.10 - - Added step to prompt distribution coordinator assist with setting up bridge lines if multiple JICs are being used. Renumbered following steps as appropriate. {Needed to support use of multiple JICs.}
20. Step 1.12 - - Clarified that name tags should not only be created but also TAKEN to the media center. {Clarification}
21. New Step 1.13 - - Added step to ensure that emails and share drives are being monitored for agency news releases shared in central distributions points when multiple JICs are being used. Renumbered following steps as appropriate. {Needed to support use of multiple JICs}
22. Step 1.18 (previous step 1.17) - - Added wording to Bullet #6 to clarify that rosters and sign in sheets should be gathered not only from the JIC but also from the media center. {Clarification}

Enclosure 4.3 Administrative Support Activation Checklist

23. Step 1.5.4 - - Added wording to ensure that name tents are checked/verified and updated as needed prior to each news conference. {Clarification}
24. Step 1.6 - - Bullet #1 - Corrected name of Emergency Alert System. {Editorial}
25. Added new Step 1.7 - - Added statement to ensure that emails and share drives are being monitored for agency news releases shared in central distributions points when multiple JICs are being used. Renumber following steps as appropriate. {Needed to support use of multiple JICs}
26. New Note before Step 1.8 (previous Step 1.7)- - Added to remind admin support staff that ENFs should only be given to Duke representatives and not to the state/county representatives unless they specifically ask. {Corp Comm Critique Item 8/9/2011}
27. Step 1.8.3 (previous Step 1.7.3) - - Corrected wording to give copies of news releases to all media representatives. {Editorial}

Enclosure 4.4 Registration Support Activation Checklist

28. Step 1.3.3.2 - - Added wording to specify that if the person trying to enter to JIC is not on the roster/ERO list, the security officer should contact the news manager or emergency communications manager for verification. {Additional direction/guidance}

Enclosure 4.5 Media Monitor Activation Checklist

29. NOTE before Step 1.4 - - Updated to reflect current equipment. {Reflect new technology}
30. Step 1.4.1 - - Added "if needed." {Clarification}
31. Step 1.5 - - Replaced terms audio/video tapes with SIMs cards, DVDs/DVRs. {Reflect new technology}
32. Added new Step 1.8.3 - - Step added to reflect that the Teleproductions support team will need to assist the Media Monitor if/when tuner #1 is full. {Needed for new media monitoring system in ONS JIC.}

33. NOTE before Step 1.9 - - Changed "at" to "in." {Editorial}
34. Step 1.9 - - Added wording to clarify recordings should gathered and labeled "at end of event or when recordings are full" rather than when "tapes are full." {Needed due to new media monitoring system in ONS JIC and provide additional guidance}
35. Step 1.10 - - Added wording to clarify that the Media Monitor should work with the Teleproductions team to turn off equipment and collect the recordings to be burned to a DVD if they will need to be archived. {Reflect new technology and ensure recordings are properly archived.}

Enclosure 4.6 Teleproductions Support Coordinator Activation Checklist

36. Step 1.4 - - Added wording to clarify that the teleproductions team should be prepared to videotape AND broadcast news conferences. {Address new technology, address use of multiple JICs, and Corp Comm critique item 5/9/2012.}
37. Step 1.6 - - Added wording to include other JICs or locations receiving audio feed if needed. {Address new technology, address use of multiple JICs, and Corp Comm critique item 5/9/2012 drill.}
38. Step 1.7 - - Updated wording to reflect SIMs cards, DVRs and DVDs. {Address new technology}
39. Step 1.10 - - Added wording to include the possibility of other locations receiving video and/or audio feed if needed. {Address use of multiple JICs and Corp Comm critique item 5/9/2012.}
40. Step 1.12 - - Updated wording from tapes to recordings. {Reflect new technology}

Enclosure 4.7 Media Liaison Activation Checklist

41. Step 1.3 - - Added wording to bullet #5 to indicate another source of information now being used, the CSC Sharepoint. { Corp Comm critique item 2/9/2012}
42. Note before Step 1.6 - Added Media Integrator. {Change to reflect new role called media integrator.}
43. Step 1.7.1 - - Added clarification that information can be shared with the News Manager via blackberry, email, or written note. {Reflect new technology}
44. Step 1.8 - - Added Media Integrator. {Change to reflect new role called media integrator tested during the during 4/28/2011 drill.}

Enclosure 4.8 News Manager Activation Checklist

45. Step 1.3 - - Added wording to bullet #3 to coordinate activation with all participating JICs. {Address use of multiple JICs}
46. Step 1.4 - - Changed reference for EOF technical liaison to ONS JIC technical liaison. {Corrected title}
47. Step 1.4 - - Added statement to clarify how information should be gathered and should flow between ONS JIC, Charlotte JIC and EOF. {Corp Comm critique item 8/30/2011}
48. Step 1.5 - - Added two bullets to prompt the news manager to review rumors and customer inquiries and the event histories and station fact sheets with the public spokesperson prior to news conferences. {Aligns ONS JIC procedure with Corp Comm EOF response procedure SR/0/B/2000/001. Reflects new history and fact sheets prepared to assist the public spokesperson per Corp Comm critique items 8/9/2011 and 2/9/2012.}
49. Step 1.6 - - Moved wording for clarity. {Editorial}
50. Step 1.6 - - Added guidance for news manager to ensure good flow of information among key Duke Energy facilities. {Corp Comm critique item 8/30/2011}.
51. Step 1.7 - - Clarify that news release is approved in EOF. {Editorial}
52. Step 1.8 - - Revised bullet #3 to indicate where visual aids information can be found. {Corp Comm critique item critique item 2/9/2012}.
53. Step 1.8 - - Added clarification to bullet #4 that information can be shared with the news

manager via blackberry, email, or written note. {Reflect new technology}
54. Step 1.10 - - Added wording to ensure all participating JICs can listen to the pre-news conference briefing. {Address multiple JICs}
55. Step 1.11 - - Added that information from media liaison can be shared via blackberry, email, or written note once the states and counties have been notified. {Reflect new technology. Ensure alignment with the Charlotte EOF and JIC procedures.}

Enclosure 4.9 Public Spokesperson Activation Checklist

56. Step 1.4 - - Added event histories, fact sheets and guidelines for injuries /fatalities and other information as items that should be reviewed by the public spokesperson. {Corp Comm critique item 8/9/2011}
57. Step 1.10 - - Add location for updated visuals for news conference/briefings. {Corp Comm Critique Item 2/19/2012}

Enclosure 4.10 ONS JIC Technical Liaison Checklist

58. Step 1.3 - - Made ONS JIC technical liaisons access of the JIC-EOF bridge as needed/conditional. {Corp Comm Critique of 3/3/2010 and 9/14/2012}
59. Step 1.6 - - Revised bullet #2 state that information from Ops Bridge Line must be vetted through the EOF prior to release. {Corp Comm Critique Item 3/3/2010}
60. Step 1.6 - - Added bullet #4 to review "JIC Questions Based on Initiating Events" document to help prepare the public spokesperson for news conferences. {Comm Critique Item 7/28/2011}
61. Deleted Step 1.9 and renumbered subsequent steps. {Corp Comm Critiques dated 3/3/2010 and 9/14/2012}
62. Deleted previous Step 1.13 as this responsibility is handled by media liaisons assigned to the media center. {Corp Comm Critique 9/14/2012}

Enclosure 4.11 Process for Accessing JIC Forms

63. Step 4 - - Replaced colon with period. {Editorial}

Enclosure 4.13 Process for Media Center Activation/Deactivation

64. Step 1.2 - - Changed wording in bullet #10 from "each" to "appropriate" Duke spokesperson. {Editorial}
65. Step 1.2 - - Added "if needed" on bullet #18. {Clarification}
66. Step 1.2 - - Added "magnetic" on bullet #22. {Clarification}

Activity Scope: BLOCK 2

☐ The activity is a *change* to the *emergency plan*

☒ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3	**Change Type:** BLOCK 4
☐ The change is editorial or typographical ☐ The change is not editorial or typographical	☐ The change does conform to an activity that has prior approval ☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☒ The proposed activity does not impact a Planning Standard - These changes do not impact the description in the Emergency Plan of how Oconee complies with the planning standard in 10CFR50.47(b)(7) and NUREG-0654 paragraphs G.3 and G.4. There were no changes to:

- Licensee points of contact or location for media interface
- Locations/capacity of media centers
- Licensee Public Spokesperson assignments
- Requirements for coordination of information among spokespersons. Spokespersons/public information officers are co-located at the Oconee JIC[1].
- Arrangements for dealing with rumors

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment
Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment. Emergency Plan sections reviewed: Oconee Nuclear Station Emergency Plan Revision 2012-03 (June 2012), Sections G.3 and G.4.

Screening Evaluation Results: BLOCK 7

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ernestine M. Kuhr	SEE ATTACHED SHEET 9/13/12	September 11, 2012
Reviewer Name:	Reviewer Signature	Date:
RAY WATERMAN	Ray Waterman	9-12-12

[1] Although South Carolina's Public Spokesperson will be in Columbia, South Carolina will still send a representative to the Oconee JIC and conference lines will be used to coordinate information. The 2012 Oconee JIC MOU describes this concept.

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☒ The proposed activity does not impact a Planning Standard - These changes do not impact the description in the Emergency Plan of how Oconee complies with the planning standard in 10CFR50.47(b)(7) and NUREG-0654 paragraphs G.3 and G.4. There were no changes to:

- Licensee points of contact or location for media interface
- Locations/capacity of media centers
- Licensee Public Spokesperson assignments
- Requirements for coordination of information among spokespersons. Spokespersons/public information officers are co-located at the Oconee JIC[1].
- Arrangements for dealing with rumors

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment. Emergency Plan sections reviewed: Oconee Nuclear Station Emergency Plan Revision 2012-03 (June 2012), Sections G.3 and G.4.

Screening Evaluation Results: BLOCK 7

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ernestine M. Kuhr	Ernestine M. Kuhr	September 11, 2012
Reviewer Name:	Reviewer Signature	Date:

[1] Although South Carolina's Public Spokesperson will be in Columbia, South Carolina will still send a representative to the Oconee JIC and conference lines will be used to coordinate information. The 2012 Oconee JIC MOU describes this concept.

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Enclosure 4.1 Government Agency Liaison Activation Checklist

Step 1.3 - - Updated step to include notification of NEI as well as INPO per NEI protocol document and clarification of the information that should be provided to these agencies. Corp Comm Critique item 8/9/2011

Step 1.5 - - Added new step 1.5 to prompt the government agency liaison to determine level of state/county participation by talking with the News Manager. This step was included in the Charlotte JIC government agency liaison checklist, but was inadvertently overlooked in the ONS JIC version. This change is to ensure alignment with Charlotte "JIC" procedure.

Renumber steps as appropriate.

Step 1.6 (previously 1.5) - - Updated step to include that the Government Agency Liaison is not only the single point of contact for agency representatives, but also the single point of contact for internal business units such as governmental affairs, district managers, etc. This change is to ensure alignment with Charlotte "JIC" procedure.

Step 1.6 (previously 1.5) - - Added bullet # 5 to have the Government Agency Liaison use a seating chart to document agency participation. Corp Comm Critique item 4/28/2011

Step 1.7 (previously 1.6) - - Added statement to prompt JIC participants to check the status board and electronic log periodically. Corp Comm Critique item 8/9/2011

Step 1.8 (previously 1.7) - - Added a bullet to prompt the Government Agency Liaison to use a template form to track and verify receipt and distribution of new releases and other pertinent information given to the states and counties. Corp Comm Critique items 4/28/2100 and 8/9/2011

Step 1.9 (previously 1.8) - - Added a bullet to prompt the Government Agency Liaison to verify, when necessary, if/when an agency representative will report to the JIC. This change is to ensure alignment of ONS JIC procedure with the Charlotte JIC procedure.

Step 1.11 (previously 1.10) - - Reworded the statement to clarify that the Government Agency Liaison should not "verify" but should "keep" agency PIOs up to date and added a statement to have the Government Agency Liaison ensure that adequate bridge lines are established if multiple JICs are activated. This was a grammar change and a change to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management.

Step 1.12 (previously 1.11) - - Added wording to existing bullet #3 to ensure that the Media Liaison in the Media Center will provide update if the news conference will be delayed. This change is to ensure alignment with Charlotte "JIC" procedure.

- - Added wording to existing bullet #5 to clarify that the admin support team are the ones to place name tents in the media center. Wording added for clarification only.

- - Added a new bullet to prompt the Government Agency Liaison to work with the news manager to verify visuals for the news conference/briefings. This change was to address an item from the Corp Comm Critique Item 2/19/2012.

- - Added a new bullet to ensure that all agencies coordinate within the JIC prior to attending news conferences. This change was to address an item from the Corp Comm Critique 8/9/2011.

Step 1.17 (previously 1.16) - - Added wording to clarify places where news releases/information may be shared between agencies. This change is to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management.

Enclosure 4.2 Distribution Coordinator Activation Checklist

Step 1.4 - - Added bullets under the "Copy" bullet to clarify that ENFs should be copied on Green paper and that EAS messages should be copied on Blue paper. This change is to ensure alignment with Charlotte "JIC" procedure.

- - Added clarification under the "Distribution" bullet that news releases pertaining to the same classification SHOULD BE (not "are") carried to the media center at the same time and added a bullet to have the person doing distribution to carry a phone, if possible, when moving between facilities to ensure they can be reached. This change is to ensure alignment with Charlotte "JIC" procedure.

- - Added wording under the "Media monitoring" bullet to prompt the distribution coordinator to assist with the setup or radios and TVs in the ONS JIC if needed. This change was needed due to technology upgrade of having a new media monitoring system in the ONS JIC.

Step 1.6 - Delete this step. The TV remotes used to be kept in a locked drawer, but with a new TV system installed; this action is no longer needed.

Renumber following steps as appropriate.

Add new Step 1.10 - -This step added to prompt distribution coordinator assist with setting up bridge lines if multiple JICs are being used. This change is to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management.

Renumber following steps as appropriate.

Step 1.12 - - Provided wording to clarify that name tags should not only be created but also TAKEN to the media center. This change is for clarification only.

Add new Step 1.13 - - Added statement to ensure that emails and share drives are being monitored for agency news releases shared in central distributions points when multiple JICs are being used. This change is to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management.

Renumber following steps as appropriate.

Step 1.18 (previous step 1.17) - - Added wording to Bullet #6 to clarify that rosters and sign in sheets should be gathered not only from the JIC but also from the media center. This change is for additional clarification only.

Enclosure 4.3 Administrative Support Activation Checklist

Step 1.5.4 - - Added wording to ensure that name tents are checked/verified and updated as needed prior to each news conference. This change is for additional clarification only.

Step 1.6 - - Bullet #1 - Corrected name of Emergency Activation System to Emergency Alert System. This change was a grammatical correction.

Added new Step 1.7 - - Added statement to ensure that emails and share drives are being monitored for agency news releases shared in central distributions points when multiple JICs are being used. This change is to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management.

Renumber following steps as appropriate.

Add NOTE after Step 1.8 (previously Step 1.7)- - Note added to remind the admin support staff the ENFs should only be given to Duke representatives and not to the state/county representatives unless they specifically ask to prevent confusion. This change was to address an item Corp Comm Critique dated 8/9/2011.

Step 1.8.3 (previously Step 1.7.3) - - Corrected wording to give copies of news releases to all media representatives. This change was a grammatical correction.

Enclosure 4.4 Registration Support Activation Checklist

Step 1.3.3.2 - - Added wording to specify that if the person trying to enter to JIC is not on the roster/ERO list, that the security officer should contact the news manager or emergency communications manager for verification. This change is to provide additional direction/guidance only.

Enclosure 4.5 Media Monitor Activation Checklist

NOTE after Step 1.3 - - Corrected out of date wording - - VCR and tape references updated to reflect DVRs and other equipment. This change was a grammar correction to reflect new technology.

Step 1.4.1 - - Added wording "if needed" to clarify that if remote controllers are not readily visible, the Distribution Coordinator will know where to find them. This change is to provide additional direction/guidance only.

Step 1.5 - - - Replaced terms audio/video tapes with SIMs cards, DVDs/DVRs. This change was a wording correction to reflect new technology - these should be considered grammatical changes only.

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Added new Step 1.8.3 - - Step added to reflect that the Teleproductions support team will need to assist the Media Monitor if/when tuner #1 is full. This clarification is needed due to new audio and video equipment being installed in the ONS JIC.

Correction in NOTE after Step 1.8 - - grammatical correction to change the word "at" to the word "in". Grammar change only.

Step 1.9 - - Added wording to clarify that "at end of event or when recordings are full" they should be gathered and labeled - rather than when "tapes are full". This change was a correction to reflect new technology and provide additional guidance for the media monitor.

Step 1.10 - - Added wording to clarify that when the event is terminated, the Media Monitor should work with the Teleproductions team to turn off equipment and collect the recordings to be burned to a DVD if they will need to be archived. This change was a correction to reflect new technology and provide additional guidance for the media monitor to ensure recordings are properly archived.

Enclosure 4.6 Teleproductions Support Coordinator Activation Checklist

Step 1.4 - - Added wording to clarify that in the ONS Media Center, the teleproductions team should be prepared to videotape AND broadcast news conferences. This change was to address new technology and to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management. This also addressed corporate communications critique item from 5/9/2012 drill.

Step 1.6 - - Added wording to include the possibility of other JICs or locations receiving audio feed if needed. This change was to address new technology and to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management. This also addressed corporate communications critique item from 5/9/2012 drill.

Step 1.7 - - Corrected out of date wording - - VCR and tape references updated to reflect SIMs cards, DVRs and DVDs. This change was a grammar correction to reflect new technology.

Step 1.10 - - Added wording to include the possibility of other locations receiving video and/or audio feed if needed. This change was to address new technology and to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management. This also addressed corporate communications critique item from 5/9/2012 drill.

Step 1.12 - - Corrected out of date wording referring to tapes, and replaced it with a reference to recordings. This change was a wording/grammar correction to reflect new technology.

Enclosure 4.7 Media Liaison Activation Checklist

Step 1.3 - - Added wording to bullet #5 to indicated another source of information that is now being used - the CSC Sharepoint. This change made to address a corporate communications critique item from 2/9/2012 drill.

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Note after Step 1.5.2 - Added that the media liaisons should work with the Media Integrator as well as with the Media Coordinator and technical liaisons. This change was made to reflect the use of a new role called a media integrator.

Step 1.7.1 - - Added clarification that information can be shared with the news manager via blackberry, email, or written note. This change was a wording change to reflect new technology.

Step 1.8 - - Added wording to prompt the media liaison to report to the media coordinator or the media integrator. This change was made to reflect the use of a new role called a media integrator which tested during the during the 4/28/2011 drill and subsequent critique.

Enclosure 4.8 New Manager Activation Checklist

Step 1.3 - - Added wording to bullet #3 to prompt the news manager to ensure all participating JICs are receiving information. This change is to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management.

Step 1.4 - - Changed the reference for EOF technical liaison to ONS JIC technical liaison and added statement to clarify how information should be gathered and should flow between the ONS JIC, the Charlotte JIC and the EOF. This change was to correct a title change and to address a corporate communications critique item from the 8/30/2011 drill.

Step 1.5 - - Added two bullets to prompt the news manager to review rumors and customer inquiries and the event histories and station fact sheets with the public spokesperson prior to news conferences. These changes are to align the ONS JIC procedure with the Corp Comm EOF response procedure and to reflect new history and fact sheets that have been prepared to assist the public spokesperson per a corporate communications critique item from the 8/9/2011 and 2/9/2012 drills.

Step 1.6 - - Moved wording for clarity and added a sentence to prompt the news manager to ensure good flow of information between the key Duke Energy facilities. This change added to address a corporate communications critique item from the 8/30/2011 drill.

Step 1.7 - - Added wording to clarify that the news release is approved in the EOF. This change is to provide clarity as to where the EOF final approval occurs.

Step 1.8 - - Added wording to bullet #3 to indicate where visual aids information can be found. This change added to address a corporate communications critique item from the 2/9/2012 drill.

Step 1.8 - - Added clarification to bullet #4 that information can be shared with the news manager via blackberry, email, or written note. This change was a wording change to reflect new technology.

Step 1.10 - - Added wording to prompt the news manager to ensure all participating JICs can listen to the pre-news conference briefing. This change is to address use of multiple JICs based on changes being implemented by South Carolina Emergency Management.

Step 1.11 - - Added clarification that information from the media liaison can be shared with the news manager via blackberry, email, or written note once the states and counties have been notified. This change was a wording change to reflect the use of new technology and to ensure that the notification of major changes is made only after the states and counties have been notified to ensure alignment with the Charlotte EOF and JIC procedures.

Enclosure 4.9 Public Spokesperson Activation Checklist

Step 1.4 - - Added wording to reflect the fact that event histories, fact sheets and guidelines for injuries /fatalities and other information should be reviewed by the public spokesperson. This change is to include new information that has been created to provide support information for the public spokesperson to address a corporate communications critique item from the 8/9/2011 drill.

Step 1.10 - - Add information to indicate where updated visuals are located for the news conference/briefings. This item was added to address a corporate communications critique item from the Corp Comm Critique Item 2/19/2012

Enclosure 4.10 ONS JIC Technical Liaison Checklist

Step 1.3 - - Changed wording to reflect that the ONS JIC technical liaisons can access the JIC-EOF bridge if needed, but it is not required. This item was added to address corporate communications critique items from the Corp Comm Critique of 3/3/2010 and 9/14/2012.

Step 1.6 - - Added wording to bullet #2 to clarify that information from the Ops Bridge Line must be vetted through the EOF prior to release to ensure that there is always good information flow between all of the facilities. This item was added to address a corporate communications critique item from the Corp Comm Critique Item 3/3/2010

Step 1.6 - - Added a 4th bullet to prompt the public spokesperson to review the JIC Questions Based on Initiating Events document to help prepare for news conferences. This item was added to address a corporate communications critique item from the Corp Comm Critique Item 7/28/2011.

Delete Step 1.9 which refers to coordination via the JIC-EOF bridge line and renumber steps appropriately. This item is being deleted to address corporate communications critique items from the Corp Comm Critiques dated 3/3/2010 and 9/14/2012.

Delete original Step 1.13 which directs the ONS JIC technical liaison to notify the spokesperson of any significant changes because this role is already covered by media liaisons assigned to support the media center. This item is being deleted to address corporate communications critique items from the Corp Comm Critique of 9/14/2012.

Enclosure 4.11 Process for Accessing JIC Forms

Step 4 - - Replaced a colon with a period. Grammatical change only.

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Enclosure 4.13 Process for Media Center Activation/Deactivation

Step 1.2 - - Made a word substitution on bullet #10 to indicate that bios should be made available for "appropriate" Duke Spokespersons instead of "each" spokesperson. Grammatical change

Step 1.2 - - Added clarification of "if needed" on bullet #18. Grammatical change for clarification

Step 1.2 - - Added wording on bullet #22 to clarify that the shelter/evacuation map is a "magnetic" map. Grammatical change for clarification

Duke Energy
Standard Procedure for CNS, MNS & ONS

Standard Procedure for Corporate Communications Response To The Emergency Operations Facility (Applies to Catawba/McGuire/Oconee)

Procedure No.
SR/0/B/2000/001
Revision No.
012
Electronic Reference No.
OP00945E

Reference Use

PERFORMANCE

This Procedure was printed on 09/18/12 at 06:48:38 from the electronic library as:

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Compare with Control Copy every 14 calendar days while work is being performed.

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* Date

Procedure Completion Approved* Date

**Printed Name and Signature*

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do NOT mark on barcodes.

Enclosure No.: *FULL*

Printed Date: *09/18/2012*

Revision No.: *012*

Procedure No.: *SR/0/B/2000/001*

1. Symptoms

1.1 Conditions exist such that the corporate communications emergency response organization has been activated.

2. Immediate Actions

2.1 News manager position will be staffed when the on-site media center has been relocated to the Charlotte/Isaqueena Trail media center or as needed to support news conferences in the Charlotte media center.

2.2 Public spokesperson position will be staffed when the on-site media center has been relocated to the Charlotte/Isaqueena Trail media center or as needed to support news conferences in the Charlotte media center.

2.3 Technical liaison position will be staffed as quickly as possible after the activation of the EOF/EOC.

2.4 Public information coordinator position will be staffed as quickly as possible after the activation of the EOF/EOC.

3. Subsequent Actions

3.1 Respond as required by enclosures designated for the individual position.

NOTE:
- Actions are **NOT** required to be followed in any particular sequence.
- Place Keeping Aids: ☐ at left of steps may be used for procedure place keeping (☑).

4. Enclosures

4.1 News Manager Activation Checklist (Nuclear Only)

4.2 Public Spokesperson Activation Checklist (Nuclear Only)

4.3 Public Information Coordinator Activation Checklist

4.4 Technical Liaison Activation Checklist

1. News Manager Activation Checklist

☐ 1.1 Sign in on the corporate communications EOF staffing board.

☐ 1.2 Put on position badge (located in top drawer of corporate communications' file cabinet).

☐ 1.3 Discuss the collection of data information with the technical liaison.

☐ 1.4 Prepare the public spokesperson for news conferences by:

- Reviewing the news conference form (located in corporate communications' file cabinet).
- Verifying technical information (logs) and updates have been provided by the technical liaison.
- Providing copies of all news releases/bulleted updates.
- Reviewing the Guidelines for Developing Nuclear Talking Points.
- Developing messages and talking points based on current conditions and issues/rumors which need to be addressed.
- If injuries/fatalities are involved, review the corporate guideline "Responding to Serious Injuries or Fatalities" (located on the JIC drive, \\charf01\ccr_ jic\ procedures-guidelines folder) with the public spokesperson PRIOR to news conferences/briefings.
- To quickly address the media after event classification/upgrade, refer to the prepared initial event messages located in the "Nuclear Messages" folder in the Nuclear folder on the JIC drive.

☐ 1.5 Share the spokesperson's talking points/message block with the public information coordinator PRIOR to news conferences/briefings to allow this information to be incorporated into news releases/updates.

☐ 1.6 (McGuire & Catawba only) Contact the public information manager to:

- Determine time for pre-news conference briefing with state/county/federal PIOs.
- Set a time for news conference.
- Determine visual aids needed for news conference.
- Identify/verify issues/rumors from media/customers/social media that need to be addressed.

NOTE: (Oconee only) The News Manager in the Oconee Joint Information Center must coordinate with the Public Information Manager in the Charlotte Joint Information Center to plan for news conferences at the Isaqueena Trail media center. If the Charlotte media center will be opened, the Charlotte News Manager should also be involved in these discussions.

NOTE:
- During smaller or informal news briefings, encourage the public spokesperson to speak from the podium in the media center to allow videotaping and recording.
- If conducting a phone interview, use a conference phone or phone with a second line to allow the news manager to listen in with minimal interference.

☐ 1.7 Accompany and assist the public spokesperson during all news briefings, news conferences and interviews.

☐ 1.8 When preparing for news conferences with state and county public information officers (PIOs):

- Meet with public information manager to verify status of rumors and messages and to determine the appropriate person/agency to address the rumors during the news conference
- Conduct pre-conference briefing with state and county PIOs
- Complete the news conference agenda form (located in corporate communications' file cabinet) during the pre-news conference briefing.
- Review the appropriate station slide deck in the nuclear visuals folder on the JIC drive (\\charf01\ccr_jic) and select visuals for the news conference.

☐ 1.9 Serve as the news conference moderator/facilitator by using information gathered on the news conference agenda form during the pre-news conference briefing. Always use the suggested guidelines on the news conference agenda form for opening and closing each session.

Prior to beginning news conference:

- Ensure all people at the speakers table have a name card or a title card.
- Ensure all people at the speakers table have a place to sit - obtain additional seats if needed.

- Ensure PIO spokespersons' cell phones/pagers are silenced during news conferences.
- Ensure a media liaison in the media center is on the JIC/EOF conference bridge (2-8080 or 9-866-385-2663, conferee code [redacted]) to keep you informed of major changes in plant status or classification level.

CAUTION:
- Stop the news conference if a change in emergency classification occurs while the conference is being held. Words to use are shown on the agenda form.
- DO NOT share specific upgrade information unless you are certain state and county agencies have been notified.

☐ 1.10 Contact the NRC representatives in the EOF to keep them up to date on communication activities.

☐ 1.11 Document key decisions, calls, and contacts using EOF Position Log sheets or a notepad (located in corporate communications' file cabinet).

☐ 1.12 Complete turnover sheet for next shift and conduct turnover by reviewing current status, outstanding issues, items for follow up, etc.

☐ 1.13 Verify all checklists and information sheets have been properly completed/signed and leave paperwork for the corporate communications emergency communications planner.

2. Sign Off

Completed By: _____ Date: _____

1. Public Spokesperson Activation Checklist

☐ 1.1 Sign in on corporate communications EOF staffing board.

☐ 1.2 Put on position badge (located in top drawer of corporate communications' file cabinet).

☐ 1.3 Make contact with your key support personnel:

1.3.1 News Manager

1.3.2 Technical Liaison

1.3.3 Public Information Coordinator

☐ 1.4 Review logs, new releases and information appropriate to the event.

NOTE: The technical liaison can obtain copies of the facility log sheets as needed.

☐ 1.5 Obtain a chronology of events in preparation for the news conference.

☐ 1.6 Request the technical liaison make you aware of any significant change in plant status - whether you are in the EOF, JIC or a news conference.

NOTE: The Public Spokesperson is responsible for approving news releases/updates/messages for all locations/events. If the Spokesperson is not available, the EOF Director/Assistant EOF Director will approve them. These roles are responsible for verifying accurate information is released whether their facility is operational or activated. Remember that news releases need to be reviewed in a timely manner to support timely notification to the public.

☐ 1.7 Review and approve news releases/bulleted updates when they are ready for release.

☐ 1.8 Review all news releases/bulleted updates prior to news conference.

☐ 1.9 Review current copies of log sheets/information prior to news conference.

☐ 1.10 Keep in contact with the public spokesperson located at the visitor's center or ONS JIC (if applicable) to keep abreast of information being provided to the media from the plant site.

☐ 1.11 If other Duke Energy nuclear units are affected, ensure appropriate information has been coordinated and incorporated into your information and that similar messages are being shared by spokespersons staffing the other affected locations.

☐ 1.12 Review all documented escalated rumor information (from media, customer service center, social media, etc.) about plant status and/or misinformation revealed by media queries and be prepared to address these issues as agreed upon in the pre-conference briefings.

☐ 1.13 Request news manager arrange for visual aids that will be needed (if appropriate) for news conference. Use appropriate schematics and visual aids to assist the public in understanding plant operations.

NOTE: Do not speculate during the news conference. Information should relate to plant status and plant recovery. Do not discuss public protective actions and state/county response. Do not provide information related to the location of off-site assembly points.

CAUTION: **DO NOT** make reference to projected dose or rad data from the ENF during a news conference. Any reference to dose should be based on actual dose at the site boundary. And remember that any mention of dose MUST be quantified - a comparison or number must be provided.

☐ 1.14 Prior to each news conference:

- Consult with the public information manager in the JIC to ensure you have the most current information for rumors/status of news releases, etc.
- Provide brief update to state/county PIO representatives at the pre-news conference briefing.

☐ 1.15 As requested, provide updates and address issues or concerns of key internal and external stakeholders such as:

- Duke Energy Board of Directors
- Governors of North Carolina and/or South Carolina
- ECOC

☐ 1.16 Document key decisions, calls, and contacts using EOF Position Log Sheets or a notepad (located in corporate communications' file cabinet).

☐ 1.17 Complete turnover sheet for next shift and conduct turnover by reviewing current status, outstanding issues, items for follow up, etc.

☐ 1.18 Verify all checklists and information sheets have been properly completed/signed and leave paperwork for the corporate communications emergency communications planner.

2. Sign Off

Completed By: _____ Date: _____

1. Public Information Coordinator Activation Checklist

☐ 1.1 Sign in on corporate communications EOF/EOC staffing board.

☐ 1.2 Put on position badge (located in top drawer of corporate communications' file cabinet).

NOTE:	EP FAM Section 3.15 provides details for logging on to WebEOC. Logon information may also be found in the Public Information Coordinator notebook.

☐ 1.3 (Nuclear only) Secure copies of the emergency notification form (ENF) that have been sent to the state/county agencies from the offsite agency communicator in the EOF. ENFs can also be found on WebEOC (after TSC is activated) or in the JIC.

☐ 1.4 Access the JIC media bridge line (2-8080 or 9-866-385-2663, conferee code (b)(6)) for a communication path to the JIC, and the site visitor center if appropriate. It is imperative that the bridge line be accessed quickly. If the "normal" headset is not working, quickly search for an alternative: another cellular phone with a headset, a mobile belt pack unit which uses batteries, or a stationary headset. If all else fails, use a standard desk phone.

☐ 1.5 When additional computers are needed to support public affairs EOF/EOC response, contact the Admin & Logistics Manager (2-0548) in the JIC to request additional computers in the EOF/EOC.

NOTE:	The public information coordinator and one technical liaison should be located in the data coordinator room. If a laptop computer is not available or the printer in the data coordinator room is not working properly, the public information coordinator and EOF technical liaison should relocate to the news group desk in the director's area until the equipment issue can be resolved.

☐ 1.6 Using a laptop/portable computer, log onto the workstation using your LAN id and password. Using directions next to the desktop printer, align computer to the desktop printer located in the data coordinator's room - or log on to the EOF/EOC director area printer at: nuclear event: \\MNSP1\EC1EOF124, power delivery event: \\IMCLTPS02\PDEOFP1. Contact data coordinator if any problems are encountered. Once computer and printer are operational, access the JIC drive.

☐ 1.7 (Nuclear only) Log on to e-mail and maintain this as an open path for emails to the NRC and Charlotte JIC.

NOTE:	Directions for accessing JIC drive (charf01/ccr_jic) are in the Joint Information Center (JIC) Reference Manual, located in corporate communications' file cabinet.

☐ 1.8 Access the JIC drive and print the initial news release that was prepared by the site community relations/media relations duty person for this event.

NOTE:

- When developing news releases/updates provide as much information and clarity as possible. Try to anticipate questions and related issues and find answers.
- Important: The first new releases in an event is a full news release, then all subsequent "releases" should be prepared using the bulleted news update templates. Remember to number all news releases sequentially, beginning with the first full news release.

☐ 1.9 (Nuclear only) Develop news releases and bulleted updates appropriate to the event by working with the news manager, the technical liaison, and the public spokesperson. News releases/updates should address, as appropriate:

- Changes in event classification
- Current plant conditions
- Visible or audible events such as fires and noises
- Nuclear insurance (if the public has been evacuated)
- Employee information such as injuries, personnel accountability, and site evacuation
- Sirens sounding - verify for news release/updates
- Radiological releases
- Dispatch of field monitoring teams
- Hazardous substance release
- Any offsite response such as fire truck or ambulance
- Rumors (dispel) from media, customers, social media, etc.

☐ 1.10 (Storms only) Develop news releases and messages appropriate to the event by working with the technical liaison, the media coordinator, and the customer service center (CSC) liaison. News releases should address, as appropriate:

- Current system conditions
- Outage updates
- Schedule of planned restoration
- Employee information (e.g. injuries)
- Use of outside utilities
- State/county resources being utilized
- Rumors (dispel) from media, customers, social media, etc.
- Localized information

☐ 1.11 If the event involves multiple crises (ex: nuclear and high water, dam failure, power outages, etc.), refer to the appropriate message folders on the JIC share drive for additional reference materials.

☐ 1.12 Have the technical liaison verify the technical information provided in news releases.

NOTE:	If event is security-related, work with spokesperson and/or EOF/EOC director to ensure the on-site incident command center or security reviews the news release/updates.

☐ 1.13 Provide copy of news release/bulleted update to the **public spokesperson** (or EOF/EOC Director, if spokesperson not available) for review and approval prior to releasing to JIC for distribution or posting to the web.

☐ 1.14 After spokesperson (or EOF/EOC Director) reviews the news release/bulleted update:

- Notify JIC that news release/bulleted update is ready for review (by the public information manager) - and subsequent distribution if no changes are noted.
- (Nuclear only) E-mail a "courtesy review" copy of the news release/bulleted update (marked as Draft for Review) to the NRC (use one of the following email addresses: rdh1@nrc.gov or joey.ledford@nrc.gov).

☐ 1.15 After concurrence of the public information manager, enter the time on the news release and save the final approved version of the news release in a file named "Final" plus the name of the release (e.g., Final CNS Alert, Final 02-04-04 9am Ice Storm) to eliminate confusion with previous draft versions. Ensure media coordinator knows name and location of the file.

☐ 1.16 Work with EOF Services Admin/Commissary to ensure all news releases and bulleted updates are copied and distributed within the EOF/EOC. Ensure a copy is put in the Master EOF/EOC News Release folder.

- (Oconee only) Ensure releases/updates are also distributed to the ONS JIC by contacting the Distribution Coordinator (9-864-624-4954) or the ONS News Manager (9-864-624-4362) when news releases are approved.

☐ 1.17 Document key decisions, calls, and contacts not included in news releases and updates using ERO Facility Log sheets, or a note pad.

CAUTION:	If requests for estimates of materials occur EARLY in an event, verify that those asking for this information understand they are receiving ESTIMATES - which usually err on the "high" side. Use of these early estimates should be discouraged. (Storms only)

☐ 1.18 (Storms only) Obtain storm data information from the technical liaison and send this information to the CSC and JIC every three hours (coincide with news release schedule).

☐ 1.19 (Storms only) Assist the technical liaison, as needed, in coordinating and disseminating information.

☐ 1.20 (Nuclear only) If a public spokesperson is needed for the Charlotte media center prior to visitor center evacuation, utilize the appropriate steps in the news manager checklist to prepare the public spokesperson for news conference.

☐ 1.21 Keep a copy of all news releases/bulleted updates prepared in the EOF/EOC for the corporate communications emergency communications planner.

CAUTION:	Assure that a copy of each news release/bulleted update is available prior to deleting files.

☐ 1.22 Complete turnover sheet for next shift and conduct turnover by reviewing current status, outstanding issues, items for follow up, etc.

☐ 1.23 (Nuclear only) Delete all news releases/bulleted updates developed as a result of the EOF activation from the JIC drive after the event is terminated.

☐ 1.24 Verify all checklists and information sheets have been properly completed/signed and leave paperwork for the corporate communications emergency communications planner.

2. Sign Off

Completed By: _____ Date: _____

1. Technical Liaison Activation Checklist

CAUTION: Technical liaisons must coordinate closely and share information with one another to ensure consistent information is given to all parties inside and external to the EOF/EOC. If more than one technical liaison is assigned to the EOF/EOC, determine who will:

- support the public information coordinator
- support the public spokesperson
- man the JIC/EOF conference bridge
- man the ONS JIC conference bridge (ONS event only)

Then, ensure information is shared not only with each other, but with your assigned location/contact person.

☐ 1.1 Sign in on corporate communications EOF/EOC staffing board.

☐ 1.2 Put on position badge (located in top drawer of corporate communications' file cabinet).

☐ 1.3 Instructions for using the wireless phone/headsets are located near the headsets.

1.3.1 When using the JIC bridge line, observe the following protocol:

- Identify yourself and your location.
- Take turns speaking - do not interrupt.
- Acknowledge receipt of information.
- Repeat back to ensure important/sensitive information is received/understood.
- Re-direct long discussions to a phone line - this is very important to ensure that all parties who need access to the bridge have it and that bridge integrity is maintained.
- Do not push the "Hold" button on your phone, this will lock the system to those currently on line.

CAUTION:
- It is imperative that bridge lines be accessed quickly. If the "normal" headset is not working, quickly search for an alternative: another cellular phone with a headset, a mobile belt pack unit which uses batteries, or a stationary headset.
- If all else fails, use a standard desk phone and then ask IM/IT for assistance in getting a mobile headset to work.
- When searching for batteries, look through the entire storage cabinet - moving other materials as you search.

☐ 1.4 Using the wireless headset/mobile phone, access the JIC/EOF conference bridge:

- Dial Duke Conference System at 2-8080 (toll free 9-866-385-2663)
- Enter conferee code (b)(6). The moderator for this line is the JIC regional communications coordinator. If they have not accessed the line, call the JIC Emergency Planner at 9-704-382-0614 for guidance.

☐ 1.5 (Oconee only) If the event involves Oconee, one Charlotte technical liaison must become the primary contact for the ONS technical liaison using the Duke Conference System: 2-8080 or 9-866-385-2663 toll free, moderator code (b)(6) for Charlotte liaison and conferee code (b)(6) for the ONS liaison. This is the primary communications path for the ONS JIC to gather and validate information about the event. Coordinate use of this line with the ONS-JIC liaison.

NOTE: EP FAM Section 3.15 provides details for logging on to WebEOC. Directions may also be found in the EOF/EOC Technical Liaison notebook.

☐ 1.6 Refer to the list of state/county liaisons and their assignments located in your notebook. As these responders contact you, share event status, updates and any requests for response from the EOF director/emergency planner. State and county liaisons must respond to their assigned locations for an SAE or higher declaration; for a NOUE or Alert, they will respond only if requested by the state/county.

☐ 1.7 Access WebEOC as needed for additional plant information/clarification. Facility logs and ENFs can also be accessed and printed using WebEOC.

☐ 1.8 Gather technical information on the event and document this information as needed on EOF log sheets (nuclear) or on a log sheet/notepad (storms). Review the document "Questions Corporate Communications May Ask" in preparation for the event.

☐ 1.9 Create and maintain a "rumor/question/issue log" to keep all technical liaisons apprised of issues so they can share consistent information.

☐ 1.10 (Storms only) Prepare talking points, presentations and summaries as requested and obtain approval by EOC and JIC.

☐ 1.11 (Storms only) Coordinate with Power Delivery to ensure the System Operating Center (SOC) is notified at 2-1103 for every incremental increase/decrease of 50,000 customers affected during an event.

☐ 1.12 Consult with the public spokesperson or news manager to determine what level of support/information the spokesperson will require. Provide support as directed.

☐ 1.13 (Nuclear only) Help the public information coordinator understand the information on the ENF and logs.

☐ 1.14 (Nuclear only) Provide logs/information/list of significant events to public spokesperson as requested.

CAUTION: (Nuclear only) BEFORE sharing information about classification changes with the JIC or any entity outside the EOF, ALWAYS verify with Off-Site Communicator that the information has been given to the states and counties. THIS IS MANDATORY.

☐ 1.15 Update regional communications coordinator on the JIC bridge as conditions change, particularly concerning emergency classifications or outage/ETOR status. Caution them about sharing information that has not been provided to states/counties.

☐ 1.16 Verify the sounding of sirens with the state liaison in the EOF or with the state/county EOC liaison. Share this information with the JIC Regional Communicator Coordinator.

☐ 1.17 (Storms only) Attend EOC and Event Communications conference calls and meetings to gather additional information.

☐ 1.18 (Nuclear only) Request assistance from EOF rad assessment manager or their designee in obtaining Raddose V page 3 (dose at the site boundary) information. Remember to share this information with the ONS technical liaisons if this is an ONS event. The EOF is their only source for this information.

☐ 1.19 (Nuclear only) Utilize dose comparison tip sheet and information from Raddose V to identify the proper dose comparisons for news releases/bulleted updates.

CAUTION: (Nuclear only) Discussions relating to dose are always based on actual dose at the site boundary only. Do NOT use projected dose information or rad data from the ENF at any time. Raddose V page 3 meets this criteria.

☐ 1.20 (Nuclear only) Provide dose comparison information to public information coordinator for use in news releases/bulleted updates.

☐ 1.21 (Nuclear only) Continue to monitor and update information relative to radiological releases.

☐ 1.22 (Storms only) Assist in the coordination of crews and locations for news conferences, and media briefings, in conjunction with the media coordinator and region communicators.

☐ 1.23 Assist regional communications coordinator and state/county EOC liaisons by tracking down information to dispel rumors. Seek answers to all requests without prioritizing or judging the merit of the question. Seek assistance from the emergency planners or the JIC emergency planner if you cannot get questions answered in a timely manner.

☐ 1.24 Immediately notify the public spokesperson of any significant changes, such as changes in emergency classifications (nuclear) or changes in outage/ETORs (storms). During new conferences this can be done using the JIC/EOF conference bridge (2-8080 or 9-866-385-2663 (toll-free) conferee code (b)(6) .)

☐ 1.25 Provide feedback/information to the JIC concerning community issues /concerns and situational updates.

☐ 1.26 Complete turnover sheet for next shift and conduct turnover by reviewing current status, outstanding issues, items for follow up, etc.

☐ 1.27 Verify all checklists and information sheets have been properly completed/signed and leave paperwork for the corporate communications emergency communications planner.

2. Sign Off

Completed By: _____ Date: _____

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/001
Revision No. 012

PREPARATION

(2) Procedure Title Standard Procedure For Corporate Communications Response To The Emergency Operations Facility (Applies to Catawba/McGuire/Oconee)

(3) Prepared By* Ernestine M. Kuhr Ernestine M. Kuhr Date September 5, 2012

		ONS	MNS	CNS
(4)	Applicable To:	☐ ONS	☐ MNS	☒ CNS
(5)	Requires NSD 228 Applicability Determination	☐ Yes ☐ No	☐ Yes ☐ No	☑ Yes ☐ No
		YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes		
(6)	Site Contact			
	Reviewed	By*____(QR) (KI) Date ____	By*____(QR) (KI) Date ____	By* [signature] (QR) (KI) Date 09/17/12
	Cross-Disciplinary Review	By*____(QR) (KI) Date ____	By*____(QR) (KI) Date ____	By*____(QR) (KI) Date ____
	Reactivity Mgmt. Review (QR)	By*____ Date ____	By*____ Date ____	By*____ Date ____
	Mgmt. Involvement Review (Ops.Supt.)	By*____ Date ____	By*____ Date ____	By*____ Date ____
(7)	Additional Reviews	By*____(QA) Date ____ By*____ Date ____	By*____(QA) Date ____ By*____ Date ____	By*____(QA) Date ____ By*____ Date ____
(8)	Approved	By*____ Date ____	By*____ Date ____	By* T. Arlow Ernestine M. Kuhr by phone Date 09/17/12
(9)	Level of Use			

PERFORMANCE (*Compare with Control Copy every 14 calendar days while work is being performed.*)

(10) Compared with Control Copy* ____________ Date ________
Compared with Control Copy* ____________ Date ________
Compared with Control Copy* ____________ Date ________

(11) Date(s) Performed ____________
Work Order Number (WO#) ____________

COMPLETION

(12) Procedure Completion Verification:
☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?
Verified By* ____________ Date ________

(13) Procedure Completion Approved* ____________ Date ________

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature*

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
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(1) ID No. SR/0/B/2000/001
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PREPARATION

(2) Procedure Title **Standard Procedure For Corporate Communications Response To The Emergency Operations Facility (Applies to Catawba/McGuire/Oconee)**

(3) Prepared By* Ernestine M. Kuhr *Signature Pages Attached* Date September 5, 2012

(4)	Applicable To:	☒ ONS	☒ MNS	☐ CNS
(5)	Requires NSD 228 Applicability Determination	☐ Yes ☒ No	☒ Yes ☐ No	☒ Yes ☐ No
		YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes		
(6)	Site Contact	Ray Waterman	Renard O. Burris	Tom Arlow
	Reviewed	By* Ray Waterman (QR) (KI) Date 09/12/12 ***Signature Pages Attached***	By* R. O. Burris (QR) (KI) Date 09/11/12 ***Signature Pages Attached***	By* Gerald McCracken (QR) (KI) Date 09/17/12 ***Signature Pages Attached***
	Cross-Disciplinary Review	By*_____ (QR) (KI) Date _____	By* N/A (QR) (KI) R. O. Burris Date 09/11/12	By*_____ (QR) (KI) Date _____
	Reactivity Mgmt. Review (QR)	By*_____ Date _____	By* N/A (QR) (KI) R. O. Burris Date 09/11/12	By*_____ Date _____
	Mgmt. Involvement Review (Ops.Supt.)	By*_____ Date _____	By* N/A (QR) (KI) R. O. Burris Date 09/11/12	By*_____ Date _____
(7)	Additional Reviews	By*_____ (QA) Date _____ By*_____ Date _____	By*_____ (QA) Date _____ By*_____ Date _____	By*_____ (QA) Date _____ By*_____ Date _____
(8)	Approved	By*Patrick M. Street Date 09/12/12 ***Signature Pages Attached***	By*K. L. Murray Date 09/12/12 ***Signature Pages Attached***	By*T. Arlow Date 09/17/12 ***Signature Pages Attached***
(9)	Level of Use			

PERFORMANCE (***Compare with Control Copy every 14 calendar days while work is being performed.***)

(10) Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:

☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature*

§50.54(q) Screening Evaluation Form

Activity Description and References: SR/0/B/2000/001 Rev. 12 — BLOCK 1

Change #1
Enclosure 4.1 - News Manager Activation Checklist, Step1.8 - Added bullet to prompt the news manager to locate and review the appropriate slide deck for the affected station. This step was added to address previous critique items of not having easy to find visuals. A slide deck has been created for each station with a variety of visuals applicable to each station. Critique item from 2/9/12 drill

Change #2 Enclosure 4.3 - Public Information Coordinator Activation Checklist, Step1.14 - Provided clarification that it is the public information manager who is to review the news releases/bulleted updates. Critique item from 7/28/11 drill

Change #3 Enclosure 4.3 - Public Information Coordinator Activation Checklist, Step1.15 - Provided clarification that it is the public information manager, not just a JIC review, who must concur with the news release before it is marked as final. Critique item from 7/28/11 drill

Change #4 Enclosure 4.4 - Technical Liaison Activation Checklist, new Step 1.6 - New step to instruct the technical liaisons to be prepared to receive calls and provide updates and directions to the state/county liaisons. This addition was made to address a critique item from the CNS LOOP event where the state/county liaisons were unclear who to contact to get direction during a NOUE. Critique item from 4/5/12 CNS NOUE event critique

Change #5 Enclosure 4.4 - Technical Liaison Activation Checklist, old Step1.7 (new Step 1.8) - Added a prompt for the technical liaisons to review the document "Questions Corporate Communications May Ask" to ensure they are prepared to respond to questions from the JIC. This document was created to address a previous critique item. Critique item from 7/28/11 drill

Change #6 Enclosure 4.4 - Technical Liaison Activation Checklist, new Step 1.16 - Added a new step to clarify who to ask about sirens sounding. This was to address a critique item about confusion with how to verify sirens sounding. Critique item from 8/9/11 drill

Change #7 Enclosure 4.4 - Renumber steps in Enclosure 4.4 as appropriate.

Activity Scope: — BLOCK 2

- ☐ The activity is a *change* to the *emergency plan*
- ☒ The activity is not a *change* to the *emergency plan*

Change Type: — BLOCK 3	Change Type: — BLOCK 4
☐ The change is editorial or typographical	☐ The change does conform to an activity that has prior approval
☐ The change is not editorial or typographical	☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☒ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment
Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment. Emergency Plan sections reviewed:

- Catawba Emergency Plan Revision 12-1 Sections G.3 and G.4
- McGuire Emergency Plan Revision 12-2 Sections G.3 and G.4
- Oconee Emergency Plan Revision 2012-3 Sections G.3 and G.4

Screening Evaluation Results: BLOCK

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ernestine M. Kuhr	Ernestine M. Kuhr	September 4, 2012
Reviewer Name:	**Reviewer Signature**	**Date:**
Gerald L. McCracken	Gerald L. McCracken	09/17/2012

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/001
Revision No. 0

PREPARATION

(2) Procedure Title **Standard Procedure For Corporate Communications Response To The Emergency Operations Facility (Applies to Catawba/McGuire/Oconee)**

(3) Prepared By* Ernestine M. Kuhr Date September 5, 2012

(4)	Applicable To:	☐ ONS	☐ MNS	☒ CNS
(5)	Requires NSD 228 Applicability Determination	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
		YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes		
(6)	Site Contact			
	Reviewed	By* _____ (QR) (KI) Date _____	By* _____ (QR) (KI) Date _____	By* Lewis McCracken (QR) (KI) Date 09/11/12
	Cross-Disciplinary Review	By* _____ (QR) (KI) Date _____	By* _____ (QR) (KI) Date _____	By* _____ (QR) (KI) Date _____
	Reactivity Mgmt. Review (QR)	By* _____ Date _____	By* _____ Date _____	By* _____ Date _____
	Mgmt. Involvement Review (Ops.Supt.)	By* _____ Date _____	By* _____ Date _____	By* _____ Date _____
(7)	Additional Reviews	By* _____ (QA) Date _____ By* _____ Date _____	By* _____ (QA) Date _____ By* _____ Date _____	By* _____ (QA) Date _____ By* _____ Date _____
(8)	Approved	By* _____ Date _____	By* _____ Date _____	By* _____ Date _____
(9)	Level of Use			

PERFORMANCE (***Compare with Control Copy every 14 calendar days while work is being performed.***)

(10) Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:

☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature*

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/001
Revision No. 0/2

PREPARATION

(2) Procedure Title **Standard Procedure For Corporate Communications Response To The Emergency Operations Facility (Applies to Catawba/McGuire/Oconee)**

(3) Prepared By* Ernestine M. Kuhr Date September 5, 2012

(4)	Applicable To:	☐ ONS	☒ MNS	☐ CNS
(5)	Requires NSD 228 Applicability Determination	☐ Yes ☐ No YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes	☒ Yes ☐ No	☐ Yes ☐ No
(6)	Site Contact	Renard O. Burris GRBurris		
	Reviewed	By* _____ (QR) (KI) Date _____	By* GRBurris (QR) (KI) Date 9/11/12	By* _____ (QR) (KI) Date _____
	Cross-Disciplinary Review	By* _____ (QR) (KI) Date _____	By* N/A GRB (QR) (KI) Date 9/11/12	By* _____ (QR) (KI) Date _____
	Reactivity Mgmt. Review (QR)	By* _____ Date _____	By* N/A GRB Date 9/11/12	By* _____ Date _____
	Mgmt. Involvement Review (Ops.Supt.)	By* _____ Date _____	By* N/A GRB Date 9/11/12	By* _____ Date _____
(7)	Additional Reviews	By* _____ (QA) Date _____ By* _____ Date _____	By* _____ (QA) Date _____ By* _____ Date _____	By* _____ (QA) Date _____ By* _____ Date _____
(8)	Approved	By* _____ Date _____	By* K.L. Murray K.L. Murray / Date 9-12-12	By* _____ Date _____
(9)	Level of Use			

PERFORMANCE (*Compare with Control Copy every 14 calendar days while work is being performed.*)

(10) Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:

☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature*

APPENDIX C. APPLICABILITY DETERMINATION

PART I – ACTIVITY DESCRIPTION

DUKE ENERGY CAROLINAS, LLC SITE			UNIT(S)		
☐ Oconee	☒ McGuire	☐ Catawba	☒ Unit 1	☒ Unit 2	☐ Unit 3

ACTIVITY TITLE/DOCUMENT/REVISION: Standard Procedure For Corporate Communications Response To The Emergency Operations Facility (Applies to Catawba/McGuire/Oconee) SR/0/B/2000/001 Rev. 12

PART II – PROCESS REVIEW

For each activity, address all of the questions below. If the answer is "YES" for any portion of the activity, apply the identified process(es) to that portion of the activity. Note: It is not unusual to have more than one process apply to a given activity.

Will implementation of the above activity require a change to the:

1.	Technical Specifications (TS) or Operating License?	☒ NO	☐ YES	If YES, process as a license amendment per NSD 227.
2.	Quality Assurance Topical?	☒ NO	☐ YES	If YES, seek assistance from Independent Nuclear Oversight.
3.	Security Plans? (See Appendix H)	☒ NO	☐ YES	If YES, process per the Nuclear Security Manual.
4.	Emergency Plan?	☐ NO	☒ YES	If YES, process per the Emergency Planning Functional Area Manual.
5.	Inservice Testing Program Plan?	☒ NO	☐ YES	If YES, process per site IST Program for ASME code compliance and related facility changes.
6.	Inservice Inspection Program Plan?	☒ NO	☐ YES	If YES, process per Materials, Metallurgy and Piping Inservice Inspection FAM for ASME code compliance and related facility or procedure changes.
7.	Fire Protection Program Plan?	☒ NO	☐ YES	If YES, evaluate activity in accordance with NSD 320.
	7a - Utilize Appendix E to address Fire Protection Program Plan Impact.		☐	Check to confirm use of Appendix E Screening Questions.
8.	Regulatory Commitments?	☒ NO	☐ YES	If YES, process per NSD 214.
9.	Code of Federal Regulations?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance group.
10.	Programs and manuals listed in the Administrative Section of the TS?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance group.

PART IIIa – 10 CFR 72.48 APPLICABILITY

For each activity, address the question below. If the answer to question 11 is "YES," and questions 14 and 17 are answered "NO", then process the activity per NSD 211 – 10 CFR 72.48 does apply.

11.	Does the activity involve SSCs, procedures or conduct tests or experiments that support/impact the loading or transport of the canister/cask to the ISFSI, the ISFSI facility, spent fuel cask design?	☒ NO	☐ YES

PART IIIb – 10 CFR 50.59 APPLICABILITY

For each activity, address all of the questions below. If the answer to question 18 is "YES," then 10 CFR 50.59 does not apply. If the answer to questions 18 is "NO," then process the activity per NSD 209 – 10 CFR 50.59 applies.

12.	Does the activity involve a procedure, governed by NSD 703 that has been excluded from the 10 CFR 50.59 process per NSD 703, Appendix N and the exclusion status remains valid?	☒ NO	☐ YES
13.	Does the activity involve an administrative procedure governed by NSD 100 that does not contain information regarding the operation and control of Structures, Systems and Components?	☒ NO	☐ YES
14.	Does the activity involve a type of Engineering Change that NSD 301 excludes from the 10 CFR 50.59 and/or 10 CFR 72.48 Processes? Consult NSD 301 for assistance.	☒ NO	☐ YES
15.	Does the activity involve (a) maintenance activities that restore SSCs to their as-designed condition (including activities that implement approved design changes) or (b) temporary alterations supporting maintenance that will be in effect during at-power operations for 90 days or less?	☒ NO	☐ YES
16.	Does the activity involve a UFSAR modification that NSD 220 excludes from the 10 CFR 50.59 Process? Consult NSD 220 for assistance.	☒ NO	☐ YES
17.	Does the activity involve NRC and/or Duke Energy Carolinas, LLC approved changes to the licensing basis?	☒ NO	☐ YES
18.	Are ALL aspects of the activity bounded by one or more "YES" answers to questions 1 through 17, above?	☐ NO	☒ YES

PART IV – UFSAR REVIEW

19.	Does the activity require a modification, deletion, or addition to the UFSAR to satisfy the UFSAR content requirements of 10 CFR 50.34 (b), 10 CFR 50.71 (e), or Regulatory Guide (RG) 1.70? Consult NSD 220 for Assistance. IF YES, process per NSD 220.	☒ NO	☐ YES

PART V – SIGNOFF

(Print Name) Renard Burris (Sign) [signature] DATE 9/11/12

Applicability Determination Preparer

§50.54(q) Screening Evaluation Form

Activity Description and References: SR/0/B/2000/001 Rev. 12 — BLOCK 1

Change #1
Enclosure 4.1 - News Manager Activation Checklist, Step1.8 - Added bullet to prompt the news manager to locate and review the appropriate slide deck for the affected station. This step was added to address previous critique items of not having easy to find visuals. A slide deck has been created for each station with a variety of visuals applicable to each station. Critique item from 2/9/12 drill

Change #2 Enclosure 4.3 - Public Information Coordinator Activation Checklist, Step1.14 - Provided clarification that it is the public information manager who is to review the news releases/bulleted updates. Critique item from 7/28/11 drill

Change #3 Enclosure 4.3 - Public Information Coordinator Activation Checklist, Step1.15 - Provided clarification that it is the public information manager, not just a JIC review, who must concur with the news release before it is marked as final. Critique item from 7/28/11 drill

Change #4 Enclosure 4.4 - Technical Liaison Activation Checklist, new Step 1.6 - New step to instruct the technical liaisons to be prepared to receive calls and provide updates and directions to the state/county liaisons. This addition was made to address a critique item from the CNS LOOP event where the state/county liaisons were unclear who to contact to get direction during a NOUE. Critique item from 4/5/12 CNS NOUE event critique

Change #5 Enclosure 4.4 - Technical Liaison Activation Checklist, old Step1.7 (new Step 1.8) - Added a prompt for the technical liaisons to review the document "Questions Corporate Communications May Ask" to ensure they are prepared to respond to questions from the JIC. This document was created to address a previous critique item. Critique item from 7/28/11 drill

Change #6 Enclosure 4.4 - Technical Liaison Activation Checklist, new Step 1.16 - Added a new step to clarify who to ask about sirens sounding. This was to address a critique item about confusion with how to verify sirens sounding. Critique item from 8/9/11 drill

Change #7 Enclosure 4.4 - Renumber steps in Enclosure 4.4 as appropriate.

Activity Scope: — BLOCK 2

- ☐ The activity is a *change* to the *emergency plan*
- ☒ The activity is not a *change* to the *emergency plan*

Change Type: — BLOCK 3

- ☐ The change is editorial or typographical
- ☐ The change is not editorial or typographical

Change Type: — BLOCK 4

- ☐ The change does conform to an activity that has prior approval
- ☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☒ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment. Emergency Plan sections reviewed:

- Catawba Emergency Plan Revision 12-1 Sections G.3 and G.4
- McGuire Emergency Plan Revision 12-2 Sections G.3 and G.4
- Oconee Emergency Plan Revision 2012-3 Sections G.3 and G.4

Screening Evaluation Results: BLOCK 7

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation

☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ernestine M. Kuhr		September 4, 2012
Reviewer Name: Renard O. Burris	Reviewer Signature	Date: 9/11/12

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/001
Revision No. 0

PREPARATION

(2) Procedure Title **Standard Procedure For Corporate Communications Response To The Emergency Operations Facility (Applies to Catawba/McGuire/Oconee)**

(3) Prepared By* Ernestine M. Kuhr Date September 5, 2012

(4)	Applicable To:	☒ ONS	☐ MNS	☐ CNS
(5)	Requires NSD 228 Applicability Determination	☐ Yes ☒ No YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes	☐ Yes ☐ No	☐ Yes ☐ No
(6)	Site Contact	Ray Waterman / Ray Waterman		
	Reviewed	By* Ray Waterman / Ray Waterman (QR) (KI) Date 9-12-12	By* ____ (QR) (KI) Date ____	By* ____ (QR) (KI) Date ____
	Cross-Disciplinary Review	By* ____ (QR) (KI) Date ____	By* ____ (QR) (KI) Date ____	By* ____ (QR) (KI) Date ____
	Reactivity Mgmt. Review (QR)	By* ____ Date ____	By* ____ Date ____	By* ____ Date ____
	Mgmt. Involvement Review (Ops.Supt.)	By* ____ Date ____	By* ____ Date ____	By* ____ Date ____
(7)	Additional Reviews	By* ____ (QA) Date ____ By* ____ Date ____	By* ____ (QA) Date ____ By* ____ Date ____	By* ____ (QA) Date ____ By* ____ Date ____
(8)	Approved	By* Patricia M Street / [signature] Date 9/12/12	By* ____ Date ____	By* ____ Date ____
(9)	Level of Use			

PERFORMANCE (*Compare with Control Copy every 14 calendar days while work is being performed.*)

(10) Compared with Control Copy* ____ Date ____
Compared with Control Copy* ____ Date ____
Compared with Control Copy* ____ Date ____

(11) Date(s) Performed ____
Work Order Number (WO#) ____

COMPLETION

(12) Procedure Completion Verification:

☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?

Verified By* ____ Date ____

(13) Procedure Completion Approved* ____ Date ____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature*

§50.54(q) Screening Evaluation Form

Activity Description and References: SR/0/B/2000/001 Rev. 12 — BLOCK 1

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Change Type: — BLOCK 3	Change Type: — BLOCK 4
☐ The change is editorial or typographical ☐ The change is not editorial or typographical	☐ The change does conform to an activity that has prior approval ☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
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- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☒ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment
Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment. Emergency Plan sections reviewed:

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- McGuire Emergency Plan Revision 12-2 Sections G.3 and G.4
- Oconee Emergency Plan Revision 2012-3 Sections G.3 and G.4

Screening Evaluation Results: BLOCK 7

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ernestine M. Kuhr	Ernestine M. Kuhr	September 4, 2012
Reviewer Name:	**Reviewer Signature**	**Date:**
Ray Waterman	Ray Waterman	9-12-12

Duke Energy
Standard Procedure for CNS, MNS & ONS
Activation of the Emergency Operations Facility

Procedure No.
SR/0/B/2000/003

Revision No.
025

Electronic Reference No.
MP0070O3

Reference Use

PERFORMANCE

This Procedure was printed on 09/10/12 at 09:59:14 from the electronic library as:

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Compare with Control Copy every 14 calendar days while work is being performed.

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* Date

Procedure Completion Approved* Date
**Printed Name and Signature*

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do NOT mark on barcodes.

Printed Date: *09/10/2012*

Enclosure No.: *FULL*

Revision No.: *025*

Procedure No.: *SR/0/B/2000/003*

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/003
Revision No. 25

PREPARATION

(2) Procedure Title **Activation of the Emergency Operations Facility**

(3) Prepared By* Ernestine M. Kuhr ***Signature pages attached*** Date August 22, 2012

(4)	Applicable To:	☒ ONS	☒ MNS	☒ CNS
(5)	Requires NSD 228 Applicability Determination	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
		YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes		
(6)	Site Contact	Ray Waterman	Renard Burris	Mark Lee
	Reviewed	By* Ray Waterman (QR) (KI) Date 08/27/2012 ***Signature pages attached***	By* Renard Burris (QR) (KI) Date 08/27/2012 ***Signature pages attached***	By* Gerald McCracken (QR) (KI) Date 08/29/2012 ***Signature pages attached***
	Cross-Disciplinary Review	By*_____ (QR) (KI) _____ Date _____	By*_____ (QR) (KI) _____ Date _____	By*_____ (QR) (KI) _____ Date _____
	Reactivity Mgmt. Review (QR)	By*_____ _____ Date _____	By*_____ _____ Date _____	By*_____ _____ Date _____
	Mgmt. Involvement Review (Ops.Supt.)	By*_____ _____ Date _____	By*_____ _____ Date _____	By*_____ _____ Date _____
(7)	Additional Reviews	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____
(8)	Approved	By* Patrick M Street Date 08/29/2012 ***Signature pages attached***	By* K. L. Murray Date 08/27/2012 ***Signature pages attached***	By* Tom Arlow Date 08/29/2012 ***Signature pages attached***
(9)	Level of Use	Reference Use		

PERFORMANCE (***Compare with Control Copy every 14 calendar days while work is being performed.***)

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Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
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☐ Yes ☐ NA Procedure requirements met?
Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature* -

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/003
Revision No. 25

PREPARATION

(2) Procedure Title Activation of the Emergency Operations Facility

(3) Prepared By* Ernestine M. Kuhr Ernestine M. Kuhr Date August 22, 2012

(4)	Applicable To:	☑ ONS	☐ MNS	☐ CNS
(5)	Requires NSD 228 Applicability Determination	☑ Yes ☐ No YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes	☐ Yes ☐ No	☐ Yes ☐ No
(6)	Site Contact	Ray WATERMAN		
	Reviewed	By* Ray Waterman (QR) (KI) Ray Waterman Date 8-27-12	By*_____ (QR) (KI) Date	By*_____ (QR) (KI) Date
	Cross-Disciplinary Review	By*_____ (QR) (KI) Date	By*_____ (QR) (KI) Date	By*_____ (QR) (KI) Date
	Reactivity Mgmt. Review (QR)	By*_____ Date	By*_____ Date	By*_____ Date
	Mgmt. Involvement Review (Ops.Supt.)	By*_____ Date	By*_____ Date	By*_____ Date
(7)	Additional Reviews	By*_____ (QA) Date By*_____ Date	By*_____ (QA) Date By*_____ Date	By*_____ (QA) Date By*_____ Date
(8)	Approved	By* Patrick M Street Date 8/29/12	By*_____ Date	By*_____ Date
(9)	Level of Use			

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Form 703-5. Procedure Process Record For Standard Procedures

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Duke Energy
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PREPARATION

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(3) Prepared By* Ernestine M. Kuhr Ernestine M. Kuhr Date August 22, 2012

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(5)	Requires NSD 228 Applicability Determination	☐ Yes ☐ No	☑ Yes ☐ No	☐ Yes ☐ No
		YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes		
(6)	Site Contact		Renard Burris	
	Reviewed	By*_____ (QR) (KI) _____ Date _____	By* R Burris (QR) (KI) R. Burris Date 8/27/12	By*_____ (QR) (KI) _____ Date _____
	Cross-Disciplinary Review	By*_____ (QR) (KI) _____ Date _____	By*_____ (QR) (KI) _____ Date _____	By*_____ (QR) (KI) _____ Date _____
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(7)	Additional Reviews	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____
(8)	Approved	By*_____ _____ Date _____	By* K.L. Murray K.L. Murray Date 8-27-12	By*_____ _____ Date _____
(9)	Level of Use			

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(3) Prepared By* Ernestine M. Kuhr Date August 22, 2012

(4)	Applicable To:	☐ ONS	☐ MNS	☑ CNS
(5)	Requires NSD 228 Applicability Determination	☐ Yes ☐ No YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes	☐ Yes ☐ No	☐ Yes ☐ No
(6)	Site Contact			
	Reviewed	By*_____(QR) (KI) Date	By*_____(QR) (KI) Date	By* Gerald McCrahon (QR) (KI) Date 8-29-12
	Cross-Disciplinary Review	By*_____(QR) (KI) Date	By*_____(QR) (KI) Date	By* _____ (QR) (KI) Date
	Reactivity Mgmt. Review (QR)	By*_____ Date	By*_____ Date	By*_____ Date
	Mgmt. Involvement Review (Ops.Supt.)	By*_____ Date	By*_____ Date	By*_____ Date
(7)	Additional Reviews	By*_____ (QA) Date By*_____ Date	By*_____ (QA) Date By*_____ Date	By*_____ (QA) Date By*_____ Date
(8)	Approved	By*_____ Date	By*_____ Date	By* Tom Arlow Date 8/29/12
(9)	Level of Use			

PERFORMANCE (***Compare with Control Copy every 14 calendar days while work is being performed.***)

(10) Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:
☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?
Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature*

Activation of the Emergency Operations Facility

1. PURPOSE

1.1 This procedure describes the emergency responsibilities and duties of the Emergency Operations Facility Emergency Response Organization (ERO) members.

2. DEFINITIONS

NOTE: The EOF must be operational using 75 minutes as a goal for the minimum staff to be in place following declaration of an Alert or higher classification. Turnover should occur with the TSC at a time that will not decrease the effectiveness of communications with the offsite agencies.

2.1 Operational: The Emergency Response Facility (e.g., Technical Support Center, Operations Support Center, Emergency Operations Facility) is staffed, ready to receive turnover and ready to perform assigned emergency response functions.

2.2 Activated: The Emergency Response Facility (e.g., Technical Support Center, Operations Support Center, Emergency Operations Facility) has accepted turnover and has direction and control of assigned emergency response functions.

NOTE: The following definition is applicable to the Emergency Notification Form Line 6.

2.3 Emergency Release: An unplanned, quantifiable radiological release to the environment during an emergency event. The release does not have to be related to the declared emergency. {EP FAM 3.7} Refer to procedure SH/0/B/2005/001 for specific indications of an emergency release.

NOTE: The following definitions are applicable to the Emergency Notification Form, Line 8.

2.4 Degrading: Plant conditions involve at least one of the following:

Plant parameters (e.g., temperature, pressure, level, voltage, frequency) are trending unfavorably away from expected or desired values AND plant conditions could result in a higher classification or Protective Action Recommendation (PAR) before the next follow-up notification.

Site conditions (e.g., wind, ice/snow, ground tremors, hazardous/toxic/radioactive material leak, fire, security event) impacting plant operations or personnel safety are worsening AND plant conditions could result in a higher classification or Protective Action Recommendation (PAR) before the next follow-up notification.

2.5 Improving: Plant conditions involve at least one of the following:

Plant parameters (e.g., temperature, pressure, level, voltage, frequency) are trending favorably toward expected or desired values AND plant conditions could result in a lower classification or emergency termination before the next follow-up notification.

Site conditions (e.g., wind, ice/snow, ground tremors hazardous/toxic/radioactive material leak, fire, security events) have become less of a threat to plant operations or personnel safety AND plant conditions could result in a lower classification or emergency termination before the next follow-up notification.

2.6 Stable: Plant conditions are neither degrading nor improving.

3. PROCEDURE

NOTES:
- This procedure and the position specific enclosures are not intended to be followed in a serial step-by-step sequence.
- Instructions and guidance steps are to be implemented as applicable for the specific needs of the event.
- Use hard copy (paper) forms or electronic equivalents to complete all forms.
- References to "Status Boards" may refer to physical displays mounted in the facility or electronic displays either projected, displayed on large monitors or on personal computer monitors.

3.1 General instructions for all ERO members.

3.1.1 Ensure appropriate checklist, logs and forms are completed.

3.1.2 Provide critical information to appropriate personnel upon receipt rather than waiting for a time out or roundtable discussion.

3.1.3 Use "Attention in the EOF" to announce critical information in the facility.

3.1.4 IF additional personnel are needed to support the emergency or for 24-hour coverage, refer to the following for telephone numbers:

- ERO Member Contact Information notebook on the EOF Director's Area bookshelf (home, office and pager numbers).
- Duke Energy Enterprise Phone Book (office and pager numbers).

- Emergency Response Organization (ERO) database by contacting the EOF Emergency Planner.

3.1.5 IF equipment problems occur, contact the following:

- Computer – EOF Data Coordinator
- Communications systems and other facility equipment – EOF Services Manager

NOTE:	When using the OAC to trend plant data for decision purposes, please note that reducing the trend screen overall size can cause the plotted data to be suspect upon restoration to full size. It is recommended that trend plots be minimized using the standard windows button (the button in the top right that has the underbar). The software code is designed to refresh the trend screens upon restoration to full size from a minimized state. A second method is to have the OAC redraw the trend after restoring the trend screen to full size.

3.2 IF access to SDS data is desired, login to system as follows:

3.2.1 From DAE main screen, select Search DAE tab.
3.2.2 Type SDS in Search box and press Enter.
3.2.3 Select **Catawba OAC SDS, McGuire OAC SDS**, or **Oconee OAC/PMC SDS** as applicable.
3.2.4 Select Run Application.
3.2.5 Logon with LAN ID and Password as follows:

CNS
NAM\UserID
Password

OR

MNS/ONS
UserID
Password
NAM

3.2.6 Select the desired OAC to access by checking the box and then clicking the Start button. You can start multiple sessions if desired.

CNS

- **C1 RT SVR** (Unit 1 - SDS)
- **C2 RT SVR** (Unit 2 - SDS)
- **Simulator**
- **Spare Sim**

MNS

- **MNS1 RT** (Unit 1 - SDS)
- **MNS2 RT** (Unit 2 - SDS)
- **Simulator**
- **Sim Bkup**

ONS

- **U1 RTS** (Unit 1 - SDS)
- **U2 RTS** (Unit 2 - SDS)
- **U3 RTS** (Unit 3 - SDS)
- **Simulator A**
- **Simulator B**

3.2.7 Access emergency response displays as follows:

Catawba/McGuire

Enter GD (space)"Group Display Name" in the white box at the upper right portion of the screen.

Catawba Specific

Group Display Name	Group Display Description
ERDS1	ERDS Group 1
ERDS2	ERDS Group 2
EROCONT	Selected values associated with containment.
EROCORE1	Incore temperature values
EROCORE2	Additional incore temperature values
EROCORE3	Additional incore temperature values
EROINJCT	Selected letdown/charging values
EROPLEAK	Selected primary to containment leakage values
EROSLEAK	Selected primary to secondary leakage values
EROPRIM	Selected primary system values
ERORD5	Selected Raddose V Assessment Points
ERORXG	Selected Value for Reactor Engineer
EROSAMG	Selected SAMG Values
EROSECND	Selected secondary system values

McGuire Specific	
Group Display Name	Group Display Description
ERO-1	Selected plant parameters
EROCONT	Emergency Response Containment
EROCORE	Emergency Response Incore
EROINJCT	Emergency Response Injection
EROPRIM	Emergency Response Primary
ERORD5	Selected Raddose V Assessment Points
EROSECND	Emergency Response Secondary. {9} {10}

Oconee

Enter applicable Turn On code in the white box at the upper right portion of the screen.

Oconee Specific	
Turn On Code Name	Turn On Code Description
EROMENU	Menu Access for Oconee Data Screens
EROPRI	Selected Primary System values
EROSEC	Selected Secondary System values
EROCONT	Selected Containment Condition values
EROAUX	Selected Radiation Monitor values
EROAREA	Selected Area Radiation Monitor values
EROPROC	Selected Process Radiation Monitor values
EROENV	Selected values for Dose Assessment use
EROECCS	Selected ECCS values
ERDSMENU	Menu Access for Oconee ERDS Data

3.3 The Emergency Plant Status application has also been established for Oconee emergency response use. This application is available from DAE.

3.3.1 To launch the Emergency Plant Status application, from DAE select *Search DAE* and type in *Emergency Plant Status*.

3.3.2 Select the *Emergency Plant Status - ONS*

3.3.3 Select Run Application

3.3.4 Enter your password and verify domain as NAM.

3.4 IF EOF facility in Energy Center is unavailable, establish Alternate EOF at designated alternate location:

- Catawba Nuclear Station event - McGuire Administration Building per Enclosure 6.25

- McGuire Nuclear Station event - Catawba Administration Building per Enclosure 6.26
- Oconee Nuclear Station event - Catawba Administration Building per Enclosure 6.26

3.5 Perform the applicable actions for the event using instructions and guidance in the following enclosures:

ERO Position Title	Enclosure
EOF Director/Assistant EOF Director	6.1 EOF Director/Assistant EOF Director Checklist
Radiological Assessment Manager	6.6 Radiological Assessment Manager Checklist
EOF Dose Assessor	6.7 EOF Dose Assessor Checklist
Field Monitoring Coordinator	6.8 Field Monitoring Coordinator Checklist
Radio Operator	6.9 Radio Operator Checklist
EOF Offsite Agency Communicator	6.10 EOF Offsite Agency Communicator Checklist
Accident Assessment Manager	6.12 Accident Assessment Manager Checklist
Accident Assessment Interface	6.13 Accident Assessment Interface Checklist
Operations Interface Checklist	6.14 Operations Interface Checklist {44}
Reactor Physics	6.15 Reactor Physics Checklist
EOF Emergency Planner	6.16 EOF Emergency Planner Checklist
EOF Log Recorder	6.17 EOF Log Recorder Checklist
EOF Data Coordinator	6.18 EOF Data Coordinator Checklist
EOF Services Manager	6.19 EOF Services Manager Checklist

4. REFERENCES

4.1 Catawba Nuclear Station (CNS) Emergency Plan

4.2 McGuire Nuclear Station (MNS) Emergency Plan

4.3 Oconee Nuclear Station (ONS) Emergency Plan

5. RECORDS

5.1 All logs, forms and records completed as the result of implementing this procedure during an actual declared event shall be retained as permanent plant records. Nuclear Generation Record Retention Rule Number 421734, "Procedures-Technical Completed."

5.2 All checklists, logs and forms completed as the result of implementing this procedure shall be collected at the end of the event and provided to the site Emergency Planning Manager.

6. Enclosures

6.1 EOF Director/Assistant EOF Director Checklist
6.2 Catawba Offsite Protective Actions
6.3 McGuire Offsite Protective Actions
6.4 Oconee Offsite Protective Actions
6.5 Emergency Classification Downgrade/Termination
6.6 Radiological Assessment Manager Checklist
6.7 EOF Dose Assessor Checklist
6.8 Field Monitoring Coordinator Checklist
6.9 Radio Operator Checklist
6.10 EOF Offsite Agency Communicator Checklist
6.11 Deleted {61}
6.12 Accident Assessment Manager Checklist
6.13 Accident Assessment Interface Checklist
6.14 Operations Interface Checklist {44}
6.15 Reactor Physics Checklist
6.16 EOF Emergency Planner Checklist
6.17 EOF Log Recorder Checklist
6.18 EOF Data Coordinator Checklist
6.19 EOF Services Manager Checklist
6.20 Establishing Communications Links Between McGuire SAMG Evaluators {11}
6.21 Oconee Recovery Guidelines
6.22 Keowee Hydro Dam/Dikes - Condition A/B Descriptions
6.23 EOF Evacuation Checklist
6.24 EOF Briefing Guideline
6.25 Setup of Catawba Alternate EOF in McGuire Admin Bldg. {66, 67, 68}

6.26 Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg. {66, 67, 68}
6.27 Commitments for SR/0/B/2000/003

INITIAL

NOTE:	Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

NOTE:	The EOF Log Recorder will maintain the official log for the EOF Director/Assistant EOF Director. The EOF Director/Assistant EOF Director may maintain an additional log if desired.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Establish communications with Emergency Coordinator or Assistant Emergency Coordinator in affected site's TSC:

- Use affected site's EOF Director to Emergency Coordinator Ringdown phone (Catawba and McGuire only)

OR

- Catawba TSC, 9-803-701-5870

OR

- McGuire TSC, 9-980-875-4950

OR

- Oconee TSC, 9-864-873-3921.

INITIALS _____ PRINTED NAME _____ (EOF Director)

INITIALS _____ PRINTED NAME _____ (Asst. EOF Director)

NOTE: 1. IF the emergency situation prevents activating the TSC within 75 minutes of declaration, Control Room will:

- turn over responsibility for classification and state and county notification to EOF.
- maintain responsibility for NRC Event Notification until released by NRC **Communicator in TSC.**
- maintain responsibility for continuous phone communications to the NRC until relieved by the NRC Communicator in TSC.

2. IF TSC remains unavailable and EOF cannot take responsibility for classification and state and county notification, Control Room will maintain these responsibilities until one of the facilities is capable of turnover.

_____ IF emergency situation prevents activating TSC within 75 minutes of declaration, contact affected Site's Control Room:

Person Notified/Date/Time

- ☐ Catawba Control Room, 9-803-701-5164_____/_____
- ☐ McGuire Control Room, 9-980-875-4138_____/_____
- ☐ Oconee Unit 1 and 2 Control Room, 9-864-873-2159_____/_____
- ☐ Oconee Unit 3 Control Room, 9-864-873-2160_____/_____

_____ Verify EOF minimum staffing positions are prepared to assume their EOF duties prior to declaring the EOF operational:

_____ EOF Director
_____ Accident Assessment Manager
_____ Radiological Assessment Manager
_____ Off-Site Agency Communicator
_____ Off-Site Agency Communicator.

OR

IF Less than the above listed minimum EOF positions are filled,

AND

The 75-minute EOF operational time requirement is near,

AND

An extra person(s) is available whom the EOF Director believes is capable of filling a missing position(s) based on the training, experience and skills required by the ERO training program - ETQS 7111.0, Emergency Response Training

AND

An appropriate log entry is made. {64}

_____ Request Offsite Agency Communicator monitor EOF Fax 704-382-1825. {13}

NOTE: For all drills, messages should be preceded with "This is a drill. This is a drill."

_____ Announce over EOF public address system:

"Anyone who is reporting to this facility outside of your normal work hours and has consumed alcohol within the past five (5) hours, notify either the EOF Director, Assistant EOF Director, or the appropriate lead in each functional area."

_____ Declare EOF operational. EOF operational time: _____.

NOTE: For all drills, messages should be preceded with "This is a drill. This is a drill."

_____ Announce over EOF public address system:

"Attention all EOF personnel. This is _____ and as of _____ hours,
(EOF Director's Name)

the EOF is operational."

_____ Notify Emergency Coordinator or Assistant Emergency Coordinator that the EOF is:

- Operational
- Gathering plant status information
- Ready to receive turnover at the Emergency Coordinator's convenience.

_____ Review definitions in Section 2 of this procedure.

NOTE: The following step may be accomplished by conducting a Time Out or by verifying the level of readiness with the individuals in the positions.

_____ Verify the following positions, at a minimum, are ready to activate and prepared to perform the next offsite agency notification.

_____ Accident Assessment Manager
_____ Radiological Assessment Manager
_____ Lead Off-Site Agency Communicator

NOTE: The Emergency Coordinator or Assistant Emergency Coordinator should fax the Emergency Coordinator Turnover Checklist to the EOF. The "Emergency Coordinator Turnover Checklist" is provided on page 13 of this enclosure.

_____ IF a classification change occurs during turnover, suspend turnover until CR OR TSC declares and transmits notification to offsite agencies. {12}

_____ Receive turnover from Emergency Coordinator or Assistant Emergency Coordinator utilizing the "Emergency Coordinator Turnover Checklist" or equivalent.

_____ Prepare or delegate to Assistant EOF Director preparations for briefing NRC by completing job aide on page 14 of 14. {8}

NOTE:	The EOF Director is responsible for determining Emergency Classifications, approving Protective Action Recommendations, and approving Offsite Agency Emergency Notification Forms after the EOF is activated. These responsibilities remain with the EOF Director and shall not be delegated.

_____ Inform Emergency Coordinator that EOF is ready to activate.

NOTE:	For all drills, messages should be preceded with "This is a drill. This is a drill."

_____ Announce over the EOF public address system:

"Attention all EOF personnel. The EOF was activated at _____ hours. This is _____. I am the EOF Director and have taken responsibility for emergency management from the Emergency Coordinator in the Technical Support Center. At this time, the EOF has command and control for emergency classification, offsite notifications, protective action recommendations, field monitoring, and offsite agency interface. The current emergency classification is _____. The following is a summary of the plant status _____

_____

_____.

Additional information will be provided to you as conditions change. The next offsite agency notification shall be transmitted by _____ hours. The EOF staff shall prepare for a time-out and a roundtable discussion at _____ hours."

_____ Review current emergency classification with EOF staff and verify it meets criteria in:

- Catawba RP/0/A/5000/001
  OR
- McGuire RP/0/A/5700/000
  OR
- Oconee RP/0/B/1000/001.

_____ Obtain from RAM expected time frames that dose assessment runs will be available to be included on emergency notification forms. {31}

NOTE:
1. The first message from the EOF should include EOF activation time on Line 13.
2. **IF** data changes during review of the emergency notification form, it is a good practice to require the EOF staff to do a "clean sweep" through the form prior to approval. {52}

_____ Notify Offsite Agency Communicator to make emergency notifications according to the following schedule:

Initial Notifications (39)

1. Initial notifications to the State(s) and counties must be made within 15 minutes of the event declaration time using the Emergency Notification form (ENF).

2. For an upgrade in classification prior to or while transmitting an initial message:
   -The notification for the lesser emergency classification must be made within 15 minutes of the lesser classification declaration time.
   -The agencies must be informed that an upgrade in classification will be coming.
   -The upgraded classification message must be transmitted within 15 minutes of the upgraded classification declaration time.

Follow-up Notifications

1. Follow-up notifications to the State(s) and Counties must be made according to the following schedule:

Catawba	McGuire	Oconee
-For NOUE, ALERT, SAE, or GE, every hour until the emergency is terminated.	-For NOUE, every 4 hours until the emergency is terminated. -For ALERT, SAE, or GE, every hour until the emergency is terminated.	-For NOUE, a follow-up is not required. -For ALERT, SAE, or GE, every 60 minutes until the emergency is terminated.

OR

Catawba	McGuire	Oconee
-If there is any significant change to the situation (make notification as soon as possible).	-If there is any significant change to the situation (make notification as soon as possible).	-If there is any significant change to the situation (make notification as the change occurs). See NOTE* below for examples of changes.

OR

Catawba	McGuire	Oconee
-As agreed upon with an Emergency Management official from each individual agency. Documentation shall be maintained for any agreed upon schedule change. -The interval shall not be greater than 4 hours to any agency.	-As agreed upon with an Emergency Management official from each individual agency. Documentation shall be maintained for any agreed upon schedule change. -The interval for ALERT, SAE, or GE shall not be greater than 2 hours to any agency.	-Required every 60 minutes from the notification time on Line 2 for ALERT, SAE, or GE. -This frequency may be changed at the request of offsite agencies.

*NOTE (Oconee): Examples of significant plant changes include: evacuation/relocation of site personnel, fires onsite, MERT activation and/or injured personnel transported offsite, chemical spills, explosions, Condition "A" or "B" for Keowee Hydro Project Dams/Dikes, or any event that would cause or require offsite agency response.

2. If a follow-up is due and an upgrade to a higher classification is declared, there is no need to complete the follow-up ENF. In this case, the offsite agencies must be notified that the pending follow-up is being superseded by an upgrade to a higher classification and information will be provided.

3. Follow-up messages in the General Emergency classification that involve an upgrade in PARs must be communicated to the offsite agencies as soon as possible and within 15 minutes.

_____ IF AT ANY TIME Site Area Emergency is declared, consult Accident Assessment Manager and Radiological Assessment Manager to determine potential zones for protective action recommendations.

_____ IF AT ANY TIME General Emergency is declared, EOF Director shall IMMEDIATELY (within 15 minutes) make Protective Action Recommendations to offsite agencies on Emergency Notification Form (ENF) using: {57}

- ☐ Enclosure 6.2 - Catawba Offsite Protective Actions
- ☐ Enclosure 6.3 - McGuire Offsite Protective Actions
- ☐ Enclosure 6.4 - Oconee Offsite Protective Action

_____ IF changes to Protective Action Recommendations are approved by the EOF Director, ensure changes are transmitted to offsite agencies within 15 minutes.

CAUTION: If a zone has been accurately selected for evacuation, it shall remain selected. {27} {30}

_____ Evaluate specific plant conditions, offsite dose projections, field monitoring team data, and determine need to update Protective Action Recommendations.

_____ Review dose projections with Radiological Assessment Manager to determine if Protective Action Recommendations are required beyond the 10-mile EPZ.

_____ IF Protective Action Recommendations are required beyond 10 miles, notify the states and counties to consider sheltering/evacuation of general population beyond 10-mile EPZ.

NOTE: Descriptions of Keowee Hydro Dam/Dike Condition A and B are provided in Enclosure 6.22.

_____ IF Condition A, Dam Failure (Keowee or Jocassee) exists, make Protective Action Recommendations to Oconee County and Pickens County for imminent/actual dam failure on Emergency Notification Form Line 5B (Evacuate) and Line 5E (Other):

Line 5B *Move residents living downstream of the Keowee Hydro Project dams to higher ground.*

Line 5E *Prohibit traffic flow across bridges identified on your inundation maps until the danger has passed.*

_____ Communicate, or delegate to the Assistant EOF Director the responsibility to communicate, plant status to County Directors of Emergency Preparedness (CDEP), State Liaisons or State Directors of Emergency Preparedness (SDEP):

- EOF State Liaisons communicate information from EOF Director to County/State representatives using Decision Line.

NOTE: If using the EOF/Assistant EOF Director telephone, individual State and/or County numbers can be obtained from the appropriate site's Emergency Telephone Directory.

- Use Decision Line or EOF/Assistant EOF Director telephone to contact appropriate states/counties. Obtain Decision Line Dial Codes or phone numbers from the appropriate Emergency Telephone Directory. {7}

Catawba Site Specific

_____ York CDEP_____
_____ Mecklenburg CDEP_____
_____ Gaston CDEP _____
_____ NC SDEP _____
_____ SC SDEP _____

McGuire Site Specific

_____ Mecklenburg CDEP _____
_____ Gaston CDEP _____
_____ Lincoln CDEP _____
_____ Iredell CDEP _____
_____ Catawba CDEP_____
_____ Cabarrus CDEP_____
_____ NC SDEP _____

Oconee Site Specific

_____ Oconee County CDEM_____
_____ Pickens County CDEM_____
_____ SC SDEM_____

_____ IF Protective Action Recommendations have been provided to the States and Counties, request protective action decision information from the SDEPs AND CDEPs:
Zones Evacuated: _____

Zones Sheltered: _____

Information Received from: _____

_____

_____ Inform Emergency Coordinator OR Assistant Emergency Coordinator of SDEPs and CDEPs protective action decisions and other offsite conditions.

NOTE:	Wireless mikes are available for use during round tables/timeouts. {38}

_____ Perform the following steps as needed throughout the event:

- Conduct a time-out and hold a roundtable discussion approximately every hour, coordinated with the TSC, with the EOF staff using Enclosure 6.24 to discuss:
  - Emergency Classification
  - Protective Action Recommendations
  - Emergency Notification Form status
  - Offsite dose projections
  - Mitigation strategies
  - Termination criteria as defined in Enclosure 6.5.

- Ensure roundtables/time-outs enable EOF members to know what is going on, what to anticipate, and understand focus and priorities.

- Announce to the EOF the emergency classification, plant status, and priorities via the EOF public address system following EOF time-outs.

- Emergency Coordinator or Assistant Emergency Coordinator updates may be broadcast on EOF public address system.

- Advise Emergency Coordinator or Assistant Emergency Coordinator of:
  - All aspects of the emergency situation, including alternate strategies outside of procedures as plant conditions dictate
  - Emergency Classification changes
  - Protective Action Recommendations changes
  - Mitigation strategies
  - Contingency plans.

NOTE:
1. 10CFR50.54(x) states that a licensee may take reasonable action that departs from a license condition or technical specification in an emergency, when this action is immediately needed to protect the health and safety of the public and no action consistent with license conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent. Ultimate responsibility for plant response in an emergency resides in the highest authority in the chain of command of the facility licensee available to make a decision about the response. The on duty OSM should be consulted and his concurrence obtained before invoking 10CFR50.54(x). {48}

2. Examples of potential 10CFR50.54(x) action items include: {40}

   - Deviation from an Emergency Procedure.
   - Rerouting system piping to temporarily restore system flow.
   - Re-alignment of electrical power systems outside of procedural guidance.
   - Using mitigation strategies not established by the SAMG guidelines.

3. IF the TSC is activated, the TSC Emergency Coordinator makes the decision to invoke 10CFR50.54(x). {48}

- WHEN restoring power in a LOOP event, have the risk significance of power restoration assessed for risk potential by Accident Assessment personnel. {42}
- Authorize emergency worker extensions if the radiation exposure doses are expected to exceed the blanket dose extension limits authorized by the Radiation Protection Manager using:

  - Catawba RP/0/A/5000/018
  - McGuire RP/0/A/5700/020
  - Oconee RP/0/B/1000/011.

NOTE: The Emergency Action Level descriptions on Line 4 of the Emergency Notification Form have been pre-screened.

- IF the event involves a security threat, consult the job aid, "Nuclear Security Approved Messages for Security Related Events/Issues," in the EOF Director's notebook for guidance in developing remarks for Line 13 of the Emergency Notification Form. {47}

NOTE: Personnel without badge access will need to be escorted into the EOF by the Assistant EOF Director, EOF Emergency Planner, EOF Services Manager, or their Mentor. {61}

- Approve personnel with training deficiencies prior to their participation as EOF staff members. This approval shall be documented in the EOF Log.
- Turn over EOF Director duties to the Assistant EOF Director prior to leaving the EOF Director's Area.

- IF necessary to relieve Duke personnel, request environmental surveillance support personnel from DOE Radiological Assessment Plan by contacting DOE - Savannah River Site. {53}

- Periodically review the staffing levels in the EOF to ensure adequate resources are in place to deal with response/recovery. {25}

- IF events affect more than one nuclear site, refer to the multi-site event staffing chart in the Oconee Emergency Plan, Figure B-11.

NOTE: The job aid, "Questions Corporate Communications may ask (based on initiating event)," is available in the EOF Director's notebook for guidance.

- Provide information to Corporate Communications for news releases.

- IF EOF needs to be evacuated, refer to EOF Evacuation Checklist in Enclosure 6.23. {54}

_____ Verify EOF Emergency Planner completes "EOF 24-Hour Staffing Log" in Enclosure 6.17.

_____ IF needed, conduct turnover for on-coming shift.

_____ Assist TSC Emergency Coordinator or Assistant TSC Emergency Coordinator as a Decision Maker upon entry into Severe Accident Management Guidelines (SAMG). (Catawba and McGuire) {11}

_____ Refer to Enclosure 6.5 (Emergency Classification Downgrade/Termination Criteria) for guidance to downgrade or terminate an emergency event.

NOTE: The offsite Recovery Organization will stay at the EOF and work with the counties and states if radiological conditions exist beyond the site boundary. The On-Site Recovery Organization will be established by the Emergency Coordinator.

_____ IF needed, establish Recovery Organization:

- ☐ Catawba RP/0/A/5000/025
- ☐ McGuire RP/0/A/5700/024
- ☐ Oconee RP/0/B/1000/027 and guidance in Enclosure 6.21.

Terminate the emergency event in accordance with applicable procedure:

_____ Notification of Unusual Event
Catawba - RP/0/A/5000/002
McGuire - RP/0/A/5700/001

_____ Alert
Catawba - RP/0/A/5000/003
McGuire - RP/0/A/5700/002

_____ Site Area Emergency
Catawba - RP/0/A/5000/004
McGuire - RP/0/A/5700/003

_____ General Emergency
Catawba - RP/0/A/5000/005
McGuire - RP/0/A/5700/004.

_____ Conduct a critique following termination of drill or actual event.

_____ Provide all completed paperwork to Emergency Planning following termination of a drill or actual event.

Close out an Oconee emergency event as listed below:

_____ IF an event meets termination criteria for General Emergency in Enclosure 6.5, Emergency Classification Downgrade/Termination, inform NRC Site Team Director (STD) and SDEM that termination criteria have been met.

- Secure agreement from the two directors to terminate the event.
- Document names and time decision made below.

	Name	Telephone Number	Time
SDEM	_____	9-803-737-8500	_____
NRCSTD	_____	(In person in EOF)	_____

- Request lead Offsite Agency Communicator to complete Termination Message and transmit it in accordance with SR/0/B/2000/004 (Notification to State and Counties from the Emergency Operations Facility) and terminate the emergency.

_____ IF terminating from an Unusual Event, Alert, or Site Area Emergency,

- Request lead Offsite Agency Communicator to complete Termination Message and transmit it in accordance with SR/0/B/2000/004 (Notification to State and Counties from the Emergency Operations Facility) and terminate the emergency.

- Notify the following agencies:

	Name	Telephone Number
SDEM	_____	9-803-737-8500

OR, IF the SEOC has not been activated, the County Emergency Management Directors (CEMD)

	Name	Telephone Number
Oconee CDEM	_____	9-864-638-4200
Pickens CDEM	_____	9-864-898-5943

_____ IF terminating from an emergency involving dam failure (Keowee or Jocassee),

- Discuss termination with Hydro Central (Refer to Section 6 of the Oconee Emergency Telephone Directory, Keowee Hydro Project Dam/Dike Notification).

_____ Request Oconee Emergency Planning to provide a copy of the Licensee Event Report (LER) to state and county agencies at the time it is sent to the NRC.

( )CATAWBA ( )MCGUIRE ( )OCONEE

UNIT(S) AFFECTED: (8) ( ) Unit 1 ( ) Unit 2 ( ) Unit 3

GENERAL

	POWER LEVEL	REACTOR COOLANT TEMPERATURE	REACTOR COOLANT PRESSURE
DATE:_____ TIME:_____	U-1_____	_____	_____
	U-2_____	_____	_____
	U-3_____	_____	_____

EMERGENCY CLASSIFICATION

NOUE DECLARED AT: _____ TSC ACTIVATED AT: _____

ALERT DECLARED AT: _____ EOF ACTIVATED AT: _____

SAE DECLARED AT: _____

G.E. DECLARED AT: _____

REASON FOR EMER CLASS: _____

SITE ASSEMBLY SITE EVACUATION

	YES	NO	TIME	LOCATION OR COMMENTS
SITE ASSEMBLY				
SITE EVAC. (NON-ESSEN.)				
SITE EVAC. (ESSENTIAL)				
OTHER OFFSITE AGENCY INVOLVEMENT				
MEDICAL				
FIRE				
POLICE/SHERIFF				

RADIOLOGICAL

FIELD MON. TEAMS NUMBER ASSEM. _____ NUMBER DEPLOYED _____

	ZONES EVACUATED	ZONES SHELTERED	KI (General Public)
OFFSITE PARS	_____	_____	Yes( ) No( )

RELEASE IN PROGRESS YES( ) NO( )

RELEASE PATHWAY _____

CONTAINMENT PRESSURE _____ PSIG

WIND DIRECTION _____ WIND SPEED _____

OFFSITE COMMUNICATIONS

	NUMBER	TIME
LAST MESSAGE SENT:	_____	_____
NEXT MESSAGE DUE:	_____	_____

NOTE: EOF COMMUNICATION CHECKS SHOULD BE COMPLETED PRIOR TO ACTIVATING THE EOF.

OTHER NOTES RELATED TO THE ACCIDENT/EVENT/PLANT EQUIPMENT FAILED OR OUT OF SERVICE

_____

_____

_____

Job Aid (8)

	CATAWBA/McGUIRE	OCONEE	AVAILABLE	NOT AVAILABLE	COMMENTS
SG HEAT REMOVAL	AFW (CA) TRAIN A	EFDW TRAIN A			
	AFW (CA) TRAIN B	EFDW TRAIN B			
	TD AFW TRAIN	TDEFDW			
ECCS	NV TRAIN A	HPI TRAIN A			
	NV TRAIN B	HPI TRAIN B			
	NI TRAIN A				
	NI TRAIN B				
	ND TRAIN A	LPIP TRAIN A			
	ND TRAIN B	LPIP TRAIN B			
	STANDBY MU WATER PMP				
COOLING WATER	KC TRAIN A	UNIT 1 CC			
	KC TRAIN B	UNIT 2 CC			
		UNIT 3 CC			
	RN TRAIN A	UNIT 1 & 2 LPSW			
	RN TRAIN B	UNIT 3 LPSW			
POWER SYSTEMS	BUSLINE A	MAIN FEEDER BUS			
	BUSLINE B	STANDBY BUS			
	DG A	KEOWEE 1			
	DG B	KEOWEE 2			
	SATA	CT4			
	SATB	CT5			
	TRAIN A DC POWER	DC POWER			
	TRAIN B DC POWER				
	SSF DG	SSF DG			
CONTAINMENT	CONT. SPRAY TRAIN A	RBS TRAIN A			
	CONT. SPRAY TRAIN B	RBS TRAIN B			
	H^2 IGNITERS TRAIN A				
	H^2 IGNITERS TRAIN B				
	CONT. AIR RETURN FANS TRAIN A	A RBCU			
	CONT. AIR RETURN FANS TRAIN B	B RBCU			
		C RBCU			
	CONT. ISOL. TRAIN A	ES 1&2			
	CONT. ISOL. TRAIN B	ES 5&6			

Note: This form is not required for TSC/EOF Turnover. It is made available as a job aid only and can be used for other activities (e.g., Briefing the NRC).

{20}

NOTE: 1. Protective Action Recommendations (PARs) for the public apply during a General Emergency, and include sheltering, evacuation and consideration of KI use. PARs are based on plant conditions independent of projected dose, and can also be based on projected dose. Protective Action Guides (PAGs) are levels of radiation dose at which prompt protective actions should be initiated and are based on EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. The projected dose PARs specified in this enclosure are based on the PAGs listed below. The PAG for KI is taken from Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergencies, FDA Guidance, November 2001 and Guidance for Industry, KI in Radiation Emergencies, Questions and Answers, FDA, December 2002. {23}

PROTECTIVE ACTION GUIDES (PAGs)

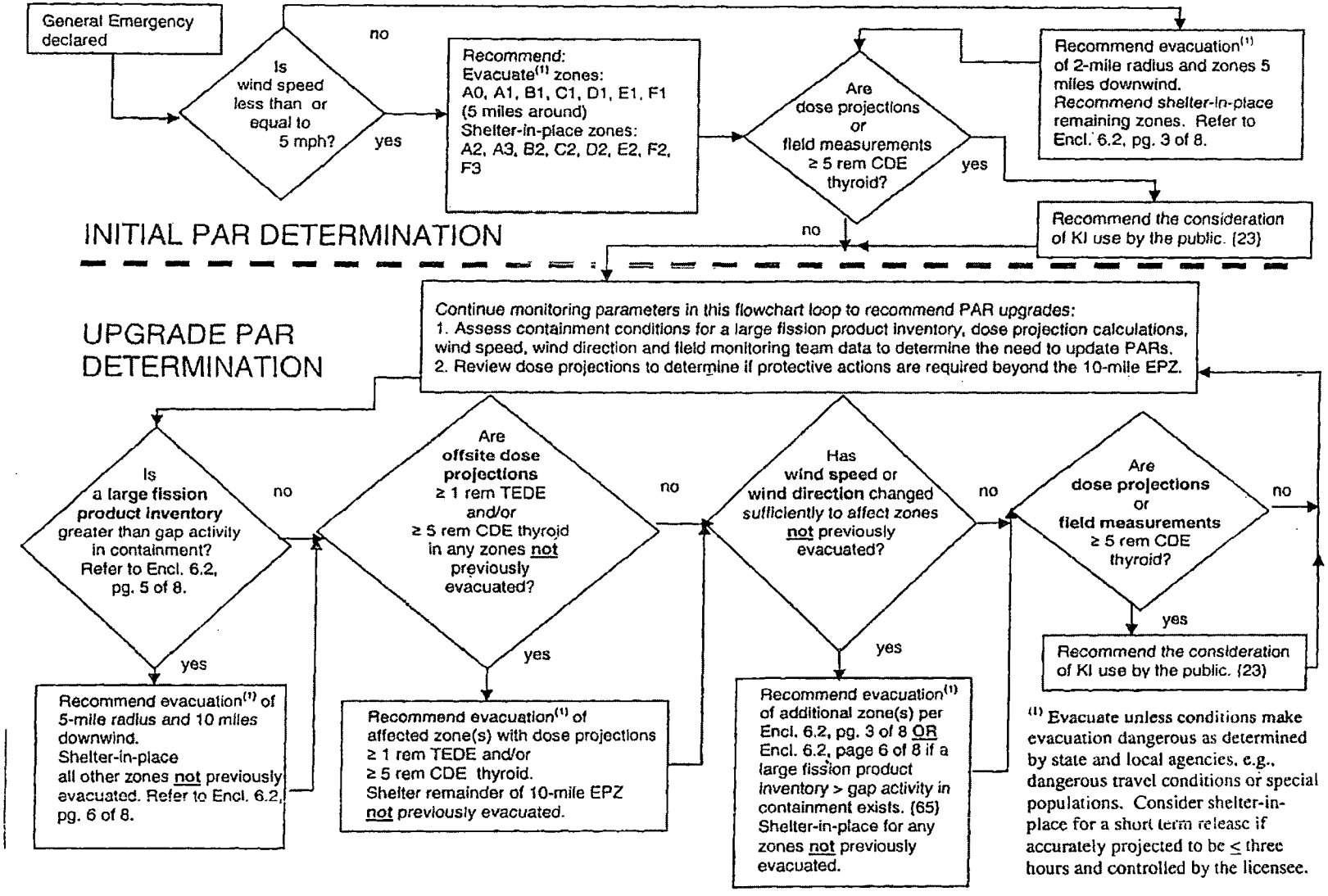
Projected Dose

Total Effective Dose Equivalent (TEDE)	Committed Dose Equivalent (CDE) Thyroid	Recommendation
< 1 rem	< 5 rem	No Protective Action is required based on projected dose.
≥ 1 rem	≥ 5 rem	Evacuate affected zones and shelter the remainder of the 10-mile EPZ not evacuated.
N/A	≥5 rem	Consider the use of KI (potassium iodide) in accordance with State Plans and Policy.

2. IF desired, you may refer to the flow chart on page 2 of this enclosure. {43}

INITIALS _____ PRINTED NAME _____

Catawba Offsite Protective Actions Flowchart



[1] Evacuate unless conditions make evacuation dangerous as determined by state and local agencies, e.g., dangerous travel conditions or special populations. Consider shelter-in-place for a short term release if accurately projected to be ≤ three hours and controlled by the licensee.

Catawba Offsite Protective Actions
Immediate Protective Action Recommendations Steps

INITIAL

CAUTION: A short term release is any release that can be projected to be 3 hours or less in duration. An example would be a "puff release". A controlled release is one that can be started and stopped at the licensee's discretion, such as the venting of Containment for pressure control. IF a release is short term AND controlled, sheltering in lieu of evacuation should be considered. {36}

NOTE: {5} If necessary, obtain needed data from one of the following sources in order of sequence:

A. Catawba SDS (Group Display "ERORD5")
B. Duke Meteorologist (2-0139, 3-7896, OR 2-4316)
C. National Weather Service in Greer, S.C. (9-864-879-1085 9-800-268-7785 OR Decision Line 15) {55}

—— IF AT ANY TIME a General Emergency is declared, make immediate PROTECTIVE ACTION RECOMMENDATIONS (PARs) within 15 minutes to be entered on Line 5 of the Emergency Notification Form (ENF). Determine the PARs based on the 15-minute average lower wind speed (OAC point C1P0253) and the 15-**minute** average upper wind direction (OAC point C1P0250) as below:

WIND SPEED LESS THAN OR EQUAL TO 5 MPH
Evacuate zones: A0, A1, B1, C1, D1, E1, F1 (5-Mile Radius)
AND
Shelter-in-place zones: A2, A3, B2, C2, D2, E2, F2, F3

OR

WIND SPEED GREATER THAN 5 MPH		
Wind Direction (Degrees from North)	**Evacuate*** 2-Mile Radius and 5 Miles Downwind	**Shelter** Remaining Sectors
348.75 - 11.25	A0, B1, C1, D1	A1, A2, A3, B2, C2, D2, E1, E2, F1, F2, F3
11.26 - 33.75	A0, C1, D1	A1, A2, A3, B1, B2, C2, D2, E1, E2, F1, F2, F3
33.76 - 56.25	A0, C1, D1, E1	A1, A2, A3, B1, B2, C2, D2, E2, F1, F2, F3
56.26 - 78.75	A0, C1, D1, E1, F1	A1, A2, A3, B1, B2, C2, D2, E2, F2, F3
78.76 - 101.25	A0, C1, D1, E1, F1	A1, A2, A3, B1, B2, C2, D2, E2, F2, F3
101.26 - 123.75	A0, D1, E1, F1	A1, A2, A3, B1, B2, C1, C2, D2, E2, F2, F3
123.76 - 146.25	A0, E1, F1	A1, A2, A3, B1, B2, C1, C2, D1, D2, E2, F2, F3
146.26 - 168.75	A0, A1, E1, F1	A2, A3, B1, B2, C1, C2, D1, D2, E2, F2, F3
168.76 - 191.25	A0, A1, E1, F1	A2, A3, B1, B2, C1, C2, D1, D2, E2, F2, F3
191.26 - 213.75	A0, A1, B1, E1, F1	A2, A3, B2, C1, C2, D1, D2, E2, F2, F3
213.76 - 236.25	A0, A1, B1, F1	A2, A3, B2, C1, C2, D1, D2, E1, E2, F2, F3
236.26 - 258.75	A0, A1, B1, F1	A2, A3, B2, C1, C2, D1, D2, E1, E2, F2, F3
258.76 - 281.25	A0, A1, B1, C1	A2, A3, B2, C2, D1, D2, E1, E2, F1, F2, F3
281.26 - 303.75	A0, A1, B1, C1	A2, A3, B2, C2, D1, D2, E1, E2, F1, F2, F3
303.76 - 326.25	A0, B1, C1	A1, A2, A3, B2, C2, D1, D2, E1, E2, F1, F2, F3
326.26 - 348.74	A0, B1, C1, D1	A1, A2, A3, B2, C2, D2, E1, E2, F1, F2, F3

* See Caution above.

_____ IF dose projections indicate that CDE Thyroid dose will be ≥ 5 Rem, recommend KI use by the General Public in accordance with State Plans and Policy. {23}

NOTE: 1. **IF** changes to the initial Protective Action Recommendations are recommended, these changes must be transmitted to the offsite agencies within 15 minutes.

2. **IF** the containment radiation level exceeds the levels in the EMF Containment Monitor Reading Table below, fission product inventory inside containment is greater than gap activity.

CAUTION: **IF** a zone has been accurately selected for evacuation, it shall remain selected. {27}, {30}

_____ Check for large fission product inventory in Containment:

EMF Containment Monitor Reading Table

Time After Shutdown (Hours)	EMF Containment Monitor Reading (R/HR) EMF53A and/or 53B (100% gap activity release)
>0-2	864
>2-4	624
>4-8	450
>8	265

☐ **IF** SDS is available, enter Group Display "ERORD5" to determine EMF53A and/or 53B readings.

☐ **IF** SDS is unavailable, request EOF Data Coordinator to call up computer points.

Unit 1 OAC	Unit 2 OAC
C1A1308 -------- 1EMF53A	C2A1308 -------- 2EMF53A
C1A1314 -------- 1EMF53B	C2A1314 -------- 2EMF53B

☐ **IF** SDS and OAC are unavailable, obtain EMF containment monitor readings from control room.

Catawba Offsite Protective Actions
Subsequent Protective Action Recommendations Steps

CAUTION: 1. A short term release is any release that can be projected to be 3 hours or less in duration. An example would be a "puff release". A controlled release is one that can be started and stopped at the licensee's discretion, such as the venting of Containment for pressure control. IF a release is short term AND controlled, sheltering in lieu of evacuation should be considered. {36}

2. IF a zone has been accurately selected for evacuation, it should remain selected. {27}, {30}

IF containment radiation levels exceed levels in EMF Containment Monitor Reading Table, make Protective Action Recommendations to be entered on Line 5 of the Emergency Notification Form.

Evacuate the 5-mile radius AND 10 miles downwind as shown in the Protective Action Zones Determination Table below, using wind direction.

AND

Shelter remaining zones as shown in the Protective Action Zones Determination Table, using wind direction.

Protective Action Zones Determination Table

For Containment Radiation Levels Exceeding GAP Activity
(For Any Wind Speed)

Wind Direction (Degrees from North)	Evacuate* 5-Mile Radius and 10 Miles Downwind	Shelter Remaining Sectors
348.75 - 11.25	A0, A1, B1, B2, C1, C2, D1, D2, E1, F1	A2, A3, E2, F2, F3
11.26 - 33.75	A0, A1, B1, C1, C2, D1, D2, E1, F1	A2, A3, B2, E2, F2, F3
33.76 - 56.25	A0, A1, B1, C1, C2, D1, D2, E1, E2, F1	A2, A3, B2, F2, F3
56.26 - 78.75	A0, A1, B1, C1, C2, D1, D2, E1, E2, F1, F2	A2, A3, B2, F3
78.76 - 101.25	A0, A1, B1, C1, D1, D2, E1, E2, F1, F2	A2, A3, B2, C2, F3
101.26 - 123.75	A0, A1, B1, C1, D1, D2, E1, E2, F1, F2, F3	A2, A3, B2, C2
123.76 - 146.25	A0, A1, B1, C1, D1, E1, E2, F1, F2, F3	A2, A3, B2, C2, D2
146.26 - 168.75	A0, A1, A2, B1, C1, D1, E1, E2, F1, F2, F3	A3, B2, C2, D2
168.76 - 191.25	A0, A1, A2, B1, C1, D1, E1, F1, F2, F3	A3, B2, C2, D2, E2
191.26 - 213.75	A0, A1, A2, A3, B1, B2, C1, D1, E1, F1, F2, F3	C2, D2, E2
213.76 - 236.25	A0, A1, A2, A3, B1, B2, C1, D1, E1, F1, F2, F3	C2, D2, E2
236.26 - 258.75	A0, A1, A2, A3, B1, B2, C1, D1, E1, F1, F3	C2, D2, E2, F2
258.76 - 281.25	A0, A1, A2, A3, B1, B2, C1, C2, D1, E1, F1	D2, E2, F2, F3
281.26 - 303.75	A0, A1, A2, A3, B1, B2, C1, C2, D1, E1, F1	D2, E2, F2, F3
303.76 - 326.25	A0, A1, A3, B1, B2, C1, C2, D1, E1, F1	A2, D3, E2, F2, F3
326.26 - 348.74	A0, A1, B1, B2, C1, C2, D1, D2, E1, F1	A2, A3, E2 , F2, F3

* See Cautions above.

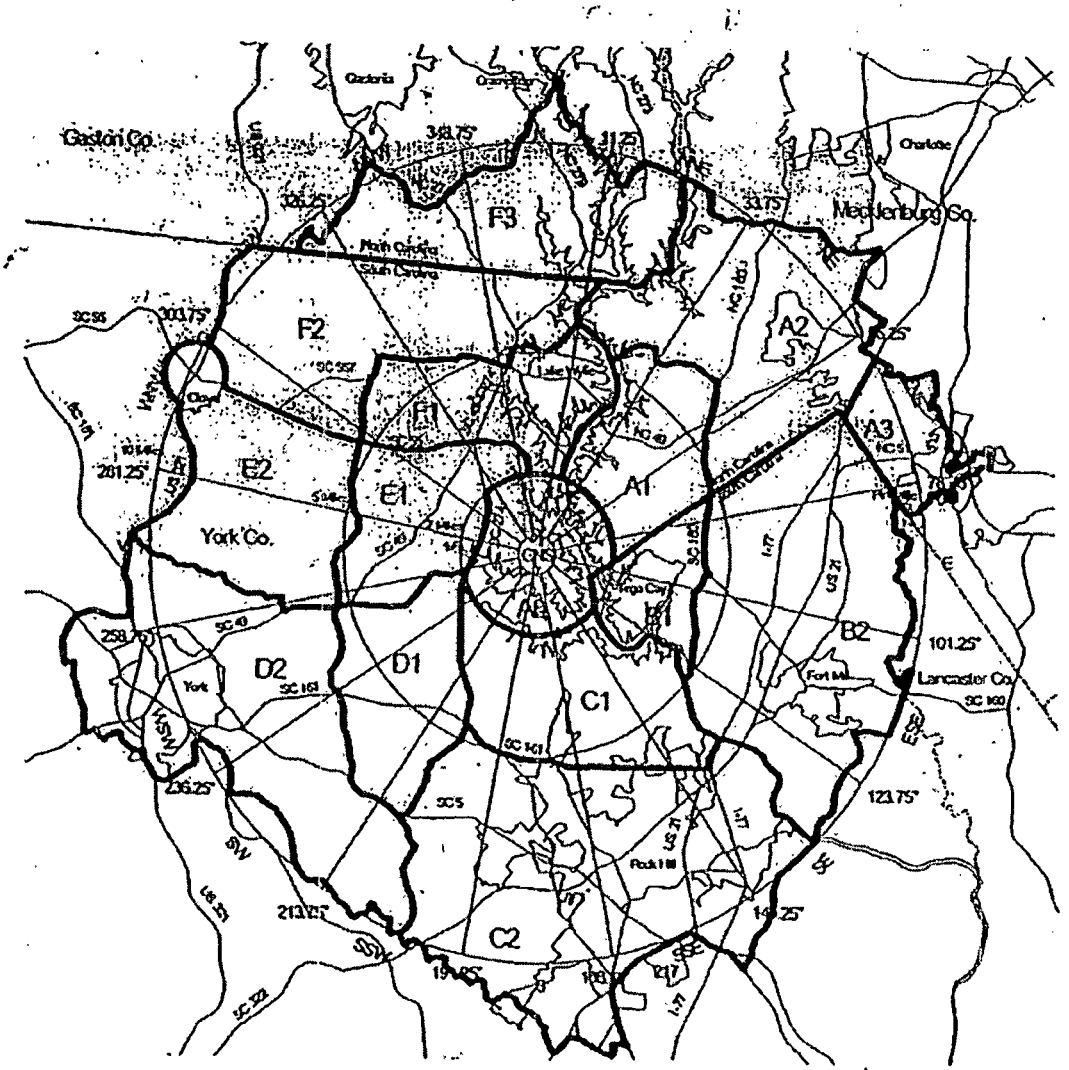
____ IF dose projections indicate that CDE Thyroid dose will be ≥ 5 Rem, recommend KI use by the General Public in accordance with State Plans and Policy. {23}

____ Evaluate specific plant conditions (including large fission product inventory in containment), offsite dose projections, wind speed and wind direction, field monitoring team data, and assess the need to update Protective Action Recommendations made to the states and counties in the previous notification throughout the event.

____ Review dose projections with the Radiological Assessment Manager to determine if Protective Action Recommendations are required beyond the 10-mile EPZ.

____ IF Protective Action Recommendations are required beyond 10 miles, notify states and counties to consider sheltering/evacuating general population located beyond the affected 10-mile EPZ.

Catawba Protective Action Zones - 10-mile EPZ
(2 and 5-mile Radius, inner circles)



{20}

NOTE: 1. Protective Action Recommendations (PARs) for the public apply during a General Emergency, and include sheltering, evacuation and consideration of KI use. PARs are based on plant conditions independent of projected dose, and can also be based on projected dose. Protective Action Guides (PAGs) are levels of radiation dose at which prompt protective actions should be initiated and are based on EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. The projected dose PARs specified in this enclosure are based on the PAGs listed below. The PAG for KI is taken from Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergencies, FDA Guidance, November 2001 and Guidance for Industry, KI in Radiation Emergencies, Questions and Answers, FDA, December 2002. {23}

PROTECTIVE ACTION GUIDES (PAGs)

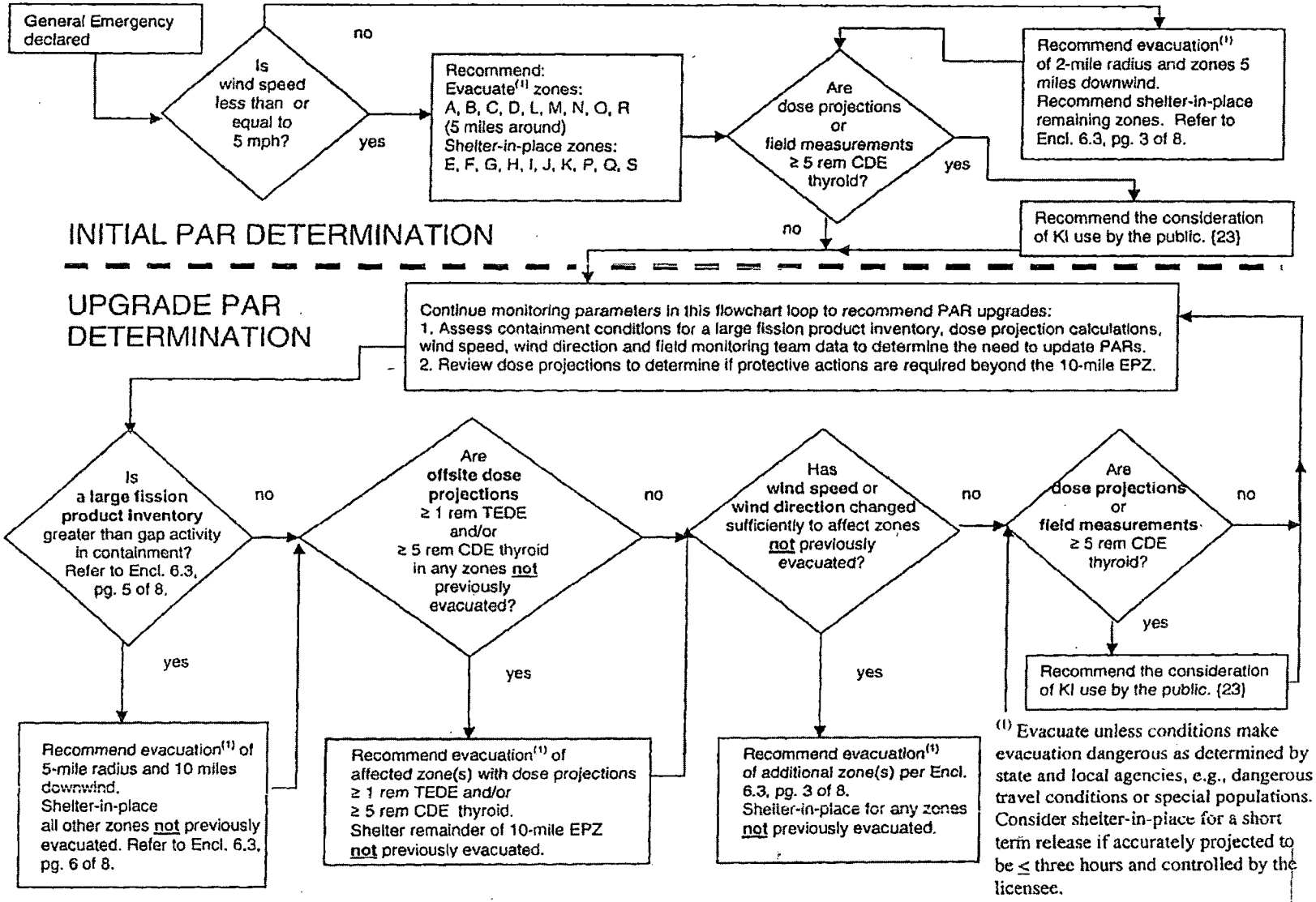
Projected Dose

Total Effective Dose Equivalent (TEDE)	Committed Dose Equivalent (CDE) Thyroid	Recommendation
< 1 rem	< 5 rem	No Protective Action is required based on projected dose.
≥ 1 rem	≥ 5 rem	Evacuate affected zones and shelter the remainder of the 10-mile EPZ not evacuated.
N/A	≥5 rem	Consider the use of KI (potassium iodide) in accordance with State Plans and Policy.

2. IF desired, you may refer to the flow chart on page 2 of this enclosure. {43}

INITIALS _____ PRINTED NAME _____

McGuire Offsite Protective Actions Flowchart



[1] Evacuate unless conditions make evacuation dangerous as determined by state and local agencies, e.g., dangerous travel conditions or special populations. Consider shelter-in-place for a short term release if accurately projected to be ≤ three hours and controlled by the licensee.

INITIAL

CAUTION: A short term release is any release that can be projected to be 3 hours or less in duration. An example would be a "puff release". A controlled release is one that can be started and stopped at the licensee's discretion, such as the venting of Containment for pressure control. **IF** a release is short term **AND** controlled, sheltering in lieu of evacuation should be considered. {36}

NOTE: {5} If necessary, obtain needed data from one of the following sources in order of sequence:

A. McGuire SDS (Group Display "ERORD5")
B. Duke Meteorologist (2-0139, 3-7896, **OR** 2-4316)
C. National Weather Service in Greer, S.C. (9-864-879-1085, 9-800-268-7785 **OR** Decision Line 15) {55}

—— **IF AT ANY TIME** a General Emergency is declared, make immediate PROTECTIVE ACTION RECOMMENDATIONS (PARs) within 15 minutes to be entered on Line 5 of the Emergency Notification Form (ENF). Determine the PARs based on the 15-minute average lower wind speed (OAC point M1P0848) and the 15-minute average upper wind direction (OAC point M1P0847) as below:

WIND SPEED LESS THAN OR EQUAL TO 5 MPH
Evacuate zones: A, B, C, D, L, M, N, O, R (5-Mile Radius)
AND
Shelter-in-place zones: E, F, G, H, I, J, K, P, Q, S

OR

WIND SPEED GREATER THAN 5 MPH		
Wind Direction (Degrees from North)	**Evacuate*** 2-Mile Radius and 5 Miles Downwind	**Shelter** Remaining Sectors
0.1 - 22.5	B,C,D,L,M,O,R	A,E,F,G,H,I,J,K,N,P,Q,S
22.6 – 45.0	B,C,D,L,M,O,R	A,E,F,G,H,I,J,K,N,P,Q,S
45.1 – 67.5	B,C,D,L,M,O,R	A,E,F,G,H,I,J,K,N,P,Q,S
67.6 – 90.0	B,C,D,L,M,N,O,R	A,E,F,G,H,I,J,K,P,Q,S
90.1 – 112.5	B,C,L,M,N,O,R	A,D,E,F,G,H,I,J,K,P,Q,S
112.6 – 135.0	A,B,C,L,M,N,O,R	D,E,F,G,H,I,J,K,P,Q,S
135.1 – 157.5	A,B,C,L,M,N,O	D,E,F,G,H,I,J,K,P,Q,R,S
157.6 – 180.0	A,B,C,L,M,N	D,E,F,G,H,I,J,K,O,P,Q,R,S
180.1 – 202.5	A,B,C,L,M,N	D,E,F,G,H,I,J,K,O,P,Q,R,S
202.6 – 225.0	A,B,C,D,L,M,N	E,F,G,H,I,J,K,O,P,Q,R,S
225.1 – 247.5	A,B,C,D,L,M	E,F,G,H,I,J,K,N,O,P,Q,R,S
247.6 – 270.0	A,B,C,D,L,M	E,F,G,H,I,J,K,N,O,P,Q,R,S
270.1 – 292.5	A,B,C,D,L,M	E,F,G,H,I,J,K,N,O,P,Q,R,S
292.6 – 315.0	A,B,C,D,L,M	E,F,G,H,I,J,K,N,O,P,Q,R,S
315.1 – 337.5	B,C,D,L,M,R	A,E,F,G,H,I,J,K,N,O,P,Q,S
337.6 – 360.0	B,C,D,L,M,R	A,E,F,G,H,I,J,K,N,O,P,Q,S

* See Caution above.

McGuire Offsite Protective Actions
Immediate Protective Action Recommendations Steps

____ IF dose projections indicate that CDE Thyroid dose will be ≥ 5 Rem, recommend KI use by the General Public in accordance with State Plans and Policy. [23]

NOTE: 1. **IF** changes to the initial Protective Action Recommendations are recommended, these changes must be transmitted to the offsite agencies within 15 minutes.

2. **IF** the containment radiation level exceeds the levels in the EMF Containment Monitor Reading Table below, fission product inventory inside containment is greater than gap activity.

CAUTION: **IF** a zone has been accurately selected for evacuation, it shall remain selected. {27}, {30}

_____ Check for large fission product inventory in Containment.

EMF Containment Monitor Reading Table

Time After Shutdown (Hours)	EMF Containment Monitor Reading (R/HR) EMF51A and/or 51B (100% gap activity release)
>0-2	864
>2-4	624
>4-8	450
>8	265

☐ **IF** SDS is available, enter Group Display "ERORD5" to determine EMF51A and/or 51B readings.

☐ **IF** SDS is unavailable, request EOF Data Coordinator to call up computer points to determine containment radiation levels.

Unit 1 OAC	Unit 2 OAC
M1A0829 -------- 1EMF51A	M2A0829 -------- 2EMF51A
M1A0835 -------- 1EMF51B	M2A0835 -------- 2EMF51B

☐ **IF** SDS and OAC are unavailable, obtain EMF containment monitor readings from control room.

CAUTION:
1. A short term release is any release that can be projected to be 3 hours or less in duration. An example would be a "puff release". A controlled release is one that can be started and stopped at the licensee's discretion, such as the venting of Containment for pressure control. IF a release is short term AND controlled, sheltering in lieu of evacuation should be considered. {36}

2. IF a zone has been accurately selected for evacuation, it shall remain selected. {27}, {30}

IF containment radiation levels exceed the levels in the EMF Containment Monitor Reading Table, make Protective Action Recommendations to be entered on Line 5 of the Emergency Notification Form.

Evacuate the 5-mile radius AND 10 miles downwind as shown in the Protective Action Zones Determination Table, using wind direction.

AND

Shelter remaining zones as shown in the Protective Action Zones Determination Table, using wind direction.

Protective Action Zones Determination Table

For Containment Radiation Levels Exceeding GAP Activity (For Any Wind Speed)

Wind Direction (Degrees from North)	Evacuate* 5-Mile Radius and 10 Miles Downwind	Shelter Remaining Sectors
0.1 - 22.5	A,B,C,D,E,F,L,M,N,O,R,S	G,H,I,J,K,P,Q
22.6 – 45.0	A,B,C,D,E,L,M,N,O,Q,R,S	F,G,H,I,J,K,P
45.1 – 67.5	A,B,C,D,E,L,M,N,O,Q,R,S	F,G,H,I,J,K,P
67.6 – 90.0	A,B,C,D,L,M,N,O,P,Q,R,S	E,F,G,H,I,J,K
90.1 – 112.5	A,B,C,D,K,L,M,N,O,P,Q,R,S	E,F,G,H,I,J
112.6 – 135.0	A,B,C,D,I,K,L,M,N,O,P,Q,R,S	E,F,G,H,J
135.1 – 157.5	A,B,C,D,I,K,L,M,N,O,P,Q,R	E,F,G,H,J,S
157.6 – 180.0	A,B,C,D,I,J,K,L,M,N,O,P,R	E,F,G,H,Q,S
180.1 – 202.5	A,B,C,D,G,H,I,J,K,L,M,N,O,P,R	E,F,Q,S
202.6 – 225.0	A,B,C,D,G,H,I,J,K,L,M,N,O,P,R	E,F,Q,S
225.1 – 247.5	A,B,C,D,F,G,H,I,J,L,M,N,O,R	E,K,P,Q,S
247.6 – 270.0	A,B,C,D,F,G,H,I,J,L,M,N,O,R	E,K,P,Q,S
270.1 – 292.5	A,B,C,D,E,F,G,H,J,L,M,N,O,R	I,K,P,Q,S
292.6 – 315.0	A,B,C,D,E,F,G,L,M,N,O,R	H,I,J,K,P,Q,S
315.1 – 337.5	A,B,C,D,E,F,G,L,M,N,O,R	H,I,J,K,P,Q,S
337.6 – 360.0	A,B,C,D,E,F,L,M,N,O,R,S	G,H,I,J,K,P,Q

* See Cautions above.

Subsequent Protective Action Recommendations Steps

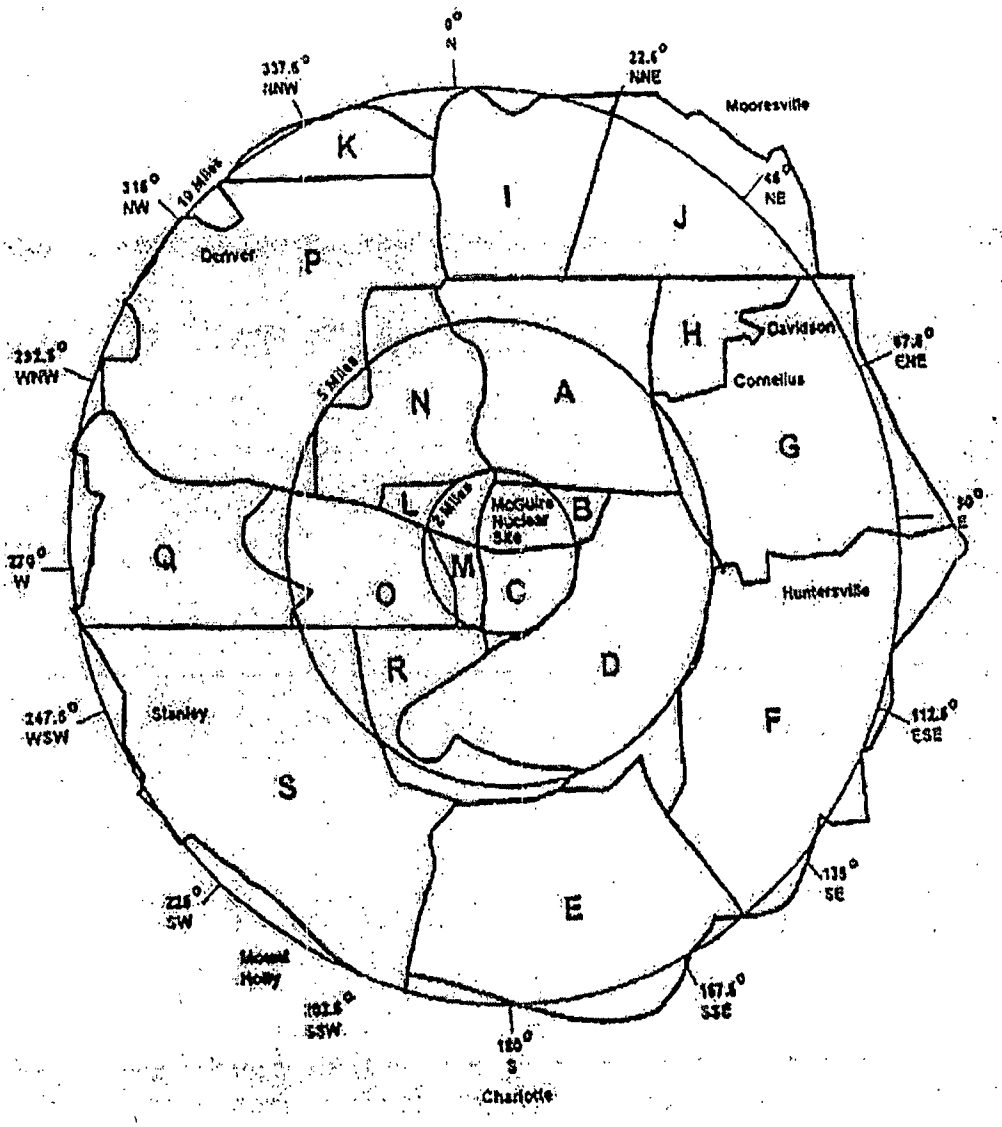
_____ IF dose projections indicate that CDE Thyroid dose will be ≥ 5 Rem, recommend KI use by the General Public in accordance with State Plans and Policy. {23}

_____ Evaluate specific plant conditions (including large fission product inventory in containment), offsite dose projections, wind speed and wind direction, field monitoring team data, and assess the need to update Protective Action Recommendations made to the states and counties in the previous notification throughout the event.

_____ Review dose projections with the Radiological Assessment Manager to determine if Protective Action Recommendations are required beyond the 10-mile EPZ.

_____ IF Protective Action Recommendations are required beyond 10 miles, notify states and counties to consider sheltering/evacuating the general population located beyond affected 10-mile EPZ.

McGuire Protective Action Zones - 10-mile EPZ
(2 and 5-mile radius, inner circles)



{20}

NOTE: 1. Protective Action Recommendations (PARs) for the public apply during a General Emergency, and include sheltering, evacuation and consideration of KI use. PARs are based on plant conditions independent of projected dose, and can also be based on projected dose. Protective Action Guides (PAGs) are levels of radiation dose at which prompt protective actions should be initiated and are based on EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. The projected dose PARs specified in this enclosure are based on the PAGs listed below. The PAG for KI is taken from Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergencies, FDA Guidance, November 2001 and Guidance for Industry, KI in Radiation Emergencies, Questions and Answers, FDA, December 2002. {23}

PROTECTIVE ACTION GUIDES (PAGs)

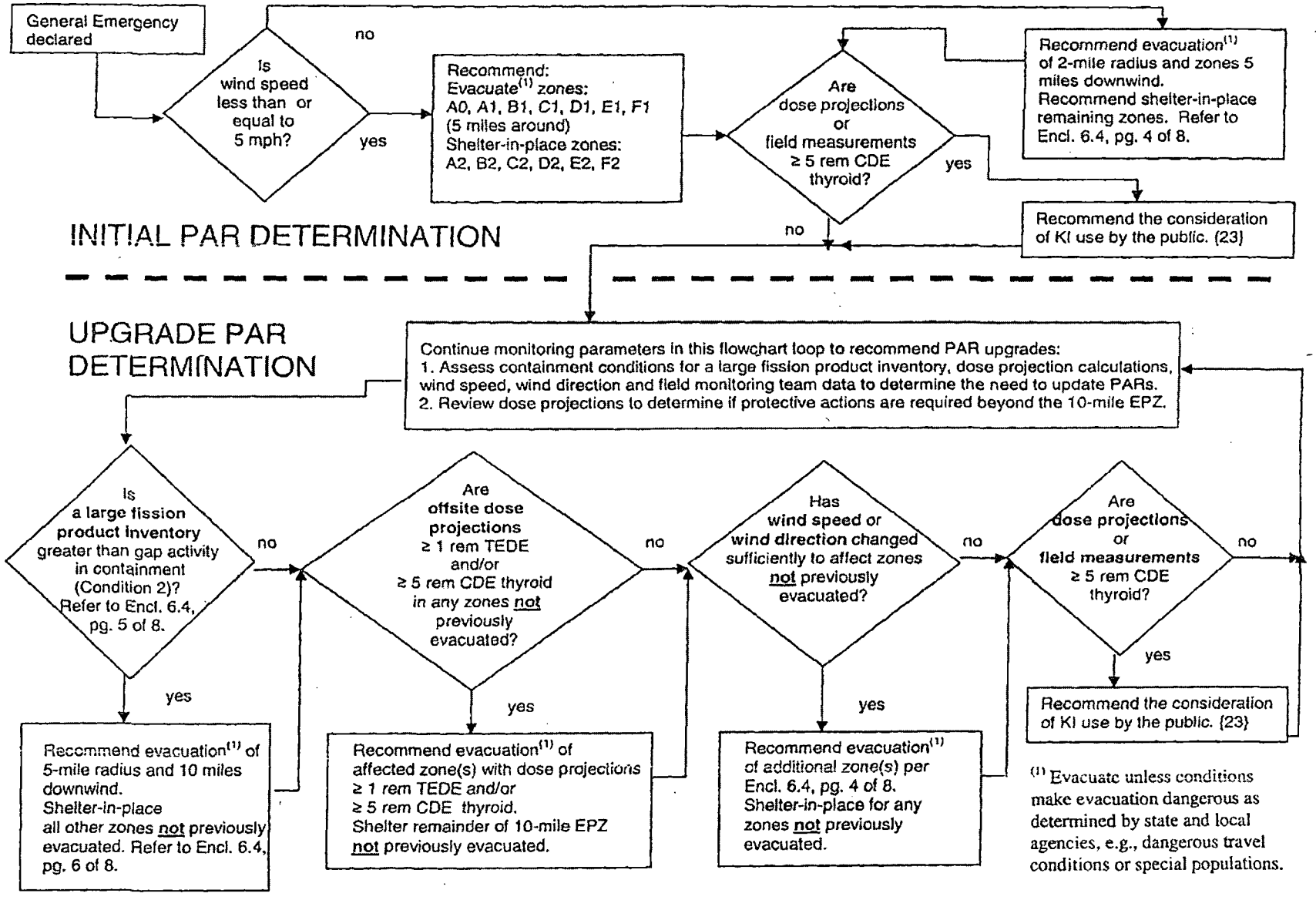
Projected Dose

Total Effective Dose Equivalent (TEDE)	Committed Dose Equivalent (CDE) Thyroid	Recommendation
< 1 rem	< 5 rem	No Protective Action is required based on projected dose.
≥ 1 rem	≥ 5 rem	Evacuate affected zones and shelter the remainder of the 10-mile EPZ not evacuated.
N/A	≥5 rem	Consider the use of KI (potassium iodide) in accordance with State Plans and Policy.

2. **IF** desired, you may refer to the flow chart on page 2 of this enclosure. {43}

INITIALS _____ PRINTED NAME _____

Oconee Offsite Protective Actions Flowchart



[1] Evacuate unless conditions make evacuation dangerous as determined by state and local agencies, e.g., dangerous travel conditions or special populations.

INITIAL

NOTE: {5} If necessary, obtain needed data from one of the following sources in order of sequence:
A. Oconee SDS (Turn On Code "EROENV")
B. Duke Meteorologist (2-0139, 3-7896, **OR** 2-4316)
C. National Weather Service in Greer, S.C. (9-864-879-1085 **OR** 9-800-268-7785)

___ **IF AT ANY TIME** a General Emergency is declared, make immediate PROTECTIVE ACTION RECOMMENDATIONS (PARs) within 15 minutes to be entered on Line 5 of the Emergency Notification Form (ENF). Determine the meteorological parameters to use based on the 15-minute average wind speed (SDS "EROENV" screen) and the 15-minute average wind direction (SDS "EROENV" screen) as determined from the following chart below:

Time of Day Conditions	Met Parameter	First Priority	Second Priority	Third Priority	Fourth Priority
1000 - 1600	Wind Speed	10M reading	River Tower	60M reading times 0.5	NWS* times 0.5
	Wind Direction	60M reading	10M reading	River Tower	NWS
1600 – 1000 and River Wind between 210° and 360° or 0° and 70°	Wind Speed	10M reading	60M reading times 0.5	River Tower	NWS* times 0.5
	Wind Direction	60M reading	10M reading	River Tower	NWS
1600 – 1000 and River Wind between 70° and 210°	Wind Speed	River Tower	10M reading times 0.5	NWS* times 0.5	
	Wind Direction	River Tower	60M reading	NWS	

* Conversion factors for NWS data:
Mph= 1.15 knots
°C = .555(°F – 32)

_____ Record Meteorological Parameters to be used to determine PARs:

Wind Speed _____

Wind Direction _____

Oconee Offsite Protective Actions
Immediate Protective Action Recommendations Steps

_____ Determine PARs based on the 15-minute average wind speed and 15-minute average wind direction as determined from the previous chart:

WIND SPEED LESS THAN OR EQUAL TO 5 MPH

Evacuate zones: A0, A1, B1, C1, D1, E1, F1 (5-Mile Radius)

AND

Shelter-in-place zones: A2, B2, C2, D2, E2, F2

OR

WIND SPEED GREATER THAN 5 MPH

Wind Direction (Degrees from North)	**Evacuate** 2-Mile Radius and 5 Miles Downwind	**Shelter** Remaining Sectors
14.1° - 27°	A0, C1,D1,E1	A1, A2, B1,B2, C2, D2, E2, F1,F2
27.1° - 42°	A0, C1,D1,E1	A1, A2, B1,B2, C2, D2, E2, F1,F2
42.1° - 66°	A0, D1, E1	A1, A2, B1 B2, C1, C2, D2, E2, F1, F2
66.1° - 85°	A0, D1, E1	A1, A2, B1 B2, C1, C2, D2, E2, F1, F2
85.1° - 104°	A0, D1, E1, F1	A1, A2, B1, B2, C1, C2, D2, E2, F2
104.1° - 129°	A0, E1, F1	A1, A2, B1, B2, C1, C2, D1, D2, E2, F2
129.1° - 156°	A0, A1, E1, F1	A2, B1, B2, C1, C2. D1, D2, E2, F2
156.1° - 175°	A0, A1, E1, F1	A2, B1, B2, C1, C2. D1, D2, E2, F2
175.1° - 181°	A0, A1, F1	A2, B1, B2, C1, C2, D1, D2, E1, E2, F2
181.1° - 219°	A0, A1, B1, F1	A2, B2, C1, C2, D1, D2, E1, E2, F2
219.1° - 255°	A0, A1, B1	A2, B2, C1, C2, D1, D2. E1, E2, F1, F2
255.1° - 271°	A0, A1, B1, C1	A2, B2, C2, D1, D2, E1, E2, F1, F2
271.1° - 297°	A0, B1, C1	A1, A2, B2, C2, D1, D2. E1, E2, F1, F2
297.1° - 312°	A0, B1, C1	A1, A2, B2, C2, D1, D2. E1, E2, F1, F2
312.1° - 345°	A0, B1, C1, D1	A1,A2, B2, C2, D2, E1, E2, F1, F2
345.1° - 14°	A0, C1, D1	A1, A2, B1, B2, C2, D2, E1, E2, F1, F2

_____ IF dose projections indicate that CDE Thyroid dose will be ≥ 5 Rem, recommend KI use by the General Public in accordance with State Plans and Policy. {23}

NOTE: 1. IF changes to the initial Protective Action Recommendations are recommended, these changes must be transmitted to the offsite agencies within 15 minutes.

2. IF the containment radiation level exceeds the levels in the RIA Containment Monitor Reading Table below, fission product inventory inside containment is greater than gap activity.

CAUTION: IF a zone has been accurately selected for evacuation, it shall remain selected. {27}, {30}

____ Check for large fission product inventory (Condition 2 Failed Fuel) in Containment.

RIA Containment Monitor Reading Table

Time After Shutdown (Hours)	RIA-57 Containment Monitor Reading (R/HR) (100% gap activity release)	RIA-58 Containment Monitor Reading (R/HR) (100% gap activity release)
>0-2	2000	969
>2-4	1500	650
>4-8	750	370
>8	275	125

☐ IF SDS is available, enter Turn On Code "EROCONT" or "EROAREA" to determine RIA-57 and/or RIA-58 readings.

☐ IF SDS is unavailable, request EOF Data Coordinator to call up computer points.

Unit 1 OAC	Unit 2 OAC	Unit 3 OAC
O1E3034 -------- 1RIA57	O2E3054 -------- 2RIA57	O3E3088 -------- 3RIA57
O1E3035 -------- 1RIA58	O2E3055 -------- 2RIA58	O3E3089 -------- 3RIA58

☐ IF SDS and OAC are unavailable, obtain RIA containment monitor readings from control room.

Oconee Offsite Protective Actions
Subsequent Protective Action Recommendation Steps

____ **IF** containment radiation levels exceed levels in RIA Containment Monitor Reading Table, make Protective Action Recommendations to be entered on Line 5 of the Emergency Notification Form.

Evacuate the 5-mile radius **AND** 10 miles downwind as shown in the Protective Action Zones Determination Table, using wind direction.

AND

Shelter remaining zones as shown in the Protective Action Zones Determination Table, using wind direction.

CAUTION: **IF** a zone has been accurately selected for evacuation, it shall remain selected. {27}, {30}

Protective Action Zones Determination Table

For Containment Radiation Levels Exceeding GAP Activity (Condition 2 Failed Fuel) (For Any Wind Speed)

Wind Direction (Degrees from North)	Evacuate* 5-Mile Radius and 10 Miles Downwind	Shelter Remaining Sectors
14.1° - 27°	A0, A1, B1, C1, C2, D1, D2, E1, E2, F1	A2, B2, F2
27.1° - 42°	A0, A1, B1, C1, D1, D2, E1, E2, F1	A2, B2, C2, F2
42.1° - 66°	A0, A1, B1, C1, D1, D2, E1, E2, F1	A2, B2, C2, F2
66.1° - 85°	A0, A1, B1, C1, D1, D2, E1, E2, F1, F2	A2, B2, C2
85.1° - 104°	A0, A1, B1, C1, D1, D2, E1, E2, F1, F2	A2, B2, C2
104.1° - 129°	A0, A1, B1, C1, D1, E1, E2, F1, F2	A2, B2, C2, D2
129.1° - 156°	A0, A1, A2, B1, C1, D1, E1, E2, F1, F2	B2, C2, D2
156.1° - 175°	A0, A1, A2, B1, C1, D1, E1, F1, F2	B2, C2, D2, E2
175.1° - 181°	A0, A1, A2, B1, C1, D1, E1, F1, F2	B2, C2, D2, E2
181.1° - 219°	A0, A1, A2, B1, B2, C1, D1, E1, F1, F2	C2, D2, E2
219.1° - 255°	A0, A1, A2, B1, B2, C1, D1, E1, F1	C2, D2, E2, F2
255.1° - 271°	A0, A1, A2, B1, B2, C1, C2, D1, E1, F1	D2, E2, F2
271.1° - 297°	A0, A1, B1, B2, C1, C2, D1, E1, F1	A2, D2, E2, F2
297.1° - 312°	A0, A1, B1, B2, C1, C2, D1, D2, E1, F1	A2, E2, F2
312.1° - 345°	A0, A1, B1, B2, C1, C2, D1, D2, E1, F1	A2, E2, F2
345.1° - 14°	A0, A1, B1, C1, C2, D1, D2, E1, F1	A2, B2, E2, F2

* See Caution above.

____ **IF** dose projections indicate that CDE Thyroid dose will be ≥ 5 Rem, recommend KI use by the General Public in accordance with State Plans and Policy. {23}

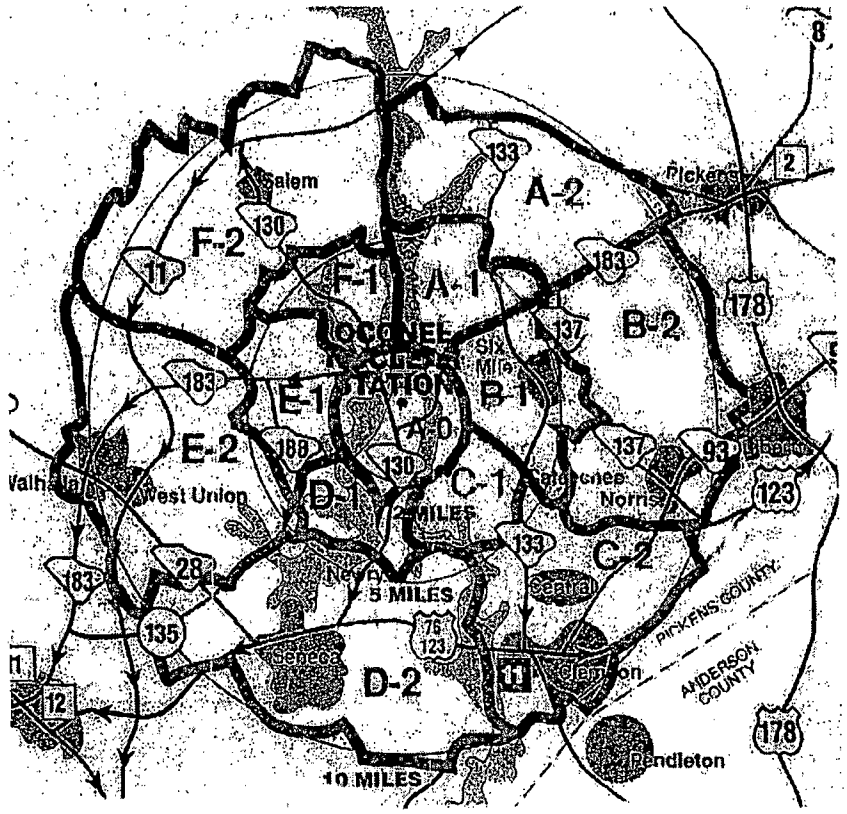
_____ Evaluate specific plant conditions (including large fission product inventory in containment), offsite dose projections, wind speed and wind direction, field monitoring team data, and assess the need to update Protective Action Recommendations made to the states and counties in the previous notification throughout the event.

_____ Review dose projections with the Radiological Assessment Manager to determine if Protective Action Recommendations are required beyond the 10-mile EPZ.

_____ **IF** Protective Action Recommendations are required beyond 10 miles, notify states and counties to consider sheltering/evacuating general population located beyond the affected 10-mile EPZ.

Oconee Protective Action Zones - 10-Mile EPZ

(2 and 5-mile radius, inner circles)

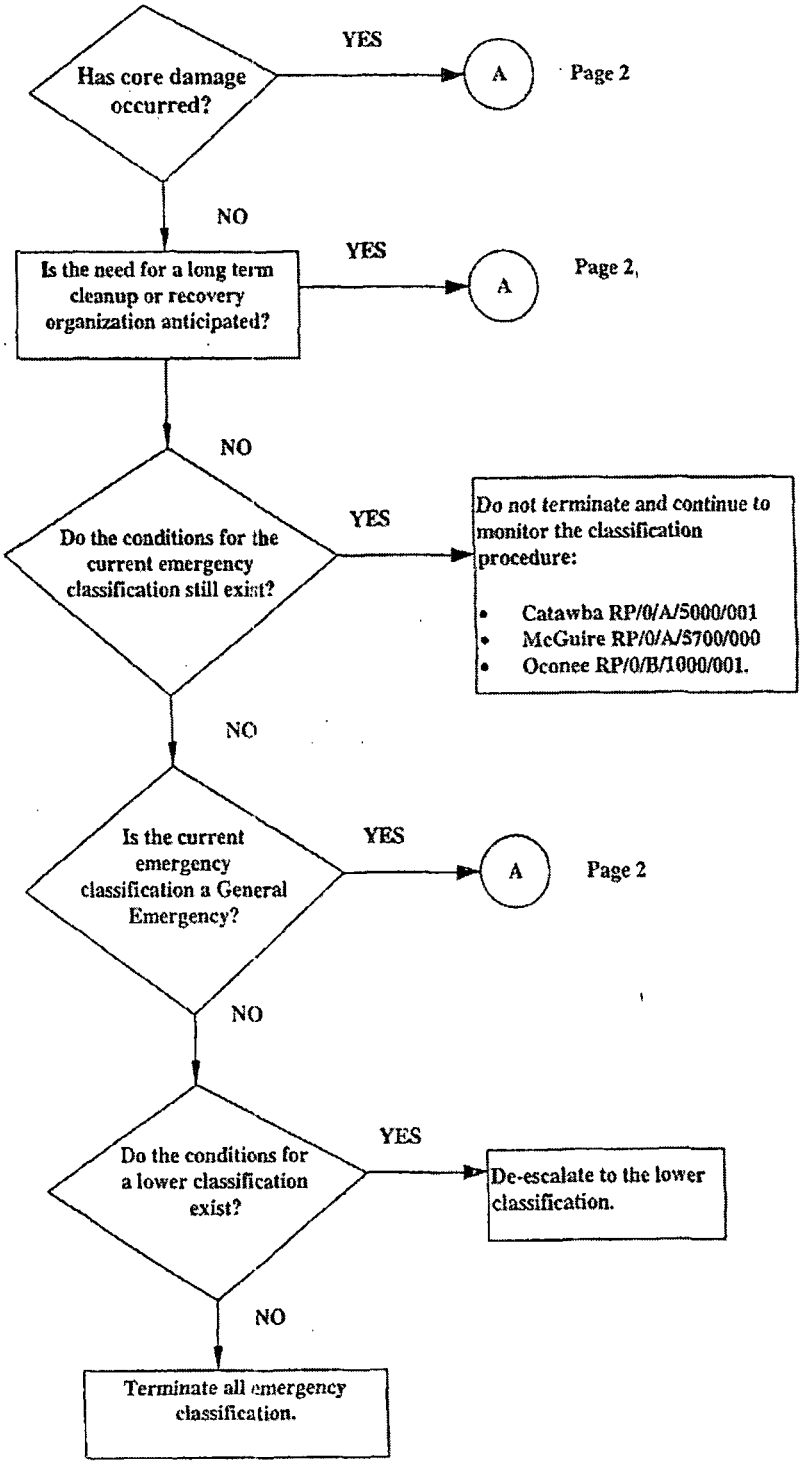


Radius From Site (miles)	Pickens County Sectors	Oconee County Sectors
0-2	A0	A0
2-5	A-1, B-1, C-1	D-1, E-1, F-1
5-10	A-2, B-2, C-2	D-2, E-2, F-2

Enclosure 6.5

Emergency Classification Downgrade/Termination Criteria

INITIAL



INITIALS _____ PRINTED NAME _____

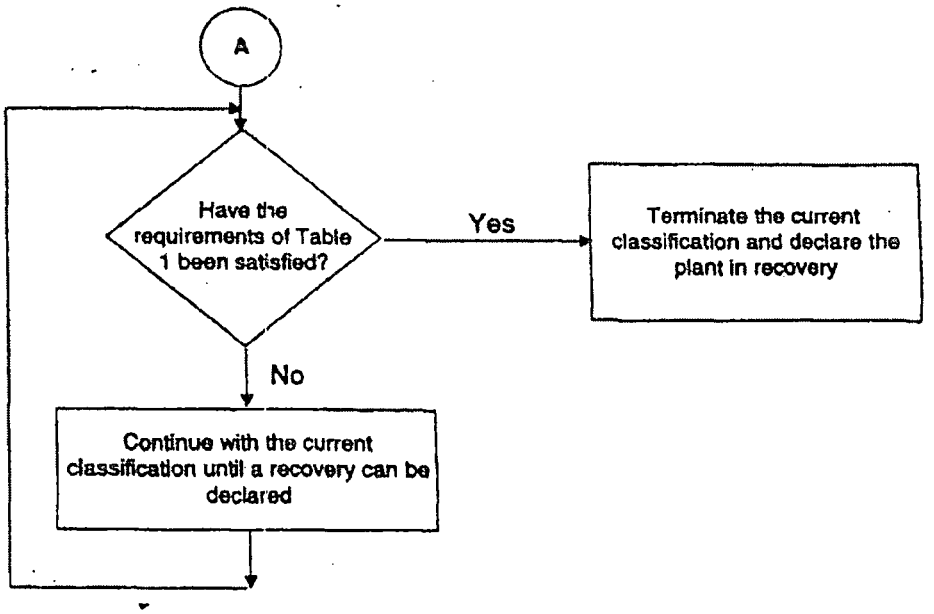


Table 1

_____Security threat has been contained.

_____No new evacuation or sheltering protective actions are anticipated.

_____Containment pressure is being maintained less than design pressure.

_____Containment hydrogen levels are less than 9% and stable or decreasing.

_____Decay heat rejection to the ultimate heat sink has been established and is stable. This is indicated by either of the following (circle one):

- Decay heat removal is considered stable if supported by redundancy or diversity

  - Examples of a satisfactory state include:

    - 2 trains of systems for sump recirculation.
    - 2 trains of Decay Heat Removal (DHR)
    - 1 train of DHR and the ability to cool with the steam generators.
    - steam generator cooling with 2 trains of feed capability.

OR

- Decay heat removal is considered stable if no additional fission product barrier challenges would be expected for at least 2 hours following interruption of core cooling.

(continued on next page)

_____The risks from recriticality are acceptably low.

_____Radiation Protection is monitoring access to radiologically hazardous areas.

_____Offsite conditions do not limit plant access.

_____The Public Information Coordinator, NRC officials, and State representatives have been consulted to determine the effects of termination on their activities.

_____The recovery organization is ready to assume control of recovery operations:

- Catawba - RP/0B/5000/025
- McGuire - RP/0/A/5700/024
- Oconee - RP/0/B/1000/027

INITIAL

NOTE: Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ **IF** reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on the EOF staffing board.

_____ Obtain copy of SH/0/B/2005/001, Emergency Response Offsite Dose Projections. {56}

_____ **IF** Field Monitoring teams have been dispatched, ensure FMC has established communication with Field Monitoring teams. {18}

_____ Notify EOF Director that Radiological Assessment Manager (RAM) position is operational.

_____ Ensure all Radiation Protection personnel reporting to the EOF sign in on staffing board.

_____ Ensure that EOF Dose Assessors are kept informed of pertinent plant information including, but not limited to:

1) Time of TSC activation
2) Time of EOF activation
3) Time of reactor trip
4) Status of safety injection
5) Status of onsite radiological conditions
6) Time next emergency notification message is due. {15}

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Communicate to EOF Director:

1) Any release in progress, including dose rates (especially at the site boundary)
2) Field Team status/data
3) On-site radiological concerns
4) Specific time that periodic dose assessment runs are expected to be available for emergency notification forms. {31}
5) Need to request the site pull a reactor coolant sample for Dose Equivalent Iodine to support emergency classification

INITIALS _____ PRINTED NAME _____

_____ Review Criteria in "Classification of Emergency" procedure for emergency classification changes and discuss with Accident Assessment personnel plant conditions including power failures, valve closures, etc.

Catawba RP/0/A/5000/001
OR
McGuire RP/0/A/5700/000
OR
Oconee RP/0/B/1000/001.

NOTE:

- Microsoft Office Communicator is an acceptable communications method.
- Oconee TSC Dose Assessment Liaison, 9-864-873-4902.
- Catawba/McGuire, Dose Assessment Bridge, 9-980-875-4980.

_____ Establish communications with dose assessment personnel at TSC. Compare information, projections and strategies with TSC. {4, 60}

NOTE: Descriptions of Keowee Hydro Dam/Dike Condition A and B are provided in Enclosure 6.22. {58}

_____ IF Condition A, Dam Failure (Keowee or Jocassee) exists, make the following Protective Action Recommendations to Oconee County and Pickens County for imminent/actual dam failure and include on the Emergency Notification Form on Line 5B (Evacuate) and Line 5E (Other):

Line 5B *Move residents living downstream of the Keowee Hydro Project dams to higher ground.*

Line 5E *Prohibit traffic flow across bridges identified on your inundation maps until the danger has passed.*

NOTE: Enclosure 6.2 (for CNS), Enclosure 6.3 (for MNS), and Enclosure 6.4 (for ONS) provide guidance for PARs and KI protective action recommendations.

_____ IF General Emergency is declared, provide PAR information on Line 5 of the Emergency Notification Form:

CAUTION: IF a zone has been accurately selected for evacuation, it shall remain selected. {27}, {30}

- Zones for Evacuation
- Zones for Sheltering
- Use of KI for General Public. {23}
- Other PARs.

_____ Determine, with input from the Accident Assessment Manager (AAM), Protective Actions using

- ☐ Enclosure 6.2, Catawba Offsite Protective Actions
- ☐ Enclosure 6.3, McGuire Offsite Protective Actions
- ☐ Enclosure 6.4, Oconee Offsite Protective Actions

_____ Review dose projections and determine if Protective Action Recommendations are required beyond 10-mile EPZ.

NOTE: IF changes to the initial Protective Action Recommendations, including KI, are recommended to and approved by the EOF Director, these changes shall be transmitted to the offsite agencies within 15 minutes and the reason for the Protective Action Recommendation change be reported on Line 13 of the ENF {46}.

_____ Provide EOF Director Protective Action Recommendations.

NOTE: An Emergency Release is an unplanned, quantifiable radiological release to the environment during an emergency event. The release does not have to be related to the declared emergency. {34}

_____ Evaluate Emergency Release Status per SH/0/B/2005/001 AND provide input for Line 6 of ENF. {49}

_____ Evaluate AND provide Emergency Release Significance for ENF Line 7:

- IF no release in progress, Not Applicable.

- IF release significance is known, Within Normal Operating Limits OR Above Normal Operating Limits.
- IF release significance is unknown, Under Evaluation.

_____ Provide on ENF Line 9:

- Wind Direction
- Wind Speed
- Precipitation Type
- Stability Class.

NOTE: Emergency Release data are not required for initial Emergency Notification Forms OR follow up notifications of changes in Protective Action Recommendations.

_____ Provide on ENF Line 14:

- Release Characterization (Type, C (Ground) and Units, B (Ci/sec))
- Magnitude (Ci/Sec Release rates from RADDOSE Report)
- Form AND start and/or stop time, as appropriate.

_____ Provide Projection Parameters on ENF Line 15:

- Projection period (forecast period in hours) from Raddose Report.
- Estimated Release Duration by adding forecast period and time elapsed since release began.
- Date and time projection was performed.

_____ Provide Projected Dose information on ENF Line 16, by entering "Forecast Data" from RADDOSE Report.

_____ Assist Public Affairs and/or Public Spokesperson with dose comparisons based on computer model or field data.

NOTE: IF necessary to relieve Duke personnel, environmental surveillance support personnel from the DOE Radiological Assistance Plan may be requested by the Radiological Assessment Manager through the EOF Director. {53}

_____ IF needed, conduct turnover for on-coming shift.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

INITIAL

NOTE:	Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ **IF** reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

NOTE:	RADDOSE V information must be saved to the "ini" file.

_____ Obtain copy of SH/0/B/2005/001, Emergency Response Offsite Dose Projections.

_____ Initiate log of activities sufficient to conduct a turnover for on-coming shift.

_____ Acquire necessary dose assessment and plant status information.

_____ **IF** data acquisition programs are unavailable, request SDS data from TSC or instrument readings from Control Room (EMF and Met data).

NOTE:	Be aware of the effects of loss of power on critical EMFs (Catawba and McGuire) or RIAs (Oconee).

_____ Verify operability and validity of EMFs (Catawba and McGuire) or RIAs (Oconee) through the TSC.

_____ **IF** Catawba or McGuire event is in progress, verify effluent discharge alignment with Shift Lab, RP Manager (TSC), or RP Dose Assessors (TSC) as necessary.

_____ **IF** Oconee event is in progress, verify effluent discharge alignment with TSC Dose Assessment Liaison (gas tank), RP Manager (gas tank or liquid releases), or Chemistry Manager in the OSC (liquid releases).

INITIALS _____ PRINTED NAME _____

NOTE:

- Microsoft Office Communicator is an acceptable communications method.
- Oconee, TSC Dose Assessment Liaison, 9-864-873-4902.
- Catawba/McGuire, Dose Assessment Bridge, 9-980-875-4980.

_____ Establish communications with dose assessment personnel at TSC. Compare information, projections and strategies with TSC.

_____ Obtain Dose Assessor turnover from TSC:

1. Release in progress: No:_____ Yes:_____

   Is occurring____ Has occurred____ Time____

   Normal Operating Limits: Below_____Above_____

2. Recommended Protective Actions:

   [A] No Recommended Protective Actions

   [B] Evacuate_____

   [C] Shelter-In-Place_____

   [D] Other_____

3. Additional pertinent information necessary to continue monitoring of release and dose assessment calculations.

Turnover complete date/time:_____

_____ Verify operability of Health Physics Network (HPN) phone by placing a call to the NRC using the number listed on HPN phone.

NOTE: 1. The NRC Regional Office will request activation of the HPN phone through Emergency Notification System (ENS) telephone if desired.

2. Information that may be requested over the HPN line could include, but is not limited to the following:

- Is there any change to the classification of the event? If so, what is the reason?
- Have toxic or radiological releases occurred or been projected (including changes in the release rate)?
- If so, what are the actual or currently projected onsite and offsite releases, and what is the basis for this assessment?
- What are the health effects or consequences to onsite and offsite people?
- How many onsite or offsite people are being or will be affected and to what extent?
- Is the event under control? When was control established, or what is the planned action to bring the event under control?
- What mitigative actions are currently underway or planned?
- What onsite protective measures have been taken or are planned?
- What offsite protective actions are being considered or have been recommended to state and local officials?
- What are the current meteorological conditions?
- What are the dose and dose rate readings onsite and offsite? {16}

_____ IF requested during a drill or actual event, activate HPN phone by calling NRC using number listed on HPN phone.

_____ Analyze source-term data, formulate source-term mitigation strategies, and provide information to Radiological Assessment Manager, EOF Staff, and TSC Dose Assessors as required.

NOTE: Dose projections are required at least every 15 minutes OR as directed by RAM.

_____ Perform dose projections as appropriate to plant conditions.

_____ Interact with Field Monitoring Coordinator to compare off-site dose projections to actual field readings.

_____ Inform RAM of the specific timing and frequency of planned dose assessment runs. {31}

NOTE: Emergency Release data are not required for initial Emergency Notification Forms **OR** follow up notifications of changes in Protective Action Recommendations.

_____ Evaluate dose projections and provide protective action recommendations to Radiological Assessment Manager and EOF Director.

_____ **IF** SAMGs are implemented **AND** offsite releases approach or exceed 100mRem TEDE or 500mRem Thyroid CDE, notify EOF SAMG Evaluator (in Accident Assessment Area). (Applicable to Catawba and McGuire). {22}

_____ **IF** SAMGs are implemented **AND** offsite releases approach or exceed 1Rem TEDE or 5 Rem Thyroid CDE, notify EOF SAMG Evaluator (in Accident Assessment Area). (Applicable to Catawba and McGuire). {14}

_____ **IF** needed, conduct turnover for on-coming shift.

_____ Restore equipment to "Ready Status" and notify appropriate personnel of conditions that would cause a less than operational status.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

INITIAL

NOTE: Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

NOTE: Field Teams may be directed by the EOF Field Monitoring Coordinator (FMC) prior to activation of the EOF.

_____ Obtain copy of SH/0/B/2005/002, Protocol for the Field Monitoring Coordinator During Emergency Conditions.

_____ Establish log of activities sufficient enough to conduct a turnover for on-coming shift.

NOTE:
1. For drill or exercise met data, choose appropriate site simulator SDS resource.
2. For real time met data, choose the SDS resource for a specific site and unit.

_____ Access meteorological data via SDS for a Catawba or McGuire event, by performing the following: {32}

- go to DAE
- search DAE for SDS
- select desired site's SDS
- select Run Application
- select the desired SDS resource [SDS (OAC) Catawba Simulator, Catawba Unit 1, Catawba Unit 2 OR SDS (OAC) McGuire Simulator, McGuire Unit 1, McGuire Unit 2]
- select Trends
- select Group Display
- scroll down the alphabetical list and select WEATHER for McGuire OR select MET for Catawba. {22}

INITIALS _____ PRINTED NAME _____

_____To access meteorological data via SDS for an Oconee event, perform the following:

- go to DAE
- search DAE for SDS
- select Oconee OAC/PMC SDS
- search Run Application
- select the desired SDS resource [SDS(OAC) Oconee Simulator, Oconee Unit 1, Oconee Unit 2, Oconee Unit 3]
- enter EROENV in the white box in the upper right hand corner.

_____**WHEN** EOF Radio Operator has established communications with field monitoring teams, notify TSC Dose Assessors and provide direction to field monitoring teams. {19}

Catawba Specific

Perform duties as described in the following:

- HP/0/B/1009/004, "Environmental Monitoring for Emergency Conditions Within the Ten Mile Radius of CNS"
- HP/0/B/1009/019, "Emergency Radio System Operation, Maintenance, & Communication".

_____**IF** needed, conduct turnover for on-coming shift.

_____Restore equipment to "Ready Status" and notify appropriate personnel of conditions that would cause a less than operational status.

_____Provide all completed procedures and copies of logs to EOF Emergency Planner upon deactivation of EOF.

INITIAL

NOTE:	Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ **IF** reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Obtain copy of SH/0/B/2005/002 (Protocol for the Field Monitoring Coordinator During Emergency Conditions), Enclosure 5.3 (Field Monitoring Survey data Sheet) and Enclosure 5.4 (Meteorological Update for Field Monitoring Teams). {6}

_____ Establish contact with Field Teams.

_____ Communicate instructions from Field Monitoring Coordinator to Field Teams.

_____ Conduct turnover for on-coming shift, if needed.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

INITIALS _____ PRINTED NAME _____

INITIAL

NOTE:	Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Perform duties as described in procedure SR/0/B/2000/004 (Notification to States and Counties from the Emergency Operations Facility).

_____ Ensure emergency notification times are satisfied.

_____ Conduct turnover for on-coming shift, if needed.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

INITIALS _____ PRINTED NAME _____

Enclosure deleted (61)

INITIAL

NOTE:	Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ IF needed to support emergency, request staffing by Reactor Physics.

_____ Obtain copy of applicable "Classification of Emergency" procedure.

- Catawba: RP/0/A/5000/001
- McGuire: RP/0/A/5700/000
- Oconee: RP/0/B/1000/001

_____ IF Oconee is affected, obtain copy of "Oconee Nuclear Site Emergency Action Level Description Guidelines" Manual.

_____ Ensure PC is on and displaying plant status.

_____ Provide I/C number and description for ENF Line 4 to Offsite Agency Communicators.

NOTE:	Definitions for ENF Line 8 are in Steps 2.4, 2.5, and 2.6 in the body of this procedure.

_____ Provide Event Prognosis for ENF Line 8 to Offsite Agency Communicators. {1} {7}

_____ Provide appropriate information for ENF Line 10 to Offsite Agency Communicator.

INITIALS _____ PRINTED NAME _____

NOTE: The Affected Unit on Line 11 is tied to the I/C on Line 4. Examples may not be all inclusive of events that may affect all units.

_____ Provide Affected Unit(s) for ENF Line 11 to Offsite Agency Communicators:

- Evaluate the following for classification for both units (CNS and MNS) or all three units (ONS). {28} {29}
    - Security event
    - Seismic event
    - Tornado on site
    - Hurricane force winds on site
    - Loss of both switch yards
    - Fire in SSF
    - Fire affecting shared safety related equipment
    - Condition A for Keowee Hydro Project Dam/Dike (ONS).
- **IF** event at Catawba or McGuire affects both units equally, check All. {28} {29}
- **IF** event at Oconee affects more than one unit equally, check All.
- **IF** event only affects one (1) unit **OR** one unit has a higher classification, check appropriate unit. {28} {29}

_____ Provide Unit Status for ENF Line 12 to Offsite Agency Communicators.

_____ **IF** an upgrade in classification occurs, notify Offsite Agency Communicator.

_____ Coordinate the following functions:

- Accident Assessment Interface
- Operations Interface
- Reactor Physics (as needed)

_____ Prepare for EOF Briefings using Enclosure 6.24 (EOF Briefing Guideline).

_____ Assist TSC Emergency Coordinator as requested upon entry into Severe Accident Management Guidelines (SAMGs) (Catawba and McGuire).

_____ Conduct turnover for on-coming shift, if needed.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

INITIAL

NOTE: Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Obtain copy of EOF Accident Assessment Reference Guide and Emergency Operating Procedures from Nuclear Engineering Office Area. {44}

_____ Don position badge.

_____ Make Accident Assessment Manager aware this position is staffed.

_____ Establish log of activities sufficient enough to conduct turnover for on-coming shift.

_____ Ensure PCs are on and displaying affected station and unit plant status.

NOTE: Communications are established after the beep.

_____ Establish bridge line for Operations Loop for affected station:

- ☐ Catawba: 9-803-701-3994
- ☐ McGuire: 9-980-875-4500
- ☐ Oconee: 9-864-873-4908

_____ IF needed for McGuire, establish communications link with Engineering Manager, 9-980-875-4954.

_____ IF Oconee event, establish communications with Operations Interface, 9-864-873-3696.

_____ Obtain copy of Classification of Emergency procedure for affected station.

- ☐ Catawba: RP/0/A/5000/001
- ☐ McGuire: RP/0/A/5700/000
- ☐ Oconee: RP/0/B/1000/001.

INITIALS _____ PRINTED NAME _____

_____ Obtain copy of Core Damage Assessment procedure for affected station.

- ☐ Catawba: RP/0/A/5000/015
- ☐ McGuire: RP/0/A/5700/019
- ☐ Oconee: RP/0/B/1000/018.

_____ Gather plant status information using Accident Assessment Initial Information Request Form on page 4 or 5 of this enclosure.

_____ **IF AT ANY TIME** General Emergency is declared, **RECOMMEND IMMEDIATELY** to Accident Assessment Manager **AND** RAM protective actions using:

- ☐ Enclosure 6.2 - Catawba Offsite Protective Actions
- ☐ Enclosure 6.3 - McGuire Offsite Protective Actions
- ☐ Enclosure 6.4 - Oconee Offsite Protective Actions

_____ Perform the following steps as needed throughout event:

_____ **IF** condition warrants, determine analysis of reactor core and containment conditions in regard to:

- Core sub-cooling
- Decay heat generation
- Heat removal capabilities (core and containment)
- Fission product release potential (core and containment).

_____ **IF** condition warrants, provide:

- Estimates of core uncovery times
- Interpretations of reactor water level data.

_____ Monitor status of Emergency Operations Procedures (EOPs) and discuss with Accident Assessment Manager.

_____ Confer with Radiological Assessment group in EOF.

_____ Consult with Operations Interface on anticipated course of events.

_____ Update status board in Accident Assessment room.

_____ Confer with Accident Assessment Manager on the following:

- Anticipated course of events
- Diagnosis of the accident and mitigation strategies
- Analysis of core and containment
- Core damage and fission product release potential
- Background information of system design
- Emergency classifications.

_____ Support Engineering Manager in TSC in accident and mitigation strategies.

_____ Assist TSC as an evaluator upon entry into Severe Accident Management Guidelines (SAMG) (as requested).

_____ **IF** McGuire has entered SAMG, **REFER TO** Enclosure 6.20 (Establishing Communications Links between McGuire SAMG Evaluators).

_____ Conduct turnover for on-coming shift, if needed.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

Catawba or McGuire Initial Information Request

Initial Information Request	Results
Emergency Classification Status	
EAL Declaration Chronology	
Protective Actions Status	
Reactor/Turbine Status	
Power Level	
Time of Trip & On What Signal	
Any Abnormal Response	
NC Pump Status	
Core Cooling Status (subcooled margin/ RVLIS/natural circulation)	
Orange or Red CSFs Alarms Received	
Safety Injection	
When Actuated & on What Signal	
NV, NI, ND, Ice Condenser Status	
Feedwater	
CF and CA Status	
Main Steam	
Isolation Status	
SMSV, SM PORV, SB Status	
Electric Power	
600V, 4160V, D/G Status	
Containment	
Isolation Status	
NS and VX Status	
Security/Fire/Flooding/HAZMAT/Other Hazards	
Plant Conditions Status	
Off-site Releases	
Status	

Oconee Initial Information Request

Initial Information Request	Results
Emergency Classification Status	
EAL Declaration Chronology	
Protective Actions Status	
Reactor/Turbine Status	
Power Level	
Time of Trip & On What Signal	
Any Abnormal Response	
Reactor Coolant Pump Status	
Core Cooling Status (subcooled margin/ RVLIS/natural circulation)	
Safety Injection	
When Actuated & on What Signal	
HPI, LPI Status	
Feedwater	
Feedwater and Emergency Feedwater Status	
Main Steam	
Isolation Status	
MSSV Status	
Electric Power	
600V, 4160V, Keowee, Lee Status	
Containment	
Isolation Status	
RBS, RBCU Status	
Security/Fire/Flooding/HAZMAT/Other Hazards	
Plant Conditions Status (Keowee Hydro Dam status)	
Off-site Releases	
Status	

INITIAL

NOTE: This enclosure does not apply to Oconee.

NOTE: Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Perform following steps as needed throughout event:

_____ Provide communications interface between Accident Assessment Group and TSC Operations Group.

_____ Advise Accident Assessment Group on the following:

- Emergency Operations Procedures (EOPs)
- Diagnosis of accident and mitigation strategies
- Emergency classification.

_____ Advise TSC of anticipated course of events.

_____ Conduct turnover for on-coming shift, if needed.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

INITIALS _____ PRINTED NAME _____

INITIAL

NOTE:	Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Obtain any applicable nuclear design calculations from Nuclear Engineering office area.

_____ Establish communications with TSC Reactor Engineer.

_____ IF conditions warrant, determine analysis of reactor core and fuel with respect to:

- Reactor Physics parameters
- Core subcriticality.

_____ Provide Accident Assessment Manager with information concerning any abnormal core conditions.

_____ Conduct turnover for on-coming shift, if needed.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

INITIALS _____ PRINTED NAME _____

INITIAL

NOTE:	Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Log in to Emergency Planner computer.

_____ (MNS and CNS only) Obtain Emergency Planner wireless phone and headset from Emergency Planner Desk area and access EP bridge line, 9-803-701-4010.

_____ Contact the Enterprise Crisis Operations Center (ECOC) Director by pager at 9-999-777-1008 and provide your call back number. Have on hand all emergency notification forms (ENFs) transmitted to state and local agencies up to this time. Be prepared to answer questions concerning information on the ENFs as well as any other information requested by ECOC Director when called back. {21}

NOTE:	Personnel without badge access will need to be escorted into the EOF by the Assistant EOF Director, EOF Emergency Planner, EOF Services Manager, or their Mentor. {61}

_____ Support EOF Director with the following:

- _____ Provide escorted access to EOF for personnel without badge access. {61}
- _____ Complete EOF Director Checklist items as requested.
- _____ Clarify Emergency Plan and Emergency Plan Implementing Procedure information.
- _____ Interface with federal, state and local agencies.

_____ Assist Off-Site Agency Communicators in preparation of emergency notifications.

_____ IF a security event at MNS requires assembling MNS TSC/OSC ERO at EOF, complete "MNS Security Event, TSC/OSC Assembled at EOF Checklist," page 10 of 12 of this enclosure.

_____ IF a security event at CNS requires assembling the duty CNS TSC ERO at the EOF, complete "CNS Security Event, TSC ERO Assembled at EOF Checklist," page 11 of 12 of this enclosure. {41}

INITIALS _____ PRINTED NAME _____

NOTE: EOF Duty Roster is available on DAE using Nuclear Generation Duty Roster application. EOF information is under General Office location. {51}

_____ Complete 24-Hour Staffing Log for each EOF position, pages 3 through 8 of this enclosure.

_____ **IF** EPZ roadblocks have been established, prepare for emergency worker re-entry using page 12 of this enclosure.

_____ Verify EOF Public Affairs personnel have considered 24-hour staffing.

_____ Record EOF Exercise/Drill/Event Duke Energy employee participation as follows:

- ☐ **IF** scheduled drill, activate eRoster program and scan **OR** enter Duke employee ID number.
- ☐ **IF** not a scheduled drill **OR** scanner-inoperable, request participants sign Exercise/Drill/Event/Training Attendance Sheet. {61}

_____ Request Duke Energy participants sign EOF Drill/Event Participation form (EP FAM 3.14 Attachment 3.14.4.4). {61}

_____ Conduct turnover for on-coming shift, if needed.

_____ Upon deactivation of EOF, collect all completed paperwork and forward to appropriate Emergency Planning Manager.

_____ Upon deactivation of EOF, complete "EOF Post Event Checklist," page 9 of this enclosure.

EOF DIRECTOR AREA

24-HOUR POSITION EOF STAFFING LOG (33)

	Primary		Relief	
Position	**Name**	***Shift Schedule**	**Name**	***Shift Schedule**
EOF Director				
Assistant EOF Director				
EOF Log Recorder				
EOF Emergency Planner				
Radiological Assessment Manager				
Accident Assessment Manager				

* List hours of coverage: i.e., 0800-2000, or 8am -8pm.

DOSE ASSESSMENT AREA

24-HOUR POSITION EOF STAFFING LOG

	Primary		Relief	
Position	**Name**	***Shift Schedule**	**Name**	***Shift Schedule**
EOF Dose Assessor				
EOF Dose Assessor				
EOF Dose Assessor				
EOF Dose Assessor (HPN)				
Field Monitoring Coordinator				
Radio Operator				

* List hours of coverage: i.e., 0800-2000, or 8am -8pm.

ACCIDENT ASSESSMENT AREA

24-HOUR POSITION EOF STAFFING LOG

	Primary		Relief	
Position	**Name**	***Shift Schedule**	**Name**	***Shift Schedule**
EOF Data Coordinator				
Accident Assessment Interface				
Reactor Physics (As Needed)				
Operations Interface (MNS and CNS only)				

* List hours of coverage: i.e., 0800-2000, or 8am -8pm.

OFFSITE AGENCY COMMUNICATOR

24-HOUR POSITION EOF STAFFING LOG

	Primary		Relief	
Position	**Name**	***Shift Schedule**	**Name**	***Shift Schedule**
Lead EOF Off-Site Agency Communicator				
EOF Off-Site Agency Communicator				
EOF Off-Site Agency Communicator				

* List hours of coverage: i.e., 0800-2000, or 8am -8pm.

EOF SERVICES AREA

24-HOUR POSITION EOF STAFFING LOG

	Primary		Relief	
Position	**Name**	***Shift Schedule**	**Name**	***Shift Schedule**
EOF Services Manager				
EOF Services Admin/Commissary				

* List hours of coverage: i.e., 0800-2000, or 8am -8pm.

Emergency Planner
Non-Duke Participants
24-Hour Position EOF Staffing Log

Name (Please Print)	Representing Agency

EOF FACILITY POST EVENT CHECKLIST

_____ Obtain copy of TSC/EOF Log Printout.

_____ Retrieve:

- Completed Procedures
- Notes
- Log Sheets

_____ Turn off:

- Video monitors
- Projectors

NOTE: EOF Services completes Enclosure 13.4 and 13.5 from procedure SR/0/B/4600/086.

_____ Complete applicable sections of SR/0/B/4600/086 to replenish procedure inventories
_____ Clean tables off
_____ Put all trash in containers
_____ Erase status boards
_____ Verify all Fax machines have paper supply replenished
_____ Verify all printers have paper supply replenished.

Replenish Position Specific Notebooks (1 copy of procedure body and minimum 3 copies of applicable enclosures, checklists and log sheets):

_____ EOF Director (also include minimum 3 copies each of Enclosure 6.2, 6.3 and 6.4)
_____ Radiological Assessment Manager (also include minimum 3 copies each of Enclosures 6.2, 6.3, and 6.4). {24}
_____ EOF Dose Assessor
_____ Field Monitoring Coordinator
_____ Radio Operator
_____ EOF Offsite Agency Communicator (also include 1 copy of EP FAM 3.15 Attachment 3.15.3.3)

_____ Accident Assessment Manager (also include minimum 3 copies each of Enclosures 6.2, 6.3, and 6.4). {24}
_____ Accident Assessment Interface
_____ EOF Operations Interface
_____ Reactor Physics
_____ EOF Emergency Planner
_____ EOF Log Recorder (also include 1 copy of EP FAM 3.15 Attachment 3.15.3.2)
_____ EOF Data Coordinator
_____ EOF Services Manager

MNS SECURITY EVENT, TSC/OSC ASSEMBLED AT EOF CHECKLIST

_____ Notify Energy Center Building Security, 2-1234, that TSC/OSC offsite responders are assembling at EOF. {61}

_____ Request that TSC/OSC responders assemble in EOF break area.

_____ Coordinate selection of first response team that will activate TSC/OSC when Security Event is terminated.

_____ Move first response team into EOF work area to obtain plant status and recovery strategies.

_____ **IF** needed, obtain copies of RP/0/A/5700/012, Activation of the Technical Support Center (TSC) and RP/0/A/5700/020, Activation of the Operations Support Center (OSC) from the McGuire procedure cabinet.

_____ Determine 24-hour staffing for each TSC/OSC position.

_____ **IF** EOF break area is too crowded, determine whether to send TSC/OSC relief members to Energy Center Cafeteria.

_____ **WHEN** Security Event is terminated and onsite TSC/OSC is to be activated, ensure that first response team to TSC/OSC is briefed prior to dispatch to site.

_____ Send relief TSC/OSC members home, if possible, with their assigned relief time.

CNS SECURITY EVENT, TSC ERO ASSEMBLED AT EOF CHECKLIST

_____ Notify Energy Center Building Security, 2-1234, that CNS TSC duty responders are assembling at EOF. {61}

_____ Have CNS TSC responders assemble in EOF break area.

_____ Obtain RP/0/A/5000/020 Enclosure 4.20 from CNS procedure cabinet and distribute to assembled TSC ERO.

_____ **IF** CNS TSC Emergency Planner does not respond within 75 minutes of declaration, assist Assistant TSC Emergency Coordinator with assigned tasks.

_____ **WHEN** decision is made to access Catawba and staff the TSC and OSC, ensure choice of facility (normal or alternate) TSC and OSC is known prior to TSC staff departure. {41}

EMERGENCY WORKER/SPECIAL EQUIPMENT RE-ENTRY AFTER ROAD BLOCKS ARE ESTABLISHED IN THE EPZ

NOTE: TSC Emergency Planner is to work with RP to determine if off going shift will need to leave their personnel vehicles onsite and leave in the relief bus.

1.0 IF roadblocks are in place in 10 mile EPZ AND affected site's Emergency Planner has asked the EOF to prepare for emergency worker re-entry for on site relief, perform the following:

1.1 Request EOF Services Manager obtain a bus to be used for re-entry of relief workers.

1.2 Coordinate with TSC Emergency Planner to verify re-entry path to be used, working with Field Monitoring Coordinator and Radiological Assessment Manager to ensure the path selected avoids the plume foot print.

1.3 Coordinate with State representative at EOF to contact re-entry county EOC to obtain Highway Patrol escorts for bus.

1.4 Ensure State representative requests county EOC to notify roadblock selected for re-entry with ETA for the bus with Highway Patrol escort.

2.0 IF roadblocks are NOT established, inform TSC Emergency Planner access will be normal.

3.0 IF roadblocks are in place when special equipment is to be brought to plant, use process in step 1.0 for equipment to pass through roadblock.

NOTE: Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

INITIAL

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Ensure PC is on.

_____ Ensure Projectors are powered up and displaying Log Keeper's Computer.

_____ Refer to EP FAM Section 3.15, Attachment 3.15.3.2, for WebEOC Logging instructions.

NOTE: Applications viewed on the three main display screens in the EOF (screens 2, 3, and 4) can be controlled by the Log Keeper's PC. This is accomplished by the use of a Quad card that allows the Log Keeper to utilize his monitor (#1) plus the three projector (#2, #3, & #4) screens as a single display system. The Log Keeper's PC normally controls screens 2 and 4 only; the Communicator's PC normally controls screen 3. The Log Keeper's PC is designated as Computer 1 and the Communicator's PC is designated as Computer 2.

_____ Setup EOF Director's Area displays as follows:

- **Left Projector** - Facility Log (Remains on Comp 1)
- **Center Projector** - Swap projector to Comp 2 (Communicator's Notification Form)
- **Right Projector** - SDS (Remains on Comp 1)

  - Launch application from DAE. Application will launch on Log Keeper's monitor.
  - If application opens full screen, click Restore Down button, located to the right of the minimize button.
  - Click top of application screen and hold left mouse button down.
  - Drag application to desired screen.
  - Maximize application.

NOTE:
1. Incorrect log entries may be corrected by making the needed correction for the specific entry and flagging it as a "corrected item".
2. The EOF Log Recorder should enter EOF specific information and other information as directed by the EOF Director or Assistant EOF Director.
3. Log activities must be detailed enough to "tell the story" if necessary to reconstruct events for the NRC and to have an effective turnover to EOF staff.

_____ Establish official log of all significant EOF activities and EOF Director decisions using WebEOC computer program sufficient to conduct turnover for the on-coming shift.

_____ Log entries should include, but are not limited to, the following examples:

- EOF Director and any change in EOF Director (staffing)
- Time of EOF activation
- Emergency classification, changes in classification, time of declaration
- Protective Action Recommendations
- Approval/transmittal of Emergency Notification Forms
- Approval/distribution of News Releases
- Plant Conditions (Unit 1, 2, and 3):
  - Core Cooling information (i.e., Time To Boiling, etc.)
  - Safety Systems Degraded
  - Power Supply Status
  - Fission Product Barrier Degradation
  - Radiation Releases.
- Procedures in effect and any transition to another procedure
- Actions taken that are not part of an approved procedure
- Any abnormal or unexpected plant response
- Major equipment manipulations
- Major mitigation actions taken
- Site assembly, relocation, or evacuation of all or any part of the plant
- Personnel Injuries
- Facility priorities
- Recovery Action(s) in Progress
- Summary of facilities briefings
- Expected time of next Time-Out
- Any parameter that shows how drill/event is managed (ex. releases, time, communication)

_____ IF WebEOC computer program is not available, establish manual log of all significant EOF activities and EOF Director decisions.

_____ IF requested by EOF Director, prepare sequence of events list and revise it as necessary.

_____ Maintain EOF Director's Area displays and status boards as directed or needed.

_____ Record established priorities on EOF status board as requested by EOF Director.

_____ Conduct turnover for on-coming shift, if needed.

_____ Print copy of TSC/EOF Log Printout.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

EOF Data Coordinator Checklist

NOTE:	Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

INITIAL

_____ **IF** reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Verify EOF computer hardware, software, and data display equipment is operational per EP FAM 3.8, EOF Data Coordinator's Reference Manual.

_____ Provide computer support as required:

- Software and hardware applications support
- Data acquisition support
- Communication with TSC Data Coordinator

_____ **IF** another site declares an emergency requiring activation of the EOF for support, obtain three additional computers (laptop or PC) within one hour for use by Accident Assessment Manager, Radiological Assessment Manager, and Offsite Agency Communicators. {62}.

_____ Conduct turnover for on-coming shift, if needed.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

INITIALS _____ PRINTED NAME _____

NOTE: Steps in this checklist may be performed in any order appropriate to the specific event conditions or they may be omitted if not applicable.

INITIAL

_____ IF reporting to EOF outside your normal work hours, complete a Fitness for Duty Questionnaire.

_____ Don position badge.

_____ Sign in on EOF staffing board.

_____ Establish duty function contacts for EOF service areas and post in EOF Service area:

- Administration/Commissary
- Communications
- Transportation Services
- Risk Management
- Procurement.

_____ Perform duties as described in SR/0/B/2000/002.

_____ Establish log of activities sufficient to conduct turnover for on-coming shift.

_____ Provide general administrative support, office supplies and ensure office equipment is functioning properly.

NOTE: Personnel without badge access will need to be escorted into the EOF by the Assistant EOF Director, EOF Emergency Planner, EOF Services Manager, or their Mentor. {61}

_____ IF needed, provide escorted access to EOF for personnel without badge access. {61}

_____ Obtain Procedure SR/0/B/4600/086, Standard Procedure for Periodic Verification of EOF Communication Equipment Operation and Equipment/Supply Inventory, Enclosures 13.4 and 13.5 and complete checklists.

_____ Provide food and beverages to meet nutritional needs.

INITIALS _____ PRINTED NAME _____

_____ Provide facilities to meet personal needs (dining facilities, toilets, trash receptacles and disposal) as required.

_____ Request Communications to troubleshoot and repair telephone systems, mobile radios and pagers as required.

_____ Request Transportation Services or others arrange for necessary equipment for movement of materials and personnel as required.

_____ Obtain for accommodations for personnel as required.

_____ Request Risk Management serve as liaison between Duke and insurance companies in gathering data and establishing claims offices to disburse emergency assistance funds to evacuees as required.

_____ Coordinate all activities related to the procurement of materials, equipment and services from outside suppliers including arranging for transportation and receiving as required.

_____ Notify additional personnel and arrange schedule for continuous support as required.

_____ Ensure that all trash and left over food products are properly contained and arrange for disposal.

_____ Conduct turnover for on-coming shift, if needed.

_____ Notify Facility Services to clean the EOF following deactivation.

_____ Provide all completed paperwork to Emergency Planning upon deactivation of EOF.

_____ Notify Duty Functions contacts advising that the drill/event has been terminated.

ESTABLISHING COMMUNICATIONS LINKS BETWEEN MCGUIRE SAMG EVALUATORS

INITIAL

NOTE:	OPS Procedure Support in the TSC will serve as the lead SAMG evaluator and will be assisted by Reactor Engineer and Systems Engineer in the TSC, as well as Accident Assessment Interface in the EOF. OPS Procedure Support is expected to **direct** the other evaluators in what they should be looking at strategically, plus ensure that SAEG-1 is completed appropriately as directed by the guidelines.

_____ **ESTABLISH** communications links between the SAMG evaluators (TSC OPS Procedure Support, TSC Reactor Engineer, TSC System Engineering Manager, and EOF Accident Assessment Interface) by dialing RP spare bridge 9-980-875-4833 (6-party bridge line).

_____ **EVALUATE** using an alternate bridge line listed below if for some reason the RP spare bridge is unavailable or if other communications links are desired or needed. Dial the number listed as desired to determine if that bridge is currently being used. If the desired bridge line is not being used, then the appropriate parties may dial in to use it.

EP Controller bridge (12 - party) 9-980-875-4575

McGuire site bridge (6 - party) 9-980-875-3030
McGuire site bridge (6 - party) 9-980-875-3200

INITIALS _____ PRINTED NAME _____

1. Recovery Guidelines

The Recovery Manager shall be responsible for the following:

☐ 1.1 Initiate RP/0/B/1000/027, Reentry Recovery Procedure.

☐ 1.2 Announce as follows:

"Agreement has been reached between Duke, the State of South Carolina and the NRC that the General Emergency classification is terminated. Recovery Operations are being initiated at the site. Actions are underway to determine when people who have been evacuated from their homes can return. As this information is made available, it will be released to the public."

NOTE:	The offsite recovery organization will stay at the EOF and work with the counties and state if radiological Conditions exist beyond the ONS site boundary. The onsite recovery organization will be established by the Emergency Coordinator.

☐ 1.3 Establish Recovery Organization to handle offsite consequences.

☐ 1.4 Make the following assignments:

Recovery Manager _____

Radiological Assessment Manager _____

Field Monitoring Coordinator _____

Emergency Planning Manager _____

EOF Services Manager _____

☐ 1.5 Ensure staffing for long-term operation.

NOTE:	Once recovery has been determined, the emergency notification message forms are no longer used.

☐ 1.6 Confer with SEMD (State Emergency Management Director) regarding work in progress at EOF and determine communication channels and notifications expected.

INITIALS _____ PRINTED NAME _____

☐ 1.7 Consult with each manager regarding activities in progress.

☐ 1.7.1 Radiological Assessment Responsibilities

- Provide ingestion pathway dose assessments
- Provide ongoing communications with DHEC Nuclear Emergency Planning
- Evaluate environmental concentrations within the radiological footprint
- Provide technical assistance to Joint Information Center
- Help plan for reactor building purge as needed

☐ 1.7.2 Emergency Planning Responsibilities

- Communications to the State and County Management Directors

☐ 1.7.3. EOF Services Manager Responsibilities

- Ensure ANI (insurance) is set up for public inquiry
- Provide services as required

☐ 1.7.4. Joint Information Center Responsibilities

- Providing news releases
- Work with media/public to reduce rumors
- Monitoring information being released by news media

☐ 1.8 Maintain Emergency Operations Facility activated and staffed until consensus is reached by Duke and State of South Carolina there is no basis for continuous staffing.

☐ 1.8.1 Record time and date that Emergency Operations Facility/Joint Information Center were closed.

A. EOF/JIC Closed _____
Time/Date

NOTE:
- Duke Energy Hydro Group personnel are responsible for evaluation/inspection of Keowee Hydro Project Dams/Dikes **AND** determining if a Condition A or B exists.
- Duke Energy Hydro Group personnel will communicate the results of evaluations/inspections to the Keowee Hydro Operator. The Keowee Hydro Operator will notify the OSM.

1. Condition A - Failure is Imminent or has occurred

A failure at the dam has occurred or is about to occur and minutes to days may be allowed to respond dependent upon the proximity to the dam. Response includes the immediate movement of downstream residents to higher ground. State and local governments will be notified. (Duke Hydro-Electric Plant EAP)

INITIALS _____ PRINTED NAME _____

2. Condition B - Potentially Hazardous Situation is Developing

A situation where failure may develop, but preplanned actions taken during certain events (such as major floods, earthquakes, evidence of piping) may prevent or mitigate failure. The potentially hazardous situation may allow days or weeks for response and time to take remedial action. (Duke Hydro-Electric Plant EAP)

The following situations will result in a Condition B determination/declaration:

- Reservoir elevation at Keowee Hydro Station is $\geq$815.5 ft msl with all spillway gates open and lake elevation continuing to rise.
- Situations involving earth dam or abutments as follows:
  a) Large increase or decrease in seepage readings OR seepage water is carrying a significant amount of soil particles;
  b) New area of seepage or wetness, with large amounts of seepage water observed on dam, dam toe, or the abutments;
  c) A slide or other movement of the dam or abutments which could develop into a failure.
- Developing failure involving the powerhouse or appurtenance structures is highly irregular to the point where the operator feels safety of the structures is questionable.
- Developing failure involving the concrete spillway or bulkhead is unusual and the safety of the structure is questionable.
- Any other situation involving plant structures which shows the potential for a developing failure.

_____ IF conditions DO NOT allow for a controlled relocation of the facility, perform immediate actions to protect personnel.

A. Notify personnel to re-assemble at Mint Street Parking Deck
B. Notify the TSC Emergency Coordinator of actions taken

_____ IF conditions allow for a controlled relocation of the facility, determine alternate EOF location:

☐ Catawba Event - McGuire Alternate TSC

☐ McGuire Event - Catawba Alternate TSC

☐ Oconee Event - Catawba Alternate TSC

_____ Request EOF Emergency Planner to obtain the following:

- 24-Hour Position EOF Staffing Log
- EOF Business Continuity Plan
- Catawba, McGuire, and Oconee Emergency Telephone Directories

_____ Announce to EOF personnel to exit EOF and move to assembly area at Mint Street Parking Deck with all their procedures and paperwork.

_____ Turn over command and control of event to TSC Emergency Coordinator.

- Notify TSC Emergency Coordinator that EOF is evacuating due to (state reason)
- Provide TSC Emergency Coordinator current emergency classification and EAL number, current Protective Action Recommendations, and status of Emergency Notifications: Message number _____ due at _____

NOTE: The following actions are taken after exiting the EOF.

_____ Request EOF Emergency Planner perform accountability of EOF personnel using 24 hour EOF Position Staffing Log.

_____ Consult with Energy Center Security console personnel at 704-382-1234 to determine expected duration of EOF evacuation.

_____ IF expected duration of evacuation is greater than 2 hours or unknown, perform the following:

- Direct EOF Personnel to report to the Alternate EOF Location
- Inform the TSC Emergency Coordinator that EOF is relocating to Alternate EOF Location
- Request TSC notify NRC of EOF relocation

_____ Direct EOF Emergency Planner to conduct actions required by EOF Business Continuity Plan.

_____ Return to Enclosure 6.1 of this procedure after reporting to Alternate EOF.

NOTE: Items listed here are suggested topics for routine update briefings (not all topics need be addressed at each briefing). Items actually selected should be based on existing or projected plant conditions and current priorities.

Attributes of Excellent Briefings	
• 5-10 minutes duration	• Speak to be heard (use PA if needed)
• Brief for status, not to solve problems	• Repeat back required actions
• Crisp, focused and well controlled	• ALL personnel are attentive

1. EOF Director (open and lead briefing)

- Pre-announce -- 5 minute warning brief is about to occur
- Start Briefing by stating "Attention in the EOF," observe participants to confirm they are ready
- Overview of emergency conditions
- Station priorities
- Offsite actions being taken
- NRC activities related to emergency

Notes:_____

2. Assistant EOF Director

- Facility staffing issues and status of additional support requested
- Facility operations expectations (noise levels, procedure use, log keeping, etc.)
- Status of offsite agency communications
- Status of relief shift

Notes:_____

3. Accident Assessment Manager

- Current Emergency Classification and EAL number/description
- Key parameters/potential paths for Emergency Classification Upgrade
- Reactor condition, core damage assessment.
- Review of key plant conditions (power level, shutdown, trends)
- Fission Product Barrier Status, trends, prognosis
- Core Cooling System Status
- Emergency/abnormal procedures entered or exited
- Severe accident guideline status
- Status of NRC Communications

Notes:_____

4. Radiological Assessment Manager

- Status of radiological release compared to EAL thresholds, dose projections, offsite radiological conditions, PARs.
- Meteorological conditions
- Field Monitoring Team reports
- Radiation Protection problem areas being worked and/or needing resolution
- Chemistry activities and results. (e.g. dose equivalent iodine, sample status)

Notes:_____

5. Emergency Planner

- IF a security event is in progress, plant access restrictions, status of site security, offsite Local Law Enforcement Agencies assistance requested and/or provided
- IF a medical emergency response (MERT) is in progress, number of victims, whether radiologically or chemically contaminated, offsite EMS response
- IF a fire response is in progress, status of fire, offsite FD response
- Status of site assembly and site evacuation

Notes:_____

6. Offsite Agency Communicator

- Status of offsite agency communications and time next message due

Notes:_____

7. Corporate Communications

- Status of news releases and press conferences
- Rumors being addressed
- Internal/External notifications made (Duke leadership team, ECOC, JIC, state government, INPO, ANI)

Notes:_____

8. EOF Director (close briefing)

- IF offsite agencies representatives are present, provide them with opportunity to contribute to brief
- IF the NRC is present, provide them with opportunity to contribute to brief
- Ask if any others need to report "Important information"
- Summarize priorities
- Ask if there are any questions
- State "END OF BRIEF"

Setup of Catawba Alternate EOF in McGuire Admin Bldg.

INITIAL

_____ IF cell phones with headsets can be obtained from McGuire TSC, take them to alternate EOF location (Administration Building layout on Page 3 of 3 of this enclosure).

_____ Locate assigned Administration Building area shown on the layout drawing on Page 3 of 3 of this enclosure

NOTE:
1. Alternate TSC phone sets are stored in the CRX Equipment Room, Room 112.
2. The EOF Emergency Planner and EOF Data Coordinator can assist with phone and computer connections.
3. IF a computer is needed, a computer that is not being used for another ERO function (e.g., Regulatory Compliance section, Business Management group, Human Resources group) may be used.
4. IF access to the CBX equipment Room, Room 112, is needed prior to the arrival of the EOF Emergency Planner, a key to the door can be obtained from Security at the SAS.
5. Printer paths for McGuire Nuclear Station Administration Building Mail Room Printers are MNADM106 and MNADMDP1.

_____ Set up assigned location as follows:

_____ • Obtain phone equipment necessary to conduct ERO function at assigned location and connect to wall and ceiling outlets.

_____ • IF a computer is needed, request help from EOF Data Coordinator.

_____ • IF necessary, obtain copies of position procedure enclosure from procedure SR/0/B/2000/003, Activation of the EOF, located in Emergency Planning Procedures cabinet.

_____ • IF printing capability is needed, setup printers using DAE Printer Selector Program.

INITIALS _____ PRINTED NAME _____

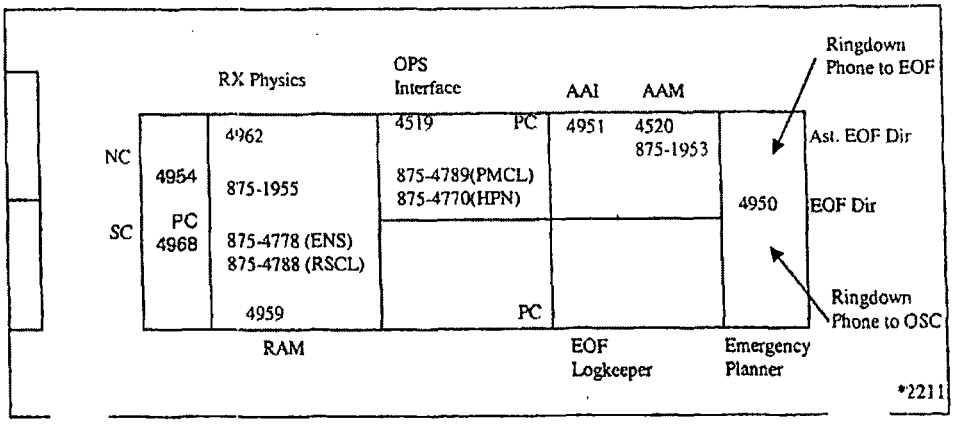
_____ • **IF** copies of plant procedures are required, perform one of the following:

- For Emergency Plan Implementing Procedures (RPs, SHs, and SRs), make copy from Control Copy located in Emergency Planning Procedures cabinet.
- For all other procedures, print a copy from NEDL Portal on DAE using McGuire Admin Building Mail Room printer MNADM106 or MNADMDP1.

_____ • Assume or continue ERO role according to procedure SR/0/B/2000/003, Activation of the EOF.

Setup of Catawba Alternate EOF in McGuire Admin Bldg.

(Executive Board Room 111, Admin. Building)



Other EOF Position Locations

- Others (EP Room 114) - *4458, *4977, *875-1951.
- Offsite Communicator (EP Room 115B -- *4970, *SSN 315, *Radio, *875-1951.
- Data Coordinator (CBX Equipment Room 112) -- *4999.
- Dose Assessor (SCR Room 100D) -- *4405.
- Offsite Monitoring (McGuire TSC) *4969, *4976
- Public Affairs (Rooms 118 and 141) -- *4400, *4402, *4233.
- NRC (NRC Office, Room 126) -- *875-1681.
- Other, use Jaguar Room as needed (Room 144, EOF Services Mgr.) -- *4826.

Office Equipment

- FAX (Mail Room, Room 116) -- *875-4506.
- FAX (EP Room 114) -- *875-4382.
- Copier (Mail Room, Room 116).
- Copier (SA Room 170).
- CBX (CBX Office in Admin. Building Lobby).

* Indicates existing phones. All others are to be plugged in when the Alternate TSC is activated.

Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg.

INITIAL

_____ **IF** cell phones with headsets can be obtained from Catawba TSC, take them to alternate EOF location (Administration Building layout on Page 2 of 3 of this enclosure).

_____ Locate assigned Administration Building area shown on the layout drawing on Page 2 of 3 of this enclosure

NOTE:
1. The EOF Emergency Planner and EOF Data Coordinator can assist with computer connections.
2. **IF** a computer is needed, a computer that is not being used for another ERO function (e.g., Regulatory Compliance section, Performance Improvement Team, Human Resources group) may be used.
3. Printer paths for Catawba Nuclear Station Administration Building Printers are CNSADM2 for Copier Room (Room 143) and CNADM127 for Room 127.

_____ Set up assigned location as follows:

_____ • **IF** a computer is needed, request help from EOF Data Coordinator.

_____ • **IF** necessary, obtain copies of position procedure enclosure from procedure SR/0/B/2000/003, Activation of the EOF, located in Emergency Planning procedures cabinet.

_____ • **IF** printing capability is needed, setup printers using DAE Printer Selector Program.

_____ • **IF** copies of plant procedures are required, perform one of the following:

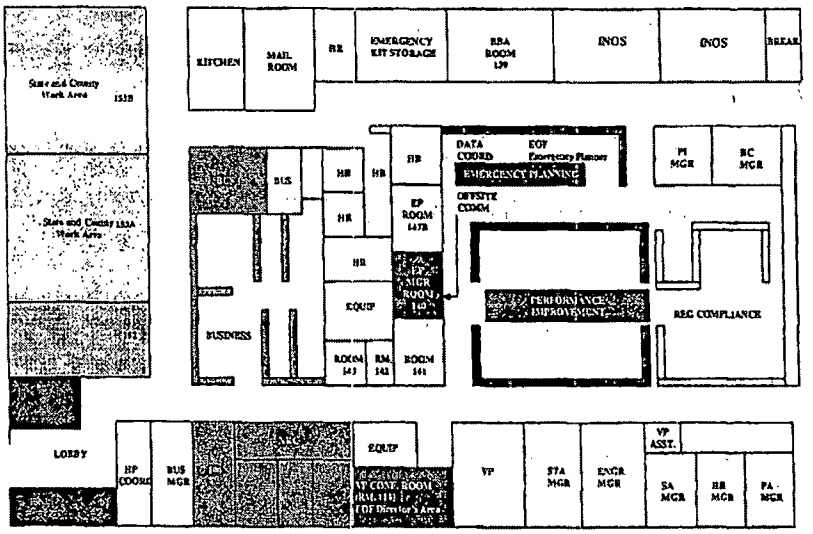
- For Emergency Plan Implementing Procedures (RPs, SHs, and SRs), make copy from Control Copy located in Emergency Planning Procedures cabinet.
- For all other procedures, print a copy from NEDL Portal on DAE using Catawba Admin Building Mail Room printer CNSADM2.

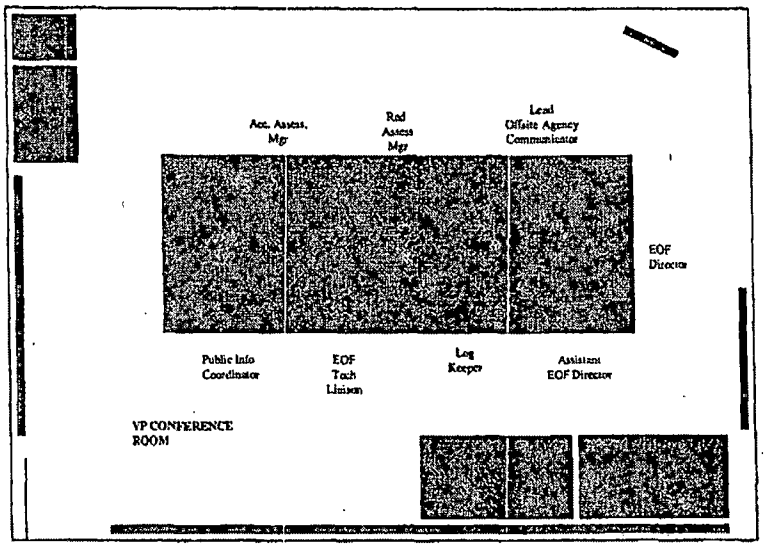
_____ • Assume or continue ERO role according to procedure SR/0/B/2000/003, Activation of the EOF.

INITIALS _____ PRINTED NAME _____

Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg.

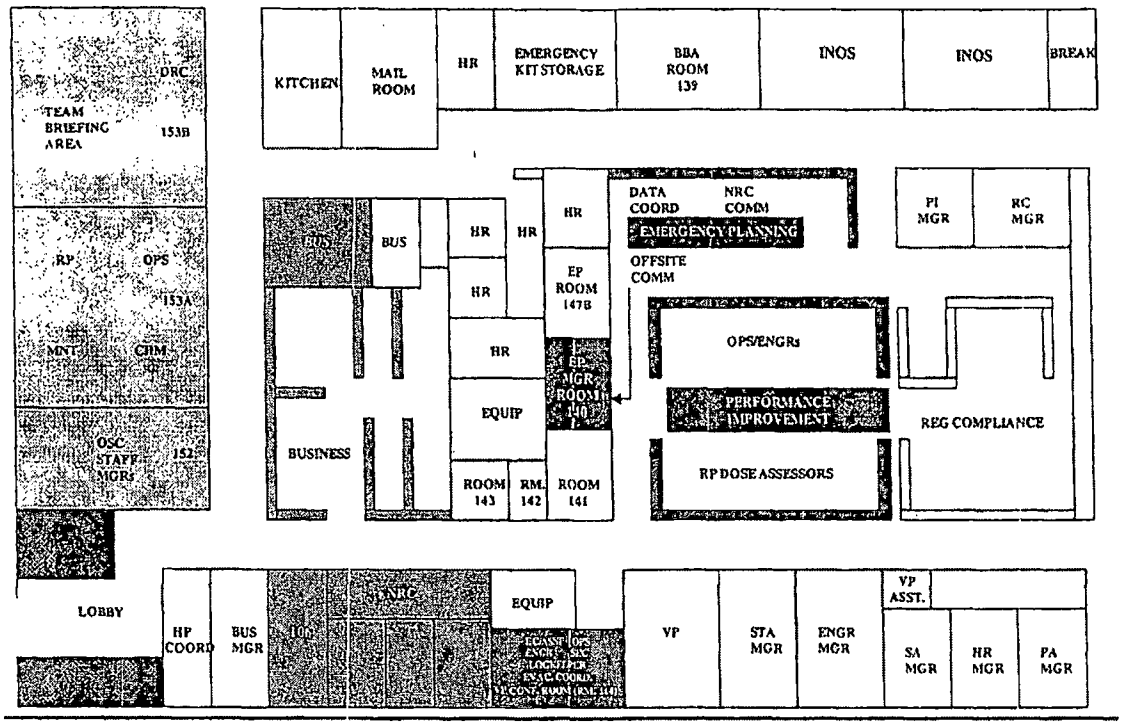
ALTERNATE EOF IN THE ADMIN BLDG





Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg.

ALTERNATE TSC/OSC IN THE ADMIN BLDG



EOF Functional Areas:

	VP Conference Room – Command & Control Center (EOF Director, Accident Assessment Manager, Rad Assessment Manager, Lead Offsite Agency communicator, EOF Logkeeper, EOF Tech Liaison, Public Information Coordinator, State EM Representatives)
	EP Manager's Office – Offsite Communicators
	EP Cubes – Data Coordinator, EOF Emergency Planner
	Touchdown Room 142 - EOF Services
	PA Manager Office - News Manager, Public Spokesperson
	Room 153 A/B - State and County Work Area
	NRC Resident Inspector Offices - NRC Site Team
	Room 137A - Dose Assessment
	Room 137B - Accident Assessment
	Catawba TSC (Not Shown) - Offsite Monitoring

{1} PIP 0-M97-4210 NRC-1

{2} PIP 0-M96-1645

{3} PIP 2-C96-0273

{4} PIP 0-C98-3123

{5} PIP 0-M98-3522

{6} PIP 0-M98-2065

{7} PIP 0-C00-3830

{8} PIP 0-M99-3800

{9} PIP M-99-2593

{10} PIP M-00-1107

{11} PIP G-02-00399(deleted Meteorologist Checklist, replaced with new enclosure)

{12} PIP M-01-3565

{13} PIP M-01-3711

{14} PIP M-99-5381

{15} PIP C-02-5851

{16} PIP G-02-00360

{17} N/A

{18} PIP M-02-2412, C.A.17

{19} PIP M-03-2174

{20} PIP M-02-3036, C.A. 32

{21} PIP M-03-2808, C.A. 1

{22} PIP M-03-3294, C.A. 10

{23} PIP G-03-606

{24} PIP M-04-2742, C.A. 10

{25} PIP C-04-1367, C.A. 9

{26} PIP-M-03-2538, C.A. 3

{27} PIP-M-03-3483, C.A. 1

{28} PIP-M-03-3294, C.A. 21

{29} PIP-C-04-2486, C.A. 2

{30} PIP-C-03-4471, C.A.1

{31} PIP-M-04-2742, C.A.11

{32} PIP-M-04-0735, C.A. 10

{33} PIP-M-04-0238, C.A.2

{34} FAM Sect. 3.7 rev. 7

{35} PIP-M-05-3631

{36} PIP-C-05-4854

{37} PIP-C-05-2064, C.A. 11

{38} PIP-C-06-3808, CA. 9

{39} PIP-G-07-0127

{40} PIP-C-04-2631, C.A.2

{41} PIP-C-06-6053, C.A.11

{42} PIP-C-06-8633, C.A.6

{43} PIP-M-06-5137, C.A.3

{44} PIP-G-07-0944, C.A. 4

{45} PIP-G-07-0959, C.A. 12

{46} PIP-C-05-2064, C.A. 12

{47} PIP M-07-3471, C.A. 6

{48} PIP G-08-1053, C.A. 4

{49} PIP C-09-3308, C.A. 3

{50) PIP M-09-2521, C.A. 15

{51} PIP M-09-4514, C.A. 19

{52} PIP G-09-1159, C.A. 11

{53} PIP G-08-1195

{54} PIP G-09-0697, C.A. 2

{55} PIP M-10-3598, C.A. 25

{56} PIP O-10-2906

{57} PIP M-10-3598, C.A. 21

{58} PIP O-10-6861, C.A. 4

{59} PIP G-10-1128, C.A. 1

{60} PIP O-10-11050, C.A. 21

{61} PIP G-11-1177

{62} PIP M-11-6252, C.A. 2

{63} PIP O-10-11050, C.A. 23

{64} PIP G-11-1389, C.A. 11

{65} PIP C-11-4972, C.A. 1

{66} PIP G-11-1352, C.A. 6

{67} PIP G-12-0276, C.A. 2

{68} PIP G-12-1158, C.A. 2, 4, and 7

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
FOR STANDARD PROCEDURES

(1) ID No. SR/O/B/2000/003
Revision No. 25

PREPARATION

(2) Procedure Title Activation of the Emergency Operations Facility

(3) Prepared By* Ernestine M. Kuhr ***Signature pages attached*** Date August 22, 2012

(4)	Applicable To:	☒ ONS	☒ MNS	☒ CNS
(5)	Requires NSD 228 Applicability Determination	☒ Yes ☐ No YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes	☒ Yes ☐ No	☒ Yes ☐ No
(6)	Site Contact	Ray Waterman	Renard Burris	Mark Lee
	Reviewed	By*Ray Waterman (QR) (KI) Date 08/27/2012 ***Signature pages attached***	By* Renard Burris (QR) (KI) Date 08/27/2012 ***Signature pages attached***	By*Gerald McCracken (QR) (KI) Date 08/29/2012 ***Signature pages attached***
	Cross-Disciplinary Review	By*_____(QR) (KI) _____ Date _____	By*_____(QR) (KI) _____ Date _____	By*_____(QR) (KI) _____ Date _____
	Reactivity Mgmt. Review (QR)	By*_____ _____ Date _____	By*_____ _____ Date _____	By*_____ _____ Date _____
	Mgmt. Involvement Review (Ops.Supt.)	By*_____ _____ Date _____	By*_____ _____ Date _____	By*_____ _____ Date _____
(7)	Additional Reviews	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____	By*_____ (QA) _____ Date _____ By*_____ _____ Date _____
(8)	Approved	By* Patrick M Street Date 08/29/2012 ***Signature pages attached***	By* K. L. Murray Date 08/27/2012 ***Signature pages attached***	By* Tom Arlow Date 08/29/2012 ***Signature pages attached***
(9)	Level of Use	Reference Use		

PERFORMANCE (***Compare with Control Copy every 14 calendar days while work is being performed.***)

(10) Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:

☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature* -

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/003
Revision No. 25

PREPARATION

(2) Procedure Title Activation of the Emergency Operations Facility

(3) Prepared By* Ernestine M. Kuhr Date August 22, 2012

(4)	Applicable To:	☑ ONS	☐ MNS	☐ CNS
(5)	Requires NSD 228 Applicability Determination	☑ Yes ☐ No YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes	☐ Yes ☐ No	☐ Yes ☐ No
(6)	Site Contact	Ray WATERMAN		
	Reviewed	By* Ray Waterman (QR) (KI) Ray Waterman Date 8-27-12	By* _____ (QR) (KI) Date	By* _____ (QR) (KI) Date
	Cross-Disciplinary Review	By* _____ (QR) (KI) Date	By* _____ (QR) (KI) Date	By* _____ (QR) (KI) Date
	Reactivity Mgmt. Review (QR)	By* _____ Date	By* _____ Date	By* _____ Date
	Mgmt. Involvement Review (Ops.Supt.)	By* _____ Date	By* _____ Date	By* _____ Date
(7)	Additional Reviews	By* _____ (QA) Date By* _____ Date	By* _____ (QA) Date By* _____ Date	By* _____ (QA) Date By* _____ Date
(8)	Approved	By* Patrick M Street Date 8/29/12	By* _____ Date	By* _____ Date
(9)	Level of Use			

PERFORMANCE (***Compare with Control Copy every 14 calendar days while work is being performed.***)

(10) Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:
- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature*

APPENDIX C. APPLICABILITY DETERMINATION

PART I – ACTIVITY DESCRIPTION

DUKE ENERGY CAROLINAS, LLC SITE			UNIT(S)		
☐ Oconee	☒ McGuire	☐ Catawba	☒ Unit 1	☒ Unit 2	☐ Unit 3

ACTIVITY TITLE/DOCUMENT/REVISION: Activation of the Emergency Operations Facility, SR/0/B 2000/003, Rev. 25

PART II – PROCESS REVIEW

For each activity, address all of the questions below. If the answer is "YES" for any portion of the activity, apply the identified process(es) to that portion of the activity. Note: It is not unusual to have more than one process apply to a given activity.

Will implementation of the above activity require a change to the:

1.	Technical Specifications (TS) or Operating License?	☒ NO	☐ YES	If YES, process as a license amendment per NSD 227.
2.	Quality Assurance Topical?	☒ NO	☐ YES	If YES, seek assistance from Independent Nuclear Oversight.
3.	Security Plans? (See Appendix H)	☒ NO	☐ YES	If YES, process per the Nuclear Security Manual.
4.	Emergency Plan?	☐ NO	☒ YES	If YES, process per the Emergency Planning Functional Area Manual.
5.	Inservice Testing Program Plan?	☒ NO	☐ YES	If YES, process per site IST Program for ASME code compliance and related facility changes.
6.	Inservice Inspection Program Plan?	☒ NO	☐ YES	If YES, process per Materials, Metallurgy and Piping Inservice Inspection FAM for ASME code compliance and related facility or procedure changes.
7.	Fire Protection Program Plan?	☒ NO	☐ YES	If YES, evaluate activity in accordance with NSD 320.
	7a -Utilize Appendix E to address Fire Protection Program Plan Impact.		☐	Check to confirm use of Appendix E Screening Questions.
8.	Regulatory Commitments?	☒ NO	☐ YES	If YES, process per NSD 214.
9.	Code of Federal Regulations?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance group.
10.	Programs and manuals listed in the Administrative Section of the TS?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance group.

PART IIIa – 10 CFR 72.48 APPLICABILITY

For each activity, address the question below. If the answer to question 11 is "YES," and questions 14 and 17 are answered "NO", then process the activity per NSD 211 - 10 CFR 72.48 does apply.

11.	Does the activity involve SSCs, procedures or conduct tests or experiments that support/impact the loading or transport of the canister/cask to the ISFSI, the ISFSI facility, spent fuel cask design?	☒ NO	☐ YES

PART IIIb – 10 CFR 50.59 APPLICABILITY

For each activity, address all of the questions below. If the answer to question 18 is "YES," then 10 CFR 50.59 does not apply. If the answer to questions 18 is "NO," then process the activity per NSD 209 – 10 CFR 50.59 applies.

12.	Does the activity involve a procedure, governed by NSD 703 that has been excluded from the 10 CFR 50.59 process per NSD 703, Appendix N and the exclusion status remains valid?	☒ NO	☐ YES
13.	Does the activity involve an administrative procedure governed by NSD 100 that does not contain information regarding the operation and control of Structures, Systems and Components?	☒ NO	☐ YES
14.	Does the activity involve a type of Engineering Change that NSD 301 excludes from the 10 CFR 50.59 and/or 10 CFR 72.48 Processes? Consult NSD 301 for assistance.	☒ NO	☐ YES
15.	Does the activity involve (a) maintenance activities that restore SSCs to their as-designed condition (including activities that implement approved design changes) or (b) temporary alterations supporting maintenance that will be in effect during at-power operations for 90 days or less?	☒ NO	☐ YES
16.	Does the activity involve a UFSAR modification that NSD 220 excludes from the 10 CFR 50.59 Process? Consult NSD 220 for assistance.	☒ NO	☐ YES
17.	Does the activity involve NRC and/or Duke Energy Carolinas, LLC approved changes to the licensing basis?	☒ NO	☐ YES
18.	Are ALL aspects of the activity bounded by one or more "YES" answers to questions 1 through 17, above?	☐ NO	☒ YES

PART IV – UFSAR REVIEW

19.	Does the activity require a modification, deletion, or addition to the UFSAR to satisfy the UFSAR content requirements of 10 CFR 50.34 (b), 10 CFR 50.71 (e), or Regulatory Guide (RG) 1.70? Consult NSD 220 for Assistance. IF YES, process per NSD 220.	☒ NO	☐ YES

PART V – SIGNOFF

(Print Name) Renard Burris (Sign) _____ DATE 6/27/12

Applicability Determination Preparer

§50.54(q) Screening Evaluation Form

Activity Description and References: SR/0/B/2000/003 Revision 25 — BLOCK 1

1. Body of Procedure - Added new conditional step 3.4 to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable and renumbered subsequent steps. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
2. List of Enclosures - Added new Enclosures 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. and 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg. to list and renumbered subsequent enclosure. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
3. Enclosure 6.1 page 2 of 14 - Revised Guidance on declaring EOF operational to provide detailed guidance on how to fill vacancies in required positions with personnel not on the EOF roster for those positions {PIP G-11-1389 CA #11}
4. Enclosure 6.2, page 2 of 8 - Revised wording of block on flow chart for changes to wind speed and direction to correctly consider such changes if greater than gap activity exists in containment to be consistent with guidance in RP/0/A/5700/005 {PIP C-11-4972 CA#1 and DocuTracks NGO-2012-000033}
5. Enclosure 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
6. Enclosure 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}

Activity Scope: — BLOCK 2

- ☐ The activity is a *change* to the *emergency plan*
- ☒ The activity is not a *change* to the *emergency plan*

Change Type: — BLOCK 3	**Change Type:** — BLOCK 4
☐ The change is editorial or typographical ☒ The change is not editorial or typographical	☐ The change does conform to an activity that has prior approval ☒ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☒ §50.47(b)(2) – Onsite Emergency Organization
- ☒ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ §50.47(b)(4) – **Emergency Classification System***
- ☐ §50.47(b)(5) – **Notification Methods and Procedures***
- ☒ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☒ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ §50.47(b)(9) – **Accident Assessment***
- ☐ §50.47(b)(10) – **Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☒ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: Catawba Emergency Plan Revision 12-1 Sections B.7, C.1, F.1, and H.2; McGuire Emergency Plan Revision 12-2 Sections B.5, B.7, C.2, F.1, H.2; Oconee Emergency Plan Revision 12-3 Sections B.5, B.7, F.1, and H.2

☐ The activity does not involve a site specific EP commitment

Screening Evaluation Results: BLOCK 7

☐ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☒ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ernestine M. Kuhr	Ernestine M. Kuhr	08/21/2012
Reviewer Name: Renard O. Burris	Reviewer Signature: R O Burris	Date: 8/27/12

§50.54(q) Effectiveness Evaluation Form

Activity Description and References: SR/0/B/2000/003 Revision 25 — BLOCK 1

1. Body of Procedure - Added new conditional step 3.4 to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable and renumbered subsequent steps. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
2. List of Enclosures - Added new Enclosures 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. and 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg. to list and renumbered subsequent enclosure. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
3. Enclosure 6.1 page 2 of 14 - Revised Guidance on declaring EOF operational to provide detailed guidance on how to fill vacancies in required positions with personnel not on the EOF roster for those positions {PIP G-11-1389 CA #11}
4. Enclosure 6.2, page 2 of 8 - Revised wording of block on flow chart for changes to wind speed and direction to correctly consider such changes if greater than gap activity exists in containment to be consistent with guidance in RP/0/A/5700/005 {PIP C-11-4972 CA#1 and DocuTracks NGO-2012-000033}
5. Enclosure 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. - New enclosure added{PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
6. Enclosure 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}

Note:

- Changes 1, 2, 5, and 6 will be evaluated together as they related to the addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage.
- Change 4 applies only to Catawba and does not need to be evaluated by the other sites.

Activity Type: — BLOCK 2

☐ The activity is a *change* to the *emergency plan*
☒ The activity affects implementation of the *emergency plan*, but is not a *change* to the *emergency plan*

Impact and Licensing Basis Determination: BLOCK 3

1. Licensing Basis:

Applicable regulations, EP Functions, and NUREG-0654 criteria

Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage.

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. The associated EP Function is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained. The NUREG-0654 criteria are B.5 and B.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section B.7, McGuire Emergency Plan Revision 12-2 Sections B.5 and B.7 and Oconee Emergency Plan Revision 12-03 Sections B.5 and B.7.
- 10CFR50.47 (b) (3) requires arrangements to be made to accommodate State and local staff at the EOF and that other organizations capable of augmenting the planned response have been identified. The associated EP Function is C)(2) Emergency Response Support and Resources - State and local staff can be accommodated at the EOF in accordance with the emergency plan. The NUREG-0654 criterion is C.2. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section C.2, McGuire Emergency Plan Revision 12-2 Section C.2 and Oconee Emergency Plan Revision 12-03 Section C.2.
- 10CFR50.47 (b) (6) mandates provisions for prompt communications among principal response organizations. The associated EP Function is F)(2) Emergency Communications - Systems are established for prompt communication among principal emergency response organizations. The NUREG-0654 criterion is F.1. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section F.1, McGuire Emergency Plan Revision 12-2 Section F.1 and Oconee Emergency Plan Revision 12-03 Section F.1.
- 10CFR50.47 (b) (8) requires that adequate emergency facilities and equipment to support the emergency response are provided and maintained. 10CFR50 Appendix E.IV.E requires an Emergency Operations Facility. It also requires equipment for dose assessment and communications. The associated EP Function is H)(1) Emergency Facility and Equipment - Adequate facilities are maintained to support Emergency Response. The NUREG-0654 criterion is H.2. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section H.2, McGuire Emergency Plan Revision 12-2 Section H.2 and Oconee Emergency Plan Revision 12-03 Section H.2.

Change 3 - guidance on how to fill vacancies in required positions

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. The associated EP Function is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained. The NUREG-0654 criteria are B.5 and B.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section B.7, McGuire Emergency Plan Revision 12-2 Sections B.5 and B.7 and Oconee Emergency Plan Revision 12-03 Sections B.5 and B.7.

Change 4 - change in Catawba PAR flow chart

- 10CFR50.47 (b) (10) requires that guidelines for the choice of protective actions during an emergency be in place. The associated EP Function is J)(1) Protective Response - A range of public PARs (excluding KI) is available for implantation during an emergency. The NUREG-0654 criterion is J.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section J.7.

Compliance Evaluation and Conclusion: BLOCK 4

1. Evaluation of Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage:

A conditional step and enclosures have been added to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable

- If a declared emergency were to occur at Catawba Nuclear Station, the EOF would be set up in the McGuire Alternate TSC in the McGuire Administration Building. This location is greater than 10 miles from Catawba Nuclear Station.
- If a declared emergency were to occur at McGuire Nuclear Station, the EOF would be set up in the Catawba Alternate TSC in the Catawba Administration Building. This location is greater than 10 miles from McGuire Nuclear Station.
- If a declared emergency were to occur at Oconee Nuclear Station, the EOF would be set up in the Catawba Alternate TSC in the Catawba Administration Building. This location is greater than 10 miles from Oconee Nuclear Station.

The following is an evaluation of the planned COMPENSATORY MEASURES to document that the associated Planning Standard Functions for the EOF can be accomplished, albeit in a potentially degraded manner, should an actual radiological emergency occur during this time period.

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. SR/003 includes the steps and times required to declare the EOF activated, and specifies the interfaces between onsite and offsite emergency response organizations. Use of an alternate facility has the potential to extend the time to have the EOF operational beyond the 75 minute goal in our emergency plans. However, Duke Energy uses an "all call" approach to staffing our Emergency Response Organization. Given that the EOF positions are staffed five deep and that personnel live in various locations in the greater Charlotte Area, the EOF should be able to be staffed at the Alternate Locations in a reasonable time frame to relieve the TSC of the EOF functions.
- 10CFR50.47 (b) (3) requires arrangements to be made to accommodate State and local staff at the EOF and that other organizations capable of augmenting the planned response have been identified. SR/003 discusses admitting offsite agency responders to the EOF and briefing offsite agency personnel, as well as briefing the ECOC Directors. Space is being provided in the Alternate EOF locations for State and local staff.
- 10CFR50.47 (b) (5) mandates that procedures be established for notification, by the licensee, of State and local response organizations. SR/003 states the time requirements for notification of offsite agencies, and assigns responsibilities for providing information for the Emergency Notification Forms. It also instructs personnel about briefing the State and local response organizations. Use of an alternate facility does not change these time requirements or assignment of responsibilities. The alternate EOF locations have selective signaling and commercial telephone equipment available for offsite agency notification. Satellite phone equipment is available on site as a third backup.
- 10CFR50.47 (b) (6) mandates provisions for prompt communications among principal response organizations. SR/003 specifies the time requirements for initial and follow-up notifications. Use of an alternate facility does not change these time requirements.
- 10CFR50.47 (b) (8) requires that adequate emergency facilities and equipment to support the emergency response are provided and maintained, and 10CFR50 Appendix E.IV.E requires an Emergency Operations

Facility Appendix E.IV.E also requires equipment for dose assessment and communications. SR/003 provides guidance for the use of such equipment by the EOF staff. The revision to SR/003 includes layout drawings for setup of the alternate EOF locations at Catawba (for McGuire and Oconee) and McGuire (for Catawba), including locations for dose assessment and equipment for communications.

Evaluation of Alternate Locations against NUREG-0696 criteria for an EOF

Functions

The functions of an EOF are specified in NUREG-0696:

> The emergency operations facility (EOF) is a licensee controlled and operated offsite support center. The EOF will have facilities for:
>
> - Management of overall licensee emergency response,
> - Coordination of radiological and environmental assessment,
> - Determination of recommended public protective actions, and
> - Coordination of emergency response activities with Federal, State, and local agencies.

The existing EOF staff will be able to perform these functions at the alternate location using fleet standard Shared Emergency Response Procedures. Management of overall licensee emergency response, determination of recommended public protective actions, and coordination of emergency response activities with Federal, State, and local agencies will be performed in accordance with procedure SR/0/B/2000/003, Activation of the Emergency Response Facility. Coordination of radiological and environmental assessment will be performed in accordance with procedures SH/0/B/2000/001, Emergency Response Offsite Dose Projections, and SH/0/B/2000/002, Protocol for the Field Monitoring Coordinator during Emergency Conditions. Offsite Agency Communications are done in accordance with procedure SR/0/B/2000/004, Notifications to the States and Counties from the Emergency Operations Facility. Security will be provided by site security.

Location, Habitability, and Radiological Monitoring

Since the Alternate EOF locations are both greater than 10 miles from the affected stations, there are no habitability concerns with using an unaffected site's Administration Building. Radiological Monitoring of the facility is not required.

Staffing and Training

The Alternate EOF locations will be staffed using the normal EOF personnel.

Work Areas

The Command and Control Center, staffed by the EOF Director, Assistant EOF Director, Accident Assessment Manager, Radiological Assessment Manager, Lead Offsite Agency Communicator, Log recorder, EOF Tech Liaison, Public Information Coordinator, and offsite agency representatives, will be located as follows:

- VP Conference Room in the Catawba Administration Building
- Executive Board Room (Room 111) in the McGuire Administration Building

Other EOF staff members will be located as follows:

Catawba Administration Building

- Offsite Communicators - EP Manager's Office
- Data Coordinator - EP Cubes
- EOF Emergency Planner - EP Cubes
- EOF Services - Touchdown Room 142
- News Manager and Public Spokesperson - PA Manager Office
- State and County Work Area - Room 153 A/B

- NRC Site Team- NRC Resident Inspector Office Area
- Dose Assessment - Room 137A
- Accident Assessment - Room 137B
- Offsite Monitoring - Catawba TSC (to have access to Field Monitoring Radios)

McGuire Administration Building

- Accident Assessment - EP Office Area (Room 114)
- Dose Assessment - SCR Room 100D
- Offsite Monitoring - McGuire TSC (to have access to Field Monitoring Radios)
- Offsite Agency Communicators - EP Room 115B
- Data Coordinator - CBX Equipment Room 112
- Other Support Groups (e.g., EOF Services Manager) - Jaguar Room (Room 144)
- News Manager and Public Spokesperson - Rooms 118 and 141 or Energy Explorium
- NRC Site Team - NRC Resident Inspector Office Area (Room 126)

Communications

The alternate EOF locations have reliable voice communications to the TSC, control room, NRC, and state and local EOCs using the Duke Energy telephone system. Speaker phones are available for establishing open lines with the TSC Emergency Coordinator. The Selective Signaling system is available at the alternate locations for State and County notifications. Offsite monitoring radios are available in the Catawba and McGuire TSCs. Telephones are available in the NRC Resident Inspectors offices for NRC use.

All Duke Energy nuclear stations use WebEOC to prepare Emergency Notifications for the states and counties electronically. WebEOC can be accessed from any network connected PC.

Technical Data and Dose Assessment Software

All Duke Energy nuclear stations utilize SAIC's Satellite Display System (SDS®) to access and display plant and meteorological data from the OAC. SDS® has the capability to graphically display plant parameters on PCs using Duke's Wide and Local Area Networks (WAN and LAN). Using Duke's fiber optic WAN, plant data from each station (Catawba/McGuire/Oconee) can be displayed on any network connected PC. With the use of SDS® as the interface with the unit's Operator Aid Computer (OAC), the Alternate EOF has access to the same data points that are available to the operators in the Control Room and emergency responders in the TSC and OSC.

All Duke Energy nuclear stations utilize Earth Tech's RADDOSE V offsite dose projection model. RADDOSE can be loaded on any network PC, and a PC can have both SDS and RADDOSE running at the same time.

Records Availability

EOF records can be accessed as follows:

- Plant Technical Specifications -- accessed electronically
- Plant Operating Procedures -- accessed electronically
- Emergency Operating Procedures -- accessed electronically
- Updated Final Safety Analysis Report -- accessed electronically
- Up-to-date copies of licensee, state, and local emergency response plans -- controlled hard copies of licensee Emergency Plans are available in the EP office areas. The North Carolina State Emergency Plan (including site specific appendices) is available on the Fleet EP LAN Share. The South Carolina plans are available on the SC EMD website at http://www.scemd.org
- Offsite population distribution data -- This is part of the site Emergency Plan.

- Evacuation Plans – These are part of the State Emergency Plan.
- Licensee Employee Exposure History - accessed electronically
- Drawings - accessed electronically

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

2. Evaluation of Change 3 - guidance on how to fill vacancies in required positions:

10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. Previously, SR/003 had a step for the EOF Director to approve admitting personnel to the EOF who had training deficiencies. This revision provides more detailed guidance on filling vacancies in required positions to support timely augmentation of response capabilities in the event a required position is not filled within 75 minutes.

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

3. Evaluation of Change 4 - change in Catawba PAR flow chart - applicable to Catawba Only

10CFR50.47 (b) (10) requires that guidelines for the choice of protective actions during an emergency be in place. This change makes the PAR flow chart consistent with the wording in the enclosure and the corresponding guidance in Catawba RP/0/B/5000/005, General Emergency.

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

Reduction in Effectiveness (RIE) Evaluation and Conclusion: BLOCK 5

1. Evaluation of Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage:

The Applicable EP Program Functions from Attachment 3.10.7.8 for these changes are as follows:

- B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained.
- C)(2) Emergency Response Support and Resources - State and local staff can be accommodated at the EOF in accordance with the emergency plan.
- F)(2) Emergency Communications - Systems are established for prompt communication among principal emergency response organizations.
- H)(1) Emergency Facility and Equipment - Adequate facilities are maintained to support Emergency Response.

Duke Energy is not required by NRC regulations to have a backup EOF. Business Continuity plans were developed for the event of an EOF evacuation and relocation to an alternate facility, but did not provide detailed activation guidance. This revision to SR/003 provides detailed procedural guidance for establishing the EOF at an alternate facility. This will allow the EOF staff to augment site staff to relieve the burden of the EOF functions from the TSC.

The functions of an EOF are specified in NUREG-0696:

The emergency operations facility (EOF) is a licensee controlled and operated offsite support center. The EOF will have facilities for:

- Management of overall licensee emergency response,
- Coordination of radiological and environmental assessment,
- Determination of recommended public protective actions, and
- Coordination of emergency response activities with Federal, State, and local agencies.

The existing EOF staff will be able to perform these functions at the alternate location using fleet standard Shared Emergency Response Procedures. Management of overall licensee emergency response, determination of recommended public protective actions, and coordination of emergency response activities with Federal, State, and local agencies will be performed in accordance with procedure SR/0/B/2000/003, Activation of the Emergency Response Facility. The alternate EOF locations have reliable voice communications to the TSC, control room, NRC, and state and local EOCs using the Duke Energy telephone system. Speaker phones are available for establishing open lines with the TSC Emergency Coordinator.

Coordination of radiological and environmental assessment will be performed in accordance with procedures SH/0/B/2000/001, Emergency Response Offsite Dose Projections, and SH/0/B/2000/002, Protocol for the Field Monitoring Coordinator during Emergency Conditions. Radiological Data can be obtained through SDS and dose calculations performed using RADDOSE V from any network connected computer. Offsite monitoring radios are available in the Catawba and McGuire TSCs. Guidance is contained in SH/0/B/2000/001 and SR/0/B/2000/003 for developing protective action recommendations.

Offsite Agency Communications are done in accordance with procedure SR/0/B/2000/004, Notifications to the States and Counties from the Emergency Operations Facility. The Selective Signaling system is available at the alternate locations for State and County notifications. All Duke Energy nuclear stations use WebEOC to prepare Emergency Notifications for the states and counties electronically. WebEOC can be accessed from any network connected PC.

Use of an alternate facility has the potential to extend the time to have the EOF operational beyond the 75 minute goal in our emergency plans. However, Duke Energy uses an "all call" approach to staffing our Emergency Response Organization. Given that the EOF positions are staffed five deep and that personnel live in various locations in the greater Charlotte Area, the EOF should be able to be staffed at the Alternate Locations in a reasonable time frame to relieve the TSC of the EOF functions. Space is being provided in the Alternate EOF locations for State and local staff.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

2. Evaluation of Change 3 - guidance on how to fill vacancies in required positions:

The Applicable EP Program Functions from Attachment 3.10.7.8 is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained

This change does not alter the 75-minute time frame for having minimum staffing in place and declaring the facility operational. Previously, SR/003 had a step for the EOF Director to approve admitting personnel to the EOF who had training deficiencies. This revision provides more detailed guidance on filling vacancies in required positions to ensure they are capable of filling the position based on training, experience and skills required by the ERO training program.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

3. Evaluation of Change 4 - change in Catawba PAR flow chart - applicable to Catawba Only

The Applicable EP Function from Attachment 3.10.7.8 is J)(1) Protective Response - A range of public PARs (excluding KI) is available for implantation during an emergency.

A range of protective actions will continue to be in place. This change makes the PAR flow chart consistent with the wording in the enclosure and the corresponding guidance in Catawba RP/0/B/5000/005, General Emergency.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

Effectiveness Evaluation Results BLOCK 6

☒ The activity does continue to comply with the requirements of §50.47(b) and §50 Appendix E and the activity does not constitute a reduction in effectiveness. Therefore, the activity can be implemented without prior approval.

☐ The activity does not continue to comply with the requirements of §50.47(b) and §50 Appendix E or the activity does constitute a reduction in effectiveness. Therefore, the activity cannot be implemented without prior approval.

Preparer Name: Ernestine M. Kuhr	Preparer Signature: Ernestine M Kuhr	Date: 08/22/2012
Reviewer Name: Renard O. Burris	Reviewer Signature: RO Burris	Date: 8/27/12
Approver Name: Kevin L. Murray	Approver Signature: K. L. Murray	Date: 8-27-12

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/003
Revision No. 25

PREPARATION

(2) Procedure Title Activation of the Emergency Operations Facility

(3) Prepared By* Ernestine M. Kuhr Ernestine M. Kuhr Date August 22, 2012

(4)	Applicable To:	☐ ONS	☑ MNS	☐ CNS
(5)	Requires NSD 228 Applicability Determination	☐ Yes ☐ No YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes	☑ Yes ☐ No	☐ Yes ☐ No
(6)	Site Contact		Renard Burris	
	Reviewed	By* _____ (QR) (KI) Date _____	By* R. Burris (QR) (KI) R. Burris Date 8/27/12	By* _____ (QR) (KI) Date _____
	Cross-Disciplinary Review	By* _____ (QR) (KI) Date _____	By* _____ (QR) (KI) Date _____	By* _____ (QR) (KI) Date _____
	Reactivity Mgmt. Review (QR)	By* _____ Date _____	By* _____ Date _____	By* _____ Date _____
	Mgmt. Involvement Review (Ops.Supt.)	By* _____ Date _____	By* _____ Date _____	By* _____ Date _____
(7)	Additional Reviews	By* _____ (QA) Date _____ By* _____ Date _____	By* _____ (QA) Date _____ By* _____ Date _____	By* _____ (QA) Date _____ By* _____ Date _____
(8)	Approved	By* _____ Date _____	By* K.L. Murray K.L. Murray Date 8-27-12	By* _____ Date _____
(9)	Level of Use			

PERFORMANCE ***(Compare with Control Copy every 14 calendar days while work is being performed.)***

(10) Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:
☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

APPENDIX C. APPLICABILITY DETERMINATION

PART I – ACTIVITY DESCRIPTION

DUKE ENERGY CAROLINAS, LLC SITE			UNIT(S)		
☒ Oconee	☐ McGuire	☐ Catawba	☒ Unit 1	☒ Unit 2	☒ Unit 3

ACTIVITY TITLE/DOCUMENT/REVISION: SR/O/B/2000/003 Rev. 25

Activation of the Emergency Operations Facility

PART II – PROCESS REVIEW

For each activity, address all of the questions below. If the answer is "YES" for any portion of the activity, apply the identified process(es) to that portion of the activity. Note: It is not unusual to have more than one process apply to a given activity.

Will implementation of the above activity require a change to the:

1.	Technical Specifications (TS) or Operating License?	☒ NO	☐ YES	If YES, process as a license amendment per NSD 227.
2.	Quality Assurance Topical?	☒ NO	☐ YES	If YES, seek assistance from Independent Nuclear Oversight.
3.	Security Plans? (See Appendix H)	☒ NO	☐ YES	If YES, process per the Nuclear Security Manual.
4.	Emergency Plan?	☐ NO	☒ YES	If YES, process per the Emergency Planning Functional Area Manual.
5.	Inservice Testing Program Plan?	☒ NO	☐ YES	If YES, process per site IST Program for ASME code compliance and related facility changes.
6.	Inservice Inspection Program Plan?	☒ NO	☐ YES	If YES, process per Materials, Metallurgy and Piping Inservice Inspection FAM for ASME code compliance and related facility or procedure changes.
7.	Fire Protection Program Plan?	☒ NO	☐ YES	If YES, evaluate activity in accordance with NSD 320.
	7a -Utilize Appendix E to address Fire Protection Program Plan Impact.		☐	Check to confirm use of Appendix E Screening Questions.
8.	Regulatory Commitments?	☒ NO	☐ YES	If YES, process per NSD 214.
9.	Code of Federal Regulations?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance group.
10.	Programs and manuals listed in the Administrative Section of the TS?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance group.

PART IIIa - 10 CFR 72.48 APPLICABILITY

For each activity, address the question below. If the answer to question 11 is "YES," and questions 14 and 17 are answered "NO", then process the activity per NSD 211 - 10 CFR 72.48 does apply.

11.	Does the activity involve SSCs, procedures or conduct tests or experiments that support/impact the loading or transport of the canister/cask to the ISFSI, the ISFSI facility, spent fuel cask design?	☒ NO	☐ YES

PART IIIb – 10 CFR 50.59 APPLICABILITY

For each activity, address all of the questions below. If the answer to question 18 is "YES," then 10 CFR 50.59 does not apply. If the answer to questions 18 is "NO," then process the activity per NSD 209 – 10 CFR 50.59 applies.

12.	Does the activity involve a procedure, governed by NSD 703 that has been excluded from the 10 CFR 50.59 process per NSD 703, Appendix N and the exclusion status remains valid?	☒ NO	☐ YES
13.	Does the activity involve an administrative procedure governed by NSD 100 that does not contain information regarding the operation and control of Structures, Systems and Components?	☒ NO	☐ YES
14.	Does the activity involve a type of Engineering Change that NSD 301 excludes from the 10 CFR 50.59 and/or 10 CFR 72.48 Processes? Consult NSD 301 for assistance.	☒ NO	☐ YES
15.	Does the activity involve (a) maintenance activities that restore SSCs to their as-designed condition (including activities that implement approved design changes) or (b) temporary alterations supporting maintenance that will be in effect during at-power operations for 90 days or less?	☒ NO	☐ YES
16.	Does the activity involve a UFSAR modification that NSD 220 excludes from the 10 CFR 50.59 Process? Consult NSD 220 for assistance.	☒ NO	☐ YES
17.	Does the activity involve NRC and/or Duke Energy Carolinas, LLC approved changes to the licensing basis?	☒ NO	☐ YES
18.	Are **ALL** aspects of the activity bounded by one or more "YES" answers to questions 1 through 17, above?	☐ NO	☒ YES

PART IV - UFSAR REVIEW

19.	Does the activity require a modification, deletion, or addition to the UFSAR to satisfy the UFSAR content requirements of 10 CFR 50.34 (b), 10 CFR 50.71 (e), or Regulatory Guide (RG) 1.70? Consult NSD 220 for Assistance. IF YES, process per NSD 220.	☒ NO	☐ YES

PART V – SIGNOFF

(Print Name) Ray Waterman (Sign) Ray Waterman DATE 8-27-12

Applicability Determination Preparer

§50.54(q) Screening Evaluation Form

Activity Description and References: SR/0/B/2000/003 Revision 25 — BLOCK 1

1. Body of Procedure - Added new conditional step 3.4 to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable and renumbered subsequent steps. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
2. List of Enclosures - Added new Enclosures 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. and 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg. to list and renumbered subsequent enclosure. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
3. Enclosure 6.1 page 2 of 14 - Revised Guidance on declaring EOF operational to provide detailed guidance on how to fill vacancies in required positions with personnel not on the EOF roster for those positions {PIP G-11-1389 CA #11}
4. Enclosure 6.2, page 2 of 8 - Revised wording of block on flow chart for changes to wind speed and direction to correctly consider such changes if greater than gap activity exists in containment to be consistent with guidance in RP/0/A/5700/005 {PIP C-11-4972 CA#1 and DocuTracks NGO-2012-000033}
5. Enclosure 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
6. Enclosure 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}

Activity Scope: — BLOCK 2

- ☐ The activity is a *change* to the *emergency plan*
- ☒ The activity is not a *change* to the *emergency plan*

Change Type: — BLOCK 3

- ☐ The change is editorial or typographical
- ☒ The change is not editorial or typographical

Change Type: — BLOCK 4

- ☐ The change does conform to an activity that has prior approval
- ☒ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☒ §50.47(b)(2) – Onsite Emergency Organization
- ☒ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ §50.47(b)(4) – **Emergency Classification System***
- ☐ §50.47(b)(5) – **Notification Methods and Procedures***
- ☒ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☒ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ §50.47(b)(9) – **Accident Assessment***
- ☐ §50.47(b)(10) – **Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☒ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: Catawba Emergency Plan Revision 12-1 Sections B.7, C.1, F.1, and H.2; McGuire Emergency Plan Revision 12-2 Sections B.5, B.7, C.2, F.1, H.2; Oconee Emergency Plan Revision 12-3 Sections B.5, B.7, F.1, and H.2

☐ The activity does not involve a site specific EP commitment

Screening Evaluation Results: BLOCK 7

☐ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☒ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ernestine M. Kuhr	Ernestine M. Kuhr	08/21/2012
Reviewer Name:	**Reviewer Signature**	**Date:**
Ray Waldman	Ray Waldman	8/24-12

§50.54(q) Effectiveness Evaluation Form

Activity Description and References: SR/0/B/2000/003 Revision 25 BLOCK 1

1. Body of Procedure - Added new conditional step 3.4 to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable and renumbered subsequent steps. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
2. List of Enclosures - Added new Enclosures 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. and 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg. to list and renumbered subsequent enclosure. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
3. Enclosure 6.1 page 2 of 14 - Revised Guidance on declaring EOF operational to provide detailed guidance on how to fill vacancies in required positions with personnel not on the EOF roster for those positions {PIP G-11-1389 CA #11}
4. Enclosure 6.2, page 2 of 8 - Revised wording of block on flow chart for changes to wind speed and direction to correctly consider such changes if greater than gap activity exists in containment to be consistent with guidance in RP/0/A/5700/005 {PIP C-11-4972 CA#1 and DocuTracks NGO-2012-000033}
5. Enclosure 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
6. Enclosure 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}

Note:

- Changes 1, 2, 5, and 6 will be evaluated together as they related to the addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage.
- Change 4 applies only to Catawba and does not need to be evaluated by the other sites.

Activity Type: BLOCK 2

☐ The activity is a *change* to the *emergency plan*
☒ The activity affects implementation of the *emergency plan*, but is not a *change* to the *emergency plan*

Impact and Licensing Basis Determination: BLOCK 3

1. Licensing Basis:

Applicable regulations, EP Functions, and NUREG-0654 criteria

Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage.

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. The associated EP Function is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained. The NUREG-0654 criteria are B.5 and B.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section B.7, McGuire Emergency Plan Revision 12-2 Sections B.5 and B.7 and Oconee Emergency Plan Revision 12-03 Sections B.5 and B.7.
- 10CFR50.47 (b) (3) requires arrangements to be made to accommodate State and local staff at the EOF and that other organizations capable of augmenting the planned response have been identified. The associated EP Function is C)(2) Emergency Response Support and Resources - State and local staff can be accommodated at the EOF in accordance with the emergency plan. The NUREG-0654 criterion is C.2. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section C.2, McGuire Emergency Plan Revision 12-2 Section C.2 and Oconee Emergency Plan Revision 12-03 Section C.2.
- 10CFR50.47 (b) (6) mandates provisions for prompt communications among principal response organizations. The associated EP Function is F)(2) Emergency Communications - Systems are established for prompt communication among principal emergency response organizations. The NUREG-0654 criterion is F.1. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section F.1, McGuire Emergency Plan Revision 12-2 Section F.1 and Oconee Emergency Plan Revision 12-03 Section F.1.
- 10CFR50.47 (b) (8) requires that adequate emergency facilities and equipment to support the emergency response are provided and maintained. 10CFR50 Appendix E.IV.E requires an Emergency Operations Facility. It also requires equipment for dose assessment and communications. The associated EP Function is H)(1) Emergency Facility and Equipment - Adequate facilities are maintained to support Emergency Response. The NUREG-0654 criterion is H.2. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section H.2, McGuire Emergency Plan Revision 12-2 Section H.2 and Oconee Emergency Plan Revision 12-03 Section H.2.

Change 3 - guidance on how to fill vacancies in required positions

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. The associated EP Function is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained. The NUREG-0654 criteria are B.5 and B.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section B.7, McGuire Emergency Plan Revision 12-2 Sections B.5 and B.7 and Oconee Emergency Plan Revision 12-03 Sections B.5 and B.7.

Change 4 - change in Catawba PAR flow chart

- 10CFR50.47 (b) (10) requires that guidelines for the choice of protective actions during an emergency be in place. The associated EP Function is J)(1) Protective Response - A range of public PARs (excluding KI) is available for implantation during an emergency. The NUREG-0654 criterion is J.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section J.7.

Compliance Evaluation and Conclusion: BLOCK 4

1. Evaluation of Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage:

A conditional step and enclosures have been added to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable

- If a declared emergency were to occur at Catawba Nuclear Station, the EOF would be set up in the McGuire Alternate TSC in the McGuire Administration Building. This location is greater than 10 miles from Catawba Nuclear Station.
- If a declared emergency were to occur at McGuire Nuclear Station, the EOF would be set up in the Catawba Alternate TSC in the Catawba Administration Building. This location is greater than 10 miles from McGuire Nuclear Station.
- If a declared emergency were to occur at Oconee Nuclear Station, the EOF would be set up in the Catawba Alternate TSC in the Catawba Administration Building. This location is greater than 10 miles from Oconee Nuclear Station.

The following is an evaluation of the planned COMPENSATORY MEASURES to document that the associated Planning Standard Functions for the EOF can be accomplished, albeit in a potentially degraded manner, should an actual radiological emergency occur during this time period.

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. SR/003 includes the steps and times required to declare the EOF activated, and specifies the interfaces between onsite and offsite emergency response organizations. Use of an alternate facility has the potential to extend the time to have the EOF operational beyond the 75 minute goal in our emergency plans. However, Duke Energy uses an "all call" approach to staffing our Emergency Response Organization. Given that the EOF positions are staffed five deep and that personnel live in various locations in the greater Charlotte Area, the EOF should be able to be staffed at the Alternate Locations in a reasonable time frame to relieve the TSC of the EOF functions.
- 10CFR50.47 (b) (3) requires arrangements to be made to accommodate State and local staff at the EOF and that other organizations capable of augmenting the planned response have been identified. SR/003 discusses admitting offsite agency responders to the EOF and briefing offsite agency personnel, as well as briefing the ECOC Directors. Space is being provided in the Alternate EOF locations for State and local staff.
- 10CFR50.47 (b) (5) mandates that procedures be established for notification, by the licensee, of State and local response organizations. SR/003 states the time requirements for notification of offsite agencies, and assigns responsibilities for providing information for the Emergency Notification Forms. It also instructs personnel about briefing the State and local response organizations. Use of an alternate facility does not change these time requirements or assignment of responsibilities. The alternate EOF locations have selective signaling and commercial telephone equipment available for offsite agency notification. Satellite phone equipment is available on site as a third backup.
- 10CFR50.47 (b) (6) mandates provisions for prompt communications among principal response organizations. SR/003 specifies the time requirements for initial and follow-up notifications. Use of an alternate facility does not change these time requirements.
- 10CFR50.47 (b) (8) requires that adequate emergency facilities and equipment to support the emergency response are provided and maintained, and 10CFR50 Appendix E.IV.E requires an Emergency Operations

Facility Appendix E.IV.E also requires equipment for dose assessment and communications. SR/003 provides guidance for the use of such equipment by the EOF staff. The revision to SR/003 includes layout drawings for setup of the alternate EOF locations at Catawba (for McGuire and Oconee) and McGuire (for Catawba), including locations for dose assessment and equipment for communications.

Evaluation of Alternate Locations against NUREG-0696 criteria for an EOF

Functions

The functions of an EOF are specified in NUREG-0696:

> The emergency operations facility (EOF) is a licensee controlled and operated offsite support center. The EOF will have facilities for:
>
> - Management of overall licensee emergency response,
> - Coordination of radiological and environmental assessment,
> - Determination of recommended public protective actions, and
> - Coordination of emergency response activities with Federal, State, and local agencies.

The existing EOF staff will be able to perform these functions at the alternate location using fleet standard Shared Emergency Response Procedures. Management of overall licensee emergency response, determination of recommended public protective actions, and coordination of emergency response activities with Federal, State, and local agencies will be performed in accordance with procedure SR/0/B/2000/003, Activation of the Emergency Response Facility. Coordination of radiological and environmental assessment will be performed in accordance with procedures SH/0/B/2000/001, Emergency Response Offsite Dose Projections, and SH/0/B/2000/002, Protocol for the Field Monitoring Coordinator during Emergency Conditions. Offsite Agency Communications are done in accordance with procedure SR/0/B/2000/004, Notifications to the States and Counties from the Emergency Operations Facility. Security will be provided by site security.

Location, Habitability, and Radiological Monitoring

Since the Alternate EOF locations are both greater than 10 miles from the affected stations, there are no habitability concerns with using an unaffected site's Administration Building. Radiological Monitoring of the facility is not required.

Staffing and Training

The Alternate EOF locations will be staffed using the normal EOF personnel.

Work Areas

The Command and Control Center, staffed by the EOF Director, Assistant EOF Director, Accident Assessment Manager, Radiological Assessment Manager, Lead Offsite Agency Communicator, Log recorder, EOF Tech Liaison, Public Information Coordinator, and offsite agency representatives, will be located as follows:

- VP Conference Room in the Catawba Administration Building
- Executive Board Room (Room 111) in the McGuire Administration Building

Other EOF staff members will be located as follows:

Catawba Administration Building

- Offsite Communicators - EP Manager's Office
- Data Coordinator - EP Cubes
- EOF Emergency Planner - EP Cubes
- EOF Services - Touchdown Room 142
- News Manager and Public Spokesperson - PA Manager Office
- State and County Work Area - Room 153-A/B

- NRC Site Team- NRC Resident Inspector Office Area
- Dose Assessment - Room 137A
- Accident Assessment - Room 137B
- Offsite Monitoring - Catawba TSC (to have access to Field Monitoring Radios)

McGuire Administration Building

- Accident Assessment - EP Office Area (Room 114)
- Dose Assessment - SCR Room 100D
- Offsite Monitoring - McGuire TSC (to have access to Field Monitoring Radios)
- Offsite Agency Communicators - EP Room 115B
- Data Coordinator - CBX Equipment Room 112
- Other Support Groups (e.g., EOF Services Manager) - Jaguar Room (Room 144)
- News Manager and Public Spokesperson - Rooms 118 and 141 or Energy Explorium
- NRC Site Team - NRC Resident Inspector Office Area (Room 126)

Communications

The alternate EOF locations have reliable voice communications to the TSC, control room, NRC, and state and local EOCs using the Duke Energy telephone system. Speaker phones are available for establishing open lines with the TSC Emergency Coordinator. The Selective Signaling system is available at the alternate locations for State and County notifications. Offsite monitoring radios are available in the Catawba and McGuire TSCs. Telephones are available in the NRC Resident Inspectors offices for NRC use.

All Duke Energy nuclear stations use WebEOC to prepare Emergency Notifications for the states and counties electronically. WebEOC can be accessed from any network connected PC.

Technical Data and Dose Assessment Software

All Duke Energy nuclear stations utilize SAIC's Satellite Display System (SDS®) to access and display plant and meteorological data from the OAC. SDS® has the capability to graphically display plant parameters on PCs using Duke's Wide and Local Area Networks (WAN and LAN). Using Duke's fiber optic WAN, plant data from each station (Catawba/McGuire/Oconee) can be displayed on any network connected PC. With the use of SDS® as the interface with the unit's Operator Aid Computer (OAC), the Alternate EOF has access to the same data points that are available to the operators in the Control Room and emergency responders in the TSC and OSC.

All Duke Energy nuclear stations utilize Earth Tech's RADDOSE V offsite dose projection model. RADDOSE can be loaded on any network PC, and a PC can have both SDS and RADDOSE running at the same time.

Records Availability

EOF records can be accessed as follows:

- Plant Technical Specifications -- accessed electronically
- Plant Operating Procedures -- accessed electronically
- Emergency Operating Procedures – accessed electronically
- Updated Final Safety Analysis Report – accessed electronically
- Up-to-date copies of licensee, state, and local emergency response plans – controlled hard copies of licensee Emergency Plans are available in the EP office areas. The North Carolina State Emergency Plan (including site specific appendices) is available on the Fleet EP LAN Share. The South Carolina plans are available on the SC EMD website at http://www.scemd.org
- Offsite population distribution data – This is part of the site Emergency Plan.

- Evacuation Plans – These are part of the State Emergency Plan.
- Licensee Employee Exposure History - accessed electronically
- Drawings - accessed electronically

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

2. Evaluation of Change 3 - guidance on how to fill vacancies in required positions:

10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. Previously, SR/003 had a step for the EOF Director to approve admitting personnel to the EOF who had training deficiencies. This revision provides more detailed guidance on filling vacancies in required positions to support timely augmentation of response capabilities in the event a required position is not filled within 75 minutes.

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

3. Evaluation of Change 4 - change in Catawba PAR flow chart - applicable to Catawba Only

10CFR50.47 (b) (10) requires that guidelines for the choice of protective actions during an emergency be in place. This change makes the PAR flow chart consistent with the wording in the enclosure and the corresponding guidance in Catawba RP/0/B/5000/005, General Emergency.

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

Reduction In Effectiveness (RIE) Evaluation and Conclusion: BLOCK 5

1. Evaluation of Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage:

The Applicable EP Program Functions from Attachment 3.10.7.8 for these changes are as follows:

- B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained.
- C)(2) Emergency Response Support and Resources - State and local staff can be accommodated at the EOF in accordance with the emergency plan.
- F)(2) Emergency Communications - Systems are established for prompt communication among principal emergency response organizations.
- H)(1) Emergency Facility and Equipment - Adequate facilities are maintained to support Emergency Response.

Duke Energy is not required by NRC regulations to have a backup EOF. Business Continuity plans were developed for the event of an EOF evacuation and relocation to an alternate facility, but did not provide detailed activation guidance. This revision to SR/003 provides detailed procedural guidance for establishing the EOF at an alternate facility. This will allow the EOF staff to augment site staff to relieve the burden of the EOF functions from the TSC.

The functions of an EOF are specified in NUREG-0696:

The emergency operations facility (EOF) is a licensee controlled and operated offsite support center. The EOF will have facilities for:

- Management of overall licensee emergency response,
- Coordination of radiological and environmental assessment,
- Determination of recommended public protective actions, and
- Coordination of emergency response activities with Federal, State, and local agencies.

The existing EOF staff will be able to perform these functions at the alternate location using fleet standard Shared Emergency Response Procedures. Management of overall licensee emergency response, determination of recommended public protective actions, and coordination of emergency response activities with Federal, State, and local agencies will be performed in accordance with procedure SR/0/B/2000/003, Activation of the Emergency Response Facility. The alternate EOF locations have reliable voice communications to the TSC, control room, NRC, and state and local EOCs using the Duke Energy telephone system. Speaker phones are available for establishing open lines with the TSC Emergency Coordinator.

Coordination of radiological and environmental assessment will be performed in accordance with procedures SH/0/B/2000/001, Emergency Response Offsite Dose Projections, and SH/0/B/2000/002, Protocol for the Field Monitoring Coordinator during Emergency Conditions. Radiological Data can be obtained through SDS and dose calculations performed using RADDOSE V from any network connected computer. Offsite monitoring radios are available in the Catawba and McGuire TSCs. Guidance is contained in SH/0/B/2000/001 and SR/0/B/2000/003 for developing protective action recommendations.

Offsite Agency Communications are done in accordance with procedure SR/0/B/2000/004, Notifications to the States and Counties from the Emergency Operations Facility. The Selective Signaling system is available at the alternate locations for State and County notifications. All Duke Energy nuclear stations use WebEOC to prepare Emergency Notifications for the states and counties electronically. WebEOC can be accessed from any network connected PC.

Use of an alternate facility has the potential to extend the time to have the EOF operational beyond the 75 minute goal in our emergency plans. However, Duke Energy uses an "all call" approach to staffing our Emergency Response Organization. Given that the EOF positions are staffed five deep and that personnel live in various locations in the greater Charlotte Area, the EOF should be able to be staffed at the Alternate Locations in a reasonable time frame to relieve the TSC of the EOF functions. Space is being provided in the Alternate EOF locations for State and local staff.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

2. Evaluation of Change 3 - guidance on how to fill vacancies in required positions:

The Applicable EP Program Functions from Attachment 3.10.7.8 is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained

This change does not alter the 75 minute time frame for having minimum staffing in place and declaring the facility operational. Previously, SR/003 had a step for the EOF Director to approve admitting personnel to the EOF who had training deficiencies. This revision provides more detailed guidance on filling vacancies in required positions to ensure they are capable of filling the position based on training, experience and skills required by the ERO training program.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

3. Evaluation of Change 4 - change in Catawba PAR flow chart - applicable to Catawba Only

The Applicable EP Function from Attachment 3.10.7.8 is J)(1) Protective Response - A range of public PARs (excluding KI) is available for implantation during an emergency.

A range of protective actions will continue to be in place. This change makes the PAR flow chart consistent with the wording in the enclosure and the corresponding guidance in Catawba RP/0/B/5000/005, General Emergency.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

Effectiveness Evaluation Results **BLOCK 6**

☒ The activity does continue to comply with the requirements of §50.47(b) and §50 Appendix E and the activity does not constitute a reduction in effectiveness. Therefore, the activity can be implemented without prior approval.

☐ The activity does not continue to comply with the requirements of §50.47(b) and §50 Appendix E or the activity does constitute a reduction in effectiveness. Therefore, the activity cannot be implemented without prior approval.

Preparer Name: Ernestine M. Kuhr	Preparer Signature: Ernestine M Kuhr	Date: 08/22/2012
Reviewer Name: Ray Waterman	Reviewer Signature: Ray Waterman	Date: 8-24-12
Approver Name: Patrick M Stuggt	Approver Signature:	Date: 8/27/12

Form 703-5. Procedure Process Record For Standard Procedures

(R08-10)

Duke Energy
PROCEDURE PROCESS RECORD
FOR STANDARD PROCEDURES

(1) ID No. SR/0/B/2000/003
Revision No. 25

PREPARATION

(2) Procedure Title Activation of the Emergency Operations Facility

(3) Prepared By* Ernestine M. Kuhr Ernestine M Kuhr Date August 22, 2012

(4)	Applicable To:	☐ ONS	☐ MNS	☑ CNS
(5)	Requires NSD 228 Applicability Determination	☐ Yes ☐ No YES = New procedure or reissue with major changes - Attach NSD 228 documentation NO = Reissue with minor changes	☐ Yes ☐ No	☐ Yes ☐ No
(6)	Site Contact			
	Reviewed	By* _____ (QR) (KI) Date _____	By* _____ (QR) (KI) Date _____	By* Gerald McCraken (QR) (KI) Date 8-29-12
	Cross-Disciplinary Review	By* _____ (QR) (KI) Date _____	By* _____ (QR) (KI) Date _____	By* by email (QR) (KI) Date _____
	Reactivity Mgmt. Review (QR)	By* _____ Date _____	By* _____ Date _____	By* _____ Date _____
	Mgmt. Involvement Review (Ops.Supt.)	By* _____ Date _____	By* _____ Date _____	By* _____ Date _____
(7)	Additional Reviews	By* _____ (QA) Date _____ By* _____ Date _____	By* _____ (QA) Date _____ By* _____ Date _____	By* _____ (QA) Date _____ By* _____ Date _____
(8)	Approved	By* _____ Date _____	By* _____ Date _____	By* Tom Avlon Date 8/29/12
(9)	Level of Use			

PERFORMANCE (*Compare with Control Copy every 14 calendar days while work is being performed.*)

(10) Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

(11) Date(s) Performed _____
Work Order Number (WO#) _____

COMPLETION

(12) Procedure Completion Verification:
☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc., attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?
Verified By* _____ Date _____

(13) Procedure Completion Approved* _____ Date _____

(14) Remarks (*Attach additional pages, if necessary*)

* *Printed Name and Signature*

APPENDIX C. APPLICABILITY DETERMINATION

PART I - ACTIVITY DESCRIPTION

DUKE ENERGY CAROLINAS, LLC SITE			UNIT(S)		
☐ Oconee	☐ McGuire	☒ Catawba	☒ Unit 1	☒ Unit 2	☐ Unit 3

ACTIVITY TITLE/DOCUMENT/REVISION: **SR/0/B/2000/003, Activation of the Emergency Operations Facility**

Revision 25

PART II - PROCESS REVIEW

For each activity, address all of the questions below. If the answer is "YES" for any portion of the activity, apply the identified process(es) to that portion of the activity. Note: It is not unusual to have more than one process apply to a given activity.

Will implementation of the above activity require a change to the:

1.	Technical Specifications (TS) or Operating License?	☒ NO	☐ YES	If YES, process as a license amendment per NSD 227.
2.	Quality Assurance Topical?	☒ NO	☐ YES	If YES, seek assistance from Independent Nuclear Oversight.
3.	Security Plans? (See Appendix H)	☒ NO	☐ YES	If YES, process per the Nuclear Security Manual.
4.	Emergency Plan?	☐ NO	☒ YES	If YES, process per the Emergency Planning Functional Area Manual.
5.	Inservice Testing Program Plan?	☒ NO	☐ YES	If YES, process per site IST Program for ASME code compliance and related facility changes.
6.	Inservice Inspection Program Plan?	☒ NO	☐ YES	If YES, process per Materials, Metallurgy and Piping Inservice Inspection FAM for ASME code compliance and related facility or procedure changes.
7.	Fire Protection Program Plan?	☒ NO	☐ YES	If YES, evaluate activity in accordance with NSD 320.
	7a - Utilize Appendix E to address Fire Protection Program Plan Impact.		☐	Check to confirm use of Appendix E Screening Questions
8.	Regulatory Commitments?	☒ NO	☐ YES	If YES, process per NSD 214.
9.	Code of Federal Regulations?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance group.
10.	Programs and manuals listed in the Administrative Section of the TS?	☒ NO	☐ YES	If YES, contact the Regulatory Compliance group.

PART IIIa - 10 CFR 72.48 APPLICABILITY

For each activity, address the question below. If the answer to question 11 is "YES," and questions 14 and 17 are answered "NO", then process the activity per NSD 211 - 10 CFR 72.48 does apply.

11.	Does the activity involve SSCs, procedures or conduct tests or experiments that support/impact the loading or transport of the canister/cask to the ISFSI, the ISFSI facility, spent fuel cask design?	☒ NO	☐ YES

PART IIIb – 10 CFR 50.59 APPLICABILITY

For each activity, address all of the questions below. If the answer to question 18 is "YES," then 10 CFR 50.59 does not apply. If the answer to questions 18 is "NO," then process the activity per NSD 209 – 10 CFR 50.59 applies.

12.	Does the activity involve a procedure, governed by NSD 703 that has been excluded from the 10 CFR 50.59 process per NSD 703, Appendix N and the exclusion status remains valid?	☒ NO	☐ YES
13.	Does the activity involve an administrative procedure governed by NSD 100 that does not contain information regarding the operation and control of Structures, Systems and Components?	☒ NO	☐ YES
14.	Does the activity involve a type of Engineering Change that NSD 301 excludes from the 10 CFR 50.59 and/or 10 CFR 72.48 Processes? Consult NSD 301 for assistance.	☒ NO	☐ YES
15.	Does the activity involve (a) maintenance activities that restore SSCs to their as-designed condition (including activities that implement approved design changes) or (b) temporary alterations supporting maintenance that will be in effect during at-power operations for 90 days or less?	☒ NO	☐ YES
16.	Does the activity involve a UFSAR modification that NSD 220 excludes from the 10 CFR 50.59 Process? Consult NSD 220 for assistance.	☒ NO	☐ YES
17.	Does the activity involve NRC and/or Duke Energy Carolinas, LLC approved changes to the licensing basis?	☒ NO	☐ YES
18.	Are ALL aspects of the activity bounded by one or more "YES" answers to questions 1 through 17, above?	☐ NO	☒ YES

PART IV - UFSAR REVIEW

19.	Does the activity require a modification, deletion, or addition to the UFSAR to satisfy the UFSAR content requirements of 10 CFR 50.34 (b), 10 CFR 50.71 (e), or Regulatory Guide (RG) 1.70? Consult NSD 220 for Assistance. IF YES, process per NSD 220.	☒ NO	☐ YES

PART V – SIGNOFF

(Print Name) Gerald L. McCracken (Sign) [signature] DATE 08/29/12

Applicability Determination Preparer

§50.54(q) Screening Evaluation Form

Activity Description and References: SR/0/B/2000/003 Revision 25 — BLOCK 1

1. Body of Procedure - Added new conditional step 3.4 to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable and renumbered subsequent steps. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
2. List of Enclosures - Added new Enclosures 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. and 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg. to list and renumbered subsequent enclosure. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
3. Enclosure 6.1 page 2 of 14 - Revised Guidance on declaring EOF operational to provide detailed guidance on how to fill vacancies in required positions with personnel not on the EOF roster for those positions {PIP G-11-1389 CA #11}
4. Enclosure 6.2, page 2 of 8 - Revised wording of block on flow chart for changes to wind speed and direction to correctly consider such changes if greater than gap activity exists in containment to be consistent with guidance in RP/0/A/5700/005 {PIP C-11-4972 CA#1 and DocuTracks NGO-2012-000033}
5. Enclosure 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. - New enclosure added{PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
6. Enclosure 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}

Activity Scope: — BLOCK 2

- ☐ The activity is a *change* to the *emergency plan*
- ☒ The activity is not a *change* to the *emergency plan*

Change Type: — BLOCK 3

- ☐ The change is editorial or typographical
- ☒ The change is not editorial or typographical

Change Type: — BLOCK 4

- ☐ The change does conform to an activity that has prior approval
- ☒ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☒ §50.47(b)(2) – Onsite Emergency Organization
- ☒ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☒ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☒ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☒ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: Catawba Emergency Plan Revision 12-1 Sections B.7, C.1, F.1, and H.2; McGuire Emergency Plan Revision 12-2 Sections B.5, B.7, C.2, F.1, H.2; Oconee Emergency Plan Revision 12-3 Sections B.5, B.7, F.1, and H.2

☐ The activity does not involve a site specific EP commitment

Screening Evaluation Results: BLOCK 7

☐ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☒ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ernestine M. Kuhr	Ernestine M. Kuhr	08/21/2012
Reviewer Name: by email Gerald McCracken	Reviewer Signature by email Ernestine M. Kuhr	Date: 08/29/2012

§50.54(q) Effectiveness Evaluation Form

For Catawba Nuclear Station

Activity Description and References: SR/0/B/2000/003 Revision 25 **BLOCK 1**

1. Body of Procedure - Added new conditional step 3.4 to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable and renumbered subsequent steps. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
2. List of Enclosures - Added new Enclosures 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. and 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg. to list and renumbered subsequent enclosure. {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
3. Enclosure 6.1 page 2 of 14 - Revised Guidance on declaring EOF operational to provide detailed guidance on how to fill vacancies in required positions with personnel not on the EOF roster for those positions {PIP G-11-1389 CA #11}
4. Enclosure 6.2, page 2 of 8 - Revised wording of block on flow chart for changes to wind speed and direction to correctly consider such changes if greater than gap activity exists in containment to be consistent with guidance in RP/0/A/5700/005 {PIP C-11-4972 CA#1 and DocuTracks NGO-2012-000033}
5. Enclosure 6.25, Setup of Catawba Alternate EOF in McGuire Admin Bldg. - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}
6. Enclosure 6.26, Setup of McGuire or Oconee Alternate EOF in Catawba Admin Bldg - New enclosure added {PIPs G-11-1352 CA #6 and DocuTracks NGO-2012-000011, G-12-0276 CA #2, G-12-1158 CA #2, 4, and 7}

Note:

- Changes 1, 2, 5, and 6 will be evaluated together as they related to the addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage.
- Change 4 applies only to Catawba and does not need to be evaluated by the other sites.

Activity Type: **BLOCK 2**

☐ The activity is a *change* to the *emergency plan*
☒ The activity affects implementation of the *emergency plan*, but is not a *change* to the *emergency plan*

Impact and Licensing Basis Determination: BLOCK 3

1. Licensing Basis:
Applicable regulations, EP Functions, and NUREG-0654 criteria

Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage.

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. The associated EP Function is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained. The NUREG-0654 criteria are B.5 and B.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section B.7, McGuire Emergency Plan Revision 12-2 Sections B.5 and B.7 and Oconee Emergency Plan Revision 12-03 Sections B.5 and B.7.
- 10CFR50.47 (b) (3) requires arrangements to be made to accommodate State and local staff at the EOF and that other organizations capable of augmenting the planned response have been identified. The associated EP Function is C)(2) Emergency Response Support and Resources - State and local staff can be accommodated at the EOF in accordance with the emergency plan. The NUREG-0654 criterion is C.2. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section C.2, McGuire Emergency Plan Revision 12-2 Section C.2 and Oconee Emergency Plan Revision 12-03 Section C.2.
- 10CFR50.47 (b) (6) mandates provisions for prompt communications among principal response organizations. The associated EP Function is F)(2) Emergency Communications - Systems are established for prompt communication among principal emergency response organizations. The NUREG-0654 criterion is F.1. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section F.1, McGuire Emergency Plan Revision 12-2 Section F.1 and Oconee Emergency Plan Revision 12-03 Section F.1.
- 10CFR50.47 (b) (8) requires that adequate emergency facilities and equipment to support the emergency response are provided and maintained. 10CFR50 Appendix E.IV.E requires an Emergency Operations Facility. It also requires equipment for dose assessment and communications. The associated EP Function is H)(1) Emergency Facility and Equipment - Adequate facilities are maintained to support Emergency Response. The NUREG-0654 criterion is H.2. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section H.2, McGuire Emergency Plan Revision 12-2 Section H.2 and Oconee Emergency Plan Revision 12-03 Section H.2.

Change 3 - guidance on how to fill vacancies in required positions

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. The associated EP Function is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained. The NUREG-0654 criteria are B.5 and B.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section B.7, McGuire Emergency Plan Revision 12-2 Sections B.5 and B.7 and Oconee Emergency Plan Revision 12-03 Sections B.5 and B.7.

Change 4 - change in Catawba PAR flow chart

- 10CFR50.47 (b) (10) requires that guidelines for the choice of protective actions during an emergency be in place. The associated EP Function is J)(1) Protective Response - A range of public PARs (excluding KI) is available for implantation during an emergency. The NUREG-0654 criterion is J.7. The associated Emergency Plan Commitments are contained in Catawba Emergency Plan Revision 12-1 Section J.7.

Compliance Evaluation and Conclusion: BLOCK 4

1. Evaluation of Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage:

A conditional step and enclosures have been added to provide guidance to establish EOF at alternate location if the EOF in the Energy Center is unavailable

- If a declared emergency were to occur at Catawba Nuclear Station, the EOF would be set up in the McGuire Alternate TSC in the McGuire Administration Building. This location is greater than 10 miles from Catawba Nuclear Station.
- If a declared emergency were to occur at McGuire Nuclear Station, the EOF would be set up in the Catawba Alternate TSC in the Catawba Administration Building. This location is greater than 10 miles from McGuire Nuclear Station.
- If a declared emergency were to occur at Oconee Nuclear Station, the EOF would be set up in the Catawba Alternate TSC in the Catawba Administration Building. This location is greater than 10 miles from Oconee Nuclear Station.

The following is an evaluation of the planned COMPENSATORY MEASURES to document that the associated Planning Standard Functions for the EOF can be accomplished, albeit in a potentially degraded manner, should an actual radiological emergency occur during this time period.

- 10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. SR/003 includes the steps and times required to declare the EOF activated, and specifies the interfaces between onsite and offsite emergency response organizations. Duke Energy uses an "all call" approach to staffing our Emergency Response Organization. Given that the EOF positions are staffed five deep and that personnel live in various locations in the greater Charlotte Area, the EOF should be able to be staffed at the Alternate Locations within 75 minutes to relieve the TSC of the EOF functions. For the planned outage for the Democratic National Convention (DNC), a survey was done to determine the response time of personnel scheduled to be on duty during the to the alternate EOF location. Of 39 responses, only one reported a response time from home to McGuire greater than 75 minutes. This was one responder in a required position. This position has three people on duty at a time; two are required for minimum staffing to declare the EOF operational.
- 10CFR50.47 (b) (3) requires arrangements to be made to accommodate State and local staff at the EOF and that other organizations capable of augmenting the planned response have been identified. SR/003 discusses admitting offsite agency responders to the EOF and briefing offsite agency personnel, as well as briefing the ECOC Directors. Space is being provided in the Alternate EOF locations for State and local staff.
- 10CFR50.47 (b) (5) mandates that procedures be established for notification, by the licensee, of State and local response organizations. SR/003 states the time requirements for notification of offsite agencies, and assigns responsibilities for providing information for the Emergency Notification Forms. It also instructs personnel about briefing the State and local response organizations. Use of an alternate facility does not change these time requirements or assignment of responsibilities. The alternate EOF locations have selective signaling and commercial telephone equipment available for offsite agency notification. Satellite phone equipment is available on site as a third backup.
- 10CFR50.47 (b) (6) mandates provisions for prompt communications among principal response organizations. SR/003 specifies the time requirements for initial and follow-up notifications. Use of an

alternate facility does not change these time requirements.

- 10CFR50.47 (b) (8) requires that adequate emergency facilities and equipment to support the emergency response are provided and maintained and 10CFR50 Appendix E.IV.E requires an Emergency Operations Facility Appendix E.IV.E also requires equipment for dose assessment and communications. SR/003 provides guidance for the use of such equipment by the EOF staff. The revision to SR/003 includes layout drawings for setup of the alternate EOF locations at Catawba (for McGuire and Oconee) and McGuire (for Catawba), including locations for dose assessment and equipment for communications.

Evaluation of Alternate Locations against NUREG-0696 criteria for an EOF

Functions

The functions of an EOF are specified in NUREG-0696:

> The emergency operations facility (EOF) is a licensee controlled and operated offsite support center. The EOF will have facilities for:
>
> - Management of overall licensee emergency response,
> - Coordination of radiological and environmental assessment,
> - Determination of recommended public protective actions, and
> - Coordination of emergency response activities with Federal, State, and local agencies.

The existing EOF staff will be able to perform these functions at the alternate location using fleet standard Shared Emergency Response Procedures. Management of overall licensee emergency response, determination of recommended public protective actions, and coordination of emergency response activities with Federal, State, and local agencies will be performed in accordance with procedure SR/0/B/2000/003, Activation of the Emergency Response Facility. Coordination of radiological and environmental assessment will be performed in accordance with procedures SH/0/B/2000/001, Emergency Response Offsite Dose Projections, and SH/0/B/2000/002, Protocol for the Field Monitoring Coordinator during Emergency Conditions. Offsite Agency Communications are done in accordance with procedure SR/0/B/2000/004, Notifications to the States and Counties from the Emergency Operations Facility. Security will be provided by site security.

Location, Habitability, and Radiological Monitoring

Since the Alternate EOF locations are both greater than 10 miles from the affected stations, there are no habitability concerns with using an unaffected site's Administration Building. Radiological Monitoring of the facility is not required.

Staffing and Training

The Alternate EOF locations will be staffed using the normal EOF personnel.

Work Areas

The Command and Control Center, staffed by the EOF Director, Assistant EOF Director, Accident Assessment Manager, Radiological Assessment Manager, Lead Offsite Agency Communicator, Log recorder, EOF Tech Liaison, Public Information Coordinator, and offsite agency representatives, will be located as follows:

- VP Conference Room in the Catawba Administration Building
- Executive Board Room (Room 111) in the McGuire Administration Building

Other EOF staff members will be located as follows:

Catawba Administration Building

- Offsite Communicators - EP Manager's Office
- Data Coordinator - EP Cubes
- EOF Emergency Planner - EP Cubes

- EOF Services - Touchdown Room 142
- News Manager and Public Spokesperson - PA Manager Office
- State and County Work Area - Room 153 A/B
- NRC Site Team- NRC Resident Inspector Office Area
- Dose Assessment - Room 137A
- Accident Assessment - Room 137B
- Offsite Monitoring - Catawba TSC (to have access to Field Monitoring Radios)

McGuire Administration Building

- Accident Assessment - EP Office Area (Room 114)
- Dose Assessment - SCR Room 100D
- Offsite Monitoring - McGuire TSC (to have access to Field Monitoring Radios)
- Offsite Agency Communicators - EP Room 115B
- Data Coordinator - CBX Equipment Room 112
- Other Support Groups (e.g., EOF Services Manager) - Jaguar Room (Room 144)
- News Manager and Public Spokesperson - Rooms 118 and 141 or Energy Explorium
- NRC Site Team - NRC Resident Inspector Office Area (Room 126)

Communications

The alternate EOF locations have reliable voice communications to the TSC, control room, NRC, and state and local EOCs using the Duke Energy telephone system. Speaker phones are available for establishing open lines with the TSC Emergency Coordinator. The Selective Signaling system is available at the alternate locations for State and County notifications. Offsite monitoring radios are available in the Catawba and McGuire TSCs. Telephones are available in the NRC Resident Inspectors offices for NRC use.

All Duke Energy nuclear stations use WebEOC to prepare Emergency Notifications for the states and counties electronically. WebEOC can be accessed from any network connected PC.

Technical Data and Dose Assessment Software

All Duke Energy nuclear stations utilize SAIC's Satellite Display System (SDS®) to access and display plant and meteorological data from the OAC. SDS® has the capability to graphically display plant parameters on PCs using Duke's Wide and Local Area Networks (WAN and LAN). Using Duke's fiber optic WAN, plant data from each station (Catawba/McGuire/Oconee) can be displayed on any network connected PC. With the use of SDS® as the interface with the unit's Operator Aid Computer (OAC), the Alternate EOF has access to the same data points that are available to the operators in the Control Room and emergency responders in the TSC and OSC.

All Duke Energy nuclear stations utilize Earth Tech's RADDOSE V offsite dose projection model. RADDOSE can be loaded on any network PC, and a PC can have both SDS and RADDOSE running at the same time.

Records Availability

EOF records can be accessed as follows:

- Plant Technical Specifications -- accessed electronically
- Plant Operating Procedures -- accessed electronically
- Emergency Operating Procedures – accessed electronically
- Updated Final Safety Analysis Report – accessed electronically
- Up-to-date copies of licensee, state, and local emergency response plans – controlled hard copies of licensee Emergency Plans are available in the EP office areas. The North Carolina State Emergency Plan

(including site specific appendices) is available on the Fleet EP LAN Share. The South Carolina plans are available on the SC EMD website at http://www.scemd.org

- Offsite population distribution data – This is part of the site Emergency Plan.
- Evacuation Plans – These are part of the State Emergency Plan.
- Licensee Employee Exposure History - accessed electronically
- Drawings - accessed electronically

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

2. Evaluation of Change 3 - guidance on how to fill vacancies in required positions:

10CFR50.47 (b) (2) requires that timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified. Previously, SR/003 had a step for the EOF Director to approve admitting personnel to the EOF who had training deficiencies. This revision provides more detailed guidance on filling vacancies in required positions to support timely augmentation of response capabilities in the event a required position is not filled within 75 minutes.

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

3. Evaluation of Change 4 - change in Catawba PAR flow chart - applicable to Catawba Only

10CFR50.47 (b) (10) requires that guidelines for the choice of protective actions during an emergency be in place. This change makes the PAR flow chart consistent with the wording in the enclosure and the corresponding guidance in Catawba RP/0/B/5000/005, General Emergency.

Conclusion:

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

Reduction in Effectiveness (RIE) Evaluation and Conclusion: BLOCK 5

1. Evaluation of Changes 1, 2, 5, and 6 - addition of an Alternate EOF Location as a COMPENSATORY MEASURE for an EOF outage:

The Applicable EP Program Functions from Attachment 3.10.7.8 for these changes are as follows:

- B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained.
- C)(2) Emergency Response Support and Resources - State and local staff can be accommodated at the EOF in accordance with the emergency plan.
- F)(2) Emergency Communications - Systems are established for prompt communication among principal emergency response organizations.
- H)(1) Emergency Facility and Equipment - Adequate facilities are maintained to support Emergency Response.

Duke Energy is not required by NRC regulations to have a backup EOF. Business Continuity plans were developed for the event of an EOF evacuation and relocation to an alternate facility, but did not provide detailed activation guidance. This revision to SR/003 provides detailed procedural guidance for establishing the EOF at an alternate facility. This will allow the EOF staff to augment site staff to relieve

the burden of the EOF functions from the TSC.

The functions of an EOF are specified in NUREG-0696:

The emergency operations facility (EOF) is a licensee controlled and operated offsite support center. The EOF will have facilities for:

- Management of overall licensee emergency response,
- Coordination of radiological and environmental assessment,
- Determination of recommended public protective actions, and
- Coordination of emergency response activities with Federal, State, and local agencies.

The existing EOF staff will be able to perform these functions at the alternate location using fleet standard Shared Emergency Response Procedures. Management of overall licensee emergency response, determination of recommended public protective actions, and coordination of emergency response activities with Federal, State, and local agencies will be performed in accordance with procedure SR/0/B/2000/003, Activation of the Emergency Response Facility. The alternate EOF locations have reliable voice communications to the TSC, control room, NRC, and state and local EOCs using the Duke Energy telephone system. Speaker phones are available for establishing open lines with the TSC Emergency Coordinator.

Coordination of radiological and environmental assessment will be performed in accordance with procedures SH/0/B/2000/001, Emergency Response Offsite Dose Projections, and SH/0/B/2000/002, Protocol for the Field Monitoring Coordinator during Emergency Conditions. Radiological Data can be obtained through SDS and dose calculations performed using RADDOSE V from any network connected computer. Offsite monitoring radios are available in the Catawba and McGuire TSCs. Guidance is contained in SH/0/B/2000/001 and SR/0/B/2000/003 for developing protective action recommendations.

Offsite Agency Communications are done in accordance with procedure SR/0/B/2000/004, Notifications to the States and Counties from the Emergency Operations Facility. The Selective Signaling system is available at the alternate locations for State and County notifications. All Duke Energy nuclear stations use WebEOC to prepare Emergency Notifications for the states and counties electronically. WebEOC can be accessed from any network connected PC.

SR/003 includes the steps and times required to declare the EOF activated, and specifies the interfaces between onsite and offsite emergency response organizations. Duke Energy uses an "all call" approach to staffing our Emergency Response Organization. Given that the EOF positions are staffed five deep and that personnel live in various locations in the greater Charlotte Area, the EOF should be able to be staffed at the Alternate Locations in within 75 minutes to relieve the TSC of the EOF functions. For the planned outage for the Democratic National Convention (DNC), a survey was done to determine the response time of personnel scheduled to be on duty during the to the alternate EOF location. Of 39 responses, only one reported a response time from home to McGuire greater than 75 minutes. This position has three people on duty at a time; two are required for minimum staffing to declare the EOF operational. Space is being provided in the Alternate EOF locations for State and local staff.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

2. Evaluation of Change 3 - guidance on how to fill vacancies in required positions:

The Applicable EP Program Functions from Attachment 3.10.7.8 is B)(2) Onsite Emergency Organization - The process for timely augmentation of on-shift staff is established and maintained

This change does not alter the 75 minute time frame for having minimum staffing in place and declaring the facility operational. Previously, SR/003 had a step for the EOF Director to approve admitting personnel to the EOF who had training deficiencies. This revision provides more detailed guidance on filling vacancies in required positions to ensure they are capable of filling the position based on training, experience and skills required by the ERO training program.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

3. Evaluation of Change 4 - change in Catawba PAR flow chart - applicable to Catawba Only

The Applicable EP Function from Attachment 3.10.7.8 is J)(1) Protective Response - A range of public PARs (excluding KI) is available for implantation during an emergency.

A range of protective actions will continue to be in place. This change makes the PAR flow chart consistent with the wording in the enclosure and the corresponding guidance in Catawba RP/0/B/5000/005, General Emergency.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

Effectiveness Evaluation Results BLOCK 6

☒ The activity does continue to comply with the requirements of §50.47(b) and §50 Appendix E and the activity does not constitute a reduction in effectiveness. Therefore, the activity can be implemented without prior approval.

☐ The activity does not continue to comply with the requirements of §50.47(b) and §50 Appendix E or the activity does constitute a reduction in effectiveness. Therefore, the activity cannot be implemented without prior approval.

Preparer Name: Ernestine M. Kuhr	Preparer Signature: Ernestine M. Kuhr	Date: 08/29/2012
Reviewer Name: Gerald McCracken	Reviewer Signature: Gerald McCracken	Date: 08/29/2012
Approver Name: Tom Arlow	Approver Signature: Tom Arlow	Date: 8/29/12

Duke Energy®

T. PRESTON GILLESPIE, JR.
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January 8, 2013

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station, Units 1, 2, and 3
Docket Nos. 50-269, -270, and -287
Emergency Plan Implementing Procedures Manual
Volume C, Revision 2013-01

Please find attached for your use and review copies of the revision to the Oconee Nuclear Station Emergency Plan.

This revision is being submitted in accordance with 10 CFR 50.54(q) and does not reduce the effectiveness of the Emergency Plan or the Emergency Plan Implementing Procedures. If there are any questions or concerns pertaining to this revision please call Pat Street, Emergency Planning Manager, at 864-873-3124.

By copy of this letter, two copies of this revision are being provided to the NRC, Region II, Atlanta, Georgia.

Sincerely,

TPGillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

Attachments:
Revision Instructions
EPIP Volume C - Revision 2013-01
50.54(q) Evaluation(s)

AX45
NRR

xc: w/2 copies of attachments

Mr. Victor McCree, Regional Administrator
U.S. Nuclear Regulatory Commission - Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

w/copy of attachments

Mr. John Boska, Project Manager
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
11555 Rockville Pike -Mail Stop 8G9A
Rockville, MD 20852
(send via E-mail)

w/o attachments

NRC Senior Resident Inspector
Oconee Nuclear Station

January 8, 2013

OCONEE NUCLEAR STATION

SUBJECT: Emergency Plan Implementing Procedures
Volume C Revision 2013-01

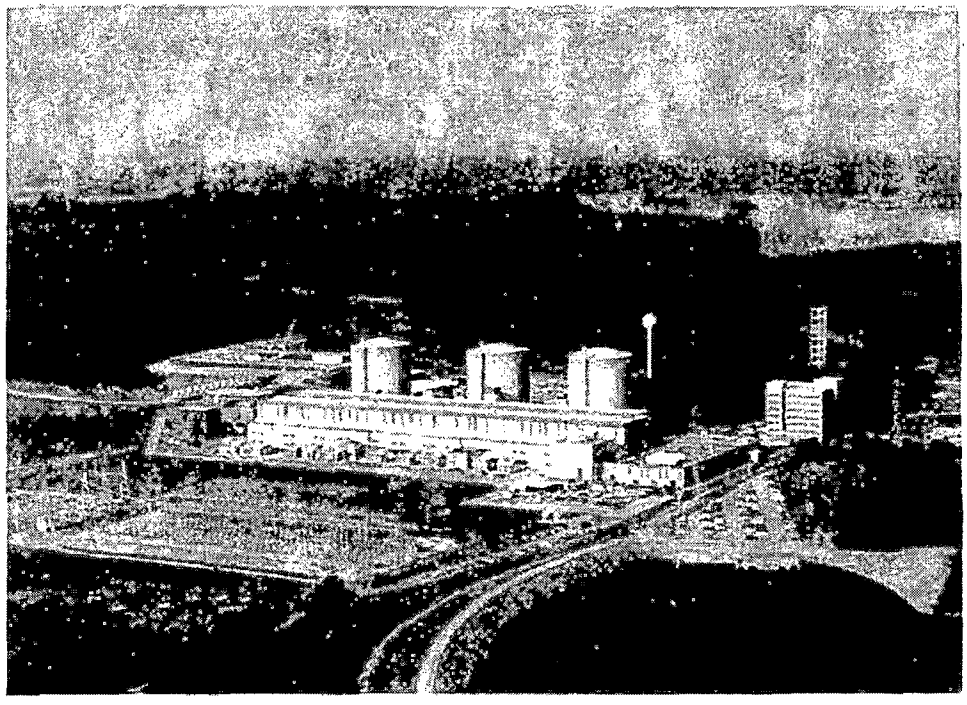
Please make the following changes to the Emergency Plan Implementing Procedures, Volume C:

Change the tabs in your manual to reflect the changes, new tabs will be issued at a later date.

REMOVE	INSERT
Cover Sheet Rev. 2012-07	Cover Sheet Rev. 2013-01
Table of Contents Page 1, 2, & 3	Table of Contents Page 1, 2, & 3
RP/0/B/1000/009 -SUPERSEDED with RP/0/A/1000/009	RP/0/A/1000/009 - Rev. 000
RP/0/B/1000/019 - SUPERSEDED with RP/0/A/1000/019	RP/0/A/1000/019 - Rev. 000
RP/0/B/1000/022 - Rev. 12	RP/0/B/1000/022 - Rev. 13
RP/0/B/1000/029 - Rev. 16	RP/0/B/1000/029 - Rev. 17
Engineering Manual 5.1 - Rev. 29	Engineering Manual 5.1 - Rev. 30
DTS-007 - Oconee Training Division Training Standard - Rev. 17	DTS-007 - Oconee Training Division Training Standard - Rev. 18

Pat Street
ONS Emergency Planning Manager

OCONEE NUCLEAR STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURES
VOLUME C



APPROVED:

Terry L. Patterson
Safety Assurance Manager

1/7/13
Date Approved

1/8/13
Effective Date

VOLUME C
REVISION 2013 -01
JANUARY 2013

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Duke Energy
Oconee Nuclear Station
Procedure For Site Assembly

Procedure No.
RP/0/A/1000/009
Revision No.
000
Electronic Reference No.
OP009A6U

Reference Use

PERFORMANCE

This Procedure was printed on 12/11/12 at 08:10:30 from the electronic library as:

(ISSUED) - PDF Format

Compare with Control Copy every 14 calendar days while work is being performed.

Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* Date

Procedure Completion Approved* Date
**Printed Name and Signature*

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do NOT mark on barcodes.

Enclosure No.: *FULL*

Printed Date: *12/11/2012*

Revision No.: *000*

Procedure No.: *RP/0/A/1000/009*

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

PROCEDURE PROCESS RECORD

(1) ID No. RP/0/A/1000/009

Revision No. 000

PREPARATION

(2) Station OCONEE NUCLEAR STATION

(3) Procedure Title Procedure for Site Assembly

(4) Prepared By* Ray Waterman (Signature) Ray Waterman Date 12-03-12

(5) Requires NSD 228 Applicability Determination?

☐ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation.

☒ No (Revision with minor changes)

(6) Reviewed By* Robert Taylor Robert Taylor (QR)(KI) Date 12/5/12

Cross-Disciplinary Review By* _____ (QR)(KI) NA Date 12/5/12

Reactivity Mgmt Review By* _____ (QR) NA Date 12/5/12

Mgmt Involvement Review By* _____ (Ops. Supt.) NA Date 12/5/12

(7) Additional Reviews

Reviewed By* _____ Date _____

Reviewed By* _____ Date _____

(8) Approved By* Patrick M Street Patrick M Street Date 12/9/12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification:

☐ Unit 0 ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 Procedure performed on what unit?

☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

Procedure For Site Assembly

NOTE: This is an implementing procedure to the Oconee Nuclear Site Emergency Plan and must be forwarded to Emergency Planning within seven (7) working days of approval.

1. Symptoms

1.1 A test of response time and procedures employed in completing an accounting of onsite personnel.

1.2 An incident occurs on site and:

1.2.1 The Technical Support Center, Operational Support Center, and Emergency Operations Facility are required to be established.

1.2.2 Portions of the site require relocation or a site evacuation may be required.

1.2.3 OSM determination (e.g., hostile action based Security events)

2. Immediate Actions

2.1 OSM/Emergency Coordinator perform required action in Enclosure 4.1, (Action Plan for (TSC or OSM) Emergency Coordinator).

2.2 Activate the outside Site Assembly Horn to notify personnel outside the reach of the PA System per Enclosure 4.1.

2.3 Continue the alarm, horn, and announcements for a duration long enough to ensure all onsite personnel are aware of the Site Assembly and are responding. (No more than 6 alarm and horn activations, together with announcements, need to be made.)

2.4 Make announcements over the Public Address System, Enclosure 4.3 (Public Address Announcement)

2.5 (Action Plan for Security Shift Supervisor) Enclosure 4.2

2.6 (Action Plan for Offsite Communicator) Enclosure 4.5.

3. Subsequent Actions

3.1 It is required that personnel be accounted for within 30 minutes of initiation of site assembly. The number of unaccounted personnel can be reported first with the names being reported later.

3.2 Record accountability results (via phone or fax) from Security on Enclosure 4.7 (Site Accountability Log).

3.2.1 It is required that personnel be accounted for within 30 minutes of initiation of site assembly. The number of unaccounted personnel can be reported first with the names being reported later.

3.3 When personnel accountability has been completed during a Site Assembly, one of the following will occur:

3.3.1 If the requirement for an assembly no longer exists, a request to return to normal duties will be given by the Emergency Coordinator.

3.3.2 Plant conditions may require evacuation of the station. Consult procedure RP/0/A/1000/010 (Procedure for Emergency Evacuation/Relocation).

4. Enclosures

4.1 Action Plan for (TSC or OSM) Emergency Coordinator

4.2 Action Plan for Security Shift Supervisor

4.3 Public Address Announcement

4.4 Action Plan for Onsite Personnel

4.5 Action Plan For Off-Site Communicator

4.6 Site Assembly Locations

4.7 Site Accountability Log

4.8 Card Reader Locations

4.9 References

1. Action Plan For (TSC or OSM) Emergency Coordinator

_____ 1.1 Alert Security Shift Supervisor that a Site Assembly/Accountability will be initiated.

_____ 1.1.1 If accountability is for Security related hostile action events:

A. If sufficient time is available, conduct a Site Assembly/Accountability in accordance with this procedure. (Accountability is required prior to Site Evacuation or relocation to an off-site location).

B. If the threat is imminent, within a short time period and relocation for personnel safety is necessary, conduct an accountability of personnel after relocation but prior to evacuation or dismissal.

C. If the threat is ongoing, delay accountability until after the event has concluded (all clear).

_____ 1.2 Appoint a person or persons to:

_____ 1.2.1 Activate warble tone over PA System and outside Site Assembly horn located at the microwave tower.

_____ 1.2.2 Make voice announcements over the PA System per Enclosure 4.3 (Public Address Announcement).

_____ 1.3 Obtain accountability results from TSC Off-Site Communicator or Security if communicator is not available on Enclosure 4.7 (Site Accountability Log).

_____ 1.4 Direct necessary actions to account for any missing personnel.

1.4.1 MERT will be utilized for this purpose.

_____ 1.5 Examine the radiation/contamination levels established in RP/0/A/1000/010 (Procedure for Emergency Evacuation/Relocation), to determine the category of personnel that may need to be evacuated.

_____ 1.6 If the requirements for an assembly no longer exist, return the station to normal duties.

1. Action Plan For Security Supervisor

NOTE:	Security will use Security Procedure (SP/C/1629-O) to implement below actions

_____ 1.1 Contact the World Of Energy, Keowee Hydro, Motor Pool, Operations Center (Geo Technical), and the Oconee Operations Training Center to make them aware of Site Assembly.

_____ 1.2 Initiate a patrol of the general station area within station boundaries, both inside and outside of the restricted area, to assure that personnel in remote and noise restrictive areas are aware of the Site Assembly requirement.

NOTE:	Should site assembly be initiated during high traffic ingress and egress, traffic flow will not be restricted.

_____ 1.3 Use automated gates to restrict traffic in and out of the station during Site Assembly as determined by Security.

_____ 1.4 Receive Accountability reports from all groups via phone mail ext. 5050 and complete Enclosure 2 of SP/C/1629/O.

NOTE:	Report names of all unaccounted personnel. However, in the event large numbers of personnel are unaccounted for, names may not initially be provided

_____ 1.5 Report accountability results within 30 minutes (sooner if completed) to Offsite Communicator at 3706 if the TSC is activated, Control Room OSM Emergency Coordinator if TSC is **NOT** activated. Report the numbers(s) and names(s) of any missing person(s).

_____ 1.6 If requested by TSC Off-Site Communicator fax Enclosure 2 of SP/C/1629-O (Site Accountability Log) to ext. 4308 upon completion of site accountability.

_____ 1.7 Coordinate a search and rescue effort if directed.

1.7.1 Utilize MERT for this purpose.

_____ 1.8 Contact the World of Energy, Keowee Hydro, Motor Pool, Operations Center (Geo Technical), and the Oconee Operations Training Center to make them aware of Site Assembly completion.

_____ 1.9 Coordinate evacuation if so instructed.

CAUTION:
- For drill purposes only, preface and close all announcements with, "This is a drill. This is a drill"
- Activating Site Assembly Horn can potentially activate 1SA-3/B-7 "Site Assembly Alarm" this may defeat auto start for HPSW pump temporarily. {1}

SITE ASSEMBLY ALARM INSTRUCTIONS:

- Actuate Site Assembly Alarm switch, Control Board 1UB1, and hold in position
- Activate alarm for 10 seconds
- Repeat announcements and alarm activations six times

PAGE ANNOUNCEMENT INSTRUCTIONS:

- Pick up a phone located on Unit 1&2 Control Room desk
- Switch Office Page to ON
- Dial 70
- Make Announcements #1 and #2 as required by situation
- Switch Office Page to OFF after announcements have been made

NOTE: If any particular area of the plant is found to be unsafe during an emergency, and a Site Assembly is held, warnings should be sounded through the public address system advising the safe corridors to use.

ANNOUNCEMENT #1

"This is a Site Assembly. This is a Site Assembly. All visitors are to assemble with their permanently badged escorts. All permanently badged personnel shall report to their designated Site Assembly area. All other personnel not presently wearing security badges shall report to their supervisor. All personnel are required to remain at their site assembly locations until released."

ANNOUNCEMENT #2

Make this announcement if the Technical Support Center and Operational Support Center, are to be activated. If required, specify that the Alternate TSC and/or OSC will be used.

"ACTIVATE THE TECHNICAL SUPPORT CENTER."

"ACTIVATE THE OPERATIONAL SUPPORT CENTER."

1. Response To Site Assembly Alarm

1.1 - Each person (except those noted in 1.2) shall assemble with their supervisor.

1.1.1 Assembly points for personnel onsite at Oconee Nuclear Site are identified in Enclosure 4.6 (Site Assembly Locations).

NOTE: In case of a reactor building evacuation alarm, the reporting requirements in 1.2 apply.

1.2 Persons working in Radiation Control Areas in protective clothing should leave their work areas, remove outer protective clothing at RCZ Exit, and go to the contaminated side of the appropriate change room.

1.2.1 In the change room, they should contact the appropriate persons as designated by 2.4.1 for personnel accountability reporting. Wait in change room for further instructions concerning site assembly.

NOTE: Card reader locations are listed in Enclosure 4.8 (Card Reader Locations).

1.3 All personnel inside protected area will swipe their badges at their designated site assembly areas.

2. Normal working hours 0700-1730 (Monday – Thursday)

2.1 Supervisors should report their accountability within 8 to 10 minutes to Site Assembly Coordinator for their group.

2.2 Superintendents/Managers or designee (Site Assembly Coordinator) shall report for their group and give names of any persons not accounted for within 20 minutes.

2.3 Completion of station accountability shall be made within 30 minutes.

2.4 All personnel shall assemble at designated assembly areas and all personnel inside the protected area shall swipe badges.

2.4.1 Each supervisor shall be responsible for accounting for all assigned personnel.

A. Each reporting supervisor or designee Site Assembly Coordinator is to report accountability by calling extension 5050 and following instructions.

- Department name, your name and extension, your accountability, and number of missing if any.
- If a large number of personnel are unaccounted for provide number of missing to Security, Security will call back for names.

2.4.2 Station Superintendents/Supervisors of various organizations working at Oconee (World of Energy and Keowee Hydro) shall make an accountability report for their areas of accountability by calling extension 5050 and following instructions.

3. After hours, weekends, holidays

3.1 All personnel shall assemble at designated assembly areas and all personnel inside the protected area shall swipe badges.

3.1.1 Each supervisor shall be responsible for accounting for all assigned personnel.

A. Each reporting supervisor or designee Site Assembly Coordinator shall report accountability to the Security Shift Supervisor by calling extension 5050 and following instructions.

- Department name, your name and extension, your accountability, and number of missing.
- If a large number of personnel are unaccounted provide number of missing to Security, Security will call back for names.

1. Action Plan For Offsite Communicator

1.1 Obtain accountability results from the Security Shift Supervisor or have Security fax a copy of SP/C/1629-O Enclosure 2 (Site Accountability Log) to Off-Site Communicator fax in TSC.

1.1.1 If Security is not available to acquire site assembly information, Off-Site Communicator can retrieve accountability using Enclosure 4.7 (Site Accountability Log) of this procedure.

1.2 Provide accountability update to Emergency Coordinator if requested.

1.3 Provide 30 minute accountability to Emergency Coordinator as soon as available.

- Number and names, (if available), of unaccounted for personnel.

Site assembly accountability complete _____(time)

(See SP/C/1629-O for detailed results)

DUKE OCONEE NUCLEAR SITE PERSONNEL

SECTION	ASSEMBLY POINT
Site Vice President's Group:	
Site Vice President/Managers and Assigned Staff/Clerks:	Admin Building
Chemistry:	
Chemistry Staff and Technicians	Chemistry Offices
Chemistry Shifts A,B,C.D,E (On-Duty)	Radwaste Facility
Radwaste Staff and Technicians	Radwaste Facility
Maintenance:	
I&E SPOC Crew (On-Duty Shift A,B,C.D,E)	Work Control Center/OSC
I&E Staff, Supervisors, and Technicians	I&E Offices
I&E Plant Maintenance	5th Floor Turbine Bd.
Mech Maintenance SPOC Crew (On-Duty Shift A,B,C.D,E)	Work Control Center/OSC
Mech Maintenance Staff, Supervisors, and Technicians	Mechanical Offices
Operations:	
All	Control Rooms/Ops' Offices
Radiation Protection:	
RP Staff	RP Offices
Support Functions	RP Offices
Surveillance and Control	RP Offices
RP Shifts A,B,C,D,E (On-Duty)	RP Offices/OSC
Work Control:	
All	Work Control Offices
Engineering:	
All	Engineering Offices
NSC & SSG:	
All	NSC & SSG Offices

SECTION	ASSEMBLY POINT
Safety Assurance:	
All	Safety Assurance Offices
Training:	
Manager/Tech Staff, RP, Chemistry, Admin Support, GET Operator Training, Simulator Support, Manager/Tech Staff I&E Mechanical Maintenance	Training Offices Oconee Operations Training Center Maintenance Training Facility
Human Resources:	
All	Human Resources Offices
Community Relations:	
All	WOE Offices
Business Management:	
All	Business Management Offices
Security	Security Offices Designated Post

DUKE NON-OCONEE NUCLEAR SITE PERSONNEL

(Permanently Badged Personnel)

SECTION	ASSEMBLY POINT
Engineering:	Engineering Offices
Operations:	Operations' Offices
Chemistry:	Chemistry Offices
Radiation Protection:	RP Offices
Communications:	Communications' Offices
Keowee:	Keowee Hydro Station
World of Energy:	WOE Offices
Quality Verification:	Quality Assurance Offices
Motor Pool	Motor Pool offices/Garage Area
Operations Center (Geo-Tech) Operations Center personnel Power Delivery	Operations Center (Geo-Technical Offices)

DUKE NON-OCONEE NUCLEAR SITE PERSONNEL

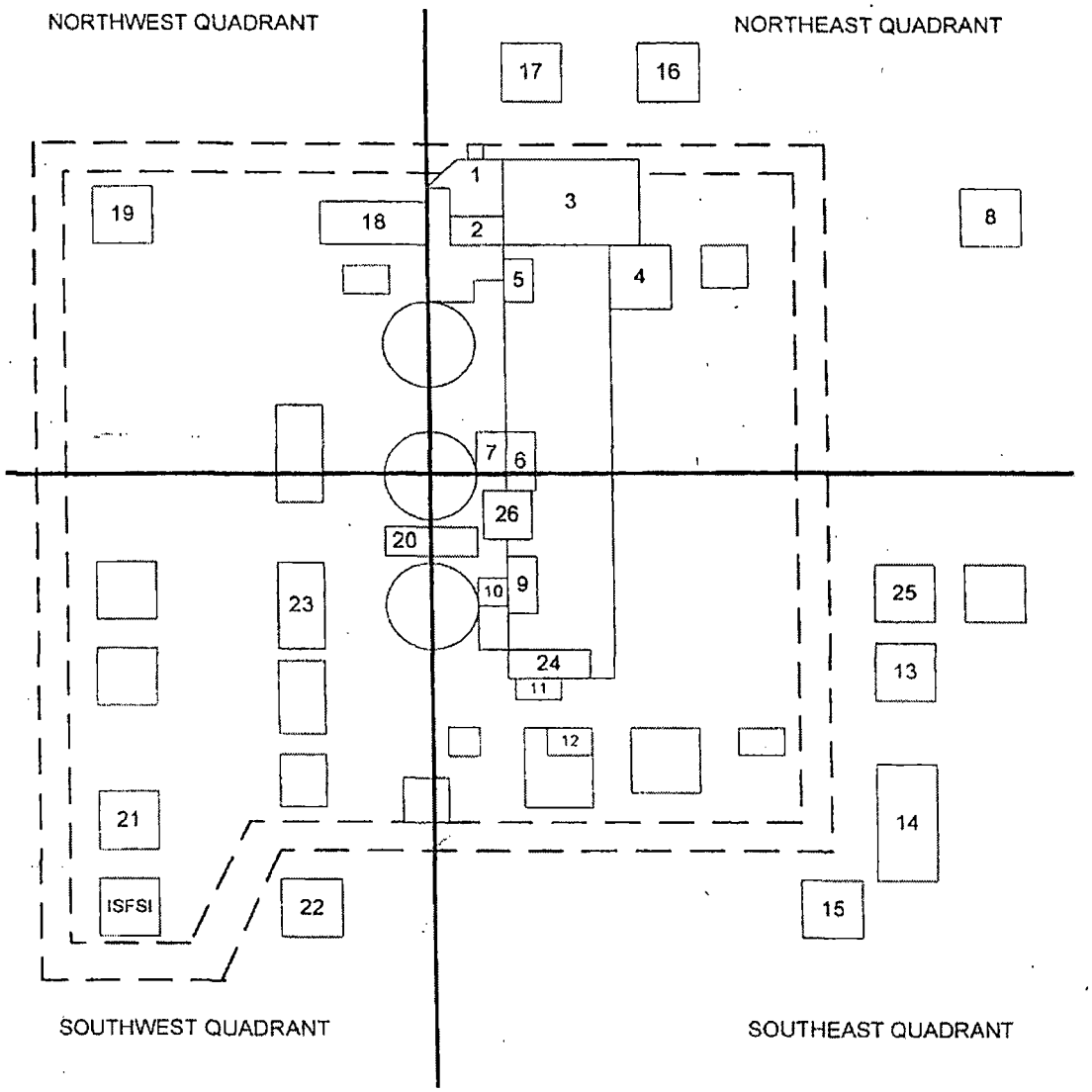
SECTION	ASSEMBLY POINT
Engineering:	Engineering Offices
Bartlett:	
Personnel Inside Protected Area	Maintenance Support Building Canteen
Personnel Outside Protected Area	Bartlett Offices
Framatome:	Framatome Office
Maintenance Vendors:	Maintenance Support Building Canteen
Personnel Inside Protected Area	Station Contact Group
Personnel Outside Protected Area	
I&E Vendors:	Maintenance Support Building Canteen
Radiation Protection Vendors:	RP Offices
NRC:	
All	NRC Offices
Food Service Vendor:	
Personnel Inside Protected Area	Maintenance Support Building Canteen
Personnel Outside Protected Area	Admin. Bldg Canteen

VISITORS

Personnel Inside Protected Area with Escort	Assemble with escort
Personnel Outside Protected Area	Assemble with Station Contact

OTHER PERSONNEL OUTSIDE PROTECTED AREA

All personnel not identified above will report to their Station Contacts' area of assembly.



NORTHWEST QUADRANT	NORTHEAST QUADRANT
18. Administrating Building 19. Oconee Office Building SOUTHWEST QUADRANT 20. RP Assembly Building 21. Interim Outage Building 22. Operations Center (Geo-Technical Ctr.) 23. Warehouse Offices SOUTHEAST QUADRANT 9. Turbine Bd. 3 Offices 10. Unit 3 CR 11. Technical Support Bd. 12. Radwaste Facility 13. Oconee Garage 14. Oconee Complex 15. L-1 Storage Yard 24. Turbine Bd. South Offices 25. Maintenance Training Facility 26. SPA, RP Assembly Area	1. Security Building 2. Locker Building 3. Maintenance Service Bd./Clean Machine Shop 4. Maintenance Support Building 5. Turbine Building North Offices 6. Turbine Building 1&2 Offices/WCC 7. Unit 1&2 Control Room 8. Keowee Hydro Station 16. World of Energy 17. Oconee Training Center

2. Site Accountability Log

NOTE: Instructions are for Security only unless directed otherwise.

2.1 Perform the following actions to retrieve Site Assembly call ins from phone mail #5050

_____ A. Dial - 5050

_____ B. Allow voicemail to answer

_____ C. Press * *

_____ D. Enter Password - 731888#

_____ E. Press 1

_____ F. Press 1 to listen to messages

_____ G. Press # to skip to next message

_____ H. Press 7 to delete messages after information is retrieved.

		ACCOUNTABILITY RESULTS		
Work Group	Contacts Name	Phone #	Time call was made	Names of Missing
Business Management				
Chemistry				
Engineering/LIT				
Human Resources / Medical				
Keowee Hydro Station				
Mechanical Maintenance				
NSC				
Operations				
Radiation Protection				
Safety Assurance/VP Staff				
Security				
SSG				
Training				
Work Control				
World of Energy				

PERSONNEL UNACCOUNTED FOR		
NAME	WORK GROUP	LAST KNOWN LOCATION

1. Site Assembly Card Reader Listing

PSC ID #	Location
EP CR # 01	Locker Building - hallway near west entrance to machine shop
EP CR # 02	Security Admin. Building – second level near mechanical conference room
EP CR # 03	Maintenance Service Building - maintenance shop east wall near doorway leading to yard area
EP CR # 04	Maintenance Service Building - canteen north/east wall near corridor to stairway
EP CR # 05	Maintenance Service Building - canteen south/west wall near stairway
EP CR # 06	Maintenance Service Building – second level south wall near stairway
EP CR # 07	Maintenance Service Building – fourth level south wall near stairway
EP CR # 08	Maintenance Service Building – fifth level south wall near stairway
EP CR # 09	Turbine Building - turbine floor level, north offices located at bottom of north stairwell
EP CR # 10	Turbine Building - units 1&2 turbine floor level offices located in work control/document control area near east door
EP CR # 11	Unit 2 Control Room - on south wall of control room at entrance of corridor to kitchen and TSC
EP CR # 12	Unit 2 Control Room - on north side of column Q-73
EP CR # 13	Unit 3 Control Room – on south wall of corridor between kitchen and OSC
EP CR # 14	Unit 3 Control Room – on north side of column Q-89
EP CR # 15	Technical Support Building – fifth floor operations office area near east stairway door
EP CR # 16	Technical Support Building – third floor, in corridor leading from breezeway to Chemistry area
EP CR # 17	Turbine Building - Unit 3 offices, north entrance near inside door to stairway
EP CR # 18	Turbine Building - south offices, bottom of stairway leading to second level offices
EP CR # 19	Aux. Bldg. - Unit 1&2, third level, hot change room, located in hallway near change room door
EP CR # 20	Aux. Bldg. - Unit 1&2 Spent Fuel Change Room
EP CR # 21	Aux. Bldg. - Unit 3, third level, Hot Change Room, located in hallway near change room door
EP CR # 22	Unit 3 Spent Fuel Change Room
EP CR # 23	Warehouse #3 – first floor office area, to the left, just inside door
EP CR # 24	Radiation Protection Building - lower level west stairway near outside entrance
EP CR # 25	Rad Waste Building - near control room area
EP CR # 26	Standby Shutdown Facility - ground level (elev. 796) in south laydown area near CAS corridor door

PSC ID #	Location
EP CR # 27	Warehouse #3 outside under stairs
EP CR # 28	RP building outside west
EP CR # 29	Rad Waste Bldg. east wall
EP CR # 30	Aux. Building single point of access
EP CR # 31	Oconee Office Bldg. 1st. floor
EP CR # 32	Oconee Office Bldg. 2nd. floor
EP CR # 33	Oconee Office Bldg. 3rd. floor
EP CR # 34	Oconee Office Bldg. 4th. floor
EP CR # 35	Oconee Office Bldg. 5th. floor
EP CR # 36	Oconee Office Bldg. 6th. floor
EP CR # 37	Oconee Office Bldg. 7th. floor
EP CR # 38	Administrative Bldg. 1st. floor
EP CR # 39	Administrative Bldg. 2nd. floor
EP CR # 40	Blue Outage Bldg. #8023
EP CR # 41	Blue Outage Bldg. #8023

1. References

1. PIP 05-O6585

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

PROCEDURE PROCESS RECORD

(1) ID No. RP/0/A/1000/009

Revision No. 000

PREPARATION

(2) Station OCONEE NUCLEAR STATION

(3) Procedure Title Procedure for Site Assembly

(4) Prepared By* Ray Waterman (Signature) Ray Waterman Date 12-03-12

(5) Requires NSD 228 Applicability Determination?

☐ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation.

☒ No (Revision with minor changes)

(6) Reviewed By* Robert Taylor Robert Taylor (QR)(KI) Date 12/5/12

Cross-Disciplinary Review By* _____ (QR)(KI) NA Date 12/5/12

Reactivity Mgmt Review By* _____ (QR) NA Date 12/5/12

Mgmt Involvement Review By* _____ (Ops. Supt.) NA Date 12/5/12

(7) Additional Reviews

Reviewed By* _____ Date _____

Reviewed By* _____ Date _____

(8) Approved By* Patrick M Street Patrick M Street Date 12/9/12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification:

☐ Unit 0 ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 Procedure performed on what unit?

☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

§50.54(q) Screening Evaluation Form

Activity Description and References: RP/0/A/1000/009 rev 0, BLOCK 1

Description of change:

1) To align our E-Plan Implementing Procedures with NSD703 permanent technical procedure requirements as determined by PIP O-12-1590, ONS Emergency Planning will revise the procedure titles (as procedure revisions become necessary) to incorporate the Safety Classification to "A" instead of "B".

2) Throughout procedure change all applicable procedure safety classifications from a "B" to an "A" to comply with NSD 703 and pip O-12-1590.

Reason for Change:

1) NSD 703.5.1, Permanent technical procedures are used to direct station activities during operating, testing, refueling, maintenance, and modifications. These procedures provide guidance for activities that are of a repetitive nature, or when conditions requiring the procedure may occur in the future and the procedure is essential if the situation occurs. Permanent technical procedures are designated in the procedure number as follows:

Procedure Type Abbreviation

Emergency Response Procedures RP

2) During E-Plan Implementing procedure revisions The applicable procedures that are referenced in RP/1000/009 will be revised to reflect "A" as the safety classification in the ID number.

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3

☒ The change is editorial or typographical

☐ The change is not editorial or typographical

Change Type: BLOCK 4

☐ The change does conform to an activity that has prior approval

☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: _____

☐ The activity does not involve a site specific EP commitment

Results: BLOCK 7

This title change is a result of an INOS PIP O-12-1590 making the determination that NSD 703 section 5.1 requires all Emergency Response Procedures to be permanent technical procedure thus resulting in all ONS E-Plan Implementing Procedure having a Safety Classification designation letter of "A" and not "B" in the ID number of that procedure. This title revision in no way compromises the contents of the procedure or its effectiveness of use during an emergency event. Nor does this title ID change affect the required review period for this procedure of every 6 years. It has been determined that this revision will not reduce the effectiveness of this emergency response procedure. The revision to the step number as indicated in change #1 is a editorial change because the procedure user knows this procedure contents and the guidance through multiple uses it was evident that the procedure step number referenced was not accurate and did not affect the direction the user would have taken. This revision was also determined to not require a 5054Q effectiveness evaluation due to a reduction in the effectiveness of the E-Plan.

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation

☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ray Waterman	Ray Waterman	12-03-12
Reviewer Name:	**Reviewer Signature**	**Date:**
Robert Taylor	Robert Taylor	12/5/12

Duke Energy
Oconee Nuclear Station

Technical Support Center Emergency Coordinator Procedure

Procedure No.
RP/0/A/1000/019
Revision No.
000
Electronic Reference No.
OP009A62

Reference Use

PERFORMANCE

This Procedure was printed on 12/11/12 at 09:15:27 from the electronic library as:

(ISSUED) - PDF Format

Compare with Control Copy every 14 calendar days while work is being performed.

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By*	Date

Procedure Completion Approved*	Date
**Printed Name and Signature*	

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do NOT mark on barcodes.

Printed Date: *12/11/2012*

Enclosure No.: *FULL*

Revision No.: *000*

Procedure No.: *RP/0/A/1000/019*

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

PROCEDURE PROCESS RECORD

(1) ID No. RP/0/A/1000/019

Revision No. 000

PREPARATION

(2) Station OCONEE NUCLEAR STATION

(3) Procedure Title Technical Support Center Emergency Coordinator Procedure

(4) Prepared By* Ray Waterman (Signature) Ray Waterman Date 11-26-12

(5) Requires NSD 228 Applicability Determination?

☐ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation.

☒ No (Revision with minor changes)

(6) Reviewed By* Robert Taylor Robert Taylor (QR)(KI) Date 12/5/12

Cross-Disciplinary Review By* _____ (QR)(KI) NA Date 12/5/12

Reactivity Mgmt Review By* _____ (QR) NA Date 12/5/12

Mgmt Involvement Review By* _____ (Ops. Supt.) NA Date 12/5/12

(7) Additional Reviews

Reviewed By* _____ Date _____

Reviewed By* _____ Date _____

(8) Approved By* Patrick M Stages Date 12/9/12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification:

☐ Unit 0 ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 Procedure performed on what unit?

☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

Technical Support Center Emergency Coordinator Procedure

NOTE: This procedure is an implementing procedure to the Oconee Nuclear Station Emergency Plan and must be forwarded to Emergency Planning within seven (7) working days of approval.

1. Symptoms

1.1 Conditions exist where events are in progress or have occurred which indicate a potential degradation in the level of safety of the plant and activation of the Emergency Response Organization (ERO) has been initiated.

2. Immediate Actions

NOTE: The makeup and structure of the ERO organization will be determined by the facility Manager/Coordinator. The facility organizations may be modified or supplemented as necessary to support the particular circumstances given to the existing onsite and offsite conditions. Vacant ERO positions may be filled with other plant staff members present in the facility and who are qualified for the position(s). Individual(s) assigned to fill vacancy should have the training, experience and skills required by the ERO training program for that position. {25}

NOTE:
- Enclosure 4.2 contains listing of abbreviations/acronyms.
- Actions in Sections 2.0 and 3.0 **are NOT** required to be followed in any particular sequence.
- Place keeping aids: ☐ at left of steps may be used for procedure place keeping (☑). Major events are required to be documented in the TSC Emergency Coordinator Log.
- Enclosure 4.8 lists steps which may be delegated to an Assistant Emergency Coordinator or Emergency Planner.

☐ 2.1 Establish, **OR** have the Assistant Emergency Coordinator/Emergency Planner establish, the Technical Support Center as operational by doing the following: {10}

☐ 2.1.1 Use the attached Enclosure 4.3 (TSC Personnel Log Sheets) for sign-in by all personnel reporting to the TSC. Assign responsibility to the Tech Assistant to the Emergency Coordinator.

☐ 2.1.2 Ensure Names are also listed on the TSC Personnel Status Board in the TSC

NOTE: The TSC **must** assume turnover from the Control Room within **75 minutes** of the initiating Emergency Classification time.

☐ 2.1.3 Determine the following minimum staff requirements for TSC activation.

	NAME
Emergency Coordinator	_____
Dose Assessment Liaison	_____
Nuclear Engineering	_____
Offsite Communicator	_____
Tech Assistant to EC	_____

☐ 2.1.4 Verify **OR** have the Assistant Emergency Coordinator/Emergency Planner verify that the phone system is operational or make other provisions for communications. {10}

☐ 2.1.5 Verify **OR** have the Assistant Emergency Coordinator/Emergency Planner verify that the OSC is Operational. {10}

☐ 2.1.6 Verify **OR** have the Assistant Emergency Coordinator/Emergency Planner verify that Technical Assistant to the Emergency Coordinator has started a log of TSC actions and activities. {10}

☐ 2.1.7 **IF** Activation of the Alternate TSC is required prior to completion of turnover with the OSM.

THEN **REFER TO** Step 1.0 of Enclosure 4.6 (Alternate TSC/OSC Activation).

☐ 2.2 Receive turnover from the Operations Shift Manager using Enclosure 4.1, (Operations Shift Manager To TSC Emergency Coordinator Turnover Sheet)

☐ 2.2.1 Determine if OSC is operational {22}

☐ 2.2.2 Determine if TSC Offsite Communicator has completed turnover with Control Room Offsite Communicator {21}

☐ 2.2.3 Declare TSC and OSC activated time _____

☐ 2.3 Determine the status of Site Accountability from the TSC Offsite Communicator.

NOTE: RP/0/A/1000/009, Procedure for Site Assembly, is initiated when site accountability is required and contains roles and responsibilities for site personnel in completing site accountability. {23}

☐ 2.3.1 Request the TSC/OSC Liaison to have a **Search & Rescue Team** dispatched from the OSC if personnel within the Protected Area have not been accounted for by their group.

☐ 2.4 Verify **OR** have the Assistant Emergency Coordinator/Emergency Planner verify that the electronic status board is set up and that someone is available to maintain it. {10}

☐ 2.5 Discuss any off-site radiological concerns with the TSC Dose Assessment Liaison.

☐ 2.6 Activate **OR** have the Assistant Emergency Coordinator/Emergency Planner activate the TSC/OSC Public Address (PA) System {7}{10}

☐ 2.6.1 Flip the power switch UP on the PA system amplifier located inside the communications cabinet.

☐ 2.6.2 Depress the microphone switch and hold in position while making PA announcements.

☐ 2.6.3 Announce the following information over the TSC/OSC PA System:

☐ A. The current Emergency Classification level and plant status.

☐ B. TSC/OSC activation time {7}

☐ C. "Anyone who has consumed alcohol within the past five (5) hours notify either the Emergency Coordinator in the TSC or the OSC Manager in the OSC."

☐ D. "Personnel should assume that areas are contaminated until surveyed by RP."

☐ E. "No eating or drinking, until the TSC and OSC are cleared by RP."

☐ 2.7 Turn office page over ride switch **ON**, **OR** have the Assistant Emergency Coordinator/Emergency Planner turn the office page over ride switch **ON**. {10}

2.7.1 Dial **70** on the Emergency Coordinator's phone.

2.7.2 Announce the following information over the Plant Public Address System:

Drill Message:

Attention all site personnel. This is _____ _____ I am the Emergency Coordinator.
(name)

This is a drill. This is a drill.

You have been assembled as a part of an emergency exercise. The simulated emergency conditions are _____

_____

_____

If this were a real emergency, you would be asked to remain assembled waiting on further information or given instructions to leave the site as part of an Early Dismissal or in accordance with our site evacuation plan. At this time, however, we will continue with the emergency exercise and you may now return to your normal work assignments. I repeat.... you may now return to your normal work assignments. This is a drill. This is a drill. Thank you for your participation.

Emergency Message:

Attention all site personnel. This is _____. I am the Emergency Coordinator.
(name)

This is an emergency message.

At the present time we have a(n) _____ emergency classification. The plant status is as follows _____

_____

_____

Please remain at your site assembly location until you receive further instructions. Information will be provided to you as conditions change.

☐ 2.8 Contact, **OR** have the Assistant Emergency Coordinator/Emergency Planner contact the State Director of Emergency Management at the SEOC. {10}

	NAME	TELEPHONE NUMBERS
SDEM	_____	9(803) 737-8500

2.8.1 Inform the TSC Offsite Communicator whenever the SEOC is activated.

2.8.2 **IF** The SEOC has **NOT** been activated,

THEN Contact the County Directors of Emergency Management (CDEM) to discuss plant status.

Oconee CDEM _____ 9(864) 638-4200

Pickens CDEM _____ 9(864) 898-5943

☐ 2.9 Perform the following concurrently.

1. Use Step 2.10 for emergency classification.
2. Use Step 2.11 for turnover to the EOF Director.
3. Use steps in 3.0 for tasks that must continue regardless of emergency classification.

(Step 2.10 on next page)

☐ 2.10 Review emergency classification and verify that it meets the criteria of RP/0/B/1000/001 (Emergency Classification).

- Discuss changing plant conditions with the Superintendent of Operations.
- Discuss emergency classification prior to making recommendations.
- Use the following definitions and provide the Event Prognosis to the Offsite Communicator for completing line #8 on the Emergency Notification Form. {14}

Degrading: Plant conditions involve at least one of the following:

- Plant parameters (ex. temperature, pressure, level, voltage, frequency) are trending unfavorably away from expected or desired values **AND** plant conditions could result in a higher classification or Protective Action Recommendation (PAR) before the next follow-up notification.
- Site conditions (ex. wind, ice/snow, ground tremors, hazardous/toxic/radioactive material leak, fire, Security event) impacting plant operations or personnel safety are worsening **AND** plant conditions could result in a higher classification or Protective Action Recommendation (PAR) before the next follow-up notification.

Improving: Plant conditions involve at least one of the following:

- Plant parameters (ex. temperature, pressure, level, voltage, frequency) are trending favorably toward expected or desired values **AND** plant conditions could result in a lower classification or emergency termination before the next follow-up notification.
- Site conditions (ex. wind, ice/snow, ground tremors hazardous/toxic/radioactive material leak, fire, Security event) have become less of a threat to plant operations or personnel safety **AND** plant conditions could result in a lower classification or emergency termination before the next follow-up notification.

Stable: Plant conditions are neither degrading nor improving.

☐ 2.10.1 **IF** An **Unusual Event Classification** exists,

THEN Initiate the following actions:

NOTE:	If a follow-up message is due and an upgrade to a higher classification is declared, there is **NO** need to complete the follow-up message. In this case, the offsite agencies must be notified that the pending follow-up is being superseded by an upgrade to a higher classification and information will be provided.

☐ A. **IF** An upgrade in classification occurs prior to or while transmitting initial message:

THEN Perform the following actions.

- Make the notification for the lesser emergency classification within 15 minutes
- Inform the agencies that an upgrade in classification will be coming.
- Begin a new initial message for the higher classification and complete it within 15 minutes of its declaration. {19}

☐ B. Notify counties/state within 15 minutes of event classification.

NOTE:	• NRC should be notified immediately after notification of Offsite Agencies **but NOT** later than **one (1) hour** after declaration of the emergency • Notification to the NRC of Security events is required within 15 minutes of initiation of the Security event. {18}

☐ C. Notify NRC of event classification/Security event.

- Remind the TSC NRC Communicator to complete the NRC Event Notification Worksheet and Plant Status Sheet prior to contacting the NRC.

NOTE:
- Condition B for Keowee Hydro Project Dams/Dikes also requires notification of the Georgia Emergency Management Agency and National Weather Service. Remind the TSC Offsite Communicator to notify these agencies in addition to and after SC State, Oconee County, and Pickens County.
- Enclosure 4.7 provides a description of Condition A and B. {9}

☐ D. **IF** Condition B at Keowee exists,

THEN Notify **OR** have the Assistant Emergency Coordinator notify Hydro Central (refer to Section 6 of the Emergency Telephone Directory, Keowee Hydro Project Dam/Dike Notification). {4}{10}

☐ E. Discuss **OR** have the Assistant Emergency Coordinator discuss classification with SDEM and CDEM {10}

	NAME	TELEPHONE NUMBERS
SDEM	_____	9(803) 737-8500
Oconee CDEM	_____	9(864) 638-4200
Pickens CDEM	_____	9(864) 898-5943

☐ F. **IF** An Unusual Event classification is being terminated

THEN **REFER TO** Enclosure 4.5, (Emergency Classification Termination Criteria) of this procedure for termination guidance.

NOTE: The Emergency Planning Section shall develop a written report for signature by Site Vice President to the State Emergency Management Agency, Oconee County EMA, and Pickens County EMA within 24 working hours of the event termination.

☐ 1. Notify Emergency Planning that the Unusual Event has been terminated.

☐ 2. Emergency Planning shall hold a critique following termination of the Unusual Event.

(Step 2.10.2, Alert Classification on next page)

☐ 2.10.2 **IF** An **Alert** Classification exists,

THEN Initiate the following actions:

NOTE:	If a follow-up message is due and an upgrade to a higher classification is declared, there is no need to complete the follow-up message. In this case, the offsite agencies must be notified that the pending follow-up is being superseded by an upgrade to a higher classification and information will be provided.

☐ A. **IF** An upgrade in classification occurs prior to or while transmitting initial message:

THEN Perform the following actions

- Make the notification for the lesser emergency classification within 15 minutes
- Inform the agencies that an upgrade in classification will be coming
- Begin a new initial message for the higher classification and complete it within 15 minutes of its declaration {19}

☐ B. Notify counties/state within 15 minutes of event classification

☐ C. Follow Up Notifications (updates) are required a minimum of every 60 minutes

NOTE:	Notification of the NRC of Security events is required within 15 minutes of the initiation of the Security event. {18}

☐ D. Notify NRC of event classification/Security event.

☐ E. Start ERDS -TSC NRC Communicator, - RP/0/B/1000/003A (ERDS Operation)

☐ F. Discuss, **OR** have the Assistant Emergency Coordinator discuss change in classification with the State Director of Emergency Management (SDEM) and County Directors of Emergency Management (CDEM) {10}

	NAME	TELEPHONE NUMBERS
SDEM	_____	9(803) 737-8500

1. **IF** The SEOC has not been activated,
   THEN Contact the CDEM to discuss plant status.

   Oconee CDEM _____ 9(864) 638-4200

   Pickens CDEM _____ 9(864) 898-5943

NOTE:
- Condition B for Keowee Hydro Project Dams/Dikes also requires notification of the Georgia Emergency Management Agency and National Weather Service. Remind the TSC Offsite Communicator to notify these agencies in addition to and after SC State, Oconee County, and Pickens County. {2}
- Enclosure 4.7 provides a description of Condition A and B. {9}

☐ G. **IF** Condition B at Keowee exists,
THEN Notify **OR** have the Assistant Emergency Coordinator notify Hydro Central (refer to Section 6 of the Emergency Telephone Directory, Keowee Hydro Project Dam/Dike Notification). {4} {10}

(Step 2.10.3, Site Area Emergency Classification on next page)

☐ H. Evaluate with TSC personnel the need to conduct an Early Dismissal of non-essential site personnel. Take into consideration wind direction, Security concerns, potential for classification upgrade, and 24 hour staffing needs.

☐ 2.10.3 **IF** A **Site Area Emergency** Classification exists

THEN Initiate the following actions:

NOTE: If a follow-up message is due and an upgrade to a higher classification is declared, there is no need to complete the follow-up message. In this case, the offsite agencies must be notified that the pending follow-up is being superseded by an upgrade to a higher classification and information will be provided.

☐ A. **IF** An upgrade in classification occurs prior to or while transmitting initial message:

THEN Perform the following actions.

- Make the notification for the lesser emergency classification within 15 minutes
- Inform the agencies that an upgrade in classification will be coming
- Begin a new initial message for the higher classification and complete it within 15 minutes of its declaration {19}

NOTE: A change in Protective Action Recommendations (PARs) has a fifteen (15) minute notification requirement following determination of the new or revised PARs {15}

☐ B. Notify counties/state within 15 minutes of event classification

☐ C. **IF** Condition A, Dam Failure (Keowee or Jocassee) exists

THEN Make the following protective action recommendations to Oconee County and Pickens County for imminent/actual dam failure and include on the Emergency Notification Form under Section 5 (B) and (E):

1. Move residents living downstream of the Keowee Hydro Project dams to higher ground.
2. Prohibit traffic flow across bridges identified on your inundation maps until the danger has passed.

☐ D. Follow Up Notifications (updates) are required a minimum of every 60 minutes

NOTE: Notification to the NRC of Security events is required within 15 minutes of the initiation of the Security event. {17}

☐ E. Notify NRC of event classification/Security event.

☐ F. Start ERDS (TSC NRC Communicator - RP/0/B/1000/003A (ERDS Operation)

☐ G. Discuss, **OR** have the Assistant Emergency Coordinator discuss change in classification with SDEM and CDEM {10}

	NAME	TELEPHONE NUMBERS
SDEM	_____	9(803) 737-8500

1. **IF** The SEOC has not been activated,
   THEN Contact the CDEM to discuss plant status.

   Oconee CDEM _____ 9(864) 638-4200

   Pickens CDEM _____ 9(864) 898-5943

☐ H. **IF** Condition A, Dam Failure (Keowee or Jocassee) exists
THEN **REFER TO OR** have the Assistant Emergency Coordinator
REFER TO Step 3.2. {10}

NOTE:
- Condition B for Keowee Hydro Project Dams/Dikes also requires notification of the Georgia Emergency Management Agency and National Weather Service. Remind the TSC Offsite Communicator to notify these agencies in addition to and after SC State, Oconee County, and Pickens County. {2}
- Enclosure 4.7 provides a description of Condition A and B {9}

☐ I. **IF** Condition B at Keowee exists
THEN Notify **OR** have the Assistant Emergency Coordinator notify Hydro Central (refer to Section 6 of the Emergency Telephone Directory, Keowee Hydro Project Dam/Dike Notification). {4}{10}

(Step 2.10.4, General Emergency Classification, on next page)

2.10.4 **IF** A **General Emergency** Classification exists,

THEN Initiate the following actions:

☐ A. Request TSC Dose Assessors to refer to RP/0/B1000/024, Protective Action Recommendations, to determine protective actions.

☐ B. **IF** Condition A, Dam Failure (Keowee or Jocassee) exists,

THEN Make the following protective action recommendations to Oconee County and Pickens County for imminent/actual dam failure and include on the Emergency Notification Form under Section 5 (B) and (E):

1. Move residents living downstream of the Keowee Hydro Project dams to higher ground.

2. Prohibit traffic flow across bridges identified on your inundation maps until the danger has passed.

NOTE: A change in Protective Action Recommendations (PARs) has a fifteen (15) minute notification requirement following determination of the new or revised PARs. {15}

☐ C. Notify counties/state within 15 minutes of event classification

☐ D. Follow Up Notifications (updates) are required a minimum of every 60 minutes

NOTE: Notification to the NRC of Security events is required within 15 minutes of the initiation of the Security event. {18}

☐ E. Notify NRC of event classification/Security event.

☐ F. Start ERDS (TSC NRC Communicator - RP/0/B/1000/003A (ERDS Operation)

☐ G. Discuss change in classification and Protective Action Recommendations with SDEM and/or CDEM. Provide any known information concerning conditions that would make evacuation dangerous.

	NAME	TELEPHONE NUMBERS
SDEM	_____	9(803) 737-8500

1. **IF** The SEOC has not been activated,

   THEN Contact the CDEM to discuss plant status.

   Oconee CDEM _____ 9(864) 638-4200

   Pickens CDEM _____ 9(864) 898-5943

☐ H. **IF** Condition A, Dam Failure (Keowee or Jocassee) exists

THEN **REFER TO OR** have the Assistant Emergency Coordinator **REFER TO**, Step 3.2. {10}

NOTE:
- Condition B for Keowee Hydro Project Dams/Dikes also requires notification of the Georgia Emergency Management Agency and National Weather Service. Remind the TSC Offsite Communicator to notify these agencies in addition to and after SC State, Oconee County, and Pickens County. {2}
- Enclosure 4.7 provides a description of Condition A and B. {9}

☐ I. **IF** Condition B at Keowee exists,

THEN Notify **OR** have the Assistant Emergency Coordinator notify Hydro Central (refer to Section 6 of the Emergency Telephone Directory, Keowee Hydro Project Dam/Dike Notification). {4} {10}

(Step 2.11 on next page)

NOTE: EOF Director will notify the Emergency Coordinator when the information has been received and establish a time for turnover. Turnover should be initiated **As Soon As Possible**. A goal of 30 minutes should be used to complete turnover after the EOF is declared *Operational*. {1}

☐ 2.11 Prepare for turnover with the EOF by performing the following:

2.11.1 Complete information in Enclosure 4.9, Emergency Coordinator Turnover Checklist.

2.11.2 Fax Enclosure 4.9 to the Charlotte EOF.

A. Provide Enclosure 4.9 to the TSC Offsite Communicator.

B. Request TSC Offsite Communicator to fax Enclosure 4.9 to the following number: 9-704-382-1825.

☐ 2.12 **When** notified by the EOF Director that the EOF is operational, notify the following TSC personnel to exchange information with their counterpart in the EOF.

TSC	EOF Counterpart
TSC Dose Assessment Liaison	Radiological Assessment Manager
TSC Offsite Communicator	Lead Off-Site Agency Communicator
TSC/EOF OPS Liaison	Accident Assessment Manager

☐ 2.13 When notified by the EOF Director, conduct turnover with the EOF.

☐ 2.13.1 Emergency Coordinator turnover to EOF Director complete.

EOF Activated _____ Time ____

☐ 2.13.2 Request NRC Communicator to notify the NRC EOC that the EOF is activated.

☐ 2.13.3 Make announcement to TSC/OSC that EOF is activated. {6}

3. Subsequent Actions

3.1 **IF** A Loss of Power, loss of SDS or other event occurs in which plant parameter data is unavailable

THEN Perform the following actions:

☐ 3.1.1 Locate copy(s) of the Plant Parameter Data Sheets for the affected units(s) in the procedure cart.

☐ 3.1.2 Request Operations Superintendent have someone manually collect plant parameter data from the Control Room(s) approximately every 15 minutes.

☐ 3.1.3 Provide plant parameter data to NRC Communicator, Engineering and anyone else who needs this information. {16}

☐ 3.2 **IF** Condition A, Dam Failure (Keowee or Jocassee) exists

THEN Perform **OR** have the Assistant Emergency Coordinator perform the following actions: {10}

3.2.1 **IF** Early Dismissal of non-essential site personnel has **NOT** occurred

THEN Notify OSC to implement RP/0/A/1000/010, Procedure For Emergency Evacuation/Relocation of Site Personnel.

☐ 3.2.2 Notify Hydro Central if Keowee Personnel are relocated to the OSC. {4}

☐ 3.2.3 Notify Hydro Central and provide information related to the event. Refer to Section 6 of the Emergency Telephone Directory. {4}

NOTE: A loss of offsite communications capabilities (Selective Signaling and the WAN) could occur within 1.5 hours after Keowee Hydro Dam failure. Rerouting of the fiber Optic Network through Bad Creek should be started **AS SOON AS POSSIBLE.**

☐ 3.2.4 **IF** The EOF is **NOT** activated

THEN Notify Telecommunications group in Charlotte to begin rerouting the Oconee Fiber Optic Network. Refer to Selective Signaling section of the Emergency Telephone Directory (page 8).

☐ 3.2.5 Ensure Operations has dispatched operators to the SSF and established communications.

☐ 3.3 **IF** A Security event occurs or is suspected

THEN Refer to Enclosure 4.10 for guidance on managing the Security event.

☐ 3.4 Periodically evaluate with TSC personnel the need to conduct evacuation. Log the status of this action on the TSC Status Board.

NOTE:
- Twenty-four (24) hour staffing **must be** accomplished prior to personnel being evacuated from the site per RP/0/A/1000/010 (Procedure for Emergency Evacuation/Relocation of Site Personnel).
- Determine if personnel with special radiological exposure limits need to be evacuated (e.g.; declared pregnant women, personnel with radio-pharmaceutical limitations).

☐ 3.4.1 Consider the following for making Site Evacuation decisions:

- Alert - Evaluate actual plant conditions and determine if Early Dismissal of non-essential site personnel is the prudent thing to do.
- Site Area Emergency - consider evacuation/relocation of non-essential site personnel. World of Energy personnel should be evacuated at the same time as non-essential personnel.
- General Emergency - evacuate all non-essential personnel. Notify the EOF Director to evacuate the World of Energy.
- Notify the EOF anytime personnel are relocated on site or evacuated from the site.

WARNING: Use of the Outside Air Booster Fans during a Security Event may introduce incapacitating agents into the Control Room. {5}

☐ 3.5 Periodically evaluate the need to operate the outside air booster fans (Control Room Pressurization and Filter System - CRVS) with TSC personnel. Log status of this system on the TSC Status Board.

NOTE:
- Outside air booster fans are used to provide positive pressure in the Control Room/TSC/OSC to prevent smoke, toxic gas, or radioactivity from entering the area as required by NUREG 0737, Control Room Habitability.
- Chlorine Monitor Alarm will either stop the outside air booster fans **OR** will not allow them to start.

☐ 3.5.1 **IF** Smoke/toxic gas in the Turbine Building or Auxiliary Building is expected to reach the Control Room

THEN Instruct the Control Room to turn **ON** the outside air booster fans.

Fans On ____ Time____

☐ A. Request OSC to verify operability of the Control Room Ventilation System per AP/1,3/A/1700/018 (Abnormal Release of Radioactivity).

☐ 3.5.2 **IF** RIA-39 is in **Alarm**

THEN Verify that the Control Room has turned on the outside air booster fans.

☐ A. Request OSC to verify operability of the Control Room Ventilation System per AP/1,3/A/1700/018 (Abnormal Release of Radioactivity).

☐ B. Request backup air sample from the OSC to verify RIA alarm.

☐ C. **IF** Air sample determines that RIA-39 alarm is not valid

THEN Secure outside air booster fans.

☐ D. **IF** Air sample determines that RIA-39 alarm is valid

THEN Isolate the source of airborne contamination to the Control Room/TSC/OSC.

☐ E. **IF** Dose levels in the Control Room/TSC/OSC are being increased by the addition of outside filtered air

THEN Secure outside air booster fans.

Fans Off _____ Time _____

☐ 3.6 Periodically evaluate the need to activate the Alternate TSC and/or OSC.

☐ 3.6.1 **IF** Activation of the Alternate TSC and/or OSC is required

THEN **REFER TO** Step 2.0 of Enclosure 4.6 (Alternate TSC/OSC Activation).

☐ 3.6.2 Notify the EOF Director once relocation to the Alternate TSC is completed.

NOTE: The NRC will send a response team to the site at a Site Area or General Emergency Classification.

☐ 3.7 **IF** An NRC team is enroute,

THEN Assign a qualified Emergency Coordinator to be the NRC Site Coordinator for the arriving NRC team. {23}

☐ 3.7.1 Notify NRC Site Coordinator to report to the TSC for an update on plant conditions.

A. Record NRC Site Coordinator's name on Enclosure 4.4 (NRC Site Team Response Form).

B. Brief NRC Site Coordinator on current plant conditions.

☐ 3.7.2 Provide Enclosure 4.4 (NRC Site Team Response Form), to the TSC NRC Communicator.

A. Instruct TSC NRC Communicator to complete Steps 1.2 - 1.5 of Enclosure 4.4 (NRC Site Team Response Form).

☐ 3.7.3 Notify OSC Manager and request RP Manager and Securityto implement actions required to process NRC Site Team.

☐ 3.8 Provide periodic updates to the EOFD concerning plant status. Request the EOFD to provide dose assessment and field monitoring data to the TSC on a periodic basis.

☐ 3.8.1 **IF** Failed Fuel Condition Two (2) has been determined,

THEN Immediately notify the EOFD.

A. Failed Fuel Condition Two (2) requires additional Protective Action Recommendations.

☐ 3.9 Authorize exposure greater than normal operating limits for planned equipment repair missions and/or emergency lifesaving missions.

3.9.1 Approval may be either verbal or written.

3.9.2 This authority may be delegated to the RP Manager in the OSC.

☐ 3.10 Update TSC and OSC personnel approximately every 30 minutes on the Emergency Classification and plant status via the TSC/OSC public address system. (Timer is available in the Emergency Procedures Cart)

☐ 3.11 Establish **OR** have the Assistant Emergency Coordinator/Emergency Planner establish twenty-four (24) hour staffing and have the Managers prepare as needed. {10}

3.11.1 TSC Personnel Log Sheets (Enclosure 4.3) are to be used for this purpose.

NOTE: Long term use of the SFP as a makeup source will deplete the SFP inventory. Engineering has evaluated and approved the following method for refilling of the SFP with filtered lake water.

☐ 3.12 **IF** Offsite fire apparatus is needed to provide water to the Spent Fuel Pool

THEN Request the EOFD to contact the Oconee CDEM to provide sufficient fire apparatus (at least 3 pumper trucks of 1000 gpm, or greater capacity) to Oconee Nuclear Site (If available, Keowee Ebenezer, Corinth Shiloh, or Keowee Rural Volunteer Fire Departments should be requested to provide support).

☐ 3.12.1 Provide the OSC Manager with the following information and request support from the OSC:

- Fire apparatus is being dispatched from Oconee County to provide water to the Spent Fuel Pool
- Request Security Liaison to have Security Officers meet the fire apparatus at the determined site entrance
- Request Maintenance Manager to initiate AM/0/A/3009/012A (Emergency Plan For Refilling Spent Fuel Pool).

NOTE:
- 10CFR50.54(x) allows for reasonable actions that depart from a License Condition or Technical Specification to be performed in an emergency when this action is immediately needed to protect the health and safety of the public and no action consistent with the License Condition or Technical Specification that can provide adequate or equivalent protection is immediately apparent.
- 10CFR50.54(y) requires approval of any 10CFR50.54(x) actions by a Licensed Senior Operator.
- Implementation of Oconee Severe Accident Guidelines (OSAG) requires the use of 10CFR50.54(x) and (y) provisions.

☐ 3.13 **IF** Plant conditions require a decision to implement 10CFR50.54(x)

THEN Perform the following steps:

☐ 3.13.1 Obtain approval of a Licensed Senior Reactor Operator prior to taking any action.

☐ 3.13.2 Document decision and actions taken in the affected units log.

☐ 3.13.3 Document decision and actions taken in the Control Room Emergency Coordinator Log.

NOTE: NRC must be notified of any 10CFR50.54(x) decisions and actions within one (1) hour.

☐ 3.13.4 Request Control Room/TSC NRC Communicator to report decision and actions taken to the NRC.

NOTE: 10CFR50.72 requires NRC notification for specific plant conditions.

☐ 3.14 **IF** Plant conditions require NRC notification under 10CFR50.72,

THEN Request the Control Room/TSC NRC Communicator to provide this notification using the guidance in OMP 1-14, (Notifications).

☐ 3.15 **IF** Notified by the EOF of a change in emergency classification,

THEN Request the Control Room/TSC NRC Communicator to notify the NRC of the change.

☐ 3.16 **IF** A LOCA exists inside containment,

THEN Request the Operations Superintendent to have Operations personnel refer to OP/0/A/1104/019 (Control Room Ventilation System) to verify proper operation of the Control Room Ventilation System. {3}

☐ 3.17 **IF** Restoring power from a LOOP event.

THEN Have Engineering Manager notify Accident Assessment in the EOF to assess the risk significance of power restoration for potential risk. {24}

☐ 3.18 Announce SAMG transition to TSC/OSC/EOF personnel so proper signage can be displayed with current plant conditions. {6}

☐ 3.19 Establish a Recovery Organization (Section M of the ONS Emergency Plan, Volume A, located in the Operations Shift Manager's office) once the emergency has been terminated.

3.19.1 Request the OSC Manager to review Section M of the Emergency Plan (Volume 17A is located in Unit 3 Library located next to U3 Control Room) to begin preparation for recovery.

☐ 3.20 Emergency Planning Section shall be responsible for completing all Procedure Process Records of Emergency Plan Implementing procedures initiated by the TSC.

☐ 3.21 Ensure TSC is returned to ready condition for next drill or actual event.

☐ 3.21.1 Ensure **OR** have the Assistant Emergency Coordinator/Emergency Planner ensure TSC PA override switch is put in the **OFF** position. {8}{10}

4. Enclosures

4.1 Operations Shift Manager to TSC Emergency Coordinator Turnover Sheet

4.2 Emergency Preparedness Acronyms

4.3 TSC Personnel Log

4.4 NRC Site Team Response Form

4.5 Emergency Classification Termination Criteria

4.6 Alternate TSC/OSC Activation

4.7 Keowee Hydro Project Dams/Dikes - Condition A/B Descriptions {9}

4.8 Assistant Emergency Coordinator/Emergency Planner Delegated Procedure Steps {10}

4.9 Emergency Coordinator Turnover Checklist

4.10 Guidelines for Managing a Security Event {17}

4.11 References

OSM Emergency Coordinator Log/Turnover Sheet

Unit 1			Unit 2			Unit 3		
Rx Power	RCS Pressure	RCS Temp.	Rx Power	RCS Pressure	RCS Temp.	Rx Power	RCS Pressure	RCS Temp.
Auxiliary Power From	ES Channels Actuated		Auxiliary Power From	ES Channels Actuated		Auxiliary Power From	ES Channels Actuated	
Jobs In Progress:			Jobs In Progress:			Jobs In Progress:		
Major Equipment Out of Service:			Major Equipment Out of Service:			Major Equipment Out of Service:		
ERDS Activated? **Yes/No** CR Booster Fans On? **Yes/No**			ERDS Activated? **Yes/No**			ERDS Activated? **Yes/No** CR Booster Fans On? **Yes/No**		

Abnormal/Emergency Procedures Currently In Progress			
Emergency Response Procedures in Progress	Yes	No	List Any EOP/APs In Progress
RP/0/B/1000/002 (Control Room Emergency Coordinator Procedure)	✓		
RP/0/B/1000/016 (Medical Response)			
RP/0/B/1000/017 (Spill Response)			
RP/0/B/1000/022 (Major Site Damage)			
RP/0/B/1000/029 (Fire Brigade)			
RP/0/A/1000/009 (Procedure For Site Assembly)			
RP/0/A/1000/010 (Emergency Evacuation/Relocation of Site Personnel)			
Emergency Dose Limits for AP/EOP actions in effect?*			

* If yes, implementation of emergency worker exposure limits must be announced over Public Address System. {3}

IF Condition A, Dam Failure, has been declared for Keowee Hydro Project,

THEN Provide the following information to the TSC Emergency Coordinator:

- Status of Offsite Agency Notifications _____
- Recommendations made to offsite agencies _____
- Status of relocation of site personnel _____

Status for answering 4911 emergency phone calls: Remains in Control Room _____ Responsibility of Op's in OSC _____

Status of Site Assembly (Needed only if after hours, holidays, or weekends _____

Time Next message is due to Offsite Agencies _____ **(Attach all completed Emergency Notification Forms)**

Emergency Coordinator/TSC _____ OSM _____ Time of Turnover _____

1. Emergency Preparedness Acronyms

CDEM	County Director of Emergency Management
EC	Emergency Coordinator
EOF	Emergency Operations Facility
EOFD	Emergency Operation Facility Director
ETS	Emergency Telephone System
LEC	Law Enforcement Center
NRC	Nuclear Regulatory Commission
EOC	Emergency Operations Center
OSC	Operational Support Center
PAR	Protective Action Recommendation
SCC	State/County Communicator
SDEM	State Director of Emergency Management
SEOC	State Emergency Operations Center
SWP	State Warning Point
TSC	Technical Support Center

TSC Personnel Log

DATE: _____

PRIMARY					RELIEF		
POSITION	NAME (Last, First, MI)	EMPLOYEE ID	TIME IN AT TSC	SHIFT SCHEDULE	NAME (Last, First, MI)	EMPLOYEE ID	SHIFT SCHEDULE
Emergency Coordinator**							
Offsite Communicator**							
Dose Assessment Liaison*							
Nuclear Engineering**							
Tech Assist to EC (Mech Engineer)**							
Asst. Emergency Coordinator							
Operations Superintendent							
TSC/OSC Liaison							

** 75 Minute Responder

PRIMARY					RELIEF		
POSITION	NAME (Last, First, MI)	EMPLOYEE ID	TIME IN AT TSC	SHIFT SCHEDULE	NAME (Last, First, MI)	EMPLOYEE ID	SHIFT SCHEDULE
TSC/OSC Liaison Support							
Engineering Manager							
NRC Communicator (ENS)							
Dose Assessors							
Engineering Mgr. Assistant							
Operations Superintendent Assistant							
Operations Interface Manager							
Emergency Planning							
Community Relations (WOE)							
Local I/T							
Process Systems							

1. NRC Site Team Response Form

1.1 NRC Site Coordinator _____
(name)

1.2 NRC Site Team Personnel Information:

NAME	SOCIAL SECURITY NUMBER

1.3 Estimated Time of Arrival (ETA): _____

1.4 Mode of Transportation: _____

Check Point (Circle One): Hwy 130 - Main Station/WOE Entrance (Check Point 2)

Hwy 183 - Intake Owner Controlled Area (OCA) Gate (Check Point 3)

Hwy 183 - Complex/Branch OCA Gate (Check Point 1)

1.5 Fax this form to the OSC and Security using Speed Dial Code 031 or One-Touch Dial Code 31.

1.6 GET and BBA Requirements Waived:

RP Manager _____ Date _____

Emergency Classification Termination Criteria

IF The following guidelines applicable to the present emergency condition have been met or addressed,

THEN An emergency condition may be considered resolved when:

- ☐ 1.1 Existing conditions no longer meet the existing emergency classification criteria and it appears unlikely that conditions will deteriorate further.
- ☐ 1.2 Radiation levels in affected in-plant areas are stable or decreasing to below acceptable levels.
- ☐ 1.3 Releases of radioactive material to the environment greater than Technical Specifications are under control or have ceased.
- ☐ 1.4 The potential for an uncontrolled release of radioactive material is at an acceptably low level.
- ☐ 1.5 Containment pressure is within Technical Specification requirements.
- ☐ 1.6 Long-term core cooling is available.
- ☐ 1.7 The shutdown margin for the core has been verified.
- ☐ 1.8 A fire, flood, earthquake, or similar emergency condition is controlled or has ceased.
- ☐ 1.9 Offsite power is available per Technical Specification requirements.
- ☐ 1.10 All emergency action level notifications have been completed.
- ☐ 1.11 The Area Hydro Manager has been notified of termination of Condition B for Keowee Hydro Project.
- ☐ 1.12 The Regulatory Compliance Section has evaluated plant status with respect to Technical Specifications and recommends Emergency Classification termination.
- ☐ 1.13 Emergency terminated. Request the TSC Offsite Communicator to complete an Emergency Notification Form for a Termination Message using guidance in RP/0/A/1000/015B (Offsite Communications From The Technical Support Center), and provide information to offsite agencies.

Date/Time of Termination: _____/_____ Emergency Coordinator Initials: _____

- Return to Step 2.10.1.G.1

1. Activation of the Alternate TSC prior to completion of turnover with the OSM

☐ 1.1 Request OSC Manager/SPOC Supervisor to initiate steps to setup the Alternate TSC located in RP/0/A/1000/025 (OSC Manager Procedure).

☐ 1.2 Request TSC Technical Assistant to Emergency Coordinator (or designee) to announce over the plant PA that the Alternate TSC is being activated.

☐ 1.3 Relocate TSC personnel except for the following to the Alternate TSC, Room 316 of the Oconee Office Building:

- ☐ 1.3.1 TSC Offsite Communicator (1)
- ☐ 1.3.2 TSC Technical Assistant to Emergency Coordinator
- ☐ 1.3.3 Emergency Planning (if available)

☐ 1.4 Return to Step 2.2 of this procedure and complete turnover with the OSM.

- ☐ 1.4.1 Report to the Alternate TSC with remaining support personnel after completion of turnover.

2. Activation of the Alternate TSC/OSC

☐ 2.1 Direct the TSC/OSC Liaison to inform the OSC Manager of the need to relocate the following emergency response facilities:

____ TSC

____ OSC

____ TSC and OSC

☐ 2.2 Provide guidance on best available route to personnel being relocated to the Alternate TSC.

2.2.1 **IF** A radiological release is in progress

THEN Direct the TSC/OSC Liaison to request RP to determine the best available route to the Alternate TSC.

☐ 2.3 Direct the following TSC personnel to report to the Alternate TSC to assist with setup of the facility and establish communications with the TSC:

____ (1) TSC Offsite Communicator

____ (1) Dose Assessor

____ Ops Superintendent Assistant

____ TSC/OSC Liaison Technical Assistant

☐ 2.4 Direct the TSC NRC Communicator to inform the NRC that the Alternate TSC is being activated.

☐ 2.5 Direct the remaining TSC personnel to report to the Alternate TSC.

☐ 2.6 Inform the EOF Director that the Alternate TSC is being activated and that TSC personnel including the Emergency Coordinator are enroute to that facility.

☐ 2.7 Return to Step 3.6.2 of this procedure after reporting to the Alternate TSC.

Keowee Hydro Project Dams/Dikes - Condition A/B Descriptions

NOTE:
- Duke Energy Company Hydro Group personnel are responsible for evaluation/inspection of Keowee Hydro Project Dams/Dikes AND determining if a Condition A or B exists.
- Duke Energy Company Hydro Group personnel will communicate the results of evaluations/inspections to the Keowee Hydro Operator. The Keowee Hydro Operator will notify the OSM.

1. Condition A - Failure is Imminent or has occurred

A failure at the dam/dike has occurred or is about to occur.

2. Condition B - Potentially Hazardous Situation is developing

A situation where failure may develop, but preplanned actions taken during certain events (e.g., major flood, earthquakes, evidence of piping) may prevent or mitigate failure.

The following situations will result in a Condition B determination/declaration:

- Reservoir elevation at Keowee Hydro Station is 805 ft msl with all spillway gates open and lake elevation continuing to rise.
- Situations involving earth dam or abutments as follows:
  a) Large increase or decrease in seepage readings OR seepage water is carrying a significant amount of soil particles;
  b) New area of seepage or wetness, with large amounts of seepage water observed on dam, dam toe, or the abutments;
  c) A slide or other movement of the dam or abutments which could develop into a failure.
- Developing failure involving the powerhouse or appurtenance structures is highly irregular to the point where the operator feels safety of the structures is questionable.
- Developing failure involving the concrete spillway or bulkhead is unusual and the safety of the structure is questionable.
- Any other situation involving plant structures which shows the potential for a developing failure.

Assistant Emergency Coordinator/Emergency Planner Delegated Procedure Steps

1. **Perform the following procedure steps at the direction of the TSC Emergency Coordinator:**

Assistant Emergency Coordinator	Emergency Planner
☐ 2.1	☐ 2.1
☐ 2.1.4	☐ 2.1.4
☐ 2.1.5	☐ 2.1.5
☐ 2.1.6	☐ 2.1.6
☐ 2.4	☐ 2.4
☐ 2.6	☐ 2.6
☐ 2.7	☐ 2.7
☐ 2.8	☐ 2.8
☐ 2.10.1.C	☐ 3.11
☐ 2.10.1.D	☐ 3.21.1
☐ 2.10.2.E	
☐ 2.10.2.F	
☐ 2.10.3.F	
☐ 2.10.3.G	
☐ 2.10.3.H	
☐ 2.10.4.H	
☐ 2.10.4.I	
☐ 3.1	
☐ 3.11	
☐ 3.21.1	

Enclosure 4.9

RP/0/A/1000/019

Emergency Coordinator Turnover Checklist

( )CATAWBA ( )MCGUIRE ( ) OCONEE

UNIT(S) AFFECTED: ( ) Unit 1 ( ) Unit 2 ( ) Unit 3

(8)

GENERAL

DATE:_____ TIME:_____

	Power Level	Reactor Coolant Temperature	Reactor Coolant Pressure
U-1	_____	_____	_____
U-2	_____	_____	_____
U-3	_____	_____	_____

EMERGENCY CLASSIFICATION

NOUE DECLARED AT: _____ TSC ACTIVATED AT: _____

ALERT DECLARED AT: _____ EOF ACTIVATED AT: _____

SAE DECLARED AT: _____

G.E. DECLARED AT: _____

REASON FOR EMER CLASS: _____

SITE ASSEMBLY/ SITE EVACUATION

	YES	NO	TIME	LOCATION OR COMMENTS
SITE ASSEMBLY	_____	_____	_____	_____
SITE EVAC. (NON-ESSEN.)	_____	_____	_____	_____
SITE EVAC. (ESSENTIAL)	_____	_____	_____	_____
OTHER OFFSITE AGENCY INVOLVEMENT	_____	_____	_____	_____
MEDICAL	_____	_____	_____	_____
FIRE	_____	_____	_____	_____
POLICE/SHERIFF	_____	_____	_____	_____

RADIOLOGICAL

FIELD MON. TEAMS NUMBER ASSEM. _____ NUMBER DEPLOYED _____

	ZONES EVACUATED	ZONES SHELTERED
OFFSITE PARS	_____	_____

RELEASE IN PROGRESS YES ( ) NO ( ) KI (General Public) Yes ( ) No ( )

RELEASE PATHWAY _____

CONTAINMENT PRESSURE _____ PSIG

WIND DIRECTION _____ WIND SPEED _____

OFFSITE COMMUNICATIONS

	NUMBER	TIME
LAST MESSAGE SENT:	_____	_____
NEXT MESSAGE DUE:	_____	_____

NOTE: EOF COMMUNICATION CHECKS SHOULD BE COMPLETED PRIOR TO ACTIVATING THE EOF.

OTHER NOTES RELATED TO THE ACCIDENT/EVENT/PLANT EQUIPMENT FAILED OR OUT OF SERVICE

_____

_____

_____

ob Aid {8}

	CATAWBA/McGUIRE	OCONEE	AVAILABLE	NOT AVAILABLE	COMMENTS
SG HEAT REMOVAL	AFW (CA) TRAIN A	EFDW TRAIN A			
	AFW (CA) TRAIN B	EFDW TRAIN B			
	TD AFW TRAIN	TDEFDW			
ECCS	NV TRAIN A	HPI TRAIN A			
	NV TRAIN B	HPI TRAIN B			
	NI TRAIN A				
	NI TRAIN B				
	ND TRAIN A	LPIP TRAIN A			
	ND TRAIN B	LPIP TRAIN B			
	STANDBY MU WATER PMP				
COOLING WATER	KC TRAIN A	UNIT 1 CC			
	KC TRAIN B	UNIT 2 CC			
		UNIT 3 CC			
	RN TRAIN A	UNIT 1 & 2 LPSW			
	RN TRAIN B	UNIT 3 LPSW			
POWER SYSTEMS	BUSLINE A	MAIN FEEDER BUS			
	BUSLINE B	STANDBY BUS			
	DG A	KEOWEE 1			
	DG B	KEOWEE 2			
	SATA	CT4			
	SATB	CT5			
	TRAIN A DC POWER	DC POWER			
	TRAIN B DC POWER				
	SSF DG	SSF DG			
CONTAINMENT	CONT. SPRAY TRAIN A	RBS TRAIN A			
	CONT. SPRAY TRAIN B	RBS TRAIN B			
	H^2 IGNITERS TRAIN A				
	H^2 IGNITERS TRAIN B				
	CONT. AIR RETURN FANS TRAIN A	A RBCU			
	CONT. AIR RETURN FANS TRAIN B	B RBCU			
		C RBCU			
	CONT. ISOL. TRAIN A	ES 1&2			
	CONT. ISOL. TRAIN B	ES 5&6			

Note: This form is not required for TSC/EOF Turnover. It is made available as a job aid only and can be used for other activities (e.g., Briefing the NRC)

{17}

NOTE: This enclosure is to be used as guidance for responding to a Security event and should be considered only an aid in managing the incident. Not all actions are applicable to all Security events nor should only these actions be considered. Only actions that are applicable and feasible should be implemented.

☐ 1. Establish communications with Security. Consider having a member of Security relocate to the TSC.

☐ 2. Evaluate the need to lock Control Room doors and or perimeter doors to buildings inside the protected area to control access and egress.

☐ 3. Evaluate the need to implement the two-person rule (line-of-sight).

☐ 4. Prioritize critical plant equipment which must be protected and be prepared to provide this information to Security.

☐ 5. Evaluate the need to man the SSF based on Security recommendations.

- Consider need for emergency start of SSF diesel.

☐ 6. Review AP/1,2,3/A/1700/040, Aircraft Threat, procedures.

☐ 7. Consideration should be given to tripping the unit(s) if it is determined that there is an imminent/impending and credible threat to the site which may include:

- Imminent loss of Control Room due to adversarial actions
- Notification by NRC/NORAD of imminent aircraft threat
- Entry into the Auxiliary or Containment Buildings by adversaries

☐ 8. Consider staging of offsite fire department and/or EMS.

1. PIP O-98-04996
2. PIP O-99-00743
3. PIP O-01-01395
4. PIP O-01-03460
5. PIP O-01-03696
6. PIP O-02-00264
7. PIP O-02-03705
8. PIP O-02-07089
9. PIP-O-03-02447
10. PIP-O-03-04975
11. PIP-O-04-04755
12. PIP-O-05-01642
13. PIP-O-05-02980
14. PIP-O-05-03349
15. PIP O-05-06827
16. PIP O-06-0884
17. PIP O-06-05641
18. PIP O-05-04697
19. PIP G-07-0127
20. PIP O-07-01590
21. PIP O-07-05157
22. PIP O-07-06549
23. PIP O-07-06992
24. PIP C-06-08633

25. PIP G-11-1389

26. PIP G-12-1530

§50.54(q) Screening Evaluation Form

Activity Description and References: RP/0/A/1000/019 rev 0 BLOCK 1

Description of change:

1) PIP O-12-9948: Enclosure 4.6, Page 2 of 2, step 2.7 states that procedure user should return to step 3.4.2 of this procedure after reporting to Alternate TSC. There is not a step 3.4.2 in this procedure.
2) To align our E-Plan Implementing Procedures with NSD703 permanent technical procedure requirements as determined by PIP O-12-1590, ONS Emergency Planning will revise the procedure titles (as procedure revisions become necessary) to incorporate the Safety Classification to "A" instead of "B".
3) Throughout procedure change all applicable procedure safety classifications from a "B" to an "A" to comply with NSD 703 and pip O-12-1590.

Reason for Change:

1) After review of procedure Enclosure 4.6 page 2 of 2, step2.7 is referring to returning back to step 3.6.2 and not 3.4.2 which does not exist. This procedure revision is due to making this editorial change per pip O-12-9948.
2) NSD 703.5.1, Permanent technical procedures are used to direct station activities during operating, testing, refueling, maintenance, and modifications. These procedures provide guidance for activities that are of a repetitive nature, or when conditions requiring the procedure may occur in the future and the procedure is essential if the situation occurs. Permanent technical procedures are designated in the procedure number as follows:

Procedure Type Abbreviation

Emergency Response Procedures RP

3) During E-Plan Implementing procedure revisions The applicable procedures that are referenced in RP/1000/019 will be revised to reflect "A" as the safety classification in the ID number.

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3

☒ The change is editorial or typographical
☐ The change is not editorial or typographical

Change Type: BLOCK 4

☐ The change does conform to an activity that has prior approval
☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☒ **§50.47(b)(4) – Emergency Classification System***
- **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: _____

☐ The activity does not involve a site specific EP commitment

Results: BLOCK 7

This title change is a result of an INOS PIP O-12-1590 making the determination that NSD 703 section 5.1 requires all Emergency Response Procedures to be permanent technical procedure thus resulting in all ONS E-Plan Implementing Procedure having a Safety Classification designation letter of "A" and not "B" in the ID number of that procedure. This title revision in no way compromises the contents of the procedure or its effectiveness of use during an emergency event. Nor does this title ID change affect the required review period for this procedure of every 6 years. It has been determined that this revision will not reduce the effectiveness of this emergency response procedure. The revision to the step number as indicated in change #1 is a editorial change because the procedure user knows this procedure contents and the guidance through multiple uses it was evident that the procedure step number referenced was not accurate and did not affect the direction the user would have taken. This revision was also determined to not require a 5054Q effectiveness evaluation due to a reduction in the effectiveness of the E-Plan.

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation

☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ray Waterman	Ray Waterman	11-26-12
Reviewer Name:	Reviewer Signature	Date:
Robert Taylor	Robert Taylor	12/5/12

§50.54(q) Screening Evaluation Form

Activity Description and References: RP/0/A/1000/019 rev 0 BLOCK 1

Description of change:

1) PIP G-11-1389: Development a process for filling vacant ERO positions with other plant staff members present in the facility and qualified for the positions. Individuals assigned to fill a vacancy should have the training experiences and skills required for the position.

Reason for Change:

1) TSC and OSC staffing may not always have personnel that are cross qualified to perform various roles in the Emergency response facilities. The facility Manager/Coordinator should decide who should be employed to perform what roles as dictated by the type of emergency situation. RP/1000/019, TSC EC procedure and RP/1000/025, OSC Managers procedure will have a note add in the Immediate Actions section giving guidance for them to staff their organization to the best of its ability with the resources available and dependent on the emergency situation. The note will read as follows:

The makeup and structure of the Emergency Response Facility organization will be determined by the facility Manager/Coordinator. The facility organizations may be modified or supplemented as necessary to support the particular circumstances given to the existing onsite and offsite conditions. Vacant ERO positions may be filled with other plant staff members present in the facility and who are qualified for the position(s). Individual(s) assigned to fill vacancy should have the training, experience and skills required by the ERO training Program for that position.

Activity Scope: BLOCK 2

☐ The activity is a *change* to the *emergency plan*

☒ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3	**Change Type:** BLOCK 4
☐ The change is editorial or typographical ☒ The change is not editorial or typographical	☒ The change does conform to an activity that has prior approval ☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
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- ☐ §50.47(b)(6) – Emergency Communications
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- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

This activity is not a change in the requirements of staffing the emergency response facility(50.47b1orb3) but instead is information to consider for structuring the facility staffing should an emergency event occur which would limit the ERO resource response to the site, for example a Fukushima type event. This additional information captured at the beginning of the procedure will prompt this action should filling vacant positions be necessary. This change will not be a reduction in the effectiveness of the ONS E-Plan

- ☒ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

- ☐ The activity does involve a site specific EP commitment

  Record the commitment or commitment reference: _____

- ☒ The activity does not involve a site specific EP commitment

Results: BLOCK 7

- ☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
- ☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ray Waterman	Ray Waterman	11-26-12
Reviewer Name:	**Reviewer Signature**	**Date:**
Robert Taylor	Robert Taylor	12/5/12

Duke Energy
Oconee Nuclear Station
Procedure For Major Site Damage Assessment And Repair

Procedure No.
RP/0/B/1000/022
Revision No.
013
Electronic Reference No.
OX002WPJ

Continuous Use

PERFORMANCE

PDF Format

Compare with Control Copy every 14 calendar days while work is being performed.

Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* Date

Procedure Completion Approved* Date
**Printed Name and Signature*

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do NOT mark on barcodes.

Printed Date: *12/11/2012*

Enclosure No.: *FULL*

Revision No.: *013*

Procedure No.: *RP/0/B/1000/022*

NSD 703 Rev 3 Form 703-1
(R08-10)

Duke Energy

(1) ID No. RP/0/B/1000/022

PROCEDURE PROCESS RECORD

Revision No. 013

PREPARATION

(2) Station: Oconee Nuclear Station

(3) Procedure Title: Procedure For Major Site Damage Assessment And Repair

(4) Prepared By* Scott W Kelley Date 12/11/2012

☐ Yes ☒ No Periodic Review

(5) Requires NSD 228 Applicability Determination?

☒ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation
☐ No (Revision with minor changes)

(6) Reviewed By* Ray Waterman / Ray Waterman (QR)(KI) Date 12-11-12

Cross-Disciplinary Review By* _____ (QR)(KI) NA RAW Date 12-11-12

Reactivity Mgmt. Review By* _____ (QR) NA RAW Date 12-11-12

Mgmt. Involvement Review By* _____ (Ops. Supt.) NA RAW Date 12-11-12

(7) Additional Reviews

QA Review By* QA review not required per PIP O-04-07846 CA #2 4 Date 12-11-12

Reviewed By* Patricia M Stagg / Patricia M Stagg Date 12/11/12

Reviewed By* _____ Date _____

Approved By* Jeremy Fisher Jeremy Fisher Date 12-11-12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification

☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
☐ Yes ☐ NA Required enclosures attached?
☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment. If Used, checked out/in and referenced to this procedure?
☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved* _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

Procedure For Major Site Damage Assessment And Repair

NOTE:

1. This procedure is an implementing procedure to Oconee Nuclear Site Emergency Plan and shall be forwarded to Emergency Planning within seven working days of approval.

2. By letter dated December 29, 2010, the NRC issued Amendments 371, 373, and 372 for ONS 1, 2, and 3 respectively. The amendments allow ONS to maintain a fire protection program in accordance with 10CFR50.48(c), National Fire Protection Associated Standard NFPA 805. The amendments revised the fire protection condition provided within the Facility Operating License (FOL) for ONS. The Transition License Conditions of the FOL fire protection condition states that the "Implementation Items" and "Committed Plant Modifications" be completed in order for ONS to be in full compliance with 10 CFR 50.48(c).

   All implementation items and plant modifications specified by the NRC SER have not been completed. As such, not all programs and processes for full implementation of NFPA 805 are currently in place. Although ONS is considered to be an NFPA 805 plant (10CFR50.48 (c)), the site will maintain compliance with the 10CFR50.48 (b) Appendix R safe shutdown performance requirements. These will remain in effect until full compliance with the NFPA 805 Transition License Condition requirements is achieved.

1. Symptoms

1.1 Emergency Response Organization activated due to a major fire or other event that may cause major damage to site.

1.2 Major damaging fire occurs as described in Oconee Site Appendix "R" scenarios:

- Enclosure 4.1: Turbine And Auxiliary Building Fire - Scenario Description
- Enclosure 4.2: Turbine Building Fire - Scenario Description
- Enclosure 4.3: Reactor Building Fire - Scenario Description
- Enclosure 4.4: Fire In The West Penetration Room Or SSF Cable Trench - Scenario Description
- Enclosure 4.5: Fire At CT-4 Transformer - Scenario Description

1.3 Portions of protected area require evacuation/personnel relocation **OR** site evacuation/personnel relocation may be required due to plant damage.

1.4 This procedure may be used for events (other than Appendix "R") resulting in major site damage.

1.4.1 An example event may be a High Energy Line Break (HELB) in the Turbine Building resulting in unavailability of 1A LPSWP Motor. The 1C LPSWP motor is the alternative for that system in Units 1 & 2 only, consequently the OSC/TSC may determine 1C LPSWP may be a viable option, for this type event.

NOTE: Refer to Enclosures 4.1 through 4.5 for detailed scenario descriptions.

1.5 Appendix "R" Abstract

1.5.1 10CFR50, Appendix "R" requires that Nuclear Stations maintain ability to repair major fire damage such that plant has 72 hours to reach "Cold Shutdown". Appendix "R" postulated fire scenarios for Oconee Nuclear Site assume for conservatism that before any repair action is initiated, that 8 hours has elapsed from initial indications of a fire. This would leave 64 hours for repair and cooldown to Cold Shutdown on affected unit(s). This implies that fire brigade fights fire for initial 8 hours and **NO** other functions are carried out. This will probably **NOT** be the case; therefore as soon as possible repairs shall be initiated. An initial work force is called in by Operational Support Center (OSC). Security is notified to allow workers into plant.

1.5.2 **IF** Site Area Emergency **OR** General Emergency is declared, Technical Support Center (TSC) arranges for state and local agencies to allow workers through traffic control points.

1.5.3 Since repair activities continue for an extended time, OSC Manager assures timely call out of relief personnel for repair workers. OSC Manager also directs arrangement of relief for OSC members. OSC staffing may be altered as necessary.

1.5.4 Repairs for Turbine Building/Auxiliary Building (TB/AB) Fire encompass those for other scenarios. This fire is assumed to damage systems in Turbine Building, electrical blockhouses (except CT-4 Transformer) and Auxiliary Building (except West Penetration Room). All AC power is lost. To bring all three units to Cold Shutdown, it may be necessary to:

- Replace motors on HPIP's 1A, 2A and 3A
- Replace motors on LPIP's 1C, 2C and 3A
- Replace motors on LPSWP's 1A and 3A
- Provide 4160V power to replaced motors; power and cooling water to a CCWP motor
- Provide power and controls for each unit's PORV, Core Flood isolation valves CF-1&2, Decay Heat suction valves LP-1&2, RCS Post-Accident sampling valves and Condenser outlet valves
- Install local instrumentation for HPI, LPI and LPSW systems.

1.5.5 This procedure is intended for use after major fire damage as described in enclosures. However, if another plant evolution (i.e. natural disaster, etc.) creates a need for restoration of alternate site equipment, this procedure can be used to address the equipment restoration as described in any listed procedures, methodology of work force and equipment repair addressed in this procedure.

1.5.6 Within 3 hours 20 minutes from emergency starting the SSF Diesel Generator and loss of forced, gravity and siphon flow, a submersible pump is installed at intake to provide water to SSF. This work should be completed before the Appendix R damage recovery procedures are started. This is **NOT** considered an Appendix "R" fire damage repair; it is a separate SSF operability requirement.

1.5.7 Within 36 hours of loss of power to SFP cooling system AM/0/A/3009/012 A Emergency Plan For Refilling Spent Fuel Pools shall be implemented. This is **NOT** considered an Appendix "R" repair; it is a separate Spent Fuel requirement.

2. Immediate Action

NOTE:	The following immediate actions are performed by Operations from Control Room.

2.1 Operations from Control Room to ensure the following actions performed as applicable:

- IF required, Fire Brigade dispatched to put out fire per RP/0/B/1000/029 and ONS Fire Plan.
- Warned all Site personnel of fire location.
- Activated outside Site Assembly Horn to notify personnel outside the reach of Public Address (PA) System.
- Activated Technical Support Center (TSC), Operations Support Center (OSC) and Emergency Operations Facility (EOF).

2.2 Technical Support Center (TSC) to perform the following actions:

- Assess extent of site damage and determine appropriate action to be taken.
- Provide direction to OSC and have OSC perform the guidance of this procedure in conjunction with the TSC.

3. Subsequent Action

3.1 Operations Group: At the direction of TSC maintain unit(s) in Hot Shutdown while performing simultaneously actions required per the following procedures:

- AP/0/A/1700/025, Standby Shutdown Facility Emergency Operating Procedure
- EP/1,2,3/A/1800/001, Emergency Operating Procedure
- OP/0/A/1102/024, Plant Assessment And Alignment Following Major Site Damage
- OP/0/A/1102/025, Cooldown Following Major Site Damage.

3.2 IF TSC/OSC is NOT habitable OR may become so due to fire, smoke, temperature, or radiological concerns, TSC/OSC shall be relocated as soon as practical to alternate location as agreed to by Emergency Coordinator and OSC Manager. Continued availability of lighting, ventilation and communications equipment shall be considered. Refer to RP/0/B/1000/025, Operational Support Center Manager Procedure, for alternate TSC/OSC location details.

3.3 Dispatch assessment teams to determine extent of site damage and report findings back to OSC.

3.3.1 OSC identifies the following based on site damage assessment team findings and notifies TSC:

- Equipment damaged with recommended actions
- Safe Load Pathways affected with recommended pathways

NOTE: Enclosure 4.6 list procedures used for assessment and repair following major site damage as well as other maintenance procedures that may be used.

- Recommended procedures for repair of damaged equipment

3.3.2 TSC reviews information received from OSC and performs following:

- Determines required repair actions in order to achieve Cold Shutdown (within 72 hours for Appendix "R" event)

NOTE: Enclosure 4.15 lists safe load path drawings that may be utilized to determine safe load pathways.

- Determine safe load pathways for motor replacement and cable paths
- IF procedures do not exist for repairs, evaluate and proceduralize steps/methods for repair to achieve Cold Shutdown (within 72 hours for Appendix "R" event)
- Provide OSC with direction and actions for repair of equipment

3.4 Once damage assessment is complete, OSC ensures additional personnel required to bring unit(s) to Cold Shutdown (within 72 hours for Appendix "R" event).

3.4.1 Workforce will be allocated for repairs per referenced procedures listed on Enclosure 4.6, List Of Site Procedures Used For Assessment And Repair Following Major Site Damage. These personnel are only to be dispatched as deemed necessary by OSC Manager.

3.4.2 Site specific departmental repair responsibilities for TSC and OSC are listed in Enclosure 4.7, Site Specific Departmental Repair Responsibilities For TSC/OSC.

NOTE: Refer to Enclosure 4.8, Maintenance Telephone List For Supplemental Work Force.

3.4.3 Since repair activities continue for an extended time, OSC will ensure timely callout of relief personnel for repair workers and OSC members. OSC staffing may be altered as necessary.

NOTE: Refer to Enclosure 4.9, Damage Repair Work Locations.

3.5 OSC obtains feedback from Fire Brigade and Operations concerning accessible work staging locations. As these areas become accessible, work location supervisors, with Safety and RP support, are sent to make surveys.

The following information is reported to OSC:

- Special safety precautions necessary due to structural damage, electrical shorts, etc.
- Need for lighting
- Need for ventilation
- RP requirements
- Repair procedure applicability (which steps may be omitted)
- Weather conditions (consider constructing rainproof shelter for Appendix R switchgear and control panels using Reactor Building equipment hatch tent and/or scaffolding and tarps or plastic).

3.6 Refer to Enclosure 4.10, Repair Priorities And Descriptions, for brief description and priority list of equipment repairs.

3.7 Refer to Enclosure 4.11, Repair Work Flow Diagram, for an estimated timeline to be used as guide in establishing equipment repair priorities.

3.8 Have OSC Maintenance Manager inform Site Services Group to locate necessary equipment and cable reels from Enclosure 4.12, Appendix "R" Material List (Designated Materials) and begin moving these to safe work location listed in Enclosure 4.9, Damage Repair Work Locations.

As described in Enclosure 4.9, Damage Repair Work Locations, initial staging of major equipment is performed according to MP/0/A/3009/012, Emergency Plan For Replacement of HPI, LPI, And LPSW Motors Following Damage In The Turbine Building Or Auxiliary Building and IP/0/A/0050/002, Site Damage Control Procedure. This includes:

- Moving HPIP and LPIP motors from Bldg. #8093 (WHSE #3) to Hot Shop
- Moving LPSWP motors from Bldg. #8093 (WHSE #3) to Unit 1 Heater Bay
- Moving emergency switchgear trailer from Bldg. #8019 (WHSE #2G) to Unit 1 & 2 electrical blockhouse
- Moving valve control panels from Bldg. #8093 (WHSE #3) and valve control cables from Bldg. #8019 (WHSE #2G) to West Penetration Room's outside doors
- Moving 4160V power cables from Bldg. #8019 (WHSE #2G) to Unit 1 & 2 electrical blockhouse
- Lifting cable trench covers at North end of SSF.

3.9 Have OSC Maintenance Manager coordinate delivery and set up of portable generators, lighting and ventilation. Refer to Enclosure 4.13, Major Site Damage Maintenance Support Equipment, for a list of available equipment.

- It is assumed that lighting and power are lost at all in-plant work locations and that ventilation equipment is necessary for motor replacement work in HPI and LPI pump rooms. Actual conditions will be determined by RP and Safety surveys described in Step 3.5.

NOTE:	Refer to Enclosure 4.8, Maintenance Telephone List For Supplemental Work Force.

- OSC Maintenance Manager will need to notify NMS-South to setup and operate generators.
- Initial lighting and ventilation equipment is to be set up according to Enclosure 4.14, Deployment Of Lighting And Ventilation Equipment. Safety representatives and supervisors of work in affected locations are to assist Maintenance Manager.
- Other equipment needs are set up by location work crews as necessary.

3.10 **WHEN** it is decided by TSC to proceed with unit(s) shutdown to Cold Shutdown, Supt. Of Operations will notify Operations to begin unit(s) cooldown utilizing OP/0/A/1102/025, Cooldown Following Major Site Damage and OP/1,2,3/A/1102/010, Controlling Procedure For Unit Shutdown.

3.11 **WHEN** EOF Director reduces Emergency Classification such that OSC is **NO** longer required, control of site damage repairs are turned over to Work Control Organization.

4. Enclosures

4.1 Turbine And Auxiliary Building Fire - Scenario Description

4.2 Turbine Building Fire - Scenario Description

4.3 Reactor Building Fire - Scenario Description

4.4 Fire In The West Penetration Room Or SSF Cable Trench - Scenario Description

4.5 Fire At CT-4 Transformer - Scenario Description

4.6 List Of Site Procedures Used For Assessment And Repair Following Major Site Damage

4.7 Site Specific Departmental Repair Responsibilities For TSC/OSC

4.8 Maintenance Telephone List For Supplemental Work Force

4.9 Damage Repair Work Locations

4.10 Repair Priorities And Descriptions

4.11 Repair Work Flow Diagram

4.12 Appendix "R" Material List (Designated Materials)

4.13 Major Site Damage Maintenance Support Equipment

4.14 Deployment Of Lighting And Ventilation Equipment

4.15 Safe Load Path Drawings

Turbine And Auxiliary Building Fire - Scenario Description

This fire starts in Turbine or Auxiliary Building. It is bounded by Reactor Buildings' walls, fire walls around West Penetration Rooms and fire wall between CT-4 transformer and Unit 1 & 2 Electrical Blockhouse. Unattached structures are NOT affected.

As in all scenarios, off-site power is lost and NOT recovered. Fire causes immediate damage to systems in fire area, including loss of main feeder buses and 6900V RCP buses (station blackout). Equipment subject to fire damage is assumed to fail and/or actuate spuriously, whichever is worst-case.

Reactors are shut down. Hot Shutdown conditions are maintained from SSF until repairs are made to allow cooldown.

Postulated fire scenarios for Oconee Nuclear Site assume for conservatism that before any repair action is initiated, that 8 hours has elapsed from initial indications of a fire. During this time Emergency Plan is activated, SSF-dedicated submersible pump is installed, fire is controlled, manpower and equipment are called to site and preparations for repairs are made.

Repair details are presented in Enclosure 4.10, Repair Priorities And Descriptions.

NOTE:	* Including power to pump motors, valve controls and instrumentation; as necessary for each system.

*HPI is restored to provide RCS inventory control and valves for RV head venting and pressure control is made operable, prior to starting cooldown.

Natural circulation cooldown is performed using SSF ASW and MS atmospheric dump valves.

CF-1 & 2 are made operable and closed before RCS pressure is decreased below CFT pressure (600 psig).

*CCW, *LPSW and *LPI are restored as prerequisites to establishing LPI cooling. LPI is then used to cool down from 250°F to Cold Shutdown.

RCS sampling valves and CCW condenser outlet valves are also restored.

Enclosure 4.2

Turbine Building Fire -
Scenario Description

This Fire is same as TB/AB Fire, except that it is bounded on west by Auxiliary Building wall. The open structure of Turbine Building makes this a more likely event, however.

Plant control is same as for Turbine and Auxiliary Building Fire.

Repair scope is decreased, since HPIP and LPIP motor replacement is NOT necessary. Restoration of Auxiliary Building valve controls and instrumentation remains necessary due to loss of power.

Reactor Building Fire - Scenario Description

This scenario is presented for reference only. NO repairs are necessary to achieve Cold Shutdown.

The fire is confined to a limited area within Reactor Building. Shield walls and structural spacing prevent spread of fire.

Main feeder bus and RCP power is automatically restored from Keowee via overhead power path.

Various failures occur, depending upon fire's location. All are mitigated by redundant systems (including SSF-operated equipment) or operator action.

IF CF-1, CF-2, LP-1 or LP-2 power cables burn, Reactor Building entry is necessary for manual operation.

EFW is used for cooldown until LPI is established.

Fire In The West Penetration Room Or SSF Cable Trench - Scenario Description

This is actually a grouping of several scenarios with same effect - a loss of off-site power (given), coupled with loss of SSF-to-plant electrical ties.

Fire is confined within a West Penetration Room (where SSF cabling enters plant), or within a SSF-to-plant cable trench. Fire affects a single unit, unless it is in SSF-to-Unit 3 cable trench. In this case the fire also burns CCWP power cabling, which intersects SSF-to-Unit 3 cable trench, so that a total loss of station CCW occurs.

Main feeder bus and RCP power is automatically restored from Keowee via overhead power path.

Fire in West Penetration Room (WPR) **OR** in Unit 1 or 2 cable trench, requires **NO** repairs for cooldown. EFW is used until LPI cooling is established.

IF WPR cables are burned, Reactor Building entries are made to manually operate CF 1 & 2 and LP 1 & 2.

Fire in Unit 3 cable trench causes loss of station CCW. Lack of CCW can bring about loss of LPSWP suction, in-plant ASWP suction, EFW inventory and SSF water supply.

Repairs consist of restoring power to one CCWP - a power cable is pulled to Unit 3 4160V switchgear.

SSF-dedicated submersible pump is also installed at CCW intake to provide the following:

- Suction to SSF ASWP, SSF D/G and SSF HVAC
- Cooling/sealing water for CCWP.

On all three units, cooldown is begun with EFW. **IF** EFW inventory becomes depleted, ASW is used to continue cooldown to 250°F. LPI cooling is established for cooldown to Cold Shutdown.

Constraints are:

- Jockey pump shall be started within 5 hours of loss of CCW flow, before EWST is depleted. This time may be extended by isolating HPSW cooling/sealing water to CCWPs.
- **IF** atmosphere dumps are used, EFW inventory will be depleted in a minimum of 12 hours at HSD **OR** 6 hours during cooldown.
- Since control of Unit 3's SSF-ASW valves is **NOT** available, in-plant ASW would be used. SSF-ASW could be used on Units 1 and 2.
- **IF** LPSWP suction has been lost, CCWP shall be started prior to establishing LPI cooling.

NO repairs are required for cooldown.

Fire is confined within CT-4 room. CT-4 becomes inoperable.

Main feeder bus and RCP power is automatically restored from Keowee via overhead power path.

EFW is used for cooldown until LPI cooling is established.

List Of Site Procedures Used For Assessment And Repair Following Major Site Damage

Repair Procedures

EM/0/A/0050/001	Procedure To Provide Emergency Power To An HPI Pump Motor From The ASW Switchgear
IP/0/A/0050/002	Site Damage Control Procedure
IP/0/A/0050/006	Appendix "R" Motor Operated Valve Cable Verification
MP/0/A/1300/020	Pump - Ingersoll-Rand - High Pressure Injection - Removal And Replacement Of Pump And Motor
MP/0/A/1300/040	Generic - Alignment
MP/0/A/3009/012	Emergency Plan For Replacement Of HPI, LPI, And LPSW Motors Following Damage In Turbine Building Or Auxiliary Building
MP/0/A/3009/017	Visual PM Inspection And Electrical Motor Tests
MP/0/A/3009/020 B	Motor - Electric - Removal, Replacement, And Post Maintenance Testing
MP/0/A/3009/XXX (series)	Various ONS and Keowee Hydro Station Motor Inspection and Maintenance Procedures

Submersible Pump Procedures

AM/0/A/1300/059	Pump - Submersible - Emergency SSF Water Supply - Installation And Removal

Spent Fuel Pool Water Level Recovery

AM/0/A/3009/012A	Emergency Plan For Refilling Spent Fuel Pools

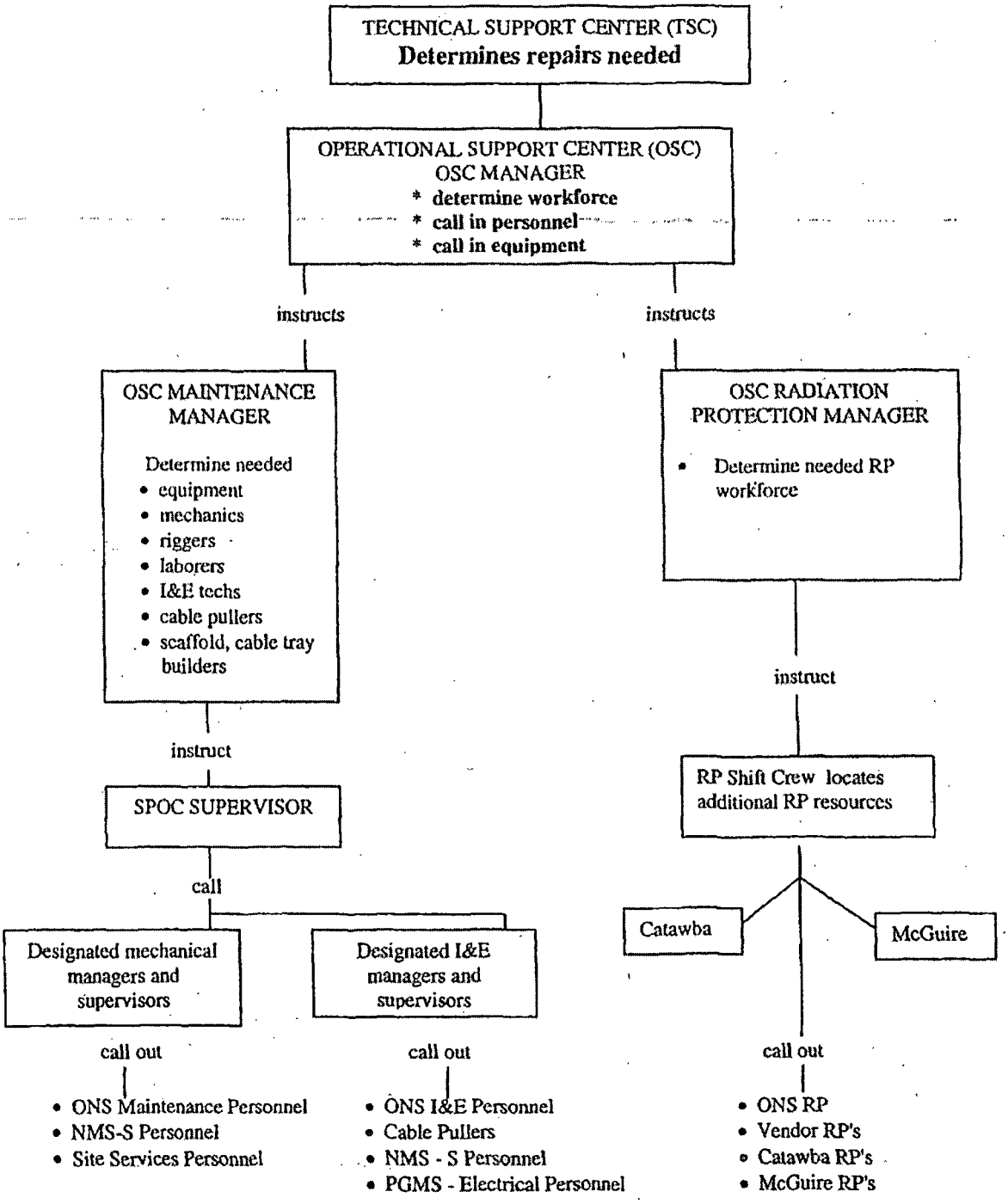
Operations Controlling Procedures

AP/0/A/1700/025	Standby Shutdown Facility Emergency Operating Procedure
EP/1/A/1800/001	Emergency Operating Procedure
EP/2/A/1800/001	Emergency Operating Procedure
EP/3/A/1800/001	Emergency Operating Procedure
OP/0/A/1102/024	Plant Assessment And Alignment Following Major Site Damage
OP/0/A/1102/025	Cooldown Following Major Site Damage
OP/0/A/1104/052	SSW System

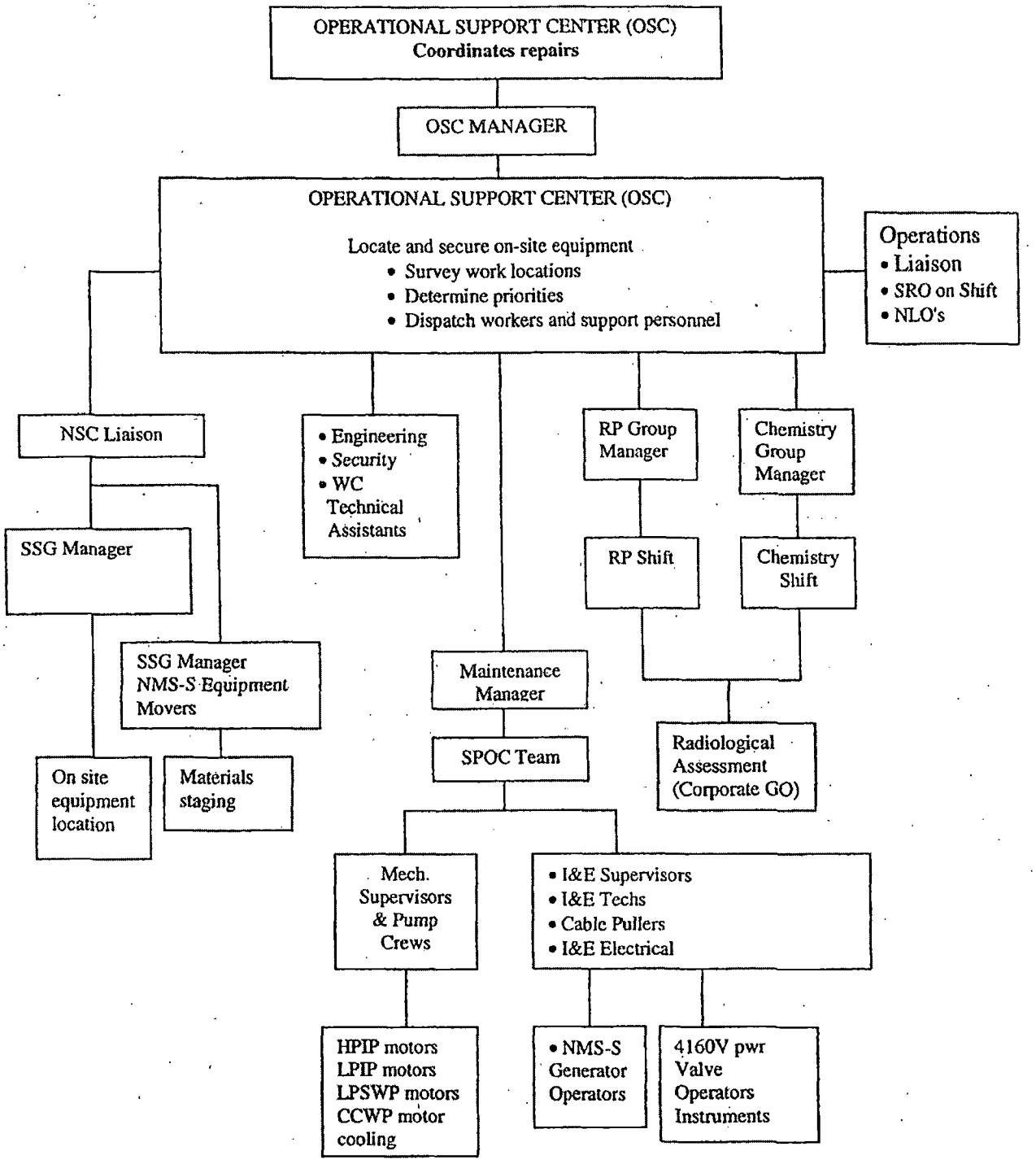
Chemistry Procedures

CP/1/A/2002/004 E	Unit One Reactor Coolant Sampling During An Appendix "R" Accident
CP/2/A/2002/004 E	Unit Two Reactor Coolant Sampling During An Appendix "R" Accident
CP/3/A/2002/004 E	Unit Three Reactor Coolant Sampling During An Appendix "R" Accident

Detailed Maintenance And RP Repair Responsibilities For TSC/OSC



Overall Departmental Repair Responsibilities For TSC/OSC



Enclosure 4.8

Maintenance Telephone List For Supplemental Work Force

Group	Group Contact	Office #	Pager #	Home Phone #
I&C / Electrical Electrical Relaying and Metering Keowee Hydro (ONS) M&TE Switchyard Coordination Admin Support	**Jeremy Fisher** **Alternates:** *** Manny Isom** *** B J McDaniel**	873-2954 873-4992 873-3485	(b)(6)	
Mechanical Support A Crane Operators Pumps / Motors HVAC Diesel Generators Compressors PM 2 Cranes Equipment Operators Heat Exchangers	**TBD** **Alternates:** *** Milton Addis** *** Sam Hamrick** *** Ricky Roper**	 873-3914 873-3159 873-4200		
Fleet Reactor Services Fuel Handling Reactor Services	**Dana Moore** **Alternate:** **Gary Ruppe**	873-4976 873-4940		
Work Execution SPOC	**Jamie Dodson** * Duty SPOC Maint. Supervisor	873-6129 3101/3135		
Mechanical Support B Valves Civil Fluid Leak Management Material Condition	**TBD** **Alternates:** *** Doug Crawford** *** Rick McCollum**	 873-3668 873-4621		

Maintenance Telephone List For Supplemental Work Force

Group	Group Contact	Office #	Pager #	Home Phone #
Maintenance Facilities Modifications Welding Hangers Machine Shop Fab Shop Critical / Complex Coordination	**Robert Hare** **Alternates:** *** Chris Watkins** *** Kenny Dodd**	873-3295 873-4468 873-4471	(b)(6)	
Turbine / Generators	**Chris Hope**	873-4273		
PGMS - Electrical Southern Region (1)	**Lynn Duvall** **Alternate:** *** Michael Addis** **24 Hour Service Center**	873-4890 873-4660 704-382-1125		

(1) Site Specific Operating Agreement between PGMS-Electrical Southern Region and Oconee Nuclear Station (ONS).

The following areas may require access to facilitate bringing unit (s) to Cold Shutdown within 72 hours of initiating event:

Building Nos. (Location)	Work Performed
8093 (WHSE #3)	Appendix "R" Materials
8019 (WHSE #2G)	Emergency 4160V switchgear
8019 (WHSE #2G)	Cables for 4160V power, valve control
8095 - Hot Shop	Staging HPIP, LPIP, motors
8095 - Hot Shop Tunnel	Unit 1 & 2 HPI Hatch Area
	Handling HPIP motors
Unit 3 HPI Hatch Area	
Unit 1 & 2 HPI Pump Room	HPIP motors, instrumentation
Unit 3 HPI Pump Room	
Unit 1 & 2 LPI Hatch Area	Handling LPIP motors
Unit 3 LPI Hatch Area	
Unit 1 North LPI Pump Room	LPIP motors, valve operators,
Unit 3 South LPI Pump Room	Instrumentation
Unit 3 North LPI Pump Room	Instrumentation
AB 1st Floor Corridor	Towing U3 HPI/LPI pump motors:
	Instrumentation
Roadway running north/south between Auxiliary Building and SSF	Transporting pump motors and valve control panels; cable pulling pathways
TB Breezeway West Entrance	LPSWP motor entry
TB ground floor at 1C2 heater	
Unit 1 & 2 LPSW Pump Area	
Unit 3 LPSW Pump Area	LPSWP motors
TB basement LPSWP pathways	Towing LPSWP motors
See MP/0/A/3009/012, Emergency Plan For Replacement Of HPI, LPI, And LPSW Motors Following Damage In Turbine Building Or Auxiliary Building	
TB/AB basement 4160V cable pathways see IP/0/A/0050/002, Site Damage Control Procedure	Pulling cables
TB basement east of condensers	Condenser outlet valves
CT-4 transformer	4160V power
Roadway east of TB	Transforming switchgear and cables, pulling cable to CCWP
CCWP service structure	Connecting power cables to CCWP
Unit 1, 2 and 3 West Penetration Room outside doors and stairways	Valve control panels
Unit 1 and 2 East Penetration Rooms	Valve control cables
Unit 1, 2 and 3 West Penetration Rooms	Valve control cables; instrumentation
Unit 1, 2 and 3 BWST's	Instrumentation

NOTE:
1. Equipment listed in this enclosure is in order of repair priority, with #1 being most important.
2. Specific equipment restorations will depend on damage equipment assessments and particular fire, NOT necessarily on pre-supposed scenario descriptions.

1. HPIP Motor Replacements

HPIP motor replacements are longest duration, most challenging repairs. In addition, use of HPI system is necessary to begin cooldown.

Controlling Procedure: MP/0/A/3009/012, Emergency Plan For Replacement Of HPI, LPI, And LPSW Motors Following Damage In Turbine Building Or Auxiliary Building.

HPIP 1A, 2A and 3A motors are replaced.

Oil is drained from Unit 3 HPIP motor (only).* A forklift moves each motor through BLDG. #8093 (WHSE #3) door to the P&H crane, which takes it into Hot Shop. A forklift moves dollies from BLDG. #8093 (WHSE #3) to Hot Shop, where they are lowered into Hot Shop tunnel. Each motor is lowered onto its dolly, Unit 3's first, then manually towed to appropriate HPI Hatch Area. Unit 1 & 2 motors are both taken to south side of Unit 1 & 2 Hatch Area.

Availability of electric power affects these staging activities. Without power, rollup doors at Hot Shop are opened manually. P&H removes Hot Shop tunnel hatch and lowers motors into tunnel. With power, Hot Shop crane handles loads in Hot Shop. Manual hoists are provided for handling hatches and motors in HPI Hatch Areas, if installed electric hoists are inoperable.

Parallel to initial staging activities, pathways are cleared from Hot Shop to HPI Hatch Areas. HPI hatches are removed. Electricians cut old HPIP motor power cables and pump crews begin removing old motors.

WHEN removed, old motors are placed out of way in HPIP rooms or hatch areas. New motors are then installed and aligned according to MP/0/A/1300/020, Pump - Ingersoll-Rand - High Pressure Injection - Removal And Replacement Of Pump And Motor.

Replacement motors are air-cooled, so that cooling water hookup is NOT required. Motor instrumentation is NOT reconnected. While careful motor-to-pump alignment is necessary, usual QA documentation of HPIP work is NOT required. On Unit 3 only, oil shall be replaced after new motor is set.

Power to motors is restored according to IP/0/A/0050/002, Site Damage Control Procedure, (see Restoration Of 4160V Power To Pump Motors). After new power cables are pulled, electricians connect them to motors. Motors are bumped to check for correct rotation before running pump.

- Oil is drained because Unit 3 motor is tipped on its side for handling. This is Necessary due to low overhead clearance in Auxiliary Building corridor.
- Unit 3 motor is handled first because of longer distance it shall be towed.

2. LPSWP Motor Replacement

LPSW flow to LPI coolers is required at about 250°F in RCS, **WHEN** LPI cooling is begun. Other LPSW cooling loads, though **NOT** essential for cooldown, make LPSWP motor replacements important.

Controlling Procedure: MP/0/A/3009/012, Emergency Plan For Replacement Of HPI, LPI, And LPSW Motors Following Damage In Turbine Building Or Auxiliary Building.

One LPSWP motor for Units 1 & 2 and one LPSWP motor for Unit 3 are replaced.

NOTE:	**IF** heater bay crane is operable, it may be used to lower LPSWP motors through normal access holes.

After HPIP motors are moved, a forklift moves two LPSWP motors and dollies to Bldg. #8093 (WHSE #3) rollup door. These are loaded onto a crane truck, which is driven through Turbine Building Heater Bay rollup door. Boom truck lowers LPSWP motors and dollies to basement through grating east of feedwater heater 1C2.

Activities parallel to LPSWP motor staging are similar to those for HPIP motors. LPSWP motor pathways in TB basement are shown in MP/0/A/3009/012, Emergency Plan For Replacement Of HPI, LPI, And LPSW Motors Following Damage In Turbine Building Or Auxiliary Building.

Procedures used to remove, replace, align and test motors are:

- MP/0/A/1300/040, Generic - Alignment
- MP/0/A/3009/017, Visual PM Inspection And Electrical Motor Tests
- MP/0/A/3009/020 B, Motor - Electric - Removal, Replacement, And Post Maintenance Testing

Power is restored according to IP/0/A/0050/002, Site Damage Control Procedure.

3. LPIP Motor Replacements

LPIP motor replacement is completed after LPSWP motor replacement, but only because LPSWP motors are given priority during staging. LPI is required for cooldown below about 250°F.

Controlling Procedure: MP/0/A/3009/012, Emergency Plan For Replacement of HPI, LPI, And LPSW Motors Following Damage In Turbine Building Or Auxiliary Building.

LPIP 1C, 2C and 3A motors are replaced.

This job is essentially same as HPIP motor replacements, with the following exceptions:

- After LPSW motors are moved, a forklift moves LPIP motors to Hot Shop.
- LPIP motors are all handled in their normal orientation; NO oil draining is required.
- Procedures used for pump motor removal, replacement, alignment and testing are:
  - MP/0/A/1300/040, Generic - Alignment
  - MP/0/A/3009/017, Visual PM Inspection And Electrical Motor Tests
  - MP/0/A/3009/020 B, Motor - Electric - Removal, Replacement, And Post Maintenance Testing

CAUTION: 1. Emergency switchgear **CANNOT** be exposed to rain or fire-fighting water.

2. **IF** emergency switchgear may be exposed rain or fire-fighting water during staging, emergency switchgear shall be covered/tented with Herculite before staging and removed after staging. Herculite is available at Bldg. #8093 (WHSE #3).

4. Restoration Of 4160V Power To Pump Motors

Power restoration has shorter duration than motor replacements. CCWP is required to supply suction to LPSWP's.

Priorities between pump motors are:

1) HPIP's

2) CCWP

3) LPSWP's

4) LPIP's

Procedure: IP/0/A/0050/002, Site Damage Control Procedure

Power is restored to eight replaced HPIP/LPIP/LPSW motors and to a CCWP motor.

A special 4160V power control system has been designed for this purpose. It consists of nine trailer-mounted 4160V breakers and a control panel (emergency switchgear) powered from CT-4 transformer. DC control power for breakers is supplied from SSF. 4160V power cables are pulled from emergency switchgear to pump motors.

Several staging activities are conducted. A road tractor pulls emergency switchgear trailer from Bldg. #8019 (WHSE #2G) to its parking area just southeast of Unit 1 & 2 electrical blockhouse*. A crane truck picks up 4160V cable reels from Bldg. #8019 (WHSE #2G) and moves them to blockhouse. Another crane truck picks up DC-control cable reel (along with those for valve operators) and takes it to SSF. Cable reel stands are moved with cables. Pipes for cable reel handling are obtained from pipe yard.

CAUTION: Care shall be taken to avoid interference with pump motor staging.

A Demag or Grove crane lifts two sections of cable trench cover - one on each side of roadway between SSF (north end) and Hot Shop. This allows cable pulling for DC control cable, as well as valve operator cables.

4. Restoration Of 4160V Power To Pump Motors (Continued)

Scaffolding is erected for safe access to terminal points on top of CT-4. After emergency switchgear is moved, cable trays (stored on switchgear trailer) are erected over breakers.

Cable is pulled manually, following pathways described in IP/0/A/0050/002, Site Damage Control Procedure. Cable for eight HPIP/LPIP/LPSWP motors is stored on three reels, so that simultaneous cable pulling is **NOT** possible. Cable is first pulled to three HPIP motors, followed by LPSWP and LPIP motors. Cable for CCWP is on a separate reel. A hole for CCWP cable pulling may be cut in security fence near Radwaste Interim Facility if time duration to get gate open is too long.

I&E Electrical technicians connect cables at CT-4 and emergency switchgear. Electricians make connections at motors and SSF (DC control cable). Power cables are connected at motors first.

In a separate mechanical job, cooling water is restored to CCWP motor according to AM/0/A/1300/059, Pump - Submersible - Emergency SSF Water Supply - Installation And Removal. A line from SSF submersible pump is connected to motor's HPSW cooling line.

5. Valve Operability Restoration

Individual valve priorities depend upon plant conditions, as stated below:

(1) 1/2/3 RC-66 PORV
IF both RCP's on PZR loop are inoperable AND PZR auxiliary spray CANNOT be aligned, this valve shall be used for RCS pressure control during cooldown.

(2) 1/2/3 RC-159, 160 RV Head Vents
IF NO RCP's are operable, these valves are required for venting during natural circulation cooldown.

(3) 1/2/3 CF-1, 2 Core Flood Tank Isolation Valves
These valves shall be closed before RCS is depressurized below 600 psig.

(4) Condenser Outlet Valves
These valves are opened when CCWP is started.

(5) 1/2/3 LP-1, 2 Decay Heat Drop Line Valves
These valves shall be opened to establish LPI cooling.

(6) 1/2/3 RC-162, 163, 179; 1/2 RC-164, 165 RCS Post Accident Sample Valves
Sampling is required for RCS boron and fuel failure analysis. These valves may be given a higher priority if RCS conditions are in question.

Procedure: IP/0/A/0050/002, Site Damage Control Procedure

Electrically operated valves to be restored are:

- 1/2/3 RC-66
- 1/2/3 CF-1&2
- 1/2/3 LP-1&2
- 1/2/3 RC-159&160
- 1/2/3 RC-162&163
- 1/2 RC-164&165.

Pneumatic valves are 1/2/3 RC-179 and two condenser outlet valves.

A power/control system has been designed for electrically operated valves. It consists of a valve control panel (VCP) for each unit, power cables from SSF to VCP's and control cables from VCP's to valve operators or their RB electrical penetrations.

A forklift moves VCP's, which are unit-specific, from Bldg. #8093 (WHSE #3) to West Penetration Rooms' outside doors. A crane truck brings valve control cable reels from Bldg. #8019 (WHSE #2G) to VCP's (see Section 4., Restoration Of 4160V Power To Pump Motors).

5. Valve Operability Restoration (Continued)

Cable is pulled from VCP's to SSF Electrical Equipment Room. Cables from VCP's are pulled up West Penetration Room stairways to electrical penetrations in East and West Penetration Rooms (on Unit 3, West only). Cables are also pulled to two valve operators in both North and South Unit 1&2 LPIP rooms.

Connections at VCP's, penetrations and valve operators are made by electricians.

Pneumatically operated valves are located in respective units' A LPIP rooms and in Turbine Building basement. Operations determines which condenser outlet valves are to be restored. A nitrogen bottle Bldg. #8093 (WHSE #3) is taken to each valve. I&E technicians connect nitrogen supply and a pressure regulator to each valve operator.

6. Installation Of Local Instrument

This is the shortest duration repair activity.

Priorities between systems are:

1) HPI
2) BWST (if being used)
3) LPSW
4) LPI

Procedure: IP/0/A/0050/002, Site Damage Control Procedure

I&E technicians pick up replacement local instrumentation from Bldg. #8093 (WHSE #3) and install it for below-listed parameters. This work is done in AB 1st floor corridor, HPI pump rooms, LPI pump rooms and at BWST.

HPI:	RC makeup flow HPIP discharge pressure
LPI:	LPI flow LPIP discharge pressure LPI return temperature
LPSW:	LPSW flow to LPI cooler
BWST:	BWST level

CAUTION:
- IF lake level is above 793.5', suction can be taken for fire truck at Intake Structure.
- IF lake level is below 793.5', suction can be taken for fire truck at Boat Ramp Basin.

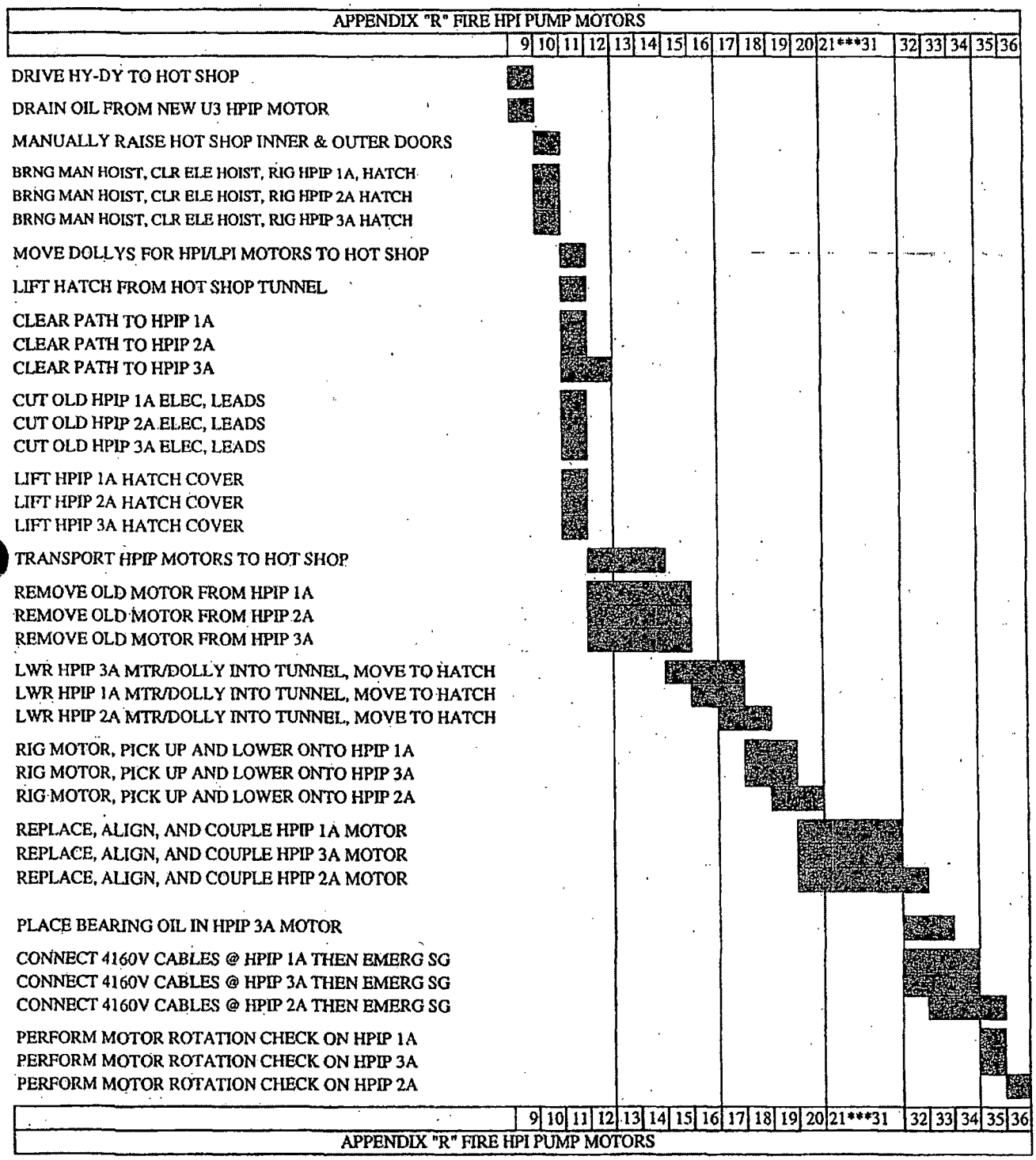
7. Refilling The Spent Fuel Pools With Lake Water From Fire Trucks

This activity should be completed and ready within 36 hours of loss of cooling to spent fuel pool.

Procedure: AM/0/A/3009/012 A, Emergency Plan For Refilling Spent Fuel Pools.

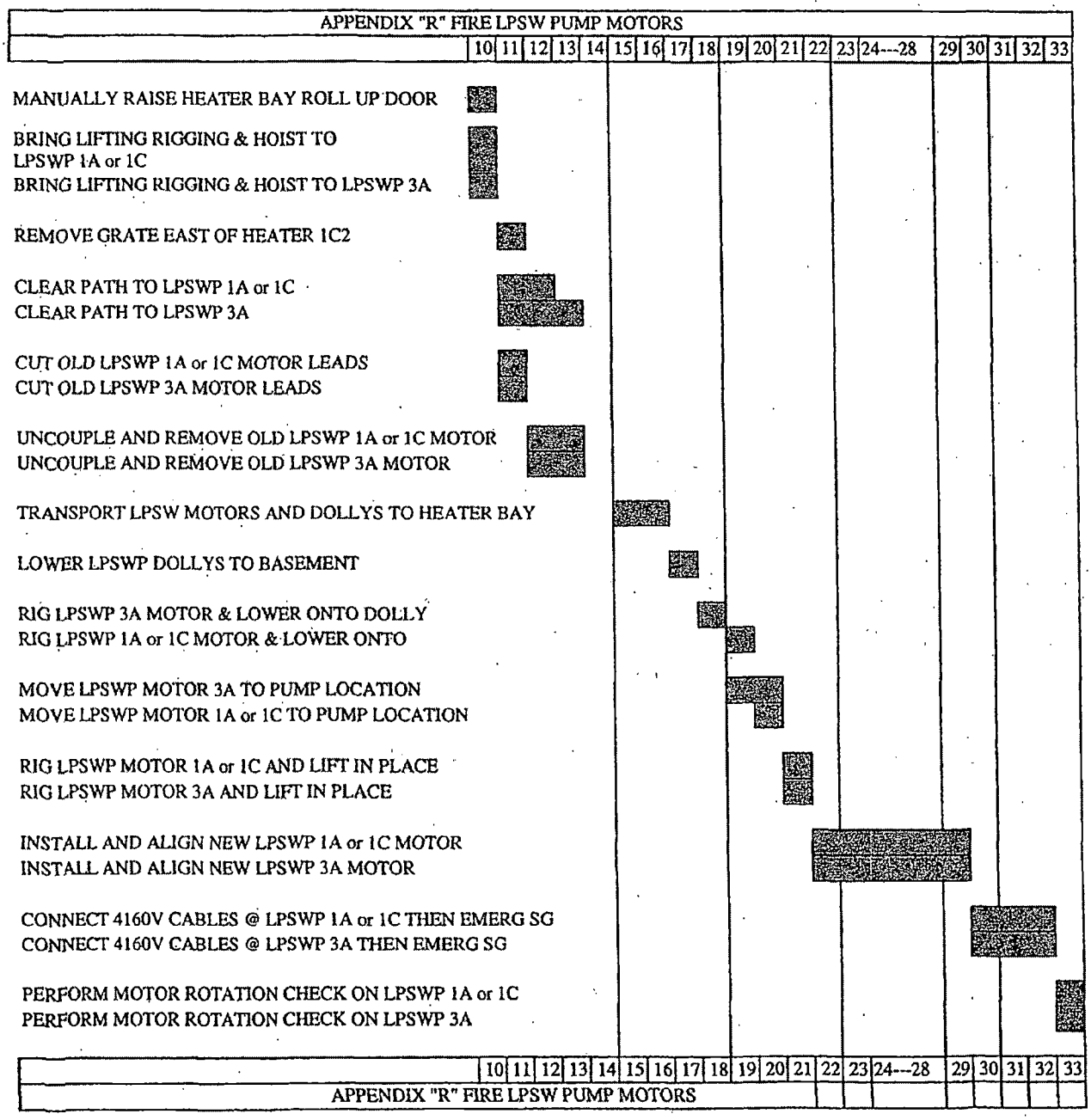
Fire trucks will be used to take suction from lake either at Intake or Boat Ramp Basin and discharge through a filter unit to each Spent Fuel Pool.

HPIP Motor Replacements

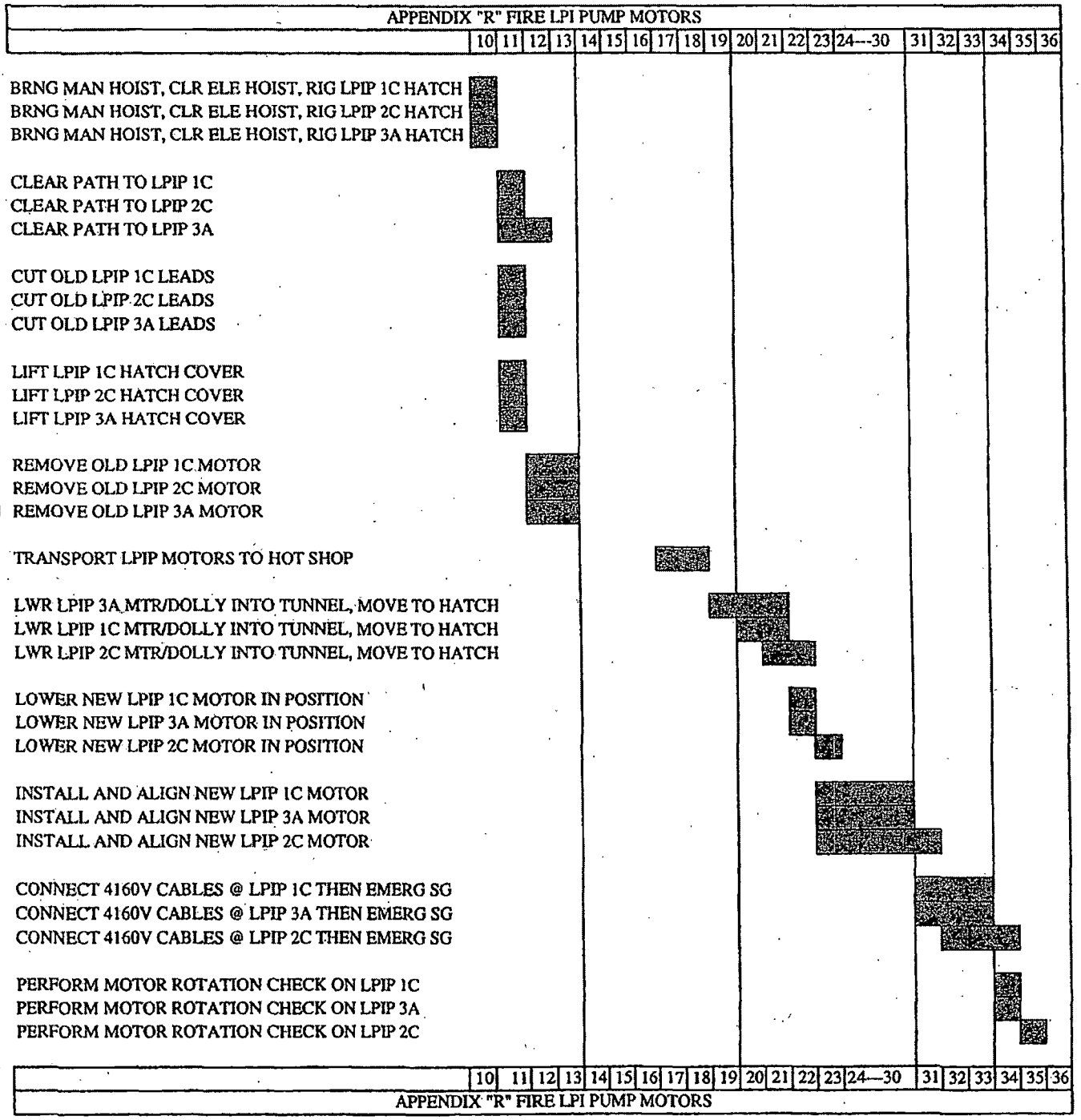


LPSWP Motor Replacements

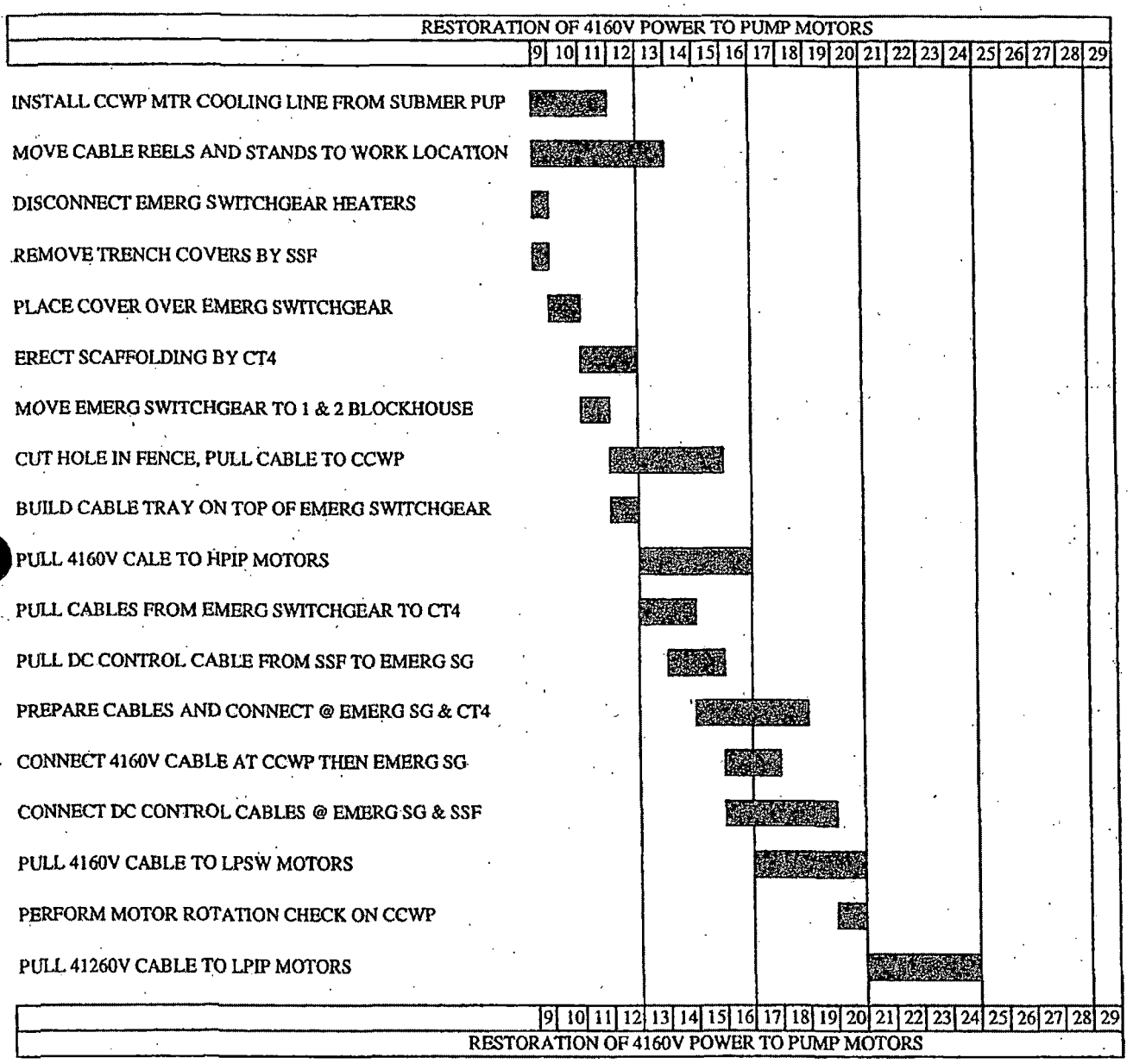
NOTE: Low Pressure Service Water (LPSW) Pumps: 1A & 3A have been evaluated when this procedure is used for Appendix R mitigation. LPSW Pump 1C has been included as an alternate for use to mitigate potential Tornado/HELB damage where 1A cannot be accessed.



LPIP Motor Replacements

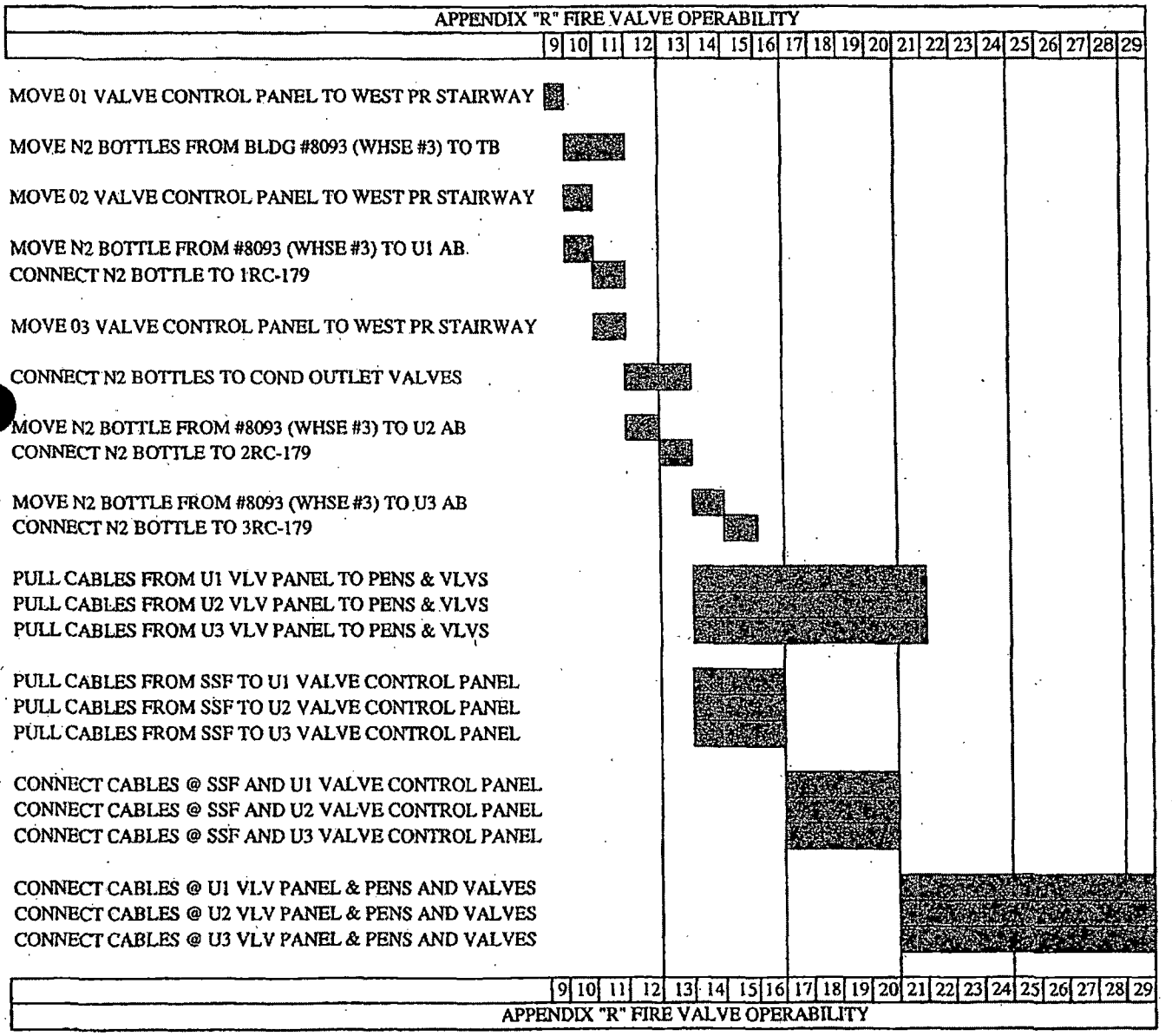


Restoration Of 4160V Power To Pump Motors



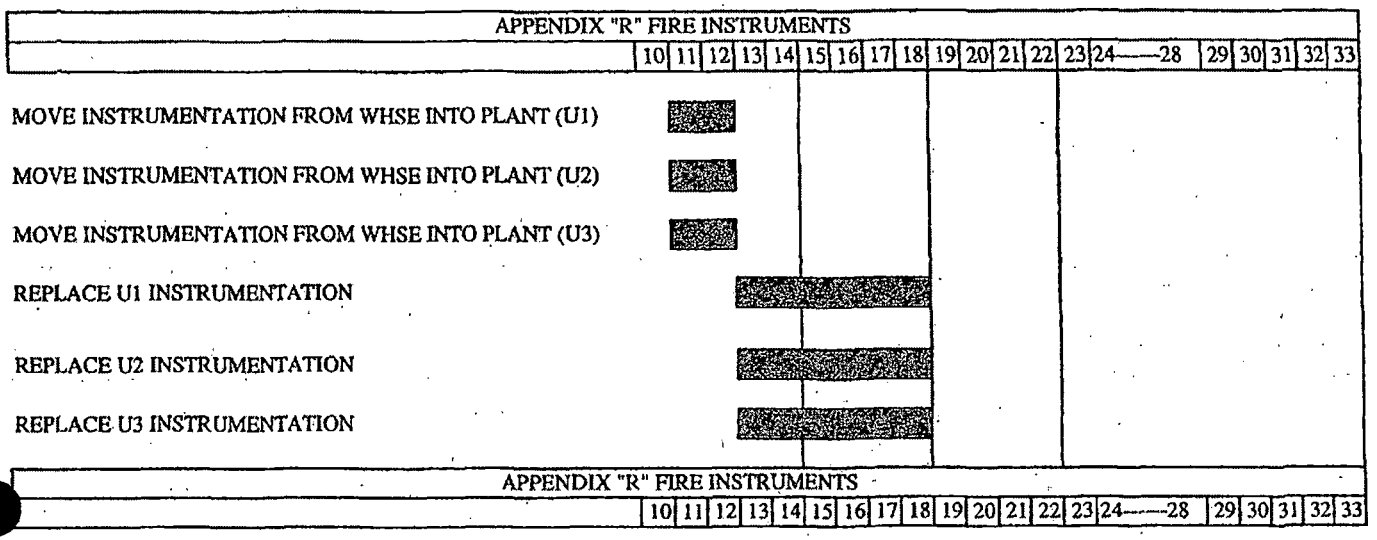
NOTE: This flow diagram is representative of time allotted to repair all necessary valves from damage assessment to maintain unit(s) in stable hot shutdown conditions.

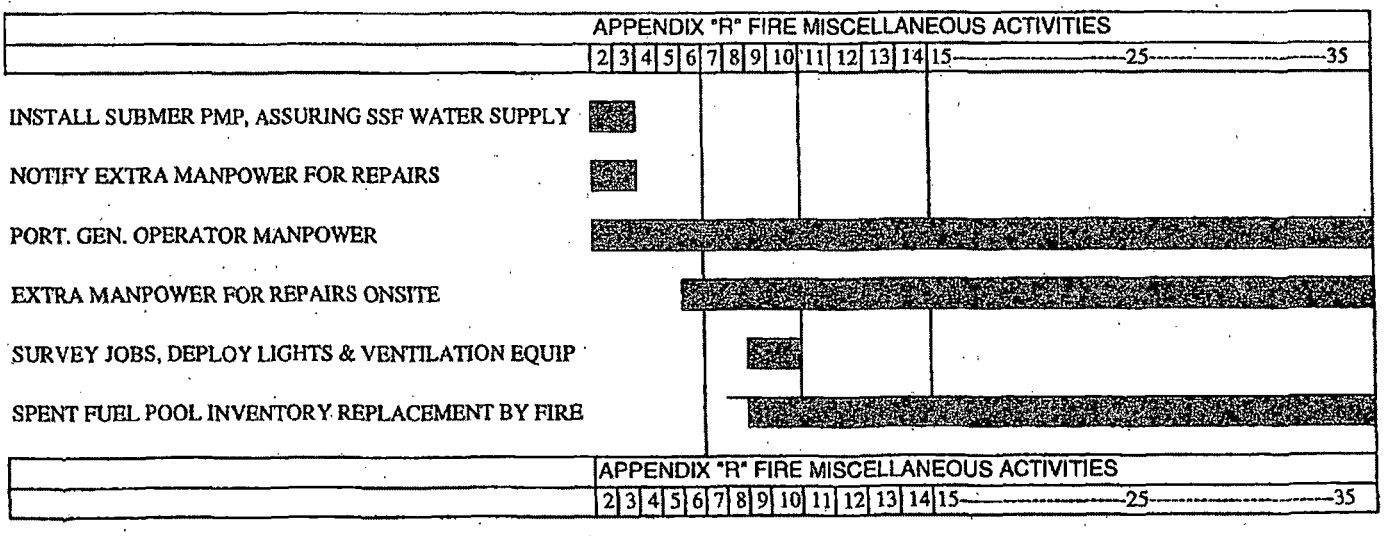
Valve Operability Restoration



Installation of Local Instruments and Miscellaneous Activities

NOTE: This flow diagram is representative of time allotted to repair all necessary instrumentation from damage assessment to maintain unit(s) in stable hot shutdown conditions.





Appendix "R" Material List
(Designated Materials)

Mechanical		
Quantity	**Description**	**Building Nos.**
3	HPIP motors	8093 (WHSE #3)
3	LPIP motors	8093 (WHSE #3)
2	LPSWP motors	8093 (WHSE #3)
8	Dollies for HPIP/LPIP/LPSWP motors	8093 (WHSE #3)
16	18' tie-downs for motors/dollies	8093 (WHSE #3)
3	Quad-leg chain slings for HPIP motors	8093 (WHSE #3)
5	Multi-leg steel slings LPIP/LPSWP motors	8093 (WHSE #3)
8	Ball bearings for handling motors	8093 (WHSE #3)
6	3-ton hand hoists HPIP/LPIP hatches and motors	8093 (WHSE #3)
2	3-ton chain hoists for LPSWP motors	8093 (WHSE #3)
2	Submersible Pumps - Primary	SSF
	Back-Up	8093 (WHSE #3)
1	SFP Makeup Filtration Unit	SSF

Electrical		
Quantity	**Description**	**Building Nos.**
1	Emergency switchgear - trailer mounted	8019 (WHSE #2G)
1	Manual Spring Charging Tool	8019 (WHSE #2G)
1	Cable tray for emergency switchgear	8019 (WHSE #2G)
21	Reels of cable for power to pump motors and valves	8019 (WHSE #2G)
1	Motorized Cable Reel Trailer	8019 (WHSE #2G)
17	Cable reel stands	8019 (WHSE #2G)
-	Parts and materials for cable connections	8093 (WHSE #3)
3	Valve control panels	8093 (WHSE #3)
9	Nitrogen bottles for pneumatic valves	8093 (WHSE #3)
9	Pressure regulators for pneumatic valves	8093 (WHSE #3)
9	Sets of copper tubing for pneumatic valves	8093 (WHSE #3)
-	Parts and materials for tubing connections	8093 (WHSE #3)
12	Pressure indicators	8093 (WHSE #3)
6	Pressure testers	8093 (WHSE #3)
3	Thermometers	8093 (WHSE #3)
-	Parts and materials for instrument connections	8093 (WHSE #3)
120	Filters for SFP makeup filtration unit	8093 (WHSE #3)
28	500 watt (or equivalent) light stands	8093 (WHSE #3)

Enclosure 4.13

Major Site Damage Maintenance Support Equipment

Sources*		
Equipment Type **	**Location/Owner**	**Details**
Portable generators	Site Services Group (SSG)	1 - 30 KVA Generators • 2 - 5.0 KW Generators • 1 - 200 KVA Generator •
	Wenwood:	Several portable generators
Portable lights (28)	8093 (WHSE #3 @ 3A-A-02-011-0001)	28 - 500 watt (or equivalent) light stands
	Tool Issue:	Several sets of low voltage lights
		Several drop lights
Ventilation blowers (6 amps)	Fire Brigade:	2 Supervac P164SE (115V, 6.6)
	First Aid Room:	2 Supervac P164S (115V, 5.4 amps)
	Maint. Supp. Building:	2 Supervac (115V/230V, 230.4/10.2 amps)
	Tools Issue: 8096/8055 (WHSE #3C/5A,B)	About 25 units on site, Various models and sizes
Extension lines	NSC: (WHSE # 1 stock)	Cat ID 860478 Min/Max 160/200
	Tool Issue:	Various extension lines

* Listed in order of preference

** Appendix "R" Equipment

• Site Services Group **ON-SITE** emergency equipment list

Sources*		
Equipment Type	**Location/Owner**	**Details**
Fork lifts (4)	ONS Warehouse SSG Equipment:	1 - 8000 lb • 1 - 18000 lb • 1 - 5000 lb •
P&H Crane (1)	ONS Maintenance	22 Ton Rough Terrain •
Demag Crane	ONS Maintenance	78 ton
Crane truck (1) (or boom truck)	SSG Equipment:	1 - Boom Truck •
Dump Truck	SSG Equipment:	1 - Dump Truck •
Road tractors (2)	SSG Equipment:	2 - Yard Tractor •
Lowboy Trailer	SSG Equipment:	NA
Road Trailer	SSG Equipment:	2 - Equipment and Materials •
Loader/Backhoe	SSG Equipment:	1 - Loader/backhoe •
Welding Machines	SSG Equipment:	2 - Mobile •
Air Compressor	SSG Equipment:	1 - 1300 CFM
Sump Pumps	SSG Equipment:	2 - Air Powered •
Core Drill Machine	SSG F Equipment:	Air Operated •
Cable Reel Cart	Plant Equipment:	Homemade (Motorized Winch) • DPC #02883
Pipes for cable reels	8019 (WHSE #3J)	17

* Listed in order of preference
** Appendix "R" Equipment
• Site Services Group **ON-SITE** emergency equipment list

Sources *		
Equipment Type	**Location/ Owner**	**Details**
Scaffolding for CT4 (~ =13 ft. high scaffold to buswork access plate on west side of CT 4)	Maintenance	Scaffolding in use of temporarily stored at various plant locations
Herculite for covering emergency switchgear RP monitoring	ONS, 8093 (WHSE #3) (Cat ID 317838, Plant supply, managed by min-max program)	
Equipment	ONS RP, CNS RP, MNS RP	
Anti-contamination clothing	Change Rooms, ONS Supply, Complex Warehouse (marked Emergency Use Only)	
* Listed in order of preference		
* * Appendix "R" Equipment		
• On Site Services Group **ON-SITE** emergency equipment list		

Enclosure 4.14

Deployment Of Lighting And Ventilation Equipment

Lighting Stand Locations	Quantity
* Hot Shop (Building 8095)	1
• Hot Shop tunnel (Building 8095)	1
• Unit 1 and 3 AB 1st floor corridor	2
* Unit 1 & 2 and Unit 3 HPI hatch areas	2
* HPIP's 1A, 2A and 3A	3
Unit 1 & 2 and Unit 3 LPI hatch areas	2
LPIP's 1C, 2C and 3A	3
• Unit 1, 2 and 3 West Penetration Rooms	3
• Unit 1 and 2 East Penetration Rooms	2
CT-4 transformer	1
LPSWP 1A or 1C	1
LPSWP 3A	1
LPSWP motor pathways to TB basement: col. K-14 (between 1C1 & 1C2 heaters); col. K-21; col. M-33.	3
4160V cable pathways in TB basement: col. E-25; col. H-40; col. M-31 (at TB/AB door)	3
Total number of temporary lights:	28

Ventilation Blower Locations	Quantity
* HPIP's 1A, 2A, and 3A	3
• LPIP's 1C, 2C and 3A	3
Total number of temporary blowers:	6

NOTES:

a) Vehicle lights are used at outdoor locations.
b) * high priority equipment (initial set-up)
c) • drop lights or string lights may be substituted.

Enclosure 4.13, Major Site Damage Maintenance Support Equipment, list equipment power requirements, generator capacities and extension line locations.

O-0003-10-SLP, GENERAL ARRANGEMENT SITE SAFE LOAD PATH

O-0013-SLP, GENERAL ARRANGEMENT TURBINE BUILDING BASEMENT FLOOR EL 775+0 SAFE LOAD PATHS

O-0014-SLP, GENERAL ARRANGEMENT TURBINE BUILDING MEZZANINE FLOOR EL 796+6 SAFE LOAD PATHS

O-0017-A-SLP, GENERAL ARRANGEMENT AUXILIARY BUILDING PLAN AT EL 771+0 SAFE LOAD PATHS

O-0017-B-SLP, GENERAL ARRANGEMENT AUXILIARY BUILDING PLAN AT EL 771+0 SAFE LOAD PATHS

O-0018-C-SLP, GENERAL ARRANGEMENT SPENT FUEL POOL & HOT MACHINE SHOP PLAN & SECTIONS SAFE LOAD PATHS

O-0304-B-SLP, GENERAL ARRANGEMENT AUXILIARY BUILDING PLAN AT EL 796+6 SAFE LOAD PATHS

O-0308-A-SLP, GENERAL ARRANGEMENT AUXILIARY BUILDING PLAN AT EL 796+6 SAFE LOAD PATHS

O-0308-B-SLP, AUX BLDG PLAN # EL 809+3 SAFE LOAD PATHS

O-1013-SLP, GENERAL ARRANGEMENT TURBINE BUILDING BASEMENT FLOOR EL 775+0 SAFE LOAD PATHS

O-1014-SLP, GENERAL ARRANGEMENT TURBINE BUILDING MEZZANINE FLOOR EL 796+6 SAFE LOAD PATHS

O-2013-SLP, GENERAL ARRANGEMENT TURBINE BUILDING SAFE LOAD PATHS BASEMENT FLOOR PLAN EL 775+0

O-2014-SLP, GENERAL ARRANGEMENT TURBINE BUILDING MEZZANINE FLOOR EL 796+6 SAFE LOAD PATHS

O-2017-SLP, GENERAL ARRANGEMENT TURBINE BUILDING MEZZANINE FLOOR EL 796+6 SAFE LOAD PATHS

O-2308-A-SLP, GENERAL ARRANGEMENT AUXILIARY BUILDING PLAN AT EL 796+6 SAFE LOAD PATHS

O-2308-B-SLP, GENERAL ARRANGEMENT AUXILIARY BUILDING PLAN AT EL 809+3 SAFE LOAD PATHS

§50.54(q) Screening Evaluation Form

Activity Description and References: Revise procedure RP/0/B/1000/022 BLOCK 1

Editorial changes made throughout the procedure

) Added to NOTE immediately before **1. Symptoms** explaining that ONS will maintain a fire protection program in accordance with 10CFR50.48(c), National Fire Protection Associated Standard NFPA-805 but certain elements of that standard , such as Mods, have not been completed and ONS will continue to maintain compliance with 10CFR50.48 (b) Appendix R until full compliance with NFPA -805 is complete.

2) Enclosure 4.8 "Maintenance telephone list for supplemental work force"

Reorganization of the work force has required changes to Enclosure 4.8. These changes include name changes and contact information for various listed positions. This is considered editorial

3) Enclosure 4.12 "Appendix "R" Material List" (Designated Materials)

Increased the number of emergency lights available and included an equivalent acceptance to the Cla-Ton 500 Watts lights being housed in Building 8093 (Warehouse #3). This is considered editorial

4) Enclosure 4.13 "Major Site Damage Maintenance Support Equipment"

Increased the number of emergency lights available and included an equivalent acceptance to the Cla-Ton 500 Watts lights being housed in Building 8093 (Warehouse #3). This is considered editorial

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3	**Change Type:** BLOCK 4
☒ The change is editorial or typographical ☐ The change is not editorial or typographical	☐ The change does conform to an activity that has prior approval ☐ The change does not conform to an activity that has prior approval

[redacted]

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment

Results: BLOCK 7

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation

☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Scott Boggs	Scott Boggs	12/10/12
Reviewer Name:	**Reviewer Signature**	**Date:**
Ray Waterman	Ray Waterman	12-10-12

Duke Energy
Oconee Nuclear Station
Fire Brigade Response- OSC

Procedure No.
RP/0/B/1000/029
Revision No.
017
Electronic Reference No.
OX0091UU

Reference Use

PERFORMANCE

This Procedure was printed on 12/17/12 at 14:10:05 from the electronic library as:

(ISSUED) - PDF Format

Compare with Control Copy every 14 calendar days while work is being performed.

Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____
Compared with Control Copy* _____ Date _____

Date(s) Performed	Work Order/Task Number (WO#)

COMPLETION

- ☐ Yes ☐ NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- ☐ Yes ☐ NA Required enclosures attached?
- ☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
- ☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?
- ☐ Yes ☐ NA Procedure requirements met?

Verified By* Date

Procedure Completion Approved* Date
**Printed Name and Signature*

Remarks (*attach additional pages, if necessary*)

IMPORTANT: Do NOT mark on barcodes.

Enclosure No.: *FULL*

Procedure No.: *RP/0/B/1000/029*

Printed Date: *12/17/2012*

Revision No.: *017*

Form 703-1. Procedure Process Record (PPR)

(R08-10)

Duke Energy

PROCEDURE PROCESS RECORD

(1) ID No. RP/0/B/1000/029

Revision No. 017

PREPARATION

(2) Station OCONEE NUCLEAR STATION

(3) Procedure Title Fire Brigade Response

(4) Prepared By* Scott Boggs (Signature) Scott Boggs Date 12/17/12

(5) Requires NSD 228 Applicability Determination?

☐ Yes (New procedure or revision with major changes) - Attach NSD 228 documentation.

☒ No (Revision with minor changes)

(6) Reviewed By* RAY WATERMAN/Ray Waterman (QR)(KI) Date 12-17-12

Cross-Disciplinary Review By* _____ (QR)(KI) NA Date 12-17-12

Reactivity Mgmt Review By* _____ (QR) NA Date 12-17-12

Mgmt Involvement Review By* _____ (Ops. Supt.) NA Date 12-17-12

(7) Additional Reviews

Reviewed By* _____ Date _____

Reviewed By* _____ Date _____

(8) Approved By* PATRICK M STREET Patrick M Street Date 12/17/12

PERFORMANCE *(Compare with control copy every 14 calendar days while work is being performed.)*

(9) Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

Compared with Control Copy* _____ Date _____

(10) Date(s) Performed _____

Work Order Number (WO#) _____

COMPLETION

(11) Procedure Completion Verification:

☐ Unit 0 ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 Procedure performed on what unit?

☐ Yes ☐ NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

☐ Yes ☐ NA Required enclosures attached?

☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?

☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure?

☐ Yes ☐ NA Procedure requirements met?

Verified By* _____ Date _____

(12) Procedure Completion Approved _____ Date _____

(13) Remarks *(Attach additional pages, if necessary)*

* *Printed Name and Signature*

Fire Brigade Response

NOTE: This procedure is an implementing procedure to the Oconee Nuclear Site Emergency Plan and must be forwarded to Emergency Planning within seven (7) working days of approval.

1. Symptoms

1.1 Fire, explosions or conditions (smoke, smoldering, burning) associated with a fire have been reported to the Control Room or to the OSC when activated.

1.2 This procedure shall provide guidance to shift personnel and Emergency Coordinator for response, actions, and coordination associated with an incident involving real or suspected fires.

2. Immediate Actions

2.1 **IF** Fire Brigade response is being considered

AND The OSC/TSC are activated

THEN Go to Enclosure 4.1 (Fire Brigade Response - OSC/TSC Activation).

3. Subsequent Actions

____ 3.1 **WHEN** HPSW Pump **NO** longer required perform the following:

3.1.1 Ensure HPSW Pump switch returned to required position per OP/0/A/1104/011 (High Pressure Service Water).

3.1.2 If required reset Mulsifyres per OP/0/A/1104/011 (High Pressure Service Water).

3.1.3 If required close any Fire Hydrant that was opened. {4}

____ 3.2 **IF** Fire Brigade equipment or supplies have been used,

THEN Ensure that all equipment is returned to its proper place and consumable supplies are replaced or ordered.

____ 3.3 **IF** HPSW-21 **OR** HPSW-958 were opened due to fire in the Auxiliary Building

THEN Ensure valves are returned to normal position when no longer needed.

NOTE:	Original copies of the Fire Emergency Report can be located in NSD 112, Fire Brigade Organization and Training.

_____ 3.4 Complete Enclosure 4.3 (Fire Emergency Report).

_____ 3.4.1 Forward a copy to the Fire Protection Engineer.

_____ 3.4.2 Initiate a PIP if Enclosure 4.3 (Fire Emergency Report) is completed. Include all important information from Enclosure 4.3 (Fire Emergency Report) in PIP.

_____ 3.4.3 Forward this procedure to the Emergency Planning Section.

_____ 3.5 Conduct a post incident critique for events requiring full Fire Brigade activation.

4. Enclosures

4.1 Fire Brigade Response - OSC/TSC Activation

4.2 Fire Emergency Report

4.3 Fire Brigade Leader Checklist

4.4 Safety Officer's Checklist

4.5 Instructions for DE-energizing Transformers

4.6 References

1. Fire Brigade Response – OSC/TSC Activation

- Actions may be followed in any sequence.
- Lines left of procedure steps are used to indicate place in procedure.
- Check marks are acceptable in these blanks.
- Complete the procedure steps that apply to this incident.
- N/A steps not performed.

_____ 1.1 Complete the following with information taken from 4911 the emergency line call:

Name/Group of person reporting fire/smoke_____

_____

Location of fire/smoke_____

Column Number _____ Elevation _____

Equipment/components affected by fire/smoke_____

_____

Time _____ Date _____

Are there people in the immediate area who need to be warned or relocated to a safe area?

_____

Are there any injured people? _____

Call back number _____

NOTE: The Emergency Coordinator or designee may activate a full Fire Brigade response without sending someone to investigate first, if deemed necessary. Possible situations that warrant full response could include:

- Multiple reports from individuals
- Multiple alarms,
- Other system indications
- Any other indicators that the Emergency Coordinator deems significant.

_____ 1.2 **IF** Fire is involved or suspected **INSIDE** the Protected Area,

THEN Perform one of the following as required.

_____ 1.2.1 Send one operator, with a radio, to the fire/smoke location to perform one of the following:

A. Extinguish the fire (if possible) with portable extinguisher (notify Control Room)

OR

B. **IF** Fire Brigade response is required

THEN Notify OSC SRO immediately.

_____ 1.2.2 **IF** Fire Brigade response is **NOT** needed,

THEN Perform the following:

- Direct NEO to search affected area for victims
- Activate MERT if required per RP/0/B/1000/016 (MERT Activation Procedure For Medical, Confined Space, and High Angle Rescue Emergencies)
- IF **NO** fire was discovered then exit this procedure.
- If fire was discovered then GO TO Step 1.2.3.

_____ 1.2.3 **IF** A full Fire Brigade response is needed,

THEN Perform the following:

A. Direct NEO to:

- Search effected area for victims
- Evacuate surrounding areas
- Pre-stage nearby equipment for Fire Brigade
- Report to Fire Brigade Leader for further instructions

B. Dispatch Fire Brigade members assigned to the OSC by **one** of the following {11}

- Verbally dispatch available Fire Brigade members located in OSC
- Dispatch using plant PA System
- Use Fire Brigade/MERT dispatch console to page radios and pagers encoded to the fire brigade alert tones'

  1. Press the "RED" button labeled "Fire Brigade" on the paging console
  2. Press the "RED" button labeled "transmit" on the right bottom of the console and wait approximately 3 seconds
  3. Pick up telephone "handset" on console and press the lever located inside the handset
  4. Transmit message including information, if known, that would be important to Fire Brigade members responding to the staging area (e.g. hazardous materials, smoke, structural damage, etc.). {15}

C. Request the OSC Security Manager to have MERT respond along with the Fire Brigade to the fire location

_____ 1.2.4 Notify the Control Room SRO on an unaffected or least affected unit to enter AP/0/A/1700/043.

_____ 1.2.5 **EXIT** this procedure.

_____ 1.2.6 **IF** Fire is involved or suspected **OUTSIDE** the Protected Area,

THEN Request that a Security Officer be dispatched to the suspected fire location to verify the location and status of the fire. Request that information be relayed back to the OSC via the emergency line (4911).

_____ 1.2.7 **IF** Security confirms that there is a fire or the situation has the potential for developing into one,

THEN Send a Fire Brigade Leader and one Fire Brigade Member or the full Fire Brigade if resources allow. Request assistance from the offsite fire departments at this time by having Off-Site Communicator dial 9-864-638-4111. {6} {15}

- During day shift operations call shuttle bus service at ext 5353 and request a bus to meet Fire Brigade members at main entrance to protected area for transport to emergency scene. **YOU MUST LEAVE A MESSAGE ON VOICE MAIL.**

- Make PA\Radio announcement that a bus has been requested to meet Fire Brigade members at main entrance of protected area for transport to emergency scene. {12}

IF Offsite assistance is needed

Initiate Step 1.2.9

NOTE:
- This step does NOT apply for the Keowee Hydro Station, which has its own fire pump.
- Minimum flow concerns of HPSW pumps can develop if a HPSW pump is operating with discharge flow <1450 gpm. Most deluge/mulsifyer systems satisfy this requirement therefore, 1.5.2.A may not be necessary if large quantities of water are being discharged from the HPSW system.

_____ 1.2.8 **IF** The Fire Brigade identifies a fire requiring application of water for extinguishment,

AND Power is available to operate HPSW pumps. {5}

THEN Perform the following:

NOTE: These steps are in order of preference.

A. Perform one of the following:

1. Activate Mulsifyre on spare unit 3 transformer, (3X, 3Y, 3Z, 3S)

   OR

2. Activate any one of the following (preferably not loaded or energized):
   - Mulsifyre Transformer CT-1 (T-3-B14)
   - Mulsifyre Transformer No.CT-2 (T-3-D29)
   - Mulsifyre Transformer No.CT-3. (T-3-B42)

   OR

3. Remove cap and open any fire hydrant within protected area or switchyard with a 2.5"outlet.

NOTE: HPSW Pump should be started ≤ 30 minutes from start of fire to address minimum number of starts allowed per hour. {15}

B. Start HPSW Pump per OP/0/A/1104/011 (High Pressure Service Water), and place pump in "Run" position. {1} {4}{13}

C. Make a PA announcement to discontinue use of HPSW for non-essential purposes. {1}

_____ 1.2.9 IF Oconee County Fire Department assistance is needed,

THEN Request that the Offsite Communicator call and request a fire department response from:

- Keowee Fire Department
- Keowee-Ebenezer Fire Department
- Corinth Shiloh Fire Department

A. Have Offsite Communicator instruct Fire Dispatcher to have fire departments enter the site through the complex entrance on Hwy. 183. All volunteers stage in complex parking lot.

B. Request that a Security Officer meet and escort the fire department to the fire location.

C. During day shift working hours call bus shuttle service at ext. 5353 and request a bus to meet firefighters at complex bus stop. **YOU MUST LEAVE A MESSAGE WITH VOICE MAIL.**

NOTE: Keowee Hydro Station is located in Pickens County.

_____ 1.2.10 IF Six Mile Fire Department assistance is needed for a fire at Keowee Hydro Station,

THEN Request the Offsite Communicator call the Pickens County Sheriffs Department (9-864-898-5500) and request Six Mile Fire Department to respond to Keowee Hydro Station. {15}

- Have Offsite Communicator instruct Fire Dispatcher to have fire departments enter the site through the complex entrance on Hwy. 183. All volunteers stage in complex parking lot.
- During day shift working hours call bus shuttle service at ext. 5353 and request a bus to meet firefighters at complex bus stop. **YOU MUST LEAVE A MESSAGE WITH VOICE MAIL.**

_____ 1.3 Return to Section 3, Subsequent Actions.

FIRE EMERGENCY REPORT

Station/Location: _____ Date: _____

Location (Unit/Area): _____

Time Discovered: _____ Discovered By: _____

Operations Shift Manager: _____

Evacuation: Yes _____ No _____ Partial _____ Other _____

Fire Brigade Response: Yes _____ No _____

Time Fire Extinguished: _____

List All Fire Protection Equipment Used _____

_____

_____

Operation Satisfactory: Yes _____ No _____ (Use Back For Details)

Equipment Restored For Use: Yes _____ No _____ If no, Explain (Use Back for Details)

Outside Assistance Called: No _____ Yes _____ Agency(s) _____

_____

Area Involved: _____

Point of Origin (If known): _____

Cause (If known _____

Damage To:
- Building _____
- Equipment _____
- Personal _____
- Other _____

Injuries Reported: _____

Briefly Describe What Happened: _____

_____

_____

_____ _____

*Signature of Fire Brigade Leader *Signature of Operations Shift Manager

*Notify Safety Representative of Fires Involving Personal Injury (Refer to Duty List for after hours).

TASK	✔
Don Fire Brigade Leader Vest	
Determine Staging Area and Communicate to Control Room • Safe accessibility • Minimal distractions • Appropriate vicinity	
Establish The Following Teams/Priorities: • Entry Team - Priority = search & rescue/fight fire • Backup Team - Priority = backup Entry Team/help fight fire • Rapid Intervention Team - Priority = Rescue Fire Fighters (if required)	
Stress The Following Items With All Teams Prior To Dispatching To Fire: • Safety of Team is top priority • Stay with the hose/rescue line at all times • Maintain contact with your team at all times • All teams report to Safety Officer prior to entering fire zone and after exiting fire zone for accountability	
Assess The Fire: • Request CR to dispatch additional resources as required: - Off Duty Shifts and/or Offsite Fire Departments - - (Fire active > 5 minutes after extinguishing agent is applied) - Outside Equipment Truck and/or Equipment Carts - CO2 or Wheeled Dry Chemical Extinguishers - Foam Units • Exposures - Critical Equipment Concerns - Above/Below Fire?, Fire/Smoke/Water?, Electrical Hazards? • Report Critical Equipment Concerns to CR for Emergency Plan Consideration	
Request Location of Nearest Fire Hose Locations From Control Room: • Elevation/column # • Communicate locations to teams	
Request Assistance From RP/Security • Request Security At The Scene To Control Access To The Area • If Radiological Concerns Exist, Request CR To Notify RP	
Refer To Fire Plan As Required: • Hazards/Ventilation • Refer To SOG #10 for Fire Brigade equipment locations	
If Hazardous Materials Involved, Request CR to Dispatch Haz-Mat Team	

TASK	✔
Don Safety Officer Vest	
Establish Accountability For FB Members • Name tags/accountability board	
Perform PPE Checks of Fire Fighters • All skin covered • All turnout gear openings closed • SCBA cylinder full (≥ 4000 psi) • SCBA cylinder valves fully open • PASS device operational	
Log Team Assignments on Accountability Board • Log time on air • Log entry times • Log team assignments	
Assign MERT Responsibilities • Stand by with medical equipment • Monitor FB members for signs of heat exhaustion/stress/etc. • Provide drinking water for fire fighters	
Maintain Continuos Contact With Fire Brigade Leader	
Evaluate SCBA Needs • If required, request CR to have SCBA cylinder fill trailer delivered • If required, request CR to have Spare SCBA cylinders delivered. • If required, request CR to have spare SCBAs (for additional responders) delivered	

1 Unit 1 Transformers

1.1 IF Transformer 1 and/or 1T is affected perform the following:

IF Desired, electrically isolate affected transformer 1, 1T as follows:

- Trip Unit 1 Turbine-Generator
- Ensure open PCB-20
- Ensure open PCB-21
- Ensure Auxiliaries transfer.

Within 4 hours, open Red and Yellow Bus Disconnects for the open PCBs.

IF Transformer CT1 mulsifyre is affected, perform the following:

IF Desired, electrically isolate affected transformer CT1 as follows:

- Ensure open PCB-17
- Ensure open PCB-18
- Ensure 1TA AUTO-MAN Transfer Switch in MAN
- Ensure open 1TA SU 6.9 KV FDR Breaker
- Ensure 1TB AUTO-MAN Transfer Switch in MAN
- Ensure open 1TB SU 6.9 KV FDR Breaker
- Ensure MFB1 AUTO-MAN Transfer Switch in MAN
- Ensure open E11 MFB1 STARTUP FDR breaker
- Ensure MFB2 AUTO-MAN Transfer Switch in MAN
- Ensure open E21 MFB2 STARTUP FDR breaker.

Refer to SLC 16.9.2 and NSD-316.

Within 4 hours, open Red and Yellow Bus Disconnects for the open PCBs.

2. Unit 2 Transformers

2.1 IF Transformer 2 and/or 2T is affected perform the following:

IF Desired, electrically isolate affected transformer 2, 2T as follows:

- Trip Unit 2 Turbine-Generator
- Ensure open PCB-23
- Ensure open PCB-24
- Ensure Auxiliaries transfer.

Within 4 hours, open Red and Yellow Bus Disconnects for the open PCBs.

IF Transformer CT2 mulsifyre is affected, perform the following:

IF Desired, electrically isolate affected transformer CT2 as follows:

- Ensure open PCB-26
- Ensure open PCB-27
- Ensure 2TA AUTO/MAN Transfer Switch in MANUAL
- Ensure open 2TA SU 6.9 KV FDR Breaker
- Ensure 2TB AUTO/MAN Transfer Switch in MANUAL
- Ensure open 2TB SU 6.9 KV FDR Breaker
- Ensure MFB1 AUTO/MAN Transfer Switch in MANUAL
- Ensure open E1 MFB1 STARTUP FDR breaker
- Ensure MFB2 AUTO/MAN Transfer Switch in MANUAL
- Ensure open E2, MFB2 STARTUP FDR breaker.

Refer to SLC 16.9.2 and NSD-316

Within 4 hours, open Red and Yellow Bus Disconnects for the open PCBs.

3. Unit 3 Transformers

3.1 **IF** Transformer 3X, 3Y, 3Z, 3S, 3T is affected perform the following:

NOTE:	If the transformer which is **NOT** connected to the system is involved, it is **NOT** required to be isolated.

IF Desired, electrically isolate affected transformer 3X, 3Y,3Z, 3S, 3T as follows: {15}

- Trip Unit 3 Turbine-Generator
- Ensure open PCB-58
- Ensure open PCB-59
- Ensure Auxiliaries transfer.

Within 1 hour, open Red and Yellow Bus Disconnects for the open PCBs.

IF Transformer CT3 mulsifyre is affected, perform the following:

IF Desired, electrically isolate affected transformer CT3 as follows:

- Ensure open PCB-28
- Ensure open PCB-30
- Ensure 3TA AUTO-MAN Transfer Switch in MANUAL
- Ensure open 3TA SU 6.9 KV FDR Breaker
- Ensure 3TB AUTO-MAN Transfer Switch in MANUAL
- Ensure open 3TB SU 6.9 KV FDR Breaker
- Ensure MFB1 AUTO-MAN Transfer Switch in MANUAL
- Ensure open E13 MFB1 STARTUP FDR breaker
- Ensure MFB2 AUTO-MAN Transfer Switch in MANUAL
- Ensure open E23 MFB2 STARTUP FDR breaker.

Refer to SLC 16.9.2 and NSD-316

Within 4 hours, open Red and Yellow Bus Disconnects for the open PCBs.

1. References:

{1} PIP 01-0405

{2} PIP 99-1286

{3} PIP 01-1220

{4} PIP 02-03870

{5} PIP 02-03489

{6} PIP 02-07174

{7} PIP 03-00251

{8} PIP 03-01359

{9} PIP 03-04929

{10} PIP 98-3017

{11} PIP 04-05086

{12} PIP 04-07188

{13} PIP 05-04134

{14} PIP 08-04665

{15} PIP 011-04127

§50.54(q) Screening Evaluation Form

Activity Description and References: BLOCK 1

Revise Emergency Plan Implementing Procedure RP/0/B/1000/029, "Fire Brigade Response" title to " Fire Brigade Response OSC"

Deleted steps 1.2 and 1.3 as an editorial change as they would not apply to the OSC. These actions are captured in section 4A of AP/0/A/1700/043 "Fire Brigade Response

Added step 1.2.4 to notify the Control Room to enter procedure AP/0/A/1700/043 "Fire Brigade Response". The addition of this step required a deletion of steps 1.4.4 thru 4.4.13. These actions were originally initiated by the OSC for fire inside the PA. AP/43 captures these items in Section 4A

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Duke Energy's NGD is changing from a deterministic to a **Risk-Informed, Performance-Based standard** for fire protection.

NFPA 805 is an alternative approach to fire protection standards for nuclear plants. NFPA 805 is endorsed by federal regulation 10CFR50.48(C). All Duke Energy nuclear sites will be licensed to this new alternative regulatory approach, superseding the current applicable provisions of 10CFR50.48 (b), 10CFR50 Appendix R (for Oconee & McGuire) and NUREG 0800 (for Catawba). The Oconee date for implementation of NFPA-805 is January 1st, 2013

To facilitate this change the Oconee Operations group developed procedure AP/0/A/1700/043 "Fire Brigade Response Procedure to provide guidance for plant fire response. However, in the event of an OSC/TSC activation and the OSC is tasked with answering the emergency line (4911) a procedure must be in place to give guidance to the OSC for dispatching the brigade if needed for a plant fire. In the event of a plant fire the OSC must also ensure that the Control Room enters AP/0/A/1700/043 to ensure those actions housed in the AP are also initiated.

The ONS License Amendment request (LAR) 3.2.3 (6) "procedures" required that all procedures for plant industrial fire brigade be revised to comply with NFPA-805. This revision is being made to comply with the LAR

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☐ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☒ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment

Results: BLOCK 7

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation

☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name: Scott Boggs	Preparer Signature Scott Boggs	Date: 12-17-12
Reviewer Name: RAY WATERMAN	Reviewer Signature Ray Waterman	Date: 12-17-12

Duke Energy

Oconee Nuclear Site
Engineering Manual

Section Title: EM 5.1 - Engineering Emergency Response Plan
Revision No.: 30

Reference:

Approved By:		Approved Date: 12/14/12
Revised By:		Revised Date: 12/5/2012
Reviewed By:	12/7/12	Original Date: 05/27/92
Reviewed By:	12-5-2012	Effective Date: 12/14/12
Reviewed By: (EP)	12/6/2012	Review Date:

Document Revision Description

REVISION NO.	PAGES or SECTIONS REVISED AND DESCRIPTION
1	3.1, 3.2, 4.1, 4.3, 4.4, 4.5, 5.1.3, 5.2.2, 5.2.4, 5.2.5, 5.2.6, 6.3, 6.7 7.3.1, 8.3 - General update – Added EOF facility into several steps, clarified Evacuation Coordinator duties, added TSC/OSC Liaison duties, revised site assembly reporting locations, changed "Security Shift Lieutenant" to "Security Shift Supervisor", clarified duties of TSC Offsite Dose Liaison.
2	5.1.2, 5.1.3 - Inserted instructions for swiping badge when assembly inside Protected Area is required.
	5.1.3 – 5.1.8 - Renumbered because 5.1.2 was inserted.
3	1.0 - Changed 3 working days to 7 working days
	2.0 - Added NSD 117 as a reference
	4 - Deleted 4.3 Engineering Section Manager
	4.5 - Changed "impassable" to "damaged: use caution"
	Added requirement to stay within response time.
	5.2.2 - Changed title to TSC Eng. Mgr. from MSE Mgr.
	6.2 - Changed MSE to MCE
	6.5.1,6.5.2 - Changed Nuclear Eng to Reactor Systems Eng
	6.6.1,6.6.2, and 6.6.3 – Changed title to TSC Engineering Manager and MSE To MCE
	6.6.2 - Added electrical to the support required
	6.8 - Added section Primary and BOP Systems Eng duties.
	7.3.1, 7.3.2 - Changed CEN to RES
	General - Changed MG to ED in 3 locations
4	Add Enclosure 9.1 for TSC Guidance Document
5	Minor editorial changes, added Section M and revised 6.8 to only require one engineer.
6	Minor editorial changes, added Section N.
7	Add Section O to TSC Guidance Document
8	Editorial changes to Section O
9	Enclosure 9.1 Section F – Added background information and instructions concerning recovery from a boiling spent fuel pool
10	Revise Section O to incorporate PIP 00-2707 CA# 7
11	Editorial Changes Only
12	Added Section P for guidance on depressurizing the reactor building after a loss of DHR event during MODES 5 and 6.
13	Added Section Q for guidance on actions to reduce the effects of RBES screen blockage by debris.

14	Revised to insert changes required by PIP 01-2667 for Sections C and N. Enclosure 9.1, Section C, 3.3 – Reference to AP/1/A/1700/010, Encl. 6.1 replaced by EP/1,2,3/A/1800/001 Encl. 5.31 (Temporarily Charging the HPSW System). Enclosure 9.1, Section F, 3.3 - Added "Pool" to the end of "Emergency Plan for Refilling Spent Fuel". MP/0/A/3009/012A replaced by AM/0/A/3009/012A. Enclosure 9.1, Section G, 3.3 – MP/0/A/1300/059 replaced by AM/0/A/1300/059. Enclosure 9.1, Section H, 3.3 – Reference to EP/1,2,3/A/1800/001, Section 502 replaced by EP/1,2,3/A/1800/001, Turbine Building Flood Tab. Enclosure 9.1, Section K, 3.3 – IP/0/A/0050/001 replaced by EM/0/A/0050/001.
15	Enclosure 9.1 Added Section R for guidance on establishing PZR bubble without PZR temperature indication
16	Enclosure 9.1, Added Section S - Alternate HPI Termination Criteria When Operating From the RB Sump
17	Enclosure 9.1, Added Section T - Alternate Water Source for Post-Accident BWST Refill
18	Enclosure 9.1, Revised Table of Contents for section M, changed "CCW Dam" to "Dam/Dike" Enclosure 9.1, Revised Section 2.0 changed "CCW Dam" to "Dam/Dike" and added sections O through T. Enclosure 9.1, Revised Section M - Changed "CCW Dam" to "Dam/Dike". NSM 23107 modified the piping supplying the RBACs; therefore, the list of available LPSW loads was revised (PIP 04-5836). Enclosure 9.1, Section S – made editorial corrections (PIP 04-5836). Section 4.4, Updated pager codes. Section 6.1, Changed sentence to designate Unit 2 Control instead of Unit 1 or Unit 2. Section 8.4, Added State/County EOC Liaison position.
19	Enclosure 9.1, Section U - added guidance for mitigating a loss of spent fuel pool level event
20	Enclosure 9.1, added Section V for controlling MS pressure with MS atmospheric dump valves in an SSF event. Corrected editorial omissions on pages 10 and 12 from revisions 18 and 19.
21	Enclosure 9.1, Section V, Operating Atmospheric Dump Valves during an Accident that Requires Operation of the SSF, was revised to require the affected ADV flow paths to be isolated if the ADVs are being used to control main steam system pressure during an SSF Event and pressure cannot be maintained > = 900 psig. This change is needed because the minimum controllable flow rate for the ADV control valves may be higher than the flow rate needed to control main steam system pressure at low RCS decay heat loads. (Ref. PIP 06-3342)

22 Enclosure 9.1, Section V, Operating Atmospheric Dump Valves during an Accident that Requires Operation of the SSF, was revised to include guidance for using permanent pressure gauges 1,2,3MSPG1000 & 1,2,3MSPG1001 that were installed at the ADVs per OD-100713, OD-200714, & OD-300715. Changed Main Steam Safety Valve (MSSV) to Main Steam Relief Valve (MSRV) to be consistent with established nomenclature for these valves.

23 Enclosure 9.1, Section V, Operating Atmospheric Dump Valves during an Accident that Requires Operation of the SSF, was reworked to eliminate use of 10 CFR 50.54x and to utilize new small ADV bypass valves 1,2,3MS-237 & 238

24 Editorial Changes:

- Section 3.2 of Part A (3rd Paragraph), changed from "$5 of Reactivity" to "5% of reactivity"

- Section 3.0 of Part H, changed to remove highlight from RB

- Section 4.4, added "pager or", added "ONS Drill (or emergency) followed by security event in progress"

- Section 5.2, added "via E-mail" and "E-mails"

- Section 6.1, added "south entrance of"

- Section 6.4, added "ERO pager and/or" and "after normal working hours"

- Section 7.0, added "south entrance of"

- Section 8.0, changed name of section to "Joint Information Center", replaced "EOF" with "JIC" accordingly in following subsections

- Section 8.2, removed "Offsite Dose Assessment" and renumbered sections accordingly

- Section 8.3, replaced "EOF communications manager" with "JIC Government Agency Liason"

- Section 8.3, added "sign in on board, obtain response bag, and report to applicable state/county EOC"

- Section 3.3 of Part F, changed OP/3/A/1104/006/E to OP/3/A/1104/006/C

Technical Changes:

- Section 3.2 of Part F, added information concerning mitigating activities during an SFP boiling event as per PIP-O-00-4075 CA #16.

- Added Section 3.1.2 of Part U "Control of Steam Condensation"

- Section 3.2 of Part P, deleted "core alterations or" and added information concerning recently irradiated fuel.

25 Added Part W: GUIDANCE FOR SECURING REACTOR BUILDING SPRAY PUMPS FOLLOWING A LOCA

26 Added Part X: GUIDANCE FOR POTENTIAL LPI/BS/HPI SEAL FAILURE OR 3A HPI PUMP INTERNAL WEAR FOLLOWING A LOCA.

27 Editorial changes in Sections 4.4, 5.2.1, 5.2.2, 6.4.1, 6.5.2, 8.3.1, (8.3.2 deleted - information included in 8.3.1) and Enclosure 9.1 as requested by Emergency Response organization.

28 Per PIP G-08-15, CA#40, changed TSC guideline part G: Makeup and Monitoring of CCW Inlet Pipe Inventory

Per PIP O-08-5362, CA#1, change TSC guideline part O: Opening the Alternate Post-LOCA Boron Dilution Flowpath to include guidance concerning Generic Letter 2008-01.

29 Per PIP O-10-09285 CA # 13 and 18 revise E.M. 5.1 to reflect the responsible group in the new Engineering organization (See Sections 6.2.1, 6.4.1, 6.5.1, 6.5.2, 7.3.1. and 7.3.2) and the change of ownership of the Technical Support Guideline documents (Encl. 9.1)

Section Q had all references to the old LPI design (Pre LPI Cross Tie mod) removed. This was in response to PIP 04-05280, CA #3.

Section E was changed to address AREVA document 51-1232710-00 (Referenced in the ONS RCS P/T analyses). This was in response to PIP 09-02545 where it was noted that LPI initiation with no RCP in operation (Natural Circulation) would require a RCS P/T analysis prior to startup.

Enclosure X (GL 04-02 HPI/LPI/BS seal failure or 3A HPI pump wear) was deleted due to completed cyclone separator and HPI pump replacement to support GL 04-02 commitments.

Enclosure J (LPI Pump Interaction) was changed to incorporate LPI and BS flow uncertainty changes. Guidance to throttle BS flow was removed.

Enclosure U (Loss of Spent Fuel Pool Level) step 3.1.3 was changed to note 'doors' instead of a single door (PIP 11-02927) and step 3.1.2 provide the correct location for closing damper (SFP Ventilation Fans) (PIP 11-02928) CA # 32..

30 Per PIP O-10-2039 CA# 108 revise EM-5.1 (Encl. 9.1 Section E remove reference to Appendix R) to implement NFPA-805.

Table of Contents

1.0 Purpose

The purpose of this directive is to identify The Engineering Division responsibilities during an emergency at Oconee Nuclear Station. This directive is an implementation directive to the site emergency plan. Upon revision, a copy of this directive must be forwarded to Emergency Planning within seven (7) working days of its approval.

2.0 References

1. Oconee Nuclear Site Emergency Response Plan
2. NSD 117 Emergency Response Organization, Training, and Responsibilities

3.0 Definitions

3.1 Essential Personnel

Personnel needed to mitigate the emergency as determined by the EOF, TSC, or OSC.

3.2 Engineering Emergency Response Person

Engineering personnel assigned to those positions in the EOF, TSC, or OSC listed in Sections 6.0 and 7.0 of this directive.

4.0 Responsibilities

4.1 Engineering Division Manager

The Engineering Division Manager shall be responsible for the implementation of this directive. During a site assembly he/she shall be responsible to account for all engineering personnel to the Security Shift Supervisor or designee.

4.2 Engineering Group Manager

During a site assembly each Engineering Group Manager shall be responsible to account for each person in his/her Group to the Engineering Division Manager or designee.

4.3 Engineering Supervisor

During a site assembly each Engineering Supervisor shall be responsible to account for each person on his/her team to his/her Engineering Group Manager or designee.

4.4 Engineering Emergency Response Person

When notified of EOF/TSC/OSC activation, the engineering emergency response persons will report to their assigned position in the EOF, TSC, or OSC. Notification during normally scheduled work hours will be by pager or an announcement on the station PA system. Notification during unscheduled work hours will be by pager or Nuclear Call Out system using the following:

PAGER CODES:

- ONS Drill – EOF/TSC/OSC activated for a drill.
- ONS Emergency – EOF/TSC/OSC activated for an emergency.

Note: During flooding/dam failure/earthquake conditions assume bridges may be damaged; use caution.

ONS Drill Bridges – Pager message used when bridges may be damaged and EOF/TSC/OSC activation is needed. Use caution.

ONS Emergency Bridges – Pager message used when EOF/TSC/OSC activated for an emergency and the bridges may be damaged; use caution.

ONS Drill (or Emergency) followed by "Security Event in Progress" - All ERO members report to the JIC (In-Processing Center) on Issaqueena Trail in Clemson and await further instructions from the Emergency Coordinator.

Each engineering emergency response person will carry a pager which will be turned on when leaving the station and left on at all times. He/she will remain fit for duty at all times while serving duty as an engineering emergency response person, and will stay within required response times for his/her facility. For specifics, see NSD 117.

4.5 Employee

During a site assembly each employee will proceed to his/her site assembly location (generally the person's work area) and report to his/her supervisor within the specified time.

5.0 SITE ASSEMBLY AND EVACUATION

5.1 Site Assembly

5.1.1

When a site assembly is commenced, a warbling tone will be broadcast over the Station PA system and the outdoor Site Assembly Horn will sound. All Engineering personnel shall immediately proceed to their site assembly location and report to his/her supervisor. Any person who cannot report to his/her designated area within eight (8) minutes of the commencement of the site assembly shall contact his/her supervisor by telephone for assembling instructions.

5.1.2

Personnel inside the Protected Area (PA) who must assemble at a location inside the PA or who cannot make it to their assembly point outside the PA shall card in at the nearest card reader, notify their supervisor of their location, and wait for further instructions.

5.1.3

Personnel working in an RCZ in protective clothing should leave the work area and go to the appropriate Change Room. Once in the Change Room area, they should card in (swipe their security badge) and contact their supervisor for accountability. Personnel should then follow the instructions of the RP personnel in the Change Room or RCZ.

5.1.4

Each Engineering Section Manager/Supervisor shall account for all personnel in his/her Section/Team and report the result to his/her Engineering Group Manager or designee. Unaccounted for personnel shall be reported by name. This report should be made within 10 minutes of the commencement of the site assembly. Do NOT leave phone mail messages when reporting.

5.1.5

Each Engineering Group Manager shall account for all personnel in his/her Group and report the result to the Engineering Division Manager or designee. Unaccounted for personnel shall report by name. This report should be made within 15 minutes of the commencement of the site assembly. Do NOT leave phone mail messages when reporting.

5.1.6

The Engineering Division Manager or designee shall account for all Engineering personnel and report the result to the Security Shift Supervisor or designee. Do not report unaccounted for personnel by name at this time. This report shall be made within 20 minutes of the commencement of the site assembly.

5.1.7

During unscheduled work hours, each employee on site shall report to his/her assigned assembly area. If a Supervisor is present, the supervisor will call directly to the Security Shift Supervisor and report accountability within 15 minutes. If no Supervisor is present, the senior employee (or lone employee) will call the Security Shift Supervisor directly and report accountability. If working in an RCZ in protective clothing, proceed to the appropriate Change Room. Report to the individual in charge of the change room. If no one is in charge of the change room, call the Security Shift Supervisor directly and report accountability.

5.2 Site Evacuation Instructions

Initial Notification:

5.2.1

Site evacuation will be activated only after a site assembly. When it has been deemed necessary to evacuate the site, an announcement will be made on the PA system and evacuation instructions will be placed in the Evacuation Plan via DAE or EP Web Sharepoint.

5.2.2

The Engineering Evacuation Coordinator will access the Evacuation Plan via DAE or EP Web Sharepoint, retrieve evacuation information, pass evacuation information on to Engineering groups, and get acknowledgement back that the information has been received.

The Evacuation Coordinator also lets Engineering Managers know that they need to provide 24 hour coverage for their areas during the emergency, gets that information from the managers, and relays it to the TSC Engineering manager in the TSC.

5.2.3

The Engineering Section Manager/Supervisors will determine which, if any, essential personnel should not evacuate. This will be based on the needs communicated from the TSC or OSC.

5.2.4

The Engineering Section Managers/Supervisors, based on needs communicated from the TSC or OSC, will establish shift lead persons and a continuous 24 hour staffing schedule, and communicate this schedule to all personnel in their section/team.

5.2.5

The Engineering Section Managers/Supervisors will give evacuation instructions to all personnel in their sections/teams and implement the evacuation plan.

Accountability Notification:

5.2.6

The Engineering Section Managers/Supervisors will report to their respective Engineering Group Manager or designee if transportation assistance is needed. They will report which personnel, if any, have been deemed essential and their location along with their shift lead persons and continuous 24 hour staffing schedule to the Engineering Evacuation Coordinator and their respective Group Manager.

5.2.7

The Engineering Sections Managers/Supervisors or designee will report the status of their sections/teams to the Group Evacuation Coordinator.

NOTE: Subsequent Evacuations will be coordinated from the designated relocation area(s) per NSD 114.

6.0 Technical Support Center

6.1

The Technical Support Center (TSC) is located on the Unit 2 side of the Units 1&2 control room. When reporting to the TSC, pick up ED and TLD, go to the south entrance of Unit 2 Control Room Lobby, and frisk for possible contamination before entering the Control Room.

EMERGENCY RESPONSE RWP NUMBER: 33 (For drills and emergency response)

If evacuation from the TSC becomes necessary, report to the alternate TSC on the third floor, room 316, of the Oconee Office Building. Assume the same duties as in the Primary TSC.

6.2 Technical Assistant to Emergency Coordinator

6.2.1

The Technical Assistant to Emergency Coordinator will report to the Emergency Coordinator. This position is staffed by the Systems and Programs/Component Engineering Section. This position should be staffed within 75 minutes of the emergency declaration.

6.2.2

The Technical Assistant to Emergency Coordinator's main duty will be to maintain a log of activities in the TSC. This log will include systems and components status, decisions, and announcements made in the TSC. The Technical Assistant to Emergency Coordinator will also perform any other duties assigned by the Emergency Coordinator.

6.3 TSC/OSC Liaison

6.3.1

The TSC/OSC Liaison will report to the Emergency Coordinator. This position is staffed by Engineering within 75 minutes.

6.3.2

The TSC/OSC Liaison is responsible for communicating task priority and status information between the TSC and OSC.

6.4 Technical Assistant to TSC/OSC Liaison:

6.4.1

The Technical Assistant to TSC/OSC Liaison will report to the TSC/OSC Liaison. This position is staffed by Design Engineering. Individuals staffing this position will be contacted by ERO pager and/or using the Nuclear Call Out system after normal work hours.

6.4.2

The Technical Assistant to TSC/OSC Liaison will maintain the Plant status board or WEB EOC in the TSC. The Technical Assistant to TSC/OSC Liaison will perform any other duties as assigned by the TSC/OSC Liaison.

6.5 Nuclear Engineer

6.5.1

Reactor Engineering will provide personnel for this position. This position is required by regulation with the person being available in the TSC within 75 minutes of the emergency declaration. This person is required to be in place prior to Control Room turnover to the TSC. The Nuclear Engineer will report to the TSC Engineering Manager in the TSC.

6.5.2

A second person from Reactor Engineering will be called by the Nuclear Call Out system.

6.5.3

The Nuclear Engineer(s) will provide engineering support and recommendations in the following areas:

1. Reactor core physics
2. Shutdown margin calculations
3. Transient assessment functions via the transient monitors
4. Safety review function
5. Core damage assessment.

6.6 TSC Engineering Manager:

6.6.1

The TSC Engineering Manager should report to the TSC within 75 Minutes of emergency declaration and report to the Emergency Coordinator. The MCE Section is responsible for assuring this position is filled.

6.6.2

The TSC Engineering Manager will be responsible for providing engineering support required by the TSC. He/she will be responsible for resolving engineering problems. Also he/she will assure that any needed mechanical or electrical systems engineering personnel are contacted and given instruction on the necessary actions to be taken.

6.6.3

The TSC Engineering Manager will be responsible for making contact with the Accident Assessment Team in the Corporate Office to provide additional assessment expertise to the Technical Support Center.

6.7 Offsite Dose Assessment

6.7.1

The TSC Dose Assessment Liaison will report to the Emergency Coordinator in the TSC. He/she will be responsible for providing offsite Dose Assessment as needed and is to **report within 45 minutes of the emergency classification.**

6.7.2

The Offsite Dose Assessors report to the TSC Dose Assessment Liaison within 75 minutes of the emergency classification and provide dose assessment as needed.

6.8 Engineering Manager Assistant

6.8.1

This individual should report to the TSC within 75 minutes of emergency declaration and report to the TSC Engineering Manager.

6.8.2

The Engineering Manager Assistant will be responsible for providing Primary and BOP systems support required by the TSC and will report to the TSC Engineering Manager.

7.0 Operational Support Center

7.1

The Operational Support Center (OSC) is located at the back of the Unit 3 Control Room. When reporting to the OSC, carry ED and TLD, go to the south entrance of Unit 3 Control Room Elevator Lobby, and frisk for possible contamination before entering the Control Room.

EMERGENCY RESPONSE RWP NUMBER: 33 (For drills and emergencies)

7.2

If evacuation from the OSC becomes necessary, report to the alternate OSC located on the third floor, room 316A, of the Oconee Office Building. Assume the same duties as in the Primary OSC.

7.3 Equipment Engineering Support for OSC

7.3.1

The Engineering Support duty person is required to report to the OSC within 75 minutes of emergency declaration. This position will report to the OSC Manager.

7.3.2

Engineering Support will be responsible for providing Electrical Engineering support for any work performed by the OSC. Should any Mechanical/Civil Engineering needs arise from the OSC, this person will inform the appropriate party.

7.4 Engineering Support

7.4.1

Personnel filling the Engineering Support role may also have a primary ERO responsibility which must be addressed prior to responding as Engineering Support (ex: The Engineering Manager Assistant on duty will respond to the TSC to satisfy that requirement).

7.4.2

Engineering Support personnel are required to report to the site within 75 minutes of an emergency declaration. ERO personnel filling this role will report to their normal office/work area to be available as an Engineering resource if needed. Upon arrival, contact the Engineering Manager in the TSC to report availability and obtain additional direction if needed.

8.0 Joint Information Center:

8.1

The Joint Information Center (JIC) is located in Clemson on Issaqueena Trail (In-Processing Center). TLDs and EDs are not required for this facility.

8.2 Technical Briefers:

8.2.1

The Technical Briefers will be notified as needed by the Joint Information Center (located at the JIC). They will report to the Technical Briefers Section Head in the Joint Information Center.

8.2.2

The Technical Briefers will be responsible for reading news releases or predeveloped messages for technical accuracy and responding to calls by following the rumor control procedure.

8.2.3

The Technical Briefers will keep the Technical Briefer Section Head informed of calls being received and assist in coordinating activities as needed

The Technical Briefer position is filled by persons from across the organization who possesses the skills needed.

8.3 State/County EOC Liaison

8.3.1

State/County EOC Liaisons should report directly to their assigned EOC location at Pickens or Oconee counties and the State Emergency Operations Center as indicated on their duty roster. The response bag is located at the respective EOC location.

IF this is an actual emergency (not a drill) THEN the duty person assigned the following week will also immediately report to the assigned EOC to establish 24 hour coverage.

Consult with the Drill Director for guidance on drill participation and locations.

Engineering will staff this position.

Responsibilities for this position are as follows:

1) Answer questions in a non-technical manner about systems affected by the emergency at the plant and be knowledgeable of overall system functions.
2) Be able to interpret information found on the emergency notification form.
3) Be able to clarify information and provide interpretation as needed.
4) Provide an honest assessment of plant conditions.
5) Understand the emergency plans and classifications procedures.
6) Provide objective information to decisions makers in the EOC.
7) Be comfortable/adept in providing "Duke update" as part of the EOC update.
8) Have the ability to get answers to questions asked by state/county officials.
9) Assist with rumor control, if needed.
10) Forward state/county issues concerning Duke to the EOF staff.

9.0 Enclosures

9.1 Oconee Technical Support Center Guideline

Enclosure 9.1 - Oconee Technical Support Center Guideline

Eric Henshaw	8/6/01
TSCG Section A	Date
Eric Henshaw	8/6/01
TSCG Section B	Date
Ron Harris	8/9/01
TSCG Section C	Date
Eric Henshaw	8/6/01
TSCG Section D	Date
Eric Henshaw	8/6/01
TSCG Section E	Date
Ken Grayson	8/8/01
TSCG Section F	Date
Ron Harris	8/9/01
TSCG Section G	Date
Eric Henshaw	8/6/01
TSCG Section H	Date
Eric Henshaw	8/6/01
TSCG Section I	Date
Beau Abellana	8/9/01
TSCG Section J	Date
Courtney Brown	8/9/01
TSCG Section K	Date
Paul Mabry	8/9/01
TSCG Section L	Date
Beau Abellana	3/1/02
TSCG Section M	Date

Ron Harris	5/21/02
TSCG Section N	Date
Eric Henshaw	7/12/02
TSCG Section O	Date
Dave Wilson	9/17/03
TSCG Section P	Date
Paul Mabry	10/1/03
TSCG Section Q	Date
Beau Abellana	12/3/03
TSCG – Section R	Date
Paul Mabry	6/28/04
TSCG Section S	Date
Paul Mabry	(EM 5.1 revs 17. 18)
TSCG Section T	Date
David Wilson	8/22/05
TSCG Section U	Date
W. K. Grayson	4/17/06
TSCG Section V	Date

TABLE OF CONTENTS

1.0 INTRODUCTION

The purpose of the Technical Support Center Guideline (TSCG) is to present accident mitigation guidance and facilitate ad hoc accident evaluation and decision making. The guidance contained herein provides the TSC with pertinent background information and candidate actions. Alternate methods not discussed herein may be used at the discretion of the TSC.

2.0 DIAGNOSIS AND MITIGATION

The TSCG consists of individual sections linked to specific TSC requested actions. Each requested action is linked to specific EOPs and/or AOPs. The sections are:

A. Starting or bumping a RCP following loss of SCM

B. Steaming a steam generator with water in the steam line

C. Refill the EWST

D. Evaluate outside air booster fan operation

E. Natural circulation cooldown considerations

F. Makeup and monitoring of the SFP

G. Makeup and monitoring of CCW intake pipe inventory

H. Conserve BWST inventory

I. CFT core cooling following loss of decay heat removal

J. Mitigate LPI pump interaction and LPI pump restart

K. Energize the ASW switchgear from an operating Oconee unit

L. Limitations on aligning HPI suction from the SFP

M. Ensure total LPSW recirculation flow is ≤9000 GPM during dam/dike failure

N. Manage Keowee Lake Level During a LOOP

O. Opening the alternate Post-LOCA boron dilution flowpath

P. Depressurizing the reactor building after a loss of DHR event during modes 5 and 6

Q. Actions to reduce effects of RBES screen blockage by debris

R. Guidance for establishing Pressurizer bubble without Pressurizer temperature indication

S. Alternate HPI termination criteria when operating from the RB sump

T. Alternate water source for Post-Accident BWST refill

U. Loss of Spent Fuel Pool Level

V. Operating Atmospheric Dump Valves during an Accident that Requires Operation of the SSF

Each section contains the following subsections:

1.0 SAFETY CONCERN

A brief statement highlighting the requested action or safety issue requiring TSC consideration.

2.0 PROCEDURE ENTRY CONDITIONS

This section lists the plant conditions, consistent with the procedure entry conditions, that are considered in development of the guidance. These bulleted items highlight these applicable plant conditions and/or initiating events.

3.0 REQUESTED ACTION

3.1 Requested Action Summary

This section summarizes the requested actions and their purpose.

3.2 Background

This section provides technical background and information pertaining to plant conditions and the requested actions. Information considered common knowledge is typically not included, unless necessary to characterize or support potential actions.

3.3 Implementation

This section details the requested actions. It contains information such as applicable procedures, system and component details and requirements, observations and system expert opinion.

3.4 Expected Plant Response

This section summarizes plant response to implementation of the requested action.

A. STARTING OR BUMPING A RCP FOLLOWING LOSS OF SCM

1.0 SAFETY CONCERN

Bumping or restarting a RCP may result in transferring unborated or underborated primary coolant to the core that may result in a critical condition.

2.0 PROCEDURE ENTRY CONDITIONS

EOP guidance exists to bump/restart a RCP given the following plant conditions:

- Evidence of a loss of coolant and/or SG tube leak.
- Loss of heat transfer.
- Loss of or degraded natural circulation cooling.
- HPI cooling.
- Following recovery of subcooled margin (SCM)
- Evidence of hot leg voiding
- Evidence of boiler-condenser mode (BCM) cooling
- No RCPs on or large void in loop opposite with one RCP on

The above conditions were considered in preparation of the following guidance.

3.0 Requested Action

3.1 Requested Action Summary

Bump or restart a RCP in an idle loop.

The purpose of restarting or bumping a RCP in an idle loop is to promote primary-to-secondary heat transfer by either establishing forced circulation cooling or assisting natural circulation cooling.

3.2 Background

Restarting or bumping a RCP following loss of SCM risks introducing excessive positive reactivity by pumping unborated or underborated coolant to the core. An RCP bump consists of a pump restart of sufficient duration to allow pump motor amps to stabilize (approximately 10 seconds) followed by an immediate trip of the pump.

For a range of SBLOCA break sizes that exceed the capacity of the HPI system, yet require steam generator heat transfer to cooldown and depressurize, the RCS may experience BCM cooling. With the RCS in a saturated condition, core decay heat causes boiling to occur and steam to be transferred to the hot legs. BCM mode develops when the steam void that initially forms in the top of the hot leg expands down into the steam generator tubes where it is condensed. The primary coolant is condensed by EFW or MFW delivered through the auxiliary header when the steam void expands below the elevation of the auxiliary header nozzles. This is referred to as EFW-BCM. When the steam void expands below the secondary pool level in the steam generator, primary coolant will condense due to pool-BCM. Both EFW-BCM and pool-BCM are effective forms of heat transfer, and are either cyclic or stable in nature.

However, both forms of BCM can cause underborated water to accumulate in the steam generator tubes, lower steam generator head and cold leg up to the RCP spillover. This occurs because only a small percentage of the boron is transported with the steam that is condensed during BCM cooling. The volume

of this underborated RCS condensate would be swept into the core upon bumping a RCP. The consequences of a RCP restart could introduce greater than 5% of reactivity and be as severe as a rapid power excursion with the potential for significant fuel damage and RCS pressure boundary damage.

The most likely indication of boron maldistribution is inconsistent boron sample results. However, the capability to quantify the size of a region of unborated or underborated water is limited. If BCM has occurred the volume of condensed RCS coolant consisting of unborated or underborated water should be assumed large.

The potential for a rapid boron dilution event decreases as the RCS boron concentration decreases with cycle burnup. Towards the end-of-cycle when the boron concentration is lower, RCS conditions exist which permit safely bumping or restarting a RCP in a formerly idle loop assumed to have undergone some boiler condenser heat transfer.

If hot leg level remains above the elevation of the auxiliary header, it can be concluded BCM cooling has not occurred. In other words, primary coolant level greater than the auxiliary header elevation precludes significant accumulation of unborated or underborated primary coolant. Likewise, if no feedwater has been supplied to a steam generator it can be concluded that BCM has not occurred.

Insufficient boron mixing in the RCS can also exist for the following conditions. With a single RCP in operation and a large void indicated in the opposite loop, no mixing in the idle loop should be assumed. The void may prevent reverse flow, and an underborated region may therefore exist in the idle loop. An RCP bump or restart must not be attempted in this plant configuration without careful consideration of the potential for a reactivity insertion event.

3.3 Implementation

Three sets of guidance are provided. The first considers a loss of SCM and a void in the hot leg, but is subject to one of the following conditions: 1) the void is not large enough to result in unborated/underborated primary condensate or 2) the void extends into the tube region, but the SG has not been fed. The second set of guidance considers adequate mixing of the primary coolant during natural circulation to allow for a pump bump or restart. Lastly, guidance is provided for time in core life where boron concentration is less due to burnup. For certain conditions RCP restart can be performed since a significant boron dilution event cannot occur. A combination of RCP cold leg temperature or SG pressure, pre-accident boron concentration, and elapsed time are used to determine when bumping or restarting a RCP is recommended.

<u>No Boiler Condenser Mode Confirmed</u>

- A RCP may be bumped or restarted if one of the following is true:

  a. Hot leg level remained > 389 inches (value includes allowances for instrument uncertainty)

     The primary coolant level has remained at an elevation greater than the EFW upper header. This value reflects an elevation at the secondary face of the upper tube sheet.

     It can be concluded that a significant volume of unborated/underborated condensate has not accumulated in the tubes if the hot leg void has not penetrated the SG tube region.

  b. If during HPI forced cooling neither SG has been fed while the RCPs were off and adequate core exit subcooling has been restored, a RCP may be restarted. Without feedwater being delivered BCM cannot occur and there is no concern.

<u>Adequate Natural Circulation Mixing Confirmed</u>

- A RCP may be restarted if all of the following conditions are satisfied:

1. Subcooled natural circulation has existed in both loops for > 2 hours, and,
2. There is no indication of increasing reactivity during natural circulation on available nuclear instrumentation.

If the above conditions are satisfied adequate boron mixing in each loop exists and a region of unborated or underborated primary coolant does not exist.

Criteria for RCP Bump/Restart Due to Low Initial Boron Concentration

One of two figures may be used to determine if bumping or restarting a RCP is advisable following BCM cooling. The first figure is a function of RCS cold leg temperature and elapsed time. The second figure is a function of SG pressure and elapsed time since reactor trip. If cold leg temperature indication is available in the loop with a pump to be bumped/restarted Figure 1 should be used. If cold leg temperature indication is unavailable, but SG pressure indication is available then Figure 2 should be used. The following criteria must be satisfied prior to using either Figure.

- Verify all control rods are fully inserted
- Verify reactor power was ≥ 70% prior to reactor trip
- Verify time since reactor trip is within analyzed limits (< 48 h)

Figure 1 uses RCS cold leg temperature as a function of elapsed time since reactor trip for various RCS boron concentration pre-conditions. Figure 2 uses SG pressure as a function of elapsed time since reactor trip for various RCS boron concentration pre-conditions. The figures are generated assuming the following:

- All control rods are fully inserted
- Assumes 70% full power equilibrium xenon.
- Includes 50 ppmB concentration measurement uncertainty in initial RCS concentration (prior to accident)
- In Figure 1, a 9 °F uncertainty allowance for RCS temperature indication. In Figure 2, a 110 psi uncertainty allowance for SG pressure indication.

To use either Figure 1 or Figure 2, determine:

1. For Figure 1 determine the lowest indicated cold leg temperature.

   For Figure 2, determine the lowest indicated SG pressure during the accident.
2. The pre-accident RCS boron concentration, and
3. The elapsed time since reactor trip.
4. Given the above considerations, if the lowest indicated RCS cold leg temperature or SG pressure is greater than the line corresponding to the pre-accident RCS boron concentration, a RCP may be bumped or restarted per the EOP.

If any of the above conditions are not met, evaluation by site and G.O. nuclear engineering can be requested.

3.4 Expected Plant Response

Plant response to bumping or restarting a RCP will depend upon the plant conditions prior to a bump/restart. When a RCP is bumped or restarted with a hot leg void, expect the void to collapse as it is quenched in the SG. If the RCP is bumped, RCS pressure will decrease rapidly as a result. One RCP at a

time should be bumped for a period of time sufficient to allow the pump motor amps to stabilize (approximately 10 seconds). If plant conditions do not indicate the presence of natural circulation cooling following the pump bump, the other RCPs may each be bumped one time. If bumping the RCPs does not start natural circulation cooling, then refer to: E. Natural Circulation Cooldown Considerations.

If the RCP is restarted, RCS pressure will decrease. A loss of SCM may occur with the initial decrease in system pressure and require the RCP to be tripped shortly after it is restarted. If adequate SCM remains, plant response should then be consistent with forced circulation cooling. However, if a large void exists in the loop opposite the operating RCP, forced circulation cooling may be prevented.

Figure 1: RCP Bump/Restart Criteria

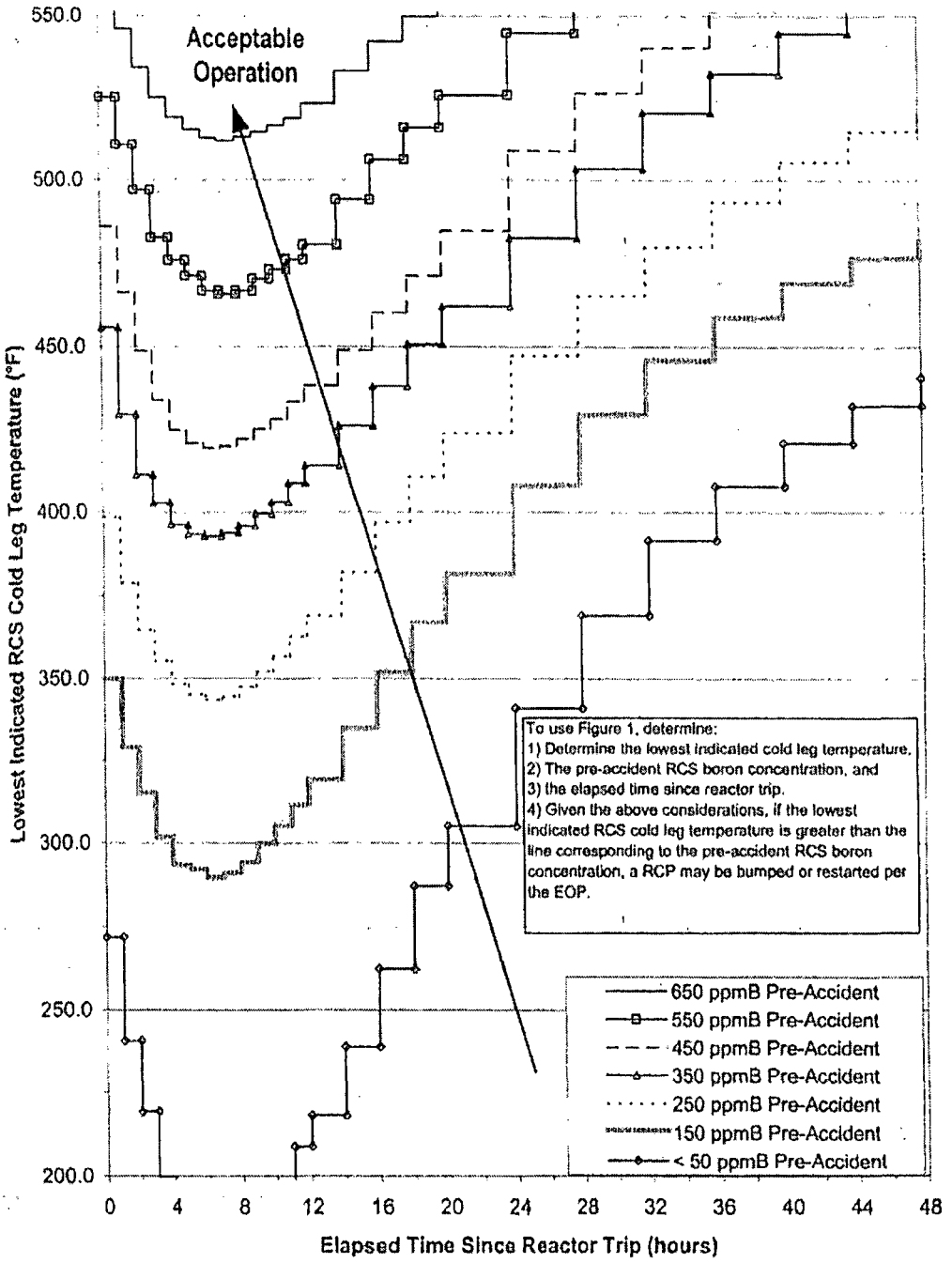
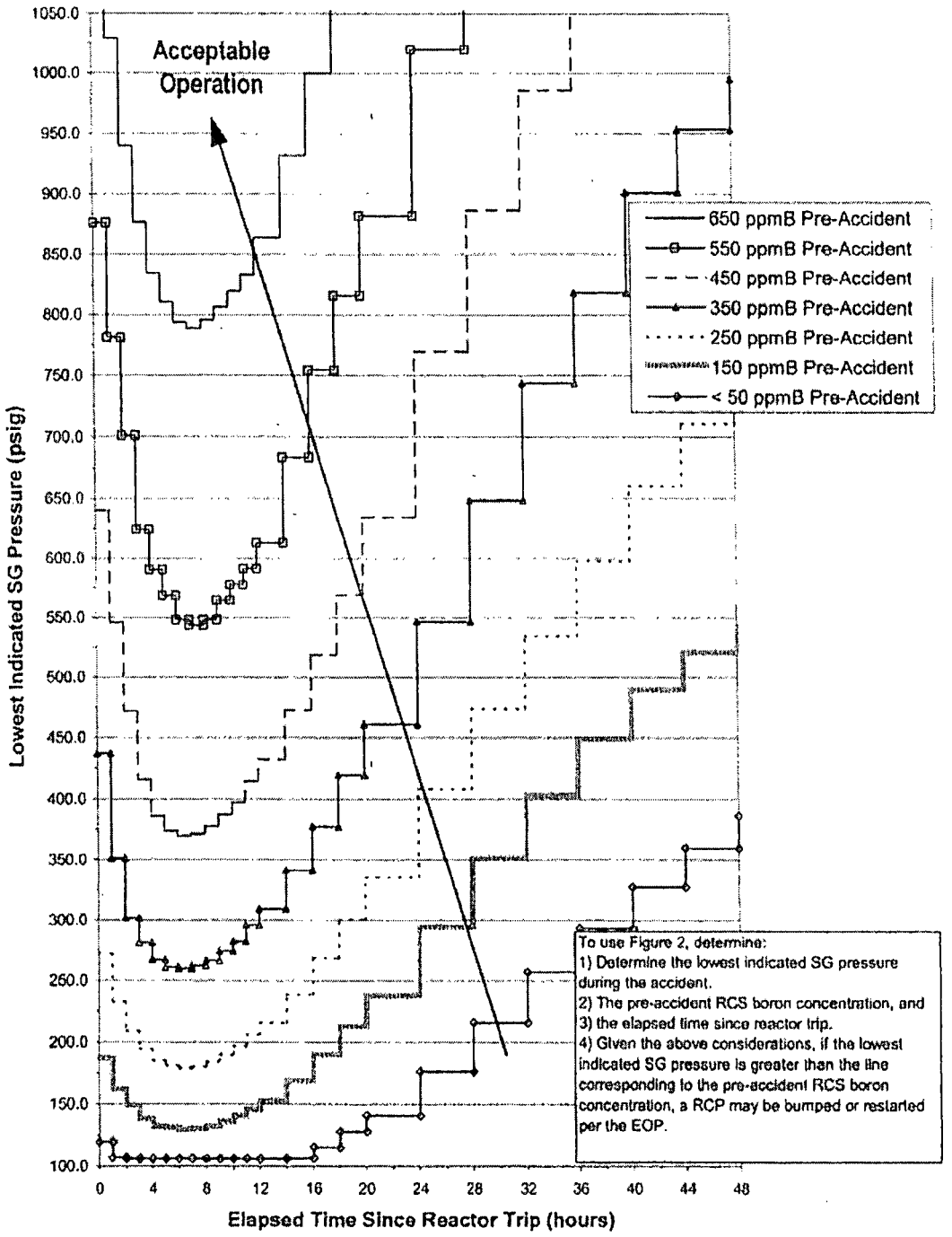


Figure 2: RCP Bump/Restart Criteria



B. STEAMING A STEAM GENERATOR WITH WATER IN THE STEAM LINE

1.0 SAFETY CONCERN

Potential loss of secondary pressure control due to waterhammer causing steam line rupture and/or loss of turbine-driven pump steam supply.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Evidence of a SG tube leak.
- SG level of 96 %OR or greater.
- Inadequate core cooling.
- HPI cooling cooldown.

3.0 REQUESTED ACTION

3.1 Requested action Summary

- Steam a SG with indication of water in the steam line.

3.2 Background

Opening a valve to reduce secondary pressure and cooldown the primary system with water in the steam line risks: 1) waterhammer, 2) losing steam supply to pump turbines, and/or 3) transferring water to pump turbines. A waterhammer event could ultimately result in loss of secondary pressure control due to pipe break or failure of a valve to reseat.

At SG levels of 96 %OR and greater it is possible that water has leaked-by the outlet annulus via a SG level instrument tap near the top of the baffle. The water will pool in the outlet annulus until it spills into the steam line. The steam line exits the steam generator horizontally for ~10 feet before turning and increasing in elevation 10 feet or greater. The water level in this section of the pipe will be approximately the same as in the steam generator. When steam generator level drops below the upper tap location, water will begin to drain back into the steam generator. Consideration should be given to some water remaining in the steam line immediately exiting the SG despite a reduction in SG level.

Expect condensation to occur over the length of the steam lines under low flow or stagnant conditions. The steam lines are horizontal or downward sloping the entire length of the run to the turbine after the initial rise in elevation at the steam generator exit. Therefore, the condensate will not accumulate in a "water catch" piping arrangement other than at the SG exit.

With water leaking by the instrument tap, the water will pool in the length of pipe exiting the SG. The level in this pipe will be approximately the same as the level indicated in the SG. With a level established in the pipe, high steam velocity is then necessary to form a plug of water. High steam velocity is also required to entrain liquid in a partially liquid filled pipe. A controlled cooldown using the ADVs or the Turbine Bypass System does not typically generate steam velocities large enough to entrain liquid or form a plug in a steam line with a residual level of water (in cases where indicated SG level has decreased below 96 %OR). The velocity necessary to do so depends upon the liquid level in the steam line as well, but once the line has been drained steaming the SG is allowable as very high steam velocities are required with lower levels.

If there is indication of SG levels approaching 120 inches above the instrument tap elevation, then water has spilled into the steam line above the exit. Full range indication is uncompensated and unreliable in

this condition of operation. However when full range SG level indicates an increasing trend in SG level, well above the instrument tap elevation (500 inches or greater), it can be assumed water has spilled into the length of pipe rising above the exit (approximately 10 feet). The SG should not be steamed at all in this instance, even if the OR level decreases below 96 %OR.

If neither steam line is available, HPI cooling should be used to cool down the unit.

3.3 Implementation

If SG level is greater than 96% OR (or equivalent temperature compensated XSUR level) do not steam the SG.

If full range indication does not indicate SG levels continued to increase above the instrument tap level to a level greater than 450 inches (69 %FR), and SG level has reduced to a level less than 96 %OR, the SG may then be steamed.

Otherwise, HPI cooling should be used to cooldown the unit if water is suspected in both steam lines.

3.4 Expected Plant Response

Secondary pressure control should not be lost if the guidance is followed during RCS cooldown. Controlling to the prescribed cooldown rate precludes liquid entrainment and/or plug formation in the steam line piping exiting the SG.

C. REFILL THE EWST

1.0 SAFETY CONCERN

Loss of HPSW resulting in loss of backup cooling water to HPI pump motor coolers, cooling water to the TDEFW pump, and/or loss of fire suppression capability.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Loss of offsite power.
- Station blackout.
- Turbine Building flooding.
- Loss of LPSW
- EWST level low.

3.0 REQUESTED ACTION

3.1 Requested Action Summary

- Provide power to a HPSW pump.
- Refill EWST using offsite fire department engine.
- Use Keowee Hydro Station portable backup jockey pump on the discharge structure.

3.2 Background:

The EWST provides the following functions:

- The EWST is capable of delivering the demands of each fire suppression system individually. This constitutes a significant demand on the EWST, which cannot be sustained for very long.
- During loss of all AC power (station blackout), HPSW could provide cooling water to the turbine driven EFW pump.
- During loss of normal LPSW supply to the HPI pump motor coolers due to a Turbine Building flood or other condition: HPSW should provide cooling water to the HPI pump motor coolers. (Station ASW may also be capable of supplying the HPI pump motor coolers.)
- Upon CCW pump restart after loss of LPSW, HPSW is needed to supply water via SSW piping to the CCW pumps for bearing lubrication and motor cooling.

Replenishing the EWST is a risk-significant operation. Failure to replenish the EWST increases the core damage frequency.

3.3 Implementation

Refill the EWST through a method delineated in:

EP/1,2,3/A/1800/001, Enclosure 5.31 (Temporarily Charging the HPSW System)

Two methods are presented in the Enclosure. Consider the following when choosing a method (ref. OSC-7966):

Option 1: Use offsite fire department engine on the intake structure.

- Location on the intake near 2C CCW pump available for fire department engine.

- Fire department has length of hard pipe suction hose to reach below water surface if lake level ≥ 796 feet.
- Fire hydrant HY-26 available. (OFD-124C-1.4)
- Must use 5 inch diameter hose to connect to fire hydrant to avoid excessive pressure drop.

Option 2: Use offsite fire department engine on the discharge structure.

- Location on the CCW discharge available for fire department engine.
- Fire department has length of hard pipe suction hose to reach below water surface if lake level ≥ 790 feet.
- Fire hydrant HY-7 available. (OFD-124C-1.5)
- Must use 5 inch diameter hose to connect to fire hydrant to avoid excessive pressure drop.

To extend the available EWST inventory, isolate any non-essential demands on HPSW as follows:

- Close HPSW-901 to isolate HPSW supply to SSW. (ref. OFD-124C- 1.1)
- Isolate HPSW supply to primary Instrument Air compressor by performing Backup IA Compressor Startup/Primary IA Compressor Shutdown per OP/0/A/1106/027 (Compressed Air System).
- If operating, shutdown Breathing Air Systems per OP/0/B/1106/032 (Breathing Air System).
- If TDEFW pumps are not needed, isolate HPSW supply to TDEFW pumps, including cooling jackets and oil coolers.

3.4 Expected Plant Response

EWST level will be maintained or increased.

D. EVALUATE OUTSIDE AIR BOOSTER FAN OPERATION

1.0 SAFETY CONCERN

Control Room habitability.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- 1/2/3RIA-39 CNTRL RM Gas Alarm actuated
- Outside air booster fans are operating

3.0 REQUESTED ACTION

3.1 Requested Action Summary

- Terminate outside air booster fan operation
- Continue outside air booster fan operation

3.2 Background:

The outside air booster fans are operated when a control room air handling unit return air radiation monitor (1/3RIA-39 (CNTL RM Gas)) alarms. The outside air booster fans provide filtered air to positively pressurize the control room.

The outside air booster fans should not be disabled prior to terminating the radiation release. The in-line filters should remain operable for greater than 20 days. Therefore if radiation protection or available radiation monitoring indicates the event has not been terminated it is prudent to maintain the outside air booster fans operable.

The location of the source term is important to the decision. If release is a result of component or penetration failure in the Auxiliary Building, continued operation of the outside are booster fans is prudent. Bypassing the Auxiliary Building via the emergency or equipment hatches could result in a release effecting the booster fan suction source. If RIA-39 counts do not stabilize or reduce with booster fan operation, consideration should be given to isolating the outside air booster fans.

In addition, chlorine release or smoke near the fan suction could prompt isolating the fans depending on the magnitude of the source term.

3.3 Implementation

Determine location of source. If source is such that operation of the outside air booster fans result in continued and increasing 1/2/3RIA-39 CNTRL RM gas alarm counts, it may be prudent to terminate operation of the fans.

Consider extenuating circumstances which may effect Control Room habitability, such as fire or noxious gas, to evaluate continued operation of the outside air booster fans.

3.4 Expected Plant Response

Operation of the control room air booster fans should result in reducing counts on or stopping the 1/2/3RIA-30 CNTRL RM gas alarm.

E. NATURAL CIRCULATION COOLDOWN CONSIDERATIONS

1.0 SAFETY CONCERN

Loss of or degraded natural circulation.

LPI initiation during natural circulation.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Loss of CCW intake canal.
- Loss of equipment in a fire area due to fire.
- Station blackout.
- Loss of all equipment (except cabling) in non-vital areas due to sabotage.
- Loss of equipment in the Turbine and Auxiliary Buildings due to a flood resulting from CCW System ruptures.
- Loss of equipment in the Turbine and Auxiliary Buildings due to a tornado missile event.
- Indication of loose parts alarms or sustained large magnitude noise in the RCS.
- Loss of subcooling margin.

3.0 REQUESTED ACTION

3.1 Requested Action Summary

- Evaluate natural circulation cooldown conditions.

3.2 Background:

The following summarizes various natural circulation cooldown scenarios and provides plant conditions and expected response to operator intervention. The guidance considers thermally coupled primary and secondary systems as a function of RCS SCM, loop asymmetry during natural circulation, phenomena which will interrupt natural circulation, and what is necessary to enhance or restart natural circulation.

Primary/Secondary Coupled – RCS is Subcooled

Subcooled natural circulation is indicated by:

1. T_{cold} coupled to the saturation temperature at the SG pressure,
2. Incore T/C temperature indication should track T_{hot} within approximately 10 °F, and
3. T_{hot} and T_{cold} temperature difference should be between 30 to 50 °F.
4. SG level at 50 %OR, 240 in XSUR.

The ΔT between T_{hot} and T_{cold} is expected to be 50 °F or less. The magnitude of the flow rate will decrease as the ΔT decreases and as core decay heat decreases.

Primary/Secondary Coupled – RCS is Saturated

Saturated natural circulation is indicated by:

1. T_{cold} coupled to the saturation temperature at the SG pressure.
2. Loss of SCM SG level

With the RCS saturated, incore T/C temperature will track T_{hot} whether natural circulation flow exists or not. The ΔT between T_{hot} and T_{cold} will vary between 50 °F and 0 °F, depending upon how much of the core heat is transferred to the primary coolant as latent heat of vaporization. The magnitude of the flow rate will decrease as the ΔT decreases as core decay heat decreases.

Primary/Secondary Coupled – One SG Operable, Subcooled or Saturated

If only one SG is operating during natural circulation only T_{hot} in the operating loop will indicate core outlet temperature. T_{cold} on the operating SG will be approximately equal to T_{sat} in the operating SG. T_{cold} in the isolated SG may not be equal to T_{sat} in the isolated SG. It will probably be colder due to ambient losses and due to cooler injection water (seal injection, MU, HPI). ΔT on the operating SG may be 10 °F higher than the 50 °F expected with two operating SGs. The loop with the idle SG may prevent primary depressurization.

Interruption of Natural Circulation

Natural circulation can be challenged and lost by three causes. Inadequate steam generator level and/or loss of steam generator steaming capability (including overfilling the SG) will result in degraded or loss of natural circulation. Hot leg voids collecting in the top of the hot leg will degrade or stop natural circulation. Generally, the benefits of maintaining or restoring primary-to-secondary heat transfer warrants operator action to do so.

Two sets of symptoms indicate whether natural circulation will be interrupted due to hot leg void formation. The first set are identified by a diagnosis of plant conditions that could result in void formation:

- Loss of RCS inventory
- Loss of subcooled margin that might result in water flashing to steam
- Contraction of the RCS inventory due to an overcooling event
- Cooldown and depressurization with an idle loop
- An outsurge of hot water from the pressurizer
- Accumulation of noncondensible gases following ICC or from any other source

The second set of symptoms include indications that heat transfer has been interrupted:

- Hot leg level < 537 inches (void large enough to interrupt natural circulation)
- RCS temperatures increasing, with CETC temperature diverging from hot leg RTDs
- Pressurizer level increasing due to void growth or thermal expansion (primarily if subcooled)
- Steam generator pressure decreasing due to injection of feedwater
- RCS temperature and pressure increasing along the saturation curve (if subcooling lost)

The first set of symptoms will likely lead to the second, with natural circulation being lost due to a hot leg void forming. As the void in the hot leg continues to expand into the steam generator tube region, boiler-condenser mode heat transfer will occur. Natural circulation can be regained after it has been lost, and the cooldown could be expected to occur in a cyclic manner.

Enhancing/Stimulating Natural Circulation

- Increase ΔT between primary and secondary
- Open hot leg high point vents if a void is indicated

- Bump or restart a RCP

Increasing the temperature difference between the primary and secondary increases the density differences between the hot legs and the SGs. This is accomplished by raising SG levels and/or steaming the SGs.

The optimum cooldown method includes balanced steaming of both steam generators in order to maintain a symmetric coolant temperature distribution.

Natural circulation will become intermittent and then will be lost as a hot leg void increases. The void can be vented to mitigate the cause and duration of the loss of natural circulation. This is effective in scenarios where a primary system break cannot provide sufficient cooling. The operator is instructed to open a high point vent if subcooled margin is lost and RCS pressure is increasing due to RCS heatup. If RCS pressurization persists, the pressurizer PORV is also opened to assist in removing decay energy and increasing HPI flow by decreasing RCS pressure.

If a hot leg void exists and SCM has not been lost, then once-through cooling is adequately removing decay heat and the primary may be thermally decoupled from the secondary. In this case, venting a hot leg void is not necessary. However, the void may be vented to restore natural circulation.

Bumping or restarting a RCP may also be utilized to mitigate voiding in the RCS. A RCP bump consists of a pump restart of sufficient duration to allow pump motor amps to stabilize (approximately 10 seconds) followed by an immediate trip of the pump. Bumping or restarting a RCP sweeps the void into the steam generator tubes where it condenses. RCS pressure decreases as the void is condensed and more of the RCS is exposed to the steam generator. Refer to TSCG Section A.

LPI Initiation during a Natural Circulation Cooldown

B&W document 51-1232710-00 (Decay Heat Removal System Initiated Pressure/temperature analysis) addresses RCS overcooling issues due to LPI initiation. As long as any RCP is in operation and the RCS cooldown limits are observed, there are no RCS overcooling concerns. However, if there is no RCP in operation when LPI is placed into service (LPI pump started), then there is no current bounding analysis that addresses RCS overcooling concerns. For this reason, it is not desired to initiate the LPI system with no RCPs operating. However, if it is necessary to initiate LPI during a natural circulation cooldown, then ensure a thermal overcooling analysis is performed prior to re-start of the unit. Issue a PIP that is mode coded to prevent startup until after the overcooling event is evaluated.

3.3 Implementation

Enhancing Natural Circulation

Evaluate the following actions that enhance natural circulation.

- SG levels may be raised up to 96 %OR.
- Steam SGs to increase ΔT between the primary and secondary.
- Maintain makeup to the RCS for losses and shrink (preserve loop thermal communication).

Restarting Natural Circulation

Evaluate the following actions, which may aid in restarting natural circulation:

- Maintain makeup to the RCS for losses and shrink (preserve loop thermal communication by minimizing hot leg void growth). This is necessary to restart natural circulation if the plant is in intermittent natural circulation or BCM cooling.

- Open hot leg high point vents to aid thermal connection between the hot legs and the steam generators if a hot leg void indicated.
- Bump or restart a RCP (refer to TSCG Section A).

3.4 Expected Plant Response

The plant will generally respond in a sluggish manner to operator intervention when in natural circulation cooling. However, if the plant is in BCM cooling, the plant can respond quickly to operator intervention.

When natural circulation exists, it can be enhanced by increasing the thermal center (raising SG level) or increasing ΔT between the primary and secondary (steaming the SG). Consideration should be given to raising SG levels above target setpoints but less than 96 %OR.

When natural circulation is degraded or intermittent, verify SG level and ensure steaming capacity is available. Makeup should be increased to enhance thermal coupling between the primary and the secondary. Intermittent natural circulation may exist initially or may follow natural circulation. It precedes BCM cooling if makeup is insufficient to match system losses and shrink.

If natural circulation has ceased, verify adequate RCS makeup and try to vent the RCS hot leg void. The plant may be in BCM cooling if the SGs remain operable and the primary and secondary systems are coupled. BCM cooling is an excellent mode of heat transfer, however a large region of underborated/unborated primary fluid may accumulate. As makeup matches break flow and system shrink (or the hot leg void is vented) the system will transition back to natural circulation though intermittent natural circulation.

F. MAKEUP AND MONITORING OF THE SFP AND RECOVERY FROM A BOILING CONDITION

1.0 SAFETY CONCERN

Maintain and/or recover SFP inventory, boron concentration, and normal mode of cooling.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Loss of spent fuel pool cooling.
- Tornado accident.
- SSF RC makeup required.
- Boiling SFP

3.0 REQUESTED ACTION

3.1 Requested Action Summary

Makeup and/or monitoring the spent fuel pools

3.2 Background:

Maintaining SFP level is important for radiological, fuel integrity, reactivity management, and accident mitigation reasons. The SFP is designed for boiling heat transfer, however makeup for boil-off needs to be assured for radiological and fuel integrity concerns. In addition, makeup to the SFP may be required to make up for SSF demands. Makeup may be from a borated or unborated/underborated source. This will affect reactivity management and accident mitigation when the SFP is used as a source for SSF demands.

Monitors 1RIA-6 (Spent Fuel Pool) and 1RIA-41 (Spent Fuel Pool Bldg Gas Mon) should be monitored for an increase in radiation level inside the Units 1 and 2 SFP area. Monitor 3RIA-6 (Spent Fuel Pool) and 3RIA-41 (Spent Fuel Bldg Gas Mon) for an increase in radiation level inside the Unit 3 SFP area.

SFP heat load and SSF demands determine the urgency of monitoring and necessity for makeup. For example, following an outage, and at an initial 150 °F, the spent fuel pool time to boil is approximately 20 hours after loss of SFP cooling. If the SFP is verified intact (e.g. following a tornado or seismic event) sufficient time exists to provide makeup to the spent fuel pool.

If for some reason normal SFP cooling is lost and cannot be established within the time to boil, special actions must be taken to recover the normal cooling mode. As the spent fuel pool temperature rises it will approach the saturation temperature. At or near saturation temperature, normal cooling can no longer be used due to the lack of NPSH. As the pumps try to draw the boiling water up, out of the pool, the decrease in pressure inside the pipe will cause the water to flash to steam and the SFP water cannot be made to flow to the SF coolers. The bulk temperature of the SFP must be lowered to at least 180 °F before normal cooling can be reestablished. This can be accomplished by allowing the pool to first boil down and then adding cooling water to it at a sufficiently high rate to cool the pool down before it over fills. This rate is dependent on the heat load in the pool.

Normal makeup is available from the BHUT, CBAST, BAMT and DW. Emergency makeup is available using offsite fire department equipment. Makeup to recover from a boiling condition is available from the BWST.

During a SFP boiling event, the potential for a significant amount of steam generation within the SFP area exists. It is not desirable to have the steam enter and condense in the SFP ventilation ductwork.

Condensing steam in the ductwork could leak onto the floor of the Ventilation Equipment Room and/or Purge Exhaust Equipment Room. From these rooms, the water could leak into the Control Room and/or the Penetration Rooms potentially affecting safety related equipment. With ONS adopting the alternate source term methodology for determining the dose consequences of accidents, the SFP Ventilation System is no longer credited with maintaining 10CFR100 or 10CFR20 doses within limits. To prevent the potential for condensation from affecting safety related equipment, reference section U, "Loss of Spent Fuel Pool Level."

3.3 Implementation

Monitor SFP Level Locally

Monitor Hourly if:

- Level indication is not available, and no demand on SFP inventory (SSF RC makeup or HPI suction) in the first 15 hours following loss of SFP cooling.
- Level indication is available, and SFP inventory is a suction source for SSF or HPI with borated makeup established.

Monitor Continuously if (or as allowed considering radiological and environmental conditions):

- Level indication not available, and no demand on SFP inventory (not a SSF or HPI suction source), and greater than 15 hours (or within 4 hours of SFP calculated time-to-boil and no makeup source aligned) following loss of SFP cooling.
- Level indication is not available and SFP inventory is a suction source for HPI or the SSF with borated makeup established.
- Changing the makeup or SFP cooling alignments.

Normal Makeup Sources:

Procedures OP/1&2/A/1104/006/C and OP/3/A/1104/006/C are used when making up to the SFP from:

- RC BHUT 1,2,3A/B
- CBAST (Units 1,2,3)
- BAMT (Units1&2,3)
- DW

Emergency Plan for Refilling Spent Fuel Pool:

Procedure AM/0/A/3009/012A details makeup to the spent fuel pool using the offsite fire department.

Emergency Plan for Recovering from a Boiling SFP:

In order to recover from a boiling SFP, water must be drawn from the BWST. T.S. 3.5.4 SR 3.5.4.2 states that the BWST must have more than 350,000 gallons available with 1 hour required action time. Recovery could potentially use up to 2/3 of the BWST inventory. If BWST inventory can't be made up within the required action time, the unit will have to be shut down. Additionally, the SSF RCMU Pump is inoperable when the SFP temperature reaches 141 °F per OSS-0254.00-00-1004, Design Basis Specification for the SSF RC Makeup System. T.S. 3.10.1 states that the RCMU system must be operable with a 7 day required action time. If SFP temperature can't be reduced to less than 141 °F within 7 days the unit(s) will have to be shut down. During recovery of the SFP, provisions should be made to reserve enough water in the BWST to shut down the unit(s). Recovery of the SFP may require as much as 220,000 gallons of water.

Makeup to the SFP to recover from a boiling condition will require the use of the A and B SF cooling pumps. These pumps can achieve a combined flow rate of about 1600 gpm. This is adequate flow to lower the spent fuel pool bulk temperature to 180 °F even at the abnormal maximum heat load. (See Calculation OSC-8079 – Recovery of SFP from a Boiling Condition) To lower the temperature of the pool sufficiently, large quantities of cool water must be added at a high flow rate. In order to align the Unit 1&2 SFP to the BWST through the SFP Cooler Pumps, SF-53 and either SF-55 (for Unit 1 BWST) or SF-56 (for Unit 2 BWST) should be opened and SF-5 should be closed. For Unit 3 SFP, 3SF-53 and 3SF-55 should be opened and 3SF-5 should be closed. In order to have room to add this make-up water, make-up for the boil off must be stopped and the pool must be allowed to boil down to no less than 9 ft over the fuel racks. 9 ft over the fuel racks is considered the minimum allowable level due to ALARA. A note about boron concentration; Boiling off a large amount of water will have a concentrating effect on the boron in the pool as a large volume of water is removed while most of the boron remains. Worst case boron concentration after boil off and make up from the BWST is about 1300 ppmB above the procedural limit set for the SFP. Once normal cooling has been reestablished the SFP boron concentration should then be placed back within procedural limits.

Boil off times depend on the heat load in the pool and range from ~35.5 days at minimum heat load to ~50 hours at maximum heat load for the Unit 1&2 SFP and ~25 days at minimum heat load to ~38.5 hours at maximum heat load for the Unit 3 SFP. Once the required minimum pool level has been reached, make-up water, from the BWST through the SF cooling pumps, can then be added. The required flow rates for this make-up water (assuming pool is boiled down to 9 ft above the SF racks), based on heat load, can be determined with the following formulas:

Unit 1&2

To fill the pool to normal level

$$\dot{V} = 53.4 \times \dot{Q}_L - 5.73$$

To fill the pool to maximum level

$$\dot{V} = 42.7 \times \dot{Q}_L - 5.14$$

Unit 3

To fill the pool to normal level

$$\dot{V} = 53.7 \times \dot{Q}_L - 6.45$$

To fill the pool to maximum level

$$\dot{V} = 43.1 \times \dot{Q}_L - 3.23$$

Note: Heat load values, $\dot{Q}_L$, are in millions of Btu/hr and flow rate, $\dot{V}$, is in gpm

If heat loads in the SFP are less than the abnormal maximum, Calculation OSC-8079 includes an Excel Spreadsheet that will determine the minimum required boil down level given the actual pool heat load and actual BWST temperature.

3.4 Expected Plant Response

SFP level increases or is maintained. Radiation levels in the SFP area are constant or decreasing. Verify boron concentration in the SFP continues to satisfy shutdown margin.

For SFP boiling, SFP temperature decreases. SFP level is kept below maximum elevation of 844'. Radiation levels in the SFP are constant or decreasing. Verify boron concentration in the SFP continues to satisfy shutdown margin. Normal SF cooling is reestablished.

G. MAKEUP AND MONITORING OF CCW INLET PIPE INVENTORY

1.0 SAFETY CONCERN

Preservation of SSF ASW pump and/or ASW pump suction supply.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Tornado or loss of Lake Keowee event (SSF ASW, ASW).
- Fire, flood, or sabotage event (SSF ASW, ASW (potentially w/flood)).
- Station blackout. (SSF ASW)
- Significant blockage of CCW intake screens preventing normal operation of multiple CCW pumps.

3.0 REQUESTED ACTION

3.1 Requested Action Summary

1. Monitor Unit 2 CCW piping inventory, using SSF ASW/ASW pump suction pressure gauges.
2. If the Unit 2 CCW piping is intact, then makeup should be supplied by one or a combination of the following:

- Running a Unit 2 CCW pump, if available
- Gravity flow from CCW discharge
- Dedicated portable submersible pump
- Cross connect the Unit 1 and Unit 3 CCW intake/discharge piping and Unit 2 CCW discharge piping to the Unit 2 inlet piping.

If the Unit CCW pipe integrity is questionable or if CCW intake screens are blocked with debris, then the method of making up will need to fit the system conditions.

3.2 Background:

The Unit 2 CCW inlet is the assured source of water satisfying the unit ultimate heat sink requirements. This mission is accomplished by serving as a source of supply water for SSF ASW or station ASW demands. Worst case required ASW inventory to remove core decay is approximately 37 days if Units 1, 2, and 3 intake and discharge piping volumes are available (inventory available below 791 feet). Action may be required in as little as 6 hours.

With Unit 2 and either Unit 1 or 3 intake and discharge piping, core decay heat can be removed from 2 Units for 37 days. Action may be required in as little as 4 hours.

3.3 Implementation

- Monitor Unit 2 CCW intake pipe inventory

For loss of lake, loss of intake canal, tornado or other events requiring SSF ASW or station ASW operation, evaluating CCW intake pipe inventory requires removing high point manways and using direct observation of level following loss of siphon. Prior to losing the siphon, use the SSF ASW pump suction gauge. The structural integrity of the pipe should be considered when obtaining the level observation/measurement.

- Makeup to Unit 2 CCW intake pipe inventory

The methods to provide makeup to the Unit 2 CCW intake are:

1. Running a Unit 2 CCW pump

   -FOREBAY ELEV is above 67 feet (i.e. CCW intake level > 767 feet MSL)

   -SSW (HPSW) supply to CCW pump

   -Power to CCW pump discharge valve

   -CCW cross-over aligned to other units (as necessary)

2. Gravity flow from CCW discharge
3. Dedicated portable submersible pump

   AM/0/A/1300/059

4. Cross connected with another unit and available water supply

3 Units intake and discharge pipes available:

Where the SSF ASW pump is in service and the station ASW pump is off, action must be taken within 24 hours of reactor trip to cross-connect the Unit's CCW intake and discharge unwatering pipes. This will assure 37 days of inventory where the SSF ASW pump is initially providing core decay heat removal.

Where the station ASW pump is in service with the SSF ASW pump off, action must be taken in 6 hours of reactor trip to cross-connect the Unit's CCW intake and discharge unwatering pipes. This will assure 37 days of inventory where the station ASW pump is initially providing core decay heat and the SSF diesel engine service water is routed to the yard drain.

Unit 2 and either Unit 1 or 3 CCW intake and discharge pipes available:

Where the SSF ASW pump is in service and the station ASW pump is off, action must be taken in 16 hours of reactor trip to cross-connect the available (not unwatered) Units' CCW intake and discharge unwatering pipes and to open or verify open 2CCW-75, 2CCW-78, 2CCW-79, 2CCW-86 and 2CCW-87 (if Unit 1 CCW intake pipe is unwatered). This will assure 37 days of inventory where the SSW ASW pump is initially providing core decay heat removal.

Where the station ASW pump is in service with the SSF ASW pump off, action must be taken within 4 hours of reactor trip to cross-connect the available (not unwatered) Units' CCW intake and discharge unwatering pipes and open or verify open 2CCW-75, 2CCW-78, 2CCW-79, 2CCW-86 and 2CCW-87 (if Unit 1 CCW intake pipe is unwatered). This will assure 37 days of inventory where the station ASW pump is initially providing core decay heat and the SSF diesel engine service water is routed to the yard drain.

5. Supply CCW intake from CCW discharge

3.4 Expected Plant Response

Unit 2 CCW intake pipe inventory is maintained to accommodate demands due to SSF or station ASW operation and/or possible losses due to leakage from the system.

H. CONSERVE BWST INVENTORY

1.0 SAFETY CONCERN

- Loss of LPSW and BWST inventory depletion.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Uncontrollable flooding of the Turbine Building.
- Loss of primary to secondary heat transfer control from Unit Control Rooms and aux shutdown panels.
- SSF ASW system and station ASW System unavailable.
- Using forced HPI cooling.

3.0 REQUESTED ACTIONS

3.1 Requested Action Summary

- Provide guidance to conserve BWST inventory to extend HPI cooling, considering the following potential actions:
  - Throttle HPI flow to balance decay heat.
  - Secure RBS system.
  - Vent the RB.

3.2 Background

BWST inventory constitutes the ultimate heat sink when primary-to-secondary heat transfer is lost and LPSW is unavailable. Forced HPI cooling is used to remove core decay heat when primary-to-secondary heat transfer is lost. Therefore, conserving BWST inventory by limiting what systems place demands on it extends the time available for forced HPI cooling. Aligning makeup to and replenishing the BWST inventory should be pursued while attempting to conserve the inventory.

HPI forced cooling is initiated by manually establishing HPI flow in the injection mode and latching open the PORV to create a relief flowpath. With subcooling margin all but one RCP is tripped to minimize the heat load on the system and maintain good circulation and mixing of injection flow.

HPI forced cooling results in energy relief to the RB. Without LPSW the RB structure and internal structures are the only heat sinks available to remove the energy from core decay heat, RCS metal, and secondary metal released by venting the RCS via the PORV. The controlled release of primary fluid to the building via the pressurizer PORV, safety valves or the hot leg high point vents via quench tank relief will result in increasing containment temperature and pressure. If there is no evidence of a high energy line break, and LPSW is unavailable, operation of the RBS system will only be marginally effective in removing energy from the atmosphere to containment structures. The RBS system should be isolated to minimize BWST drawdown rate.

Venting the RB removes energy primarily from the RB atmosphere. The RB purge system is not designed to operate under the differential pressure expected during HPI forced cooling. Venting would endanger the in-line filter package given environmental conditions present in the RB during HPI forced cooling. Likewise, venting RB may challenge the isolation valves ability to reseat. Lastly, removing air from the RB without replenishing it may complicate restarting RBS if required. If the air is removed and the atmosphere is predominantly saturated steam, spraying down containment could result in a differential

pressure greater than design. Given these concerns it is not recommended the RB be vented prior to establishing LPSW flow. If venting containment, purged air should be replenished with fresh air.

3.3 Implementation

Minimize BWST Drawdown

RBS should be isolated if there is no evidence of a HELB. Indication of a HELB would include: rapidly changing RB pressure and temperature, rapidly increasing RB sump level, and possibly increasing radiation levels in the building. If RB pressure remains less than 40 psig, RBS should remain isolated. HPI cooling, without a large HELB, will only produce a gradual worsening of Reactor Building conditions.

Depending on the predicted time to recover LPSW or acquire a makeup source for the BWST, consideration should be given to minimizing HPI flow. This can be done by matching HPI forced cooling flow with the core decay heat demand. This will result in losing SCM, but would further extend the BWST inventory. Refer to EP/1,2,3/A/1800/001, Turbine Building Flood Tab.

Venting the Reactor Building

Venting the RB risks subsequent loss of the ability to isolate, filter, and monitor any radiological release. As Reactor Building ultimate design pressure is near 144 psig, venting the Reactor Building should not be considered unless failure is deemed imminent.

3.4 Expected Plant Response

The energy storage and conduction capacity of the RB during HPI cooling is sufficient to preserve Reactor Building integrity. As such, neither RBS or venting the Reactor Building should be necessary. Therefore, BWST inventory can be conserved by minimizing demand, or isolating RBS.

I. CFT CORE COOLING FOLLOWING LOSS OF DECAY HEAT REMOVAL

1.0 SAFETY CONCERN

Use of CFTs to remove decay heat.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Loss of decay heat removal.
- BWST inventory approaching depletion.
- BWST aligned for gravity flow to RCS.

3.0 REQUESTED ACTIONS:

3.1 Requested action Summary

- Drain CFTs to RCS to remove decay heat/makeup for boil off (when the BWST is unavailable).

3.2 Background

A CFT contains 1040 +/- 30 cu-ft of borated water. In a shutdown condition one or more CFTs may not be available. CFTs may be at Reactor Building atmospheric conditions or have a nitrogen overpressure of 50 psi or greater (OP/1(2,3)/A/1104/001, Core Flooding System).

The location of the RCS vent, the presence of steam generator nozzle dams, and RCS level should be considered when pressurizing and discharging the CFTs in a shutdown condition. If the RCS vent is in the upper SG, completely discharging a CFT with a pressurizer level of 360 inches could result in inventory loss out the vent. If SG nozzle dams are installed the CFTs must not be discharged.

The CFTs can be pressurized as necessary to discharge liquid volume for makeup. Each CFT should be discharged separately to maximize the liquid available to remove decay heat.

3.3 Implementation

<u>CFT Discharge for Decay Heat Removal:</u>

Refer to OP/1(2,3)/A/1104/001, Enclosure 4.14, for details regarding discharging the CFTs to the RCS.

Equipment required/considerations:

Inventory in the CFT.

Nitrogen high pressure header available.

Power supply to valves, 1/2/3CF-1 and/or 1/2/3CF-2.

The valves CF-1 and CF-2 can be operated locally. However, Reactor Building radiological and environmental conditions may preclude local operation.

The flow rate necessary to remove decay heat 1 day after shutdown from full power operation is 108 gpm and at 5 days the required flow rate is 62 gpm. Controlling CFT discharge to match decay heat will be difficult. CFT inventory should be discharged to preserve RCS level, but flow rates much greater than required to remove decay heat and maintain RCS level is likely. With the RV head removed, the difference in head generated by the initial CFT and RCS levels will produce CFT flows of several thousand GPM even if the CFT were vented to RB atmosphere.

CFT nitrogen pressure should be reduced to minimize rate of discharge prior to opening the discharge valves. Consideration of the RCS vent location will affect how the CFTs are discharged as well. If the RV head is removed, inventory will spill from the RV given coarse flow control from the CFT. However, if the RCS vent is in the pressurizer or the upper SG head, CFT discharge should be controlled to a level several hundred inches below the vent location. The flow rate from a single CFT is sufficient to match decay heat at 1 day of shutdown, therefore the CFTs should be discharged one at a time.

A CFT must not be discharged if SG nozzle dams are installed.

3.4 Expected Plant Response

CFT inventory can be used to makeup for boil-off following loss of DHR. Control of the injection rate will not be precise and a flow rate of less than 100 gpm is only required to makeup for decay heat. The CFTs should be discharged by pressurizing with nitrogen and pushing water through the injection lines as needed to maintain RCS level. The amount of fluid discharged will depend upon the location of the RCS vent. Do not attempt to discharge the CFTs if the nozzle dams are installed.

J. MITIGATE LPI PUMP INTERACTION AND LPI PUMP RESTART

1.0 SAFETY CONCERN

Protect LPI pumps during low flow operation.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Two LPI pumps in operation and BWST inventory decreasing, requiring LPI/HPI "piggyback" operation to provide HPI suction from the RBES and restart of an LPI pump following deadhead operation
- SBLOCA
- HPI forced cooling
- SGTR

3.0 REQUESTED ACTION

3.1 Requested Action Summary

Evaluate restarting an LPI pump following a low flow condition or continued operation of LPI pumps at low flow conditions.

EOP cautions the operator and informs station management if LPI pumps are operated below minimum flow values:

- Any LPI pump operated at <100 gpm.
- Two LPI pumps operating in piggyback with NO LPI header flow and total indicated HPI flow <500 gpm.

Turn off an LPI pump.

3.2 Background:

The manufacturer's recommended minimum flows: (recommended for accident condition only to minimize undue stresses)

- LPI flow > 100 gpm (5 continuous days)
- LPI flow > 200 gpm (one year continuous)

For some SBLOCAs, HPI cooling, or SGTR events, an interaction between the LPI pumps can occur during LPI/HPI-piggyback operation. In particular, under low flow conditions a weak-pump strong-pump interaction is established. The acceptability of the LPI/HPI piggyback alignment with two trains of LPI supplying suction to two HPI pumps through both LP-15 and LP-16 is a function of total HPI injection flow assuming no LPI flow injecting into the RCS. Analysis has been performed modeling the weak pump/strong pump interaction with both trains at a combined flowrate of 500 gpm. The analysis shows if pumps differ by as much as 7% in developed head that flow from the weaker pump will be limited. Periodic testing verifies that the "A" & "B" LPI pumps are within this 7% assumption. If two LPI pumps are operating in piggyback with no LPI header flow and total indicated HPI flow ≤ 500 gpm, it is recommended that one LPI pump be secured. A single LPI pump can provide sufficient flow for 2 HPI pumps.

Operating the LPI pumps below minimum flow will cause hydraulic instabilities. Operating the LPI pump for an extended period (@ <100 gpm) can lead to fluid flashing in the casing that can lead to cavitation and seal failure. This can be catastrophic.

Vendor recommendation is based on a similar pump that was operated at approximately 100 gpm for one month. This test showed no degradation in pump performance or component damage. To minimize undue pump stress, this manufacturer's recommendation must be adhered to.

3.3 Implementation

Re-energizing an LPI pump after it has been secured because it was deadheaded or if two LPI pumps operating in piggyback with no LPI header flow and total indicated HPI flow <500 gpm requires an evaluation.

- Depending on RCS conditions, specifically RCS pressure and the rate it is decreasing, it may be advisable to secure an LPI pump in support of piggyback. A single LPI pump can provide sufficient flow for 2 HPI pumps. If acceptable increase total indicated HPI flow to >500 gpm to maintain two LPI pumps in operation.
- The temperature of the fluid in the LPI pump is a function of the length of time the LPI pump has been operating at deadhead condition. It is advisable to restart the LPI pump when it can be assured that RCS pressure has decreased that will allow LPI injection. An LPI pump can develop approximately 180 psi of developed head.
- When restarting an LPI pump for piggyback operation after it has been secured due to deadhead operation, consideration must be given to the fact that the LPI pump may only have minimum recirc flow until LP-15 & 16 are opened. Minimize the time between pump restart and opening LP-15 or LP-16.

<u>Approximate LPI Flow Rate Calculation</u>

- The indicated LPI flow is inaccurate at low flowrates. For example the indicated flow can vary between 0.0 gpm to 500 gpm if actual flow is <850 gpm. Based on LPI performance, it is expected that LPI flow should rapidly increase to >1000 gpm as RCS pressure decreases below shut off head (approximately 180 psig). LPI flow can be estimated based on the BWST draindown rate as follows (assuming a relatively constant rate of BWST level decrease):

  - The volume of the BWST is ≈ 7613 gals/ft.

  - LPI flow = [{(initial level – current level)/time} (7613)] - (sum of HPI and RBS flow)

  - The instrument uncertainty analysis (worst case) are:

  If RBS is operating, the flowrate uncertainty is approximately +/- 40 gpm.

  HPI flow uncertainty is approximately 25 gpm if flow >500 gpm. For indicated HPI flow below 125 gpm, actual flow can be 0.0 gpm or > 189 gpm

  - Comparison of header flows allows one to diagnose the validity of the indicated flow.

  - Analysis shows that two HPI pumps can deliver approximately 550 gpm & 650 gpm @ RCS pressures of 1500 psig and 1200 psig respectively. This is assuming the HPI pumps developed head have degraded 10%.

  - RB pressure can influence LPI total developed head when aligned to the BWST.

  - RCS pressure must be considered in the evaluation.

3.4 Expected Plant Response

The guidance assures the minimum required flow for LPI pump during long term cooling. In addition, the guidance assures successful operation following restart of a pump after deadhead operation.

K. ENERGIZE THE ASW SWITCHGEAR FROM AN OPERATING OCONEE UNIT

1.0 SAFETY CONCERN

Restore power supply to the HPI and ASW pumps from Oconee unit not experiencing SBO.

2.0 PROCEDURE ENTRY CONDITIONS

Evaluate continued operation of LPI pumps at low flow conditions.

- An Oconee unit has tripped and is experiencing a station blackout (SBO)
- The main feeder bus cannot be energized through the startup transformer and the standby bus cannot be energized from either Keowee or CT-5
- Another Oconee Unit is generating and is energizing both its MFBs.

3.0 REQUESTED ACTION

3.1 Requested action Summary:

- Close the operating Oconee unit's standby breaker 1 (S1) to energize standby bus 1 (SB1) and power the auxiliary service water switchgear (ASWS) from the operating Oconee generator.
- Connect a HPI pump (HPIP), from the Oconee unit experiencing the SBO, to the ASWS.
- This would allow HPI forced cooling of the core, while power is being restored. Also the auxiliary service water pump (ASWP) would be available to provide inventory to the steam generators if needed for cooling.

3.2 Background:

During a loss of switchgear event, the underground emergency power path or a Lee combustion turbine can supply one HPIP and the ASWP through SB1 and the ASWS. The HPIP can maintain water on the core and the ASWP can supply water to the steam generators providing a heat sink for the reactor coolant system. If the underground emergency power path or a Lee combustion turbine can not energize the standby bus, the HPIP and the ASWP would not be available. If another Oconee unit were generating, that unit could energize SB1 by closing its S1 breaker. The S1 breaker close logic will allow the breaker to close as long as the standby bus is not energized. The ASWS could then be energized to provide power to a HPIP and the ASWP.

The typical load for a running Oconee Unit is 12--15MW. The auxiliary and startup transformers are rated at 33.6MVA. The addition load of one HPIP and an ASWP is < 1MVA or 137 amps. With both main feeder buses in service, the load on main feeder bus 1 would be within its limits. UFSAR 8.2.1 3 states that each unit's auxiliary startup transformer is sized to carry full load auxiliaries for one nuclear generating unit plus the engineered safeguards equipment of another unit. The operating load of a HPIP and an ASWP is considerably less than a unit's engineered safeguards load, thus there would be sufficient power available should the operating unit trip.

3.3 Implementation

1. Verify SB1 is not energized.
2. Ensure all breakers for SB1 are open.
3. Place CT4 BUS 1 "AUTO/MAN" transfer switch in "MANUAL".
4. Place Standby Bus 1 "AUTO/MANUAL" transfer switches in "MANUAL".

5. Close Breaker S1.
6. Have I&E perform procedure EM/0/A/0050/001, Procedure To Provide Emergency Power To An HPI Pump Motor From The ASW Switchgear.

3.4 Expected Plant Response

ASW Switchgear will be energized from an operating Oconee Unit. One HPI pump and the ASW pump can be operated as desired.

L. LIMITATIONS ON ALIGNING HPI SUCTION FROM THE SFP

1.0 SAFETY CONCERN

Loss of suction source to the HPI pumps when aligned to the SFP.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- An Oconee unit has tripped and is experiencing a station blackout (SBO)
- SSF RC makeup pump is not available
- An HPI pump can be powered from the ASW switchgear
- The BWST and LDST are not available as suction sources to the HPI pumps
- The SFP can be aligned as a suction source for the HPI pumps

3.0 REQUESTED ACTION

3.1 Requested action Summary:

- Provide guidance to monitor the SFP and ensure suction remains available to the HPI pumps based on limitations on the following parameters:
- SFP level
- HPI flow rate
- SFP temperature

3.2 Background:

If the BWST and LDST are not available as a suction source for the HPI pumps, it is possible to align the suction of an HPI pump to the SFP. Conditions in the SFP need to be monitored to ensure suction to the HPI pumps is not interrupted. Design calculations demonstrate that an HPI pump will have adequate NPSH when aligned to the SFP. However, suction could be interrupted based on the following two concerns:

- Siphon break at elevation 822 feet in the SFP:

The suction line as a siphon break at 822 feet. This consists of two 1/2 inch holes. If the SFP level decreases to 822 feet, suction to the HPI pumps will be interrupted. Thus, this is one limit that the TSC must consider.

- Flashing in the high point of the SFP suction line:

HPI flow can be interrupted if the pressure in the high point of the suction line from the SFP equals the vapor pressure based on SFP temperature. This is the primary concern when aligning HPI to the SFP. The factors that influence flashing are:

SFP temperature - If SFP cooling is lost, SFP temperature will increase. The higher the temperature, the less margin to flashing in the high point. The factor that influences SFP temperature is the decay heat load in the SFP.

SFP level - SFP level impacts flashing in that a lower SFP level results in lower elevation head and a lower pressure in the high point of the suction line. SFP level will decrease based on the HPI flow rate.

HPI flow rate - HPI flow rate impacts margin to flashing by its effect on the pressure in the high point of the SFP suction line. As HPI flow rate increases, the frictional losses in the suction pipe increase. Increased frictional losses decrease the pressure in the high point of the line, thus reducing the margin to the vapor pressure. The frictional losses due to the flow rate are a second order effect when compared to SFP level and temperature. Thus, the primary issue with SFP flow rate is its impact on SFP level.

3.3 Implementation

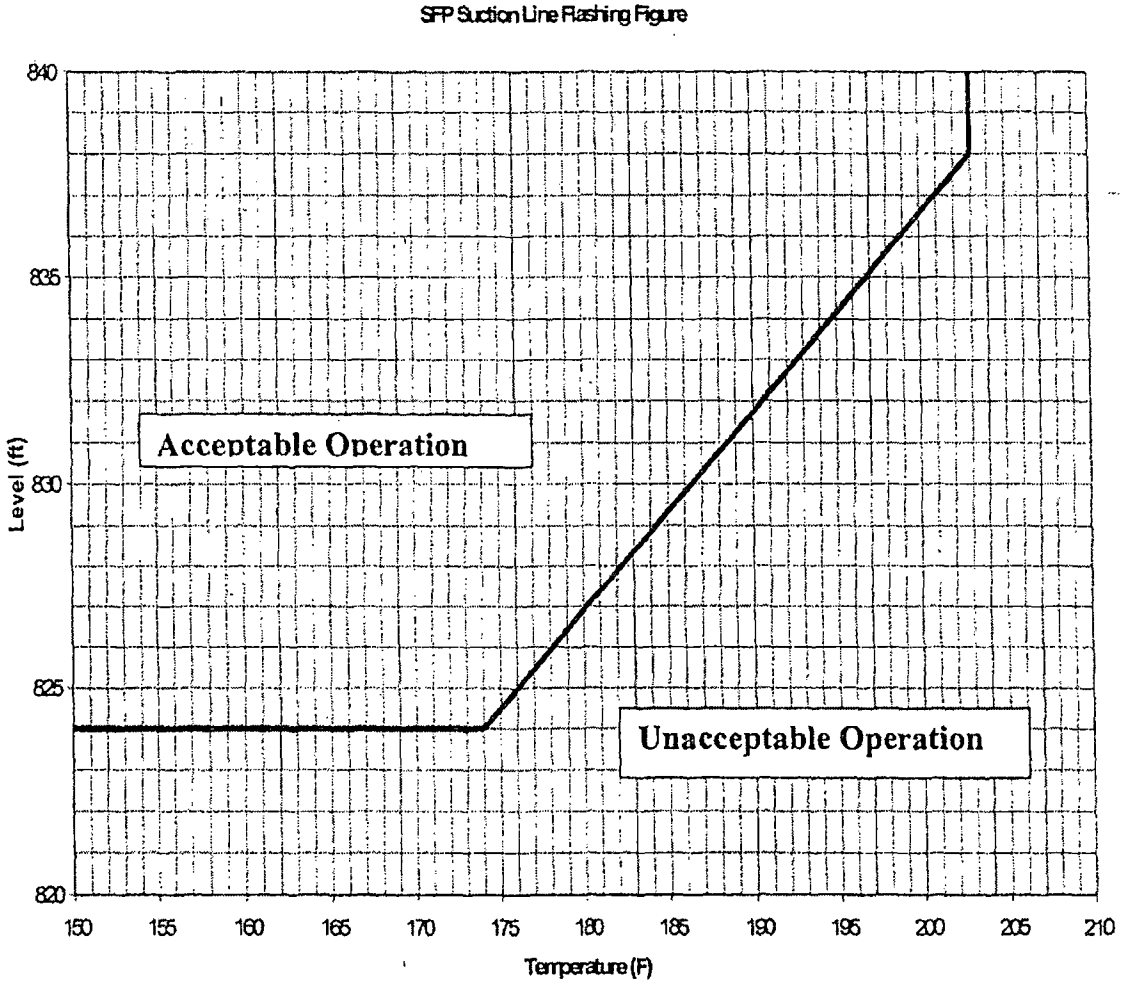
Siphon Break

If an HPI pump is aligned to the SFP, the pump should be secured prior to SFP level decreasing below 824 feet. The 824 feet criterion is selected to provide margin to the elevation of the siphon break (siphon break is at a SFP level of 822 feet).

Flashing at SFP Suction High Point

Flashing in the high point of the SFP suction line depends on SFP temperature, SFP level, and the HPI flow rate. Calculation OSC-3873, Rev. 4, provides data on the SFP as a suction source for the HPI pumps. The analyses in this calculation demonstrate that the frictional losses associated with the HPI flow rate are small. Thus, the conditions at which flashing occurs can be directly determined based on only SFP level and temperature. Also, for a given SFP level and temperature, the differences between the Units 1 and 2 SFP and the Unit 3 SFP are negligible. Thus, the same data to determine the flashing point can be used for both SFPs.

The following figure provides the flashing curve as a function of SFP temperature and SFP level. For a given SFP temperature, the level must be maintained greater than the level in the following curve.



- Monitor SFP level and temperature initially on a one half hour frequency and project changes in temperature and level to ensure continued suction remains to the HPI pumps. Adjust monitoring frequency based on projections of SFP temperature and level.
- HPI flow rate should be adjusted based on RCS requirements taking into consideration the impact of changing flow rates on SFP level.

3.4 Expected Plant Response

HPI flow is successfully established from the SFP. Monitoring is in place to determine when HPI flow from the SFP should be terminated.

M. ENSURE TOTAL LPSW RECIRCULATION FLOW IS ≤9000 GPM DURING DAM/DIKE FAILURE

1.0 SAFETY CONCERN

Total LPSW flow is maintained ≤9000 gpm during dam/dike failure scenario. Flow to various LPSW loads may require throttling to achieve desired flow rate.

2.0 PROCEDURE ENTRY CONDITIONS

This guidance is used during AP/1/A/1700/013 involving dam/dike failure without loss of CCW intake canal. The Symptoms for entering AP/1/A/1700/013 are:

- Visual observation of decreasing lake level or dam failure
- Telephone communication of a Keowee or Little River dam failure
- "CCW LAKE LEVEL LOW" statalarm (1SA-09/B-10)
- "FOREBAY ELEV" decreasing toward 70 feet

3.0 REQUESTED ACTION

Determine which LPSW loads should be throttled to ensure total LPSW recirculation flow is ≤9000 gpm.

3.1 Background:

In the event of a Loss of Lake Keowee, the preferred method of decay heat removal is via the CCW System recirculation mode. In this alignment, the Unit 1&2 and Unit 3 LPSW systems are cross-connected and one LPSW pump operated to supply the required loads for all three units. The LPSW System is aligned so that the normal discharge paths are isolated such that flow is forced in the reverse direction through the Unit 1 RCW coolers and back to the CCW crossover.

Per OSC-5739, total LPSW flow is limited to 9000 gpm to ensure excessive velocities are not generated in the tubes of the RCW Coolers and to reduce the likelihood of undesirable internal LPSW recirculation in certain system configurations.

3.2 Implementation:

Since total LPSW flow is limited to 9000 gpm and only one LPSW pump is operating, each unit is allowed 3000 gpm of LPSW flow. LPSW loads and associated throttle valves are listed below.

- "B" RBCU - 1/2/3LPSW-21
- "A" LPI Cooler - 1/2/3LPSW-4 or 1/2/3LPSW-251
- "B" LPI Cooler - 1/2/3LPSW-5 or 1/2/3LPSW-252
- Unit 2 RBACs - 2LPSW-1061 or 2LPSW-1062. Note - RBAC flow is not required.

The above loads must be throttled as required on each unit to maintain total LPSW pump flow ≤9000 gpm.

3.3 Expected Plant Response

Total LPSW flow as indicated on the operating LPSW Pump's discharge flow gauge should indicate ≤9000 gpm.

N. MANAGE KEOWEE LAKE LEVEL DURING A LOOP

1.0 SAFETY CONCERN

During any event involving a loss of off-site power (LOOP) and operation of Keowee Hydro Station, the lake level will decrease significantly. Decreasing lake level can adversely affect the operability of several plant systems and equipment.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Loss of off-site power.
- Keowee Hydro Station in operation.

3.0 REQUESTED ACTION

3.1 Requested Action Summary

- Minimize usage of Lake Keowee inventory.
- Supplement Lake Keowee inventory from Lake Jocassee.
- Take actions to mitigate effects of decreasing lake level on Oconee systems/equipment as follows:
  1. Minimize LPSW System demand to reduce NPSH required.
  2. Align LPSW supply to Chiller Condenser Service Water Pump suction to increase NPSH available.
  3. Place HPSW pumps in OFF position to increase NPSH available for LPSW pumps.
  4. Isolate RWF Equipment Cooling supply and return lines from ECCW siphon headers to maintain operability of ECCW first siphon.
  5. Restart two CCW pumps (one each on two separate Oconee units) to eliminate reliance on ECCW first siphon.

3.2 Background:

SLC 16.9.7 provides operability requirements for Oconee systems and equipment based on Keowee lake level. As an event progresses and lake level decreases, various actions are necessary to ensure systems and equipment remain capable of performing their functions.

The Oconee licensing basis does not provide a duration for a LOOP, but a reasonable duration for Keowee operation is 7 days (ref. PIP O-02-136). Assuming an event begins with the lake level at 791 feet and both Keowee units are operating, the lake level would be 783.6 feet after 7 days (ref. OSC-3528). This assumes no water transferred to Lake Keowee from Lake Jocassee.

Section 3.3 contains several estimates of the time available based on an initial lake level of 791 feet. If an event begins at some lake level above 791 feet, add about 1 day for each foot above 791 feet. For example, if an event begins at 794 feet, add three days.

3.3 Implementation

3.3.1 Minimize usage of Lake Keowee inventory

If all plant loads are being supplied by one unit at Keowee Hydro and the other Keowee unit is running at speed no-load, consider stopping the unloaded unit to conserve inventory. Operation of a Keowee unit

with no load uses almost as much water as operation fully loaded to the maximum emergency loads. Therefore, stopping one Keowee unit would reduce water usage by more than 40% (ref. OSC-3528).

If both Keowee units are carrying some load, procedures do not exist to manually transfer plant loads from one Keowee unit to another in order to stop one Keowee unit. However, this action should be considered by the TSC if the event is expected to last significantly beyond 7 days. Differences in reliability and the potential for inducing an undesirable transient (i.e., loss of all AC power) should be considered before taking this action.

Operation and loading of combustion turbines at Lee Steam Station may allow stopping both Keowee units, thus conserving water in Lake Keowee. However, differences in reliability and the potential for inducing an undesirable transient (i.e., loss of all AC power) should be considered before taking this action.

If Jocassee Hydro is capable of starting and generating to the grid, evaluate the possibility of energizing the Oconee switchyard from Jocassee and providing power to the LOOP units from the switchyard. This would allow both Keowee units to be shutdown for some period of time to conserve water. However, differences in reliability and the potential for inducing an undesirable transient (i.e., loss of all AC power) should be considered before taking this action.

The ECCW second siphon discharge at CCW-8 transfers a small amount of flow (~30,000 gpm) from Lake Keowee to Lake Hartwell. If the second siphon is not needed, this discharge can be eliminated by closing CCW-8 per OP/1,2,3/A/1104/012 (CCW System).

3.3.2 Transfer water from Lake Jocassee to Lake Keowee

The System Operating Center (SOC) should be contacted to request transfer of water from Lake Jocassee to Lake Keowee. In order to transfer water from Lake Jocassee at the same rate that two Keowee units would use, at least one unit at Jocassee Hydro Station would have to be generating to the grid. However, water can be transferred at a slower rate by operating Jocassee units at speed no-load or by opening the spillway gates. This would at least reduce the rate of decrease of the Keowee lake level. Depending upon the Jocassee lake level, operation at speed no-load plus opening the spillway gates may supply adequate flow rate to match two units at Keowee Hydro.

3.3.3 Minimize LPSW System Demand

If a loss of Instrument Air (IA) has occurred, maximum LPSW flow will be supplied to each LPI cooler. LPSW flow to LPI coolers must be throttled on any non-ES unit to <6000 gpm (total flow for both coolers). There would be >9 hours before LPSW flow to LPI coolers must be throttled to maintain adequate NPSH for LPSW pumps (based on 790.6 feet actual limit per calculation). Operations estimated that this action would be completed within 4 hours using existing procedures. After throttling, the LPSW NPSH limit would become 781.6 feet (ref. OSC-2280).

The LPSW pump NPSH limits discussed above assume administrative controls are in place to ensure the A HPSW pump is not operating. This means that the A HPSW pump should be in "standby" with the B HPSW pump in "base" (i.e., the normal alignment) or place the A HPSW pump in "off" to prevent it from operating.

3.3.4 Align LPSW Supply to Chiller Condenser Service Water Pump Suction

There would be >23 hours before we would reach the 790 ft. limit for the Chiller Condenser Service Water Pump. AP/1,2,3/A/1700/011 (Recovery from Loss of Power) contains steps to prevent air binding and ensure adequate NPSH at lower lake levels. These steps include starting additional CCW pumps or aligning the LPSW supply to the Chiller Condenser Service Water Pump (ref. OFD-124A-1.2).

3.3.5 Place HPSW Pumps in OFF Position

The A HPSW pump may have inadequate NPSH below 791 feet. The B HPSW pump may have inadequate NPSH below 789 feet. To ensure protection of the pumps, consider placing the pumps in the OFF position to prevent automatic start. If available, use the Jockey pump to maintain EWST level instead of the A or B HPSW pumps. Also, consider temporary charging of the HPSW system using the off-site fire department per the emergency operating procedure. If short-term operation of the A or B HPSW pump is required to maintain EWST level, this should be performed manually and the duration should be minimized to avoid pump damage due to inadequate NPSH.

3.3.6 Isolate RWF Equipment Cooling Supply and Return Lines from ECCW Siphon Headers

Lake level must be above 787 feet to prevent a postulated pipe break at normally open seismic boundary valves 1,2,3CCW-319 and 1,2,3CCW-320 from potentially affecting the ECCW first siphon via air in-leakage. If lake level approaches 787 feet, these valves should be closed. There would be >3.9 days before the lake level would reach 787 feet.

If enough ECCW siphon headers are operable, it may be desirable to leave the valves open on one Oconee unit to continue supplying the RWF. However, this would make the ECCW siphon headers inoperable on that unit.

As an alternative, restart of CCW pumps may be performed as discussed below instead of closing the valves.

3.3.7 Restart Two CCW Pumps

Lake level must be above 786 feet to meet operability requirements for the ECCW first siphon, since the ECCW test acceptance criteria assumes a minimum lake level of 786 feet. There would be >4.8 days before the lake level would decrease to 786 feet. This is enough time for operators to restart two CCW pumps, one each on two separate Oconee units, using existing procedures (AP/1,2,3/A/1700/011). The CCW pumps would be able to supply suction to LPSW pumps without relying on the first siphon.

If necessary, the ECCW first siphon would continue to supply adequate suction to LPSW pumps down to 782 feet or lower. The 786 feet requirement is conservatively based on maintaining the ECCW header full. Engineering calculations have determined that adequate flow can be supplied to LPSW pumps with the water level inside the pipe about 4 feet (or less) below the top of the pipe, depending upon the number of open CCW pump discharge valves (ref. OSC-5349). Also, the actual ECCW test results may be better than the minimum acceptable results, thus providing additional margin.

If lake level is less than 786 feet and CCW pumps are not running, periodically monitor the following pumps that take suction from the CCW crossover for evidence of inadequate suction (i.e., amps fluctuating, cavitation noise at pumps):

- LPSW pumps
- Chiller Condenser Service Water pumps for A, B, C, and D chillers
- HPSW Jockey pump
- CCW Booster pump

3.4 Expected Plant Response

By taking actions as recommended above, the important plant systems and equipment needed for accident mitigation will remain capable of performing their functions for >7 days during a LOOP.

O. OPENING THE ALTERNATE POST-LOCA BORON DILUTION FLOWPATH

1.0 Safety Concern

Opening the alternate post-LOCA boron dilution flowpath at elevated RCS pressure may damage the RB sump screen or supply two-phase water to the suction of the LPI pumps.

2.0 Procedure Entry Conditions.

EOP Section LOCA Cooldown/HPI Cooldown, Response Not Obtained

- An Oconee unit is experiencing a LOCA.
- The primary boron dilution flowpath cannot be opened.
- The alternate post-LOCA boron dilution flowpath is to be opened.

3.0 Requested Action

3.1 Requested Action Summary:

Open the alternate post-LOCA boron dilution flowpath.

3.2 Background:

An LPI boron dilution flowpath is opened to prevent excessive boron concentrations in the reactor vessel due to extended operation in the "boiling pot mode" following LOCAs. In the boiling pot mode the reactor vessel functions as an evaporator and concentrates the boric acid. The guidance is in EOP LOCA and HPI Cooldown Sections. Excessive boron concentrations can result in precipitation of boric acid crystals that can lead to obstructing long-term cooling of the core. Calculations have shown that opening an LPI boron dilution flowpath is required no earlier than 9 hours following a large cold leg break LOCA, which is the limiting break size and location for this issue. The EOP does not include the 9 hour requirement, with the expectation that this action will occur prior to 9 hours. The EOP does not require this action unless the core exit thermocouple temperatures are less than 400°F, and the subcooled margin does not exist. Also, RCS pressure must be less than 320 psig, to support operation of valves LP-103 and LP-104. These criteria are based on the higher solubility of the boric acid at temperatures of 400°F and higher, and that the boiling pot mode does not exist if the core exit thermocouple temperatures indicate subcooled conditions.

There is a good likelihood that gaps in the reactor vessel internals where the hot legs nozzles match up with the upper internals will provide a leakage path that will serve to prevent the concentration of boric acid in the core region. The B&WOG has analyzed these gaps and have concluded that they will function to prevent excessive boric acid concentration buildup. One drawback to crediting these gaps exists, and that is the possibility that the gaps will be plugged by debris circulated by the LPI System while drawing water from the RB sump. This possibility has been recognized by the industry and by the NRC, and so reliance on the gaps, while likely, should not be the sole method of preventing post-LOCA boric acid precipitation.

Opening the primary boron dilution flowpath through LP-103 and LP-104 does not involve any additional considerations, and is not the subject of this TSC Guideline.

Opening the alternate post-LOCA boron dilution flowpath through LP-1, LP-2, and LP-105 (Unit 1), and through LP-1, LP-2, and LP-3 (Units 2 and 3), does involve additional considerations, and that is the subject of this TSC Guideline.

The first consideration is that opening the alternate post-LOCA boron dilution flowpath can result in a high velocity discharge that can impinge on the emergency sump screen. This high velocity can result from the RCS being at a higher pressure than the emergency sump, and opening the alternate flowpath will then accelerate water through the pipe and towards the sump and sump screen. The second consideration is that opening the alternate post-LOCA boron dilution flowpath can result in two-phase conditions at the suction of the A LPI pump. This is possible due to the depressurization of the RCS (if the RCS pressure is higher than the RB pressure) and the possibility that water flowing through the LPI piping will flash. This situation must not be allowed since continued stable operation of the LPI pumps must be maintained.

For large break LOCAs the RCS and the RB will have equalized in pressure, and there is no adverse consequence of opening the alternate post-LOCA boron dilution flowpath. The objectives of this TSC guidance is therefore to ensure 1) that opening the alternate post-LOCA boron dilution flowpath is necessary, 2) that for SBLOCAs that the RCS and RB pressures have equalized prior to opening the alternate post-LOCA boron dilution flowpath, and 3) if pressure equalization cannot be confirmed, then the alternate post-LOCA boron dilution flowpath must not be opened.

3.3 Implementation

Step 1: Determine if the boiling pot mode exists: If the core exit thermocouple temperature indicates that the water exiting the core is subcooled, then the boiling pot mode cannot exist, and there is no requirement for opening the alternate post-LOCA boron dilution flowpath. The actual core exit thermocouple temperatures should be considered in this determination, rather than relying on the ICCM subcooled margin, since the worst-case instrument uncertainty is included in the ICCM software. Similarly, the available RCS and RB pressure instrumentation should be used rather than just relying on the ICCM subcooled margin. LPI System flow can also be used to confirm the RCS pressure. Trends of these temperature and pressure indications should be considered since for all LOCAs the pressures and temperatures will steadily decrease in the long-term as decay heat decreases.

Step 2: Determine if the RCS level is high enough to spill borated water out the break: The reactor vessel and hot leg level indications can be used to determine if the water level is high enough in the reactor vessel to provide flow from the core outlet, through the reactor vessel internal vent valves, into the vessel upper downcomer, and then towards the cold leg break location. If this flowpath exists, then the core boron concentration cannot increase to an unacceptable value. A vessel level of 120 inches, and a hot leg level of 120 inches is sufficient for confirming that this flowpath exists, and that the alternate post-LOCA boron dilution line does not need to be opened.

Step 3: Determine if the RCS boron concentration is increasing by sampling the RB sump boron concentration: Concentration of boric acid in the reactor vessel can be evaluated by periodic sampling of the boron concentration in the RB sump. If the RB sump boron concentration is not decreasing, then the reactor vessel boron concentration cannot be increasing. An absence of a decreasing trend in the RB boron sump concentration precludes the need to open the boron dilution flowpath.

Step 4: Determine how much time is available to make this decision: A conservative earliest time requirement for opening a boron dilution flowpath is 9 hours. This value is the result of a conservative calculation and includes many worst-case assumptions, including a large cold leg break LOCA. For SBLOCAs a significantly longer period of time is available, since the boiling pot mode starts later, there may be a period of natural circulation, etc. For SBLOCA, boron precipitation is a concern when the RCS is saturated with CETC temperature less than 305°F (saturated pressure of 72 psia). If the core is above 72 psia no boron precipitation can occur (reference FTI Doc. 51-1266113-00 Post LOCA Boron Concentration Management). If additional determination is required, the G. O. Safety Analysis Section

will be available to support Oconee Engineering and Operations following any station event, this determination will be their responsibility. The associated calculations can be performed in a short period of time and within the time available. The purpose of extending the time for making the decision to open the alternate post-LOCA boron dilution flowpath is to allow the RCS and RB pressures more time to equalize, or to allow the boiling pot mode to cease. Both of these situations are more likely as decay heat diminishes over time.

Step 5: Continue efforts to recover the primary boron dilution flowpath: Since there are no adverse consequences associated with the primary boron dilution flowpath, it is the preferred mitigation method. Recovery of the use of the primary boron dilution flowpath should be a priority.

Step 6: Confirm equalization of RCS and RB pressures: During the time period available (9 hours plus the additional hours resulting from the Step 4 analysis), evaluate the available data to determine if RCS and RB pressures have equalized. Engineering should be consulted to obtain information on the uncertainty in the process data, so that the possible adverse effect of instrument uncertainty is considered. Since some uncertainty in the process data will exist, confirming that RCS and RB pressure have equalized will involve some degree of judgment. Management concurrence with a decision to open the alternate post-LOCA boron dilution flowpath is required.

Step 7: Open the alternate post-LOCA boron dilution flowpath and monitor the LPI pumps: If Steps 1-6 have been performed and opening the alternate post-LOCA boron dilution flowpath is still necessary, and the allowable time determined in Step 4 has expired, and management concurs, then the alternate post-LOCA boron dilution flowpath is opened. Note that opening the alternate path is not recommended unless RCS is saturated with CETC temperature less than **305°F** (saturated pressure of 72 psia). Align alternate boron dilution flow path as follows:

Note: The minimum system design (pressure & temp. rating) for both LPI & RBS in all units is 200 psig /300F.

Note: Unit 1 alternate post-LOCA boron dilution flowpath has potential for gas intrusion into the ECCS system (Generic Letter 2008-01). The guidance provided in the steps below is intended to eliminate this potential for introducing air into the ECCS piping or components.

1. Ensure LP-6, LP-9, LP-21 are closed
2. Ensure B or C LPI pump providing HPI piggy back through LP-16
3. Secure A BS pump and close BS-1
4. Secure A LPI pump
5. Close LP-19
6. Open LP-3, LP-2, LP-1
7. Throttle open BS-1 to obtain flow indication (nominally 100 gpm). Note this action could potentially wind mill the RBS pump
8. When RCS pressure decays flow and thru BS-1 will diminish, close BS-1.
9. For Unit 1 Only, when RCS pressure minus Reactor Building Pressure is less than or equal to 10 psid, open LP-105. (Based on RCS low range pressure indication and building pressure)

Note: For Unit 1 Only: In order to drive non condensables out from the line, it is recommended to wait 10 minutes after opening LP-105 before proceeding to Step 10.

10. Open LP-19

11. Align A LPI back to Emergency sump

Step 8: Report to management on the plant response to opening the alternate post-LOCA boron dilution flowpath.

3.4 Expected Plant Response

No observable change in RCS conditions is expected.

P. DEPRESSURIZING THE REACTOR BUILDING AFTER A LOSS OF DHR EVENT DURING MODES 5 AND 6

1.0 SAFETY CONCERN

Depressurize the reactor building when building pressure reaches 1 psig to maintain containment closure during MODES 5 and 6. This guidance is mainly applicable to the steam generator replacement outage when building tendons will be detensioned and concrete will be removed beginning in MODE 5, but could be applied generically.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of this guidance.

- Loss of offsite power during MODES 5 and 6
- Loss of DHR during MODES 5 and 6

3.0 REQUESTED ACTION

3.1 Requested Action Summary

Depressurize the reactor building when pressure reaches 1 psig and maintain pressure below 8 psig via the reactor building purge pathway during MODES 5 and 6.

3.2 Background:

During movement of recently irradiated fuel assemblies within containment, a release of fission product radioactivity within containment is restricted from escaping to the environment. Recently irradiated fuel is fuel that has occupied part of a critical reactor core within the previous 72 hours. In MODES 1, 2, 3, and 4, this is accomplished by maintaining containment OPERABLE as described in ITS LCO 3.6.1, "Containment." In MODES 5 and 6, the potential for containment pressurization as a result of an accident is not likely; therefore, requirements to isolate the containment from the outside atmosphere can be less stringent. In order to make this distinction, the penetration requirements are referred to as "containment closure" rather than "containment OPERABILITY." Containment closure means that specified escape paths are closed or capable of being closed. During movement of recently irradiated fuel assemblies within containment, the specified escaped paths that are controlled by LCO 3.9.3 are the equipment hatch, the air locks, and the penetrations which provide direct access from the containment atmosphere to the outside atmosphere. Since there is no significant potential for containment pressurization, the Appendix J leakage criteria and tests are not required.

The requirements on containment penetration closure ensure that a release of fission product radioactivity within containment will be restricted from escaping to the environment. The closure restrictions are sufficient to restrict fission product radioactivity release from containment due to a fuel handling accident during refueling. However, to ensure containment closure is maintained during a loss of DHR event that causes building pressure to escalate, additional guidance will be presented in this section to depressurize the reactor building through the purge release pathway via opening valves PR-1, -2, -3 and starting the purge fan. This pathway will filter the building air using the purge exhaust filter, monitor the air using the Unit Vent Radiation Monitor (1,2,3-RIA-45), and exhaust the air to the vent stack. There will be guidance provide for 1) a loss of DHR event caused from the loss of power and 2) a loss of DHR event NOT caused from a loss of power. It should be noted that this guidance is specific to the steam generator replacement outage when building tendons will be detensioned and concrete will be removed beginning in MODE 5, but could be applied generically.

The Reactor Building Purge System includes a supply penetration and exhaust penetration. During MODES 1, 2, 3, and 4, two valves in each of the supply and exhaust penetrations are secured in the closed position. The system is not subject to a Specification in MODE 5. In MODE 6, large air exchanges are necessary to support refueling operations. The purge system is used for this purpose, and two valves in each penetration flow path may be closed on a unit vent high radiation signal. The Unit Vent Radiation Monitor (1,2,3 RIA-45) closes the four outboard isolation valves (1,2,3 PR-2, -3, -4, -5) associated with R.B. Purge Penetrations (19 and 20). The capability of RIA-45 to close the valves is verified immediately prior to movement of recently irradiated fuel. If a loss of DHR event occurs, AP/1,2,3/A/1700/026 secures RB purge and closes 1,2,3 PR-1, -2, -3, -4, -5, and -6. However, if during this event the building begins to pressurize and jeopardize containment closure during MODES 5 or 6, purge will be restarted per this guidance document.

It should again be noted that this guidance is specific to the steam generator replacement outage when building tendons will be detensioned and concrete will be removed beginning in MODE 5, but could be applied generically. In addition, with respect to accident analyses, there is no credit taken for any containment boundary in limiting releases during MODES 5 or 6. However, as a defensive measure, containment closure is maintained per Technical Specifications.

3.3 Implementation

3.3.1 Loss of DHR Event Caused from a Loss of Power Event

Monitor Reactor Building Pressure

During the steam generator replacement outages, if a loss of DHR event occurs, reactor building pressure should be continuously monitored and should not exceed 8 psig, as this is the limiting pressure the liner plate can withstand without buckling or rupturing. Action will be taken to depressurize the building when pressure reaches 1 psig.

Depressurize Reactor Building

Upon a loss of DHR event that causes reactor building pressure to escalate, the following steps should be taken when building pressure reaches 1 psig:

1. Upon loss of power, wait until power is restored (estimated at approximately 23 seconds).
2. Restore reactor building purge via OP/1,2,3/A/1102/014 Enclosure "RB Purge Release." Ensure purge flow rate does not exceed 50,000 cfm.
3. If the purge filter high dP alarm is received, slow the release by throttling PR-3 until alarm is silenced.
4. If core damage is indicated, terminate the purge by closing PR-1, -2, and -3. Indication can include, but is not limited to, reactor engineering recommendation, RP offsite sampling, or RIA response.

3.3.2 Loss of DHR Event NOT Caused from a Loss of Power Event

Monitor Reactor Building Pressure

During the steam generator replacement outages, if a loss of DHR event occurs, reactor building pressure should be continuously monitored and should not exceed 8 psig, as this is the limiting pressure the liner plate can withstand without buckling or rupturing. Action will be taken to depressurize the building when pressure reaches 1 psig.

Depressurize Reactor Building

Upon a loss of DHR event that causes reactor building pressure to escalate, the following steps should be taken when building pressure reaches 1 psig:

1. Restore reactor building purge via OP/1,2,3/A/1102/014 Enclosure "RB Purge Release." Ensure purge flow rate does not exceed 50,000 cfm.
2. If the purge filter high dP alarm is received, slow the release by throttling PR-3 until alarm is silenced.
3. If core damage is indicated, terminate the purge by closing PR-1, -2, and -3. Indication can include, but is not limited to, reactor engineering recommendation, RP offsite sampling, or RIA response.

3.4 Expected Plant Response

It is expected that the reactor building pressure will decrease and the air being released via the purge pathway will be filtered adequately.

Q. ACTIONS TO REDUCE EFFECTS OF RBES SCREEN BLOCKAGE BY DEBRIS

1.0 SAFETY CONCERN

Debris that may be generated by a RCS break can be transported to the RB Emergency Sump and partially block the sump screen. Accumulation of debris on the sump screen can increase pressure loss to the point that $NPSH_a$ for the LPI pumps may be lost.

2.0 PROCEDURE ENTRY CONDITIONS

A LOCA has occurred and the BWST has been depleted which required aligning the ECCS for recirculating water from the RB Emergency Sump.

3.0 REQUESTED ACTION

3.1 Requested action Summary

3.1.1 Symptoms

If valid symptoms of sump blockage are observed proceed with the actions listed in Section 3.1.2. Valid symptoms of sump blockage include:

- Both LPI header flow rates decreasing with steady RCS pressure, and/or not increasing as RCS pressure decreases. If only one LPI pump is operating, start the idle pump (assuming it wasn't lost due to single failure) to verify that the flow loss is not a mechanical or electrical degradation effect (note that the flow reduction [per pump] when going from one operating pump to two operating pumps may reduce the pump $NPSH_r$ sufficiently to eliminate cavitation, at least for a while).
    - We don't want to enter this procedure if a flow rate is dropping due to degradation of one LPI pump or other similar "single failure" type of events. Although this symptom could also be caused by flow blockage downstream of the sump screens possibly in valves LP-12 and LP-14 or in the LPI cross tie flow elements (LPIFE0006&0007) rather than pump cavitation, this would have the same effect on availability.
- Pump low ΔP alarm is received and actual (not instrument adjusted) LPI pump flow rate is known to be less than about 3700 gpm (this includes both LPI header flow and any piggyback flow to HPI). Again, if only one LPI pump is operating, start the idle pump to verify the problem isn't caused by a "single failure".
- Pump motor amps low and/or cycling on both LPI pumps
    - This likely won't be seen until there is severe cavitation occurring. The other symptoms are expected to appear first. Again, if only one LPI pump is operating, start the idle pump to verify the problem isn't caused by a "single failure".
- HPI may have been secured due to meeting HPI termination criteria, or HPI may still be in service.

3.1.2 Actions

1. Insure that BWST inventory recovery is in progress and is proceeding as rapidly as possible (this is of highest priority since the BWST may become the only source of ECCS water if sump screen clogging becomes severe).

- Alternatives such as makeup from a spent fuel pool or from another unit's BWST (not possible for Unit 3 due to piping differences) must be considered since HPI flow rates will be higher than normal makeup sources

2. If both BS trains are in operation, reduce to one operating pump. BS valves should remain open.
   - (BS-1 & BS-2 and BS-3 & -4, and BS-12, & 17 should **NOT** be isolated if LP-9 and LP-10 are open since LPI suction pressurization is prevented via BS pump & open BS header isolation valve).
   - If there are signs of BS or LPI pump caviation, then consider securing all RB spray flow if containment isolation is complete (per ES checklist) and there are no signs of a containment breach.
3. **Do not throttle LPI flow rate**
4. Continue to run LPI pumps as long as pump flow rates are above pump min flow requirements, and other parameters appear relatively stable (motor amps, bearing temps, etc., as available).
   - If operating with LPI discharge headers cross connected (LP-9 & LP10 open to mitigate a single failure), and pump minimum flow requirements can be met, there is some benefit to running two LPI pumps since each will be operating at a lower flow rate and $NPSH_r$ will be less than if only one pump is supplying the total flow.
5. If LPI flow is reduced to the point that either the core is superheated or indicated vessel level is < 0",
   - ➢ Align HPI pumps to the BWST (note that valve LP-28 must be reopened since it is closed as a part of the swap from the BWST to the sump).
   - ➢ Initiate/Verify full HPI flow and throttle to ≤ 475 gpm/pump until core is no longer superheated.
     - Full HPI flow is initially established to reestablish liquid level as quickly as possible. Note that a Reactor Vessel RVLIS indicated level of > 11.2" assures that vessel level has increased to at least the bottom of the hot leg piping. It will not be possible to achieve this indication for all postulated breaks due to liquid spilling from some breaks.
   - ➢ If indication of being saturated is detected, HPI flow can be throttled to the values in the table below
     - Degraded LPI flow rate augmented by the throttled HPI flow rate should be sufficient to maintain core coverage. Reducing HPI flow by the maximum amount possible is important to extend the limited supply of fluid in the BWST
   - ➢ Throttling LPI should only be performed to ensure adequate NPSH for HPI in piggyback. It is acceptable to throttle/terminate direct LPI injection if adequate HPI flow is available and the objective is reducing total LPI flow to ensure adequate LPI pump NPSH.
   - ➢ If at any time the RCS is subcooled, throttle HPI flow while maintaining RCS subcooling >0°F.

Minimum HPI Flow with Subcooling < 0°F

Time after shutdown (hr)	Minimum indicated HPI flow (gpm) (2 headers)	Minimum indicated HPI flow (gpm) (1 header)
<1	660 (330 per header)	630*
1	580 (290 per header)	535*
2	500 (250 per header)	440
3	460 (230 per header)	390
4	430 (215 per header)	350
5	410 (205 per header)	320
6	390 (195 per header)	290
8	370 (185 per header)	270
12	350 (175 per header)	250
24	340 (170 per header)	220
36	340 (170 per header)	210
48	340 (170 per header)	205

* exceeds recommended flow from one pump

3.2 Background

- Throttling LPI flow is NOT recommended. If break is core flood line break, with 2200 gpm of actual flow, the adverse flow split may be as low as 0 gpm to the core.
- Reducing flow rate from the RBES will minimize flow velocities in and around the sump. This has two effects:
  - Reduced velocity reduces debris transport to the sump
  - Reduced velocity through the sump screen (and any accumulated debris "mat") will reduce the head loss across the sump screen and increase $NPSH_a$ for the LPI and BS pumps
  - Throttling LPI header flow rate and/or realigning HPI pumps back to a refilled BWST reduces the flow rate of the operating LPI pumps which decreases the pump's $NPSH_r$.
- Debris generation is, in general, a function of break size and proximity of targets that can generate debris
  - Larger breaks increase break flow rates and volume affected by jet spray. Although the blowdown jet flow duration is shorter than for smaller breaks, it is expected that larger breaks will generate more debris than a smaller break (at the same location).
  - Larger breaks result in higher flow rates both from the RB Emergency Sump and from the BWST (this minimizes the amount of time for "settling" of debris between end of blowdown and start of recirculation)
  - Oconee is a relatively "clean" unit (based on building walkdowns/cleaning, amount of fibrous insulation that can be a target of a LOCA break). These compensatory actions are not expected to be implemented, but are in response to NRC Bulletin 2003-01.

3.3 Implementation

The requested actions are intended to address beyond current licensing basis concerns that debris may accumulate on the emergency sump screen and increase pressure drop to the point that LPI pump performance is degraded due to cavitation. Performing these steps will reduce the potential for pump damage that could result in less flow being provided to the reactor vessel following a LOCA.

3.4 Expected Plant Response

The actions identified in this guide are intended to prolong the period of time that ECCS can be provided to the core if sump blockage occurs. The postulation of significant sump blockage is beyond current licensing basis and is considered to be very unlikely. These actions are intended to be an interim step to reduce the consequences of some, but not all scenarios that can be postulated.

R. GUIDANCE FOR ESTABLISHING PZR BUBBLE WITHOUT PZR TEMPERATURE INDICATION

1.0 SAFETY CONCERN

The EOP does not address how to determine when PZR bubble has been formed if the PZR RTD's are lost.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- HPI Cooldown
- Forced Cooldown

3.0 REQUESTED ACTION

3.1 Requested Action Summary

The EOP instructs the Operator to reduce PZR level to 300" when PZR temperature is equal to PZR saturation temperature. However, if the PZR RTDs fails, the action cannot be performed as instructed. An OPS guide will direct operations to consult the TSC for guidance.

3.2 Background:

By procedure, the actions in the EOP will have placed the RCS in stable condition when this action is requested. The Operator has been controlling the RCS pressure by controlling the feedwater and TBV. The RCS is water solid and subcooled. The procedure will have instructed the Operator to energize the PZR heaters. En route to reaching this step in the procedure, the Operator would have realized that the RCS pressure is sensitive to the feedwater flow. It was also expected that the Operator would have maintained RCS pressure greater than 1600 but less than 2300 psig. The pressure band was selected to prevent ES actuation on low RCS pressure and prevent lifting the PORV on high RCS pressure.

3.3 Implementation

- If the surge line temperature indication is available, the indication can be used in placed of the PZR RTD. This indication can be used to determine if the saturation temperature in the PZR has been reached via RCS wide range pressure indication. Re-energizing the PZR heaters when the RCS is water solid and stable condition will hydraulically cause the stagnant fluid in the surge line to migrate to the hotleg due the thermal expansion. This has been verified in the simulator. Note, the surge line thermocouple is NON-safety and NON EQ. The surge line temperature will lag the actual PZR temperature.
- Actual times to form PZR bubble may vary depending on plant conditions and available equipment. PZR bubble can be verified to have formed when the RCS pressure becomes less sensitive to increases in letdown flow while feedwater flow was maintained constant. Note, when verifying the bubble has formed letdown must be increased slowly while observing the RC pressure. If RC pressure drops below 1700 psig reduce letdown to match makeup. It is important not to decrease RC pressure below 1600 psig to avoid ES actuation.

3.4 Expected Plant Response

The guidance assures that PZR bubble has been formed and controlled shutdown to DHR operation can later be established.

S. ALTERNATE HPI TERMINATION CRITERIA WHEN OPERATING FROM THE RB SUMP

1.0 SAFETY CONCERN

The HPI Termination Criteria contained in the EOP is conservatively based on maximum decay heat at reactor trip. As core decay heat drops, the amount of water required for decay heat removal is reduced and the indicated LPI flow rate that is required to assure this amount of water is delivered to the vessel can be reduced. Taking credit for this reduction will enable termination of HPI Piggyback earlier than using the conservative criteria employed in the EOP. The Alternate HPI Termination Criteria have been established in OSC-2820 for those units that have implemented the LPI Cross Tie Modification.

2.0 PROCEDURE ENTRY CONDITIONS

A LOCA has occurred, HPI operation has not been secured via criteria in the EOP, and the LPI pumps are taking suction from the RB Emergency Sump.

Note that "Alternate HPI Termination Criteria" have only been established for Units that have the LPI Cross Tie Modification installed.

3.0 REQUESTED ACTION

3.1 Requested action Summary

3.1.1 Symptoms

When operating the ECCS in piggyback mode, HPI operation may be terminated if indicated LPI flow rates are high enough. This can be determined using the following steps:

1. Determine:
   - the time from reactor trip and
   - the number of operating LPI pumps (note that these criteria are not valid if LPI Pump 1C or 2C is in operation).
2. Using the time from reactor trip and the number of operating LPI pumps, enter the appropriate column to determine the minimum total LPI flow rate that will permit securing the HPI pumps and exiting "HPI piggyback" operation.
   - For Unit 1 use Table 3.1.
   - For Unit 2 use Table 3.2.
3. If only one LPI pump is operating and the indicated LPI header flow rate exceeds the flow rate required, then it is recommended that the TSC inform the control room that Alternate HPI Termination Criteria have been met and recommend that appropriate steps be taken to secure from HPI Piggyback Operation.
4. If two LPI pumps are operating and the sum of the indicated LPI header flow rates exceeds the flow rate required from the appropriate Table, then it is recommended that the TSC inform the control room that Alternate HPI Termination Criteria have been met and that appropriate steps be taken to secure from HPI Piggyback Operation.

Table 3.1

Unit 1 Alternate HPI Termination Criteria		
Time after Reactor Trip	Either LPI Pump 1A or 1B is Operating	Both LPI Pump 1A and 1B are Operating
< 1 hour	2800 gpm	3250 gpm
1 hour	2700 gpm	3200 gpm
2 hours	2650 gpm	3100 gpm
3 hours	2600 gpm	3070 gpm
4 hours	2575 gpm	3050 gpm
5 hours	2560 gpm	3040 gpm
6 hours	2550 gpm	3030 gpm
8 hours	2530 gpm	3000 gpm
12 hours	2500 gpm	2980 gpm
20 hours	2480 gpm	2950 gpm
24 hours	2440 gpm	2910 gpm
36 hours	2430 gpm	2900 gpm
48 hours	2420 gpm	2890 gpm
These criteria are not applicable if LPI Pump 1C is operating.		

Table 3.2

Unit 2 Alternate HPI Termination Criteria		
Time after Reactor Trip	Either LPI Pump 2A or 2B is Operating	Both LPI Pump 2A znd 2B are Operating
< 1 hour	2750 gpm	3150 gpm
1 hour	2700 gpm	3100 gpm
2 hours	2600 gpm	3000 gpm
3 hours	2575 gpm	2950 gpm
4 hours	2550 gpm	2910 gpm
5 hours	2520 gpm	2900 gpm
6 hours	2510 gpm	2880 gpm
8 hours	2490 gpm	2860 gpm
12 hours	2460 gpm	2830 gpm
20 hours	2440 gpm	2800 gpm
24 hours	2400 gpm	2760 gpm
36 hours	2390 gpm	2750 gpm
48 hours	2380 gpm	2740 gpm
These criteria are not applicable if LPI Pump 2C is operating.		

3.2 Background

- Depending on break size and location, it may be difficult to achieve the conservative HPI Termination Criteria contained in the EOP. The LPI flows required for HPI Termination in the EOP are based on decay heat immediately after reactor trip and ensure that approximately 600 gpm of LPI flow is delivered to the Reactor Vessel (after accounting for the worst case break location [Core Flood Line Break], amount of LPI flow that can be directed spilled to the RB, flow instrument uncertainty, strongest LPI pumps, maximum Keowee frequency, etc.).
- HPI Termination is an important milestone in mitigating a Small Break LOCA.
- As core decay heat drops following Reactor Trip, the flow rate that must be delivered to the RV to makeup for boil-off decreases. As a result, the required indicated LPI flow rates can be reduced as a function of time as shown in these tables. The tables are from calculation OSC-2820, Appendices F and G (Unit 1 and Unit 2 respectively).

3.3 Implementation

The requested actions are intended to allow HPI Termination earlier than may otherwise occur if the criteria in the EOP are used. Earlier termination is desirable since it reduces the amount of equipment that needs to operate to mitigate a LOCA. Also earlier termination of HPI is desirable since it is not considered to be required to operate in the "long term". Securing HPI will also reduce the flow rate of the operating LPI pumps which is desirable since it will reduce pump $NPSH_r$ and increases $NPSH_a$.

3.4 Expected Plant Response

The actions identified in this guide are intended to reduce the period of time that HPI is required to operate to mitigate certain LOCAs. This is consistent with the HPI system not being required to operate in the "long term" following a LOCA. The capability of securing HPI sooner also reduces the flow rate withdrawn from the RB Emergency Sump which helps to reduce the chance of debris transport and fouling of the sump screen.

T. ALTERNATE WATER SOURCE FOR POST-ACCIDENT BWST REFILL

1.0 SAFETY CONCERN

1.1 LOCA Mitigation

If significant sump screen blockage occurs, additional BWST inventory is desired to support ECCS and BS pump NPSH in sump recirculation alignment. Re-establishing inventory in the BWST would allow its use as a suction source for the pumps and would increase level in the Reactor Building Emergency Sump if used. The additional RBES level would increase NPSHa to the pumps. NRC bulletin 2003-01 requested licensees to identify alternate sources of water to support post-LOCA BWST refill in the event of degraded sump performance.

1.2 SGTR Mitigation

In the event of a Steam Generator Tube Rupture, OSC-2820 states that a BWST level of 35 feet should be maintained to ensure that sufficient inventory will be available during a prolonged cooldown. Alternate water sources for BWST refill are desired for satisfying this requirement.

2.0 PROCEDURE ENTRY CONDITIONS

One of the following scenarios has occurred:

2.1 Loss Of Coolant Accident

- A LOCA has occurred and ES has actuated at least one train of BS and LPI systems.
- BWST inventory has been depleted and transfer of LPI/BS pump suction to RBES has been performed per EOP guidance.
- Symptoms of RBES blockage are observed, specifically signs of LPI or BS pump distress or inadequate flow rates from these pumps.
- Normal BWST refill actions provided in the EOP have been performed and additional inventory is desired.

2.2 Steam Generator Tube Rupture

- A SGTR has occurred and BWST level has fallen below 35 feet.
- Normal BWST refill actions provided in the EOP have been performed and additional inventory is desired.

3.0 REQUESTED ACTION

3.1 Requested Action Summary

It is desired to align the Spent Fuel Pool to the BWST of the affected unit. Alignment is accomplished by manual manipulation of various valves in the SF system and LP-28 in the LPI system. Flow path is from SF suction piping to BWST outlet piping.

3.2 Background

Around 1998, the NRC identified a safety issue, known as Generic Safety Issue 191 (GSI-191), which involves the potential blockage of the Reactor Building Emergency Sump screens with debris generated from a LOCA jet, combined with resident (pre-existing) containment debris which could transport to the sump screens. This debris could create excessive head loss across the screens, reducing Net Positive Suction Head (NPSH) available to the LPI and BS pumps in the post-LOCA sump recirculation mode of operation below that required for acceptable pump operation. Reduced NPSH could cause pumps to cavitate, resulting in a number of adverse consequences such as excessive pump vibration, flow instability, loss of flow, or reduction of flow rates to unacceptable levels.

In June of 2003, the NRC issued Bulletin 2003-01 on this same issue. The focus of the bulletin was to identify compensatory measures which could be taken to reduce risk of core melt in the event of a LOCA. One such compensatory measure was to identify alternate water sources that could be used to support post-LOCA sump recirculation. The purpose of this TSC guidance is to identify one of those alternate water sources. Additional water sources are identified in the EOP. This guideline should be used with discretion if and when the existing EOP guidance for usage of alternate water sources for BWST refill has been utilized and found to be insufficient.

This guide was recognized to have applicability to the SGTR event as well as the LOCA, although for different reasons. The emphasis for the SGTR event is maintaining sufficient inventory for prolonged injection versus the LOCA scenario which involves re-establishing injection after swapover to BWST and experiencing symptoms of blockage of the Reactor Building Emergency Sump screen.

3.3 Implementation

To add inventory to the BWST from the Spent Fuel Pool, perform the following:

1. Secure all SF pumps.
2. Ensure *LP-21 AND *LP-22 closed.
3. Open *SF-53.
4. Open *SF-55 (Unit 1 or 3) or *SF-56 (Unit 2)
5. Ensure open *LP-28
6. Monitor level and temperature in SFP.
7. If SFP level drops to -3 ft, secure gravity drain and re-establish SF Cooling.
8. If SFP temperature exceeds 130 F, secure gravity drain and re-establish SF Cooling.
9. When draining complete, secure gravity drain.
10. For LOCA mitigation, align BWST to HPI or LPI suction and inject into RCS.
11. If desired, re-establish sump recirculation with LPI.
12. Initiate actions to raise level in SFP.
13. Re-establish cooling to the SFP.

3.4 Expected Plant Response

- Spent Fuel Pool Level will decrease.
- BWST Level will increase.
- Signs of pump distress should improve when sump recirculation is re-established.

U. LOSS OF SPENT FUEL POOL LEVEL

1.0 SAFETY CONCERN

Loss of SFP inventory can cause fuel to become uncovered.

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance:

- Entry into AP/1&2/A/1700/035 has occurred.
- Entry into AP/3/A/1700/035 has occurred.

3.0 REQUESTED ACTIONS

3.1 Requested Action Summary

NOTE: All actions should be coordinated with Security and RP

3.1.1 Provide Makeup to the Spent Fuel Pool

The table on the following pages provides information on the SFP makeup options along with the associated procedure, inventory volume, expected pump flow rates, location of pumps, and from where the pumps are controlled.

Table U.1. Available Makeup Flow Paths to the SFP

Suction Source	Procedure or Document that Makes Alignment	Volume of Inventory	Expected Flow Rate	Equipment ID of Pump(s)	Location of Pump(s)	MCC and from Where Controlled
BHUT (Bleed Transfer Pump)	OP/1&2,3/A/1104/006C AP/1&2,3/A/1700/035	• 'A' BHUT, 11000 ft^3 or 82280 gal • 'B' BHUT, 11000 ft^3 or 82280 gal	~150 gpm	• 1A/2A/3A BTP: 1/2/3 CSPU0003 • 1B/2B/3B BTP: 1/2/3 CSPU0	U1: AB 107 U2: AB 125 U3: AB 161	• 1A BTP: 1XL-1D, U1 Control Room and Waste Disposal Control Panel • 1B BTP: 1XN-1B, U1 Control Room and Waste Disposal Control Panel • 2A BTP: 2XL-2D, U2 Control Room and Waste Disposal Control Panel • 2B BTP: 2XN-1B, U2 Control Room and Waste Disposal Control Panel • 3A BTP: 3XL-1D, U3 Control Room and Waste Disposal Control Panel • 3B BTP: 3XN-1B, U3 Control Room and Waste Disposal Control Panel

Suction Source	Procedure or Document that Makes Alignment	Volume of Inventory	Expected Flow Rate	Equipment ID of Pump(s)	Location of Pump(s)	MCC and from Where Controlled
CBAST (CBAST Pump)	OP/1&2,3/A/1104/006C	3000 ft^3 or 22440 gal	~100 gpm	1/2/3 CBAST Pump: 1/2/3 CSPU0005	U1: AB 106 U2: AB 124 U3: AB 166	• Unit 1 CBAST Pump: 1XN-2E, U1 Control Room and Waste Disposal Control Panel • Unit 2 CBAST Pump: 2XUB-2I, U2 Control Room and Waste Disposal Control Panel • Unit 3 CBAST Pump: 3XL-4D, U3 Control Room and Waste Disposal Control Panel
BAMT (LP BAMT Pump)	OP/1&2,3/A/1104/006C	500 ft^3 or 3740 gal	10 gpm	• A/3A LP BAMT Pump: 0/3 CAPU0002 • B/3B LP BAMT Pump: 0/3 CAPU0003	U0: AB 111 U3: AB 150	• 'A' LP BAMT Pump: 1XL-6A, U1 Control Room and Chemical Addition Control Panel • 'B' LP BAMT Pump: 1XN-6B, U2 Control Room and Chemical Addition Control Panel. • 3A LP BAMT Pump: 3XL-6A, U3 Control Room and Chemical Addition Control Panel • 3B LP BAMT Pump: 3XN-6B, U3 Control Room and Chemical Addition Control Panel

Suction Source	Procedure or Document that Makes Alignment	Volume of Inventory	Expected Flow Rate	Equipment ID of Pump(s)	Location of Pump(s)	MCC and from Where Controlled
Demin Water	OP/1&2,3/A/1104/006C AP/1&2,3/A/1700/035	• 'A' Filtered Water Tank, 45000 gal • 'B' Filtered Water Tank, 45000 gal • Permeate Storage Tank, 45000 gal	• single pass RO, 2 permeate pumps - 300 gpm • dual pass RO, 1 permeate pump - 200 gpm • bypass RO, 2 booster pumps - 450 gpm	• 'A' permeate pump: 0DWPU0010A • 'B' permeate pump: 0DWPU0010B • 'A' booster pump: 0DWPU0001 • 'B' booster pump 0DWPU0002 • 'A' multimedia filter pump: 0FWPU0016 • 'B' multimedia filter pump: 0FWPU0017	• permeate and multimedia filter: Service Bldg, Column AA9 • booster: water treatment room	• 'A' permeate pump: XWT-1B, RO Skid • 'B' permeate pump: XWT-4D, RO Skid • 'A' booster pump: XWT-2C, RO Skid • 'B' booster pump: XWT-2D, RO Skid • 'A' multimedia filter pump: XWT-4BB, Water Treatment Main Control Panel • 'B' multimedia filter pump: XWT-4CT, Water Treatment Main Control Panel
BWST (SFC Pumps)	EM 5.1, Engineering Emergency Response Plan	max: 390,000 gal credited: 355,000 gal	1600 gpm using 2 SFC pumps	• A/3A SFC Pump: 0/3 SFPU0001 • B/3B SFC Pump SFPU0002 • 'C' SFC Pump SFPU0006 • 3C SFC Pump: 3SFPU0003	U1/2: AB 218 U3: AB 255	• 'A' SFC Pump: 1XL-2C, U2 Control Room • 'B' SFC Pump: 1XN-3C, U2 Control Room • 'C' SFC Pump: 2XL-2BB, U2 Control Room • 3A SFC Pump: 3XL-2C, U3 Control Room • 3B SFC Pump: 3XN-3C, U3 Control Room • 3C SFC Pump: 3XF-4C, U3 Control Room

Suction Source	Procedure or Document that Makes Alignment	Volume of Inventory	Expected Flow Rate	Equipment ID of Pump(s)	Location of Pump(s)	MCC and from Where Controlled
BWST (BWST Recirc Pump)	AP/1&2,3/A/1700/035	max: 390,000 gal credited: 355,000 gal	~100 gpm	Unit 0/3 BWST Recirc Pump: 0/3 SFPU0004	U1/2: AB 218 U3: AB 255	
Lake (via fire trucks through SSF hard pipe)	AM/0/A/3009/012A	unlimited	Unit 1, 150 gpm Unit 3, 100 gpm ***higher flow rate could be achieved if different assumptions are used	N/A	fire truck	N/A

3.1.2 Control of Steam Condensation

1. To prevent the potential for condensation dripping on safety related equipment, perform the following actions:

   - Ensure SFP Ventilation System Fans are not operating.
   - Manually close damper D-1 (AB-6 in ceiling north of column 73 and east of column T for Unit 1)(AB-6 in ceiling at column T-89 Room 650 and SFP for Unit 3) by disconnecting the actuator and securing. Ladders are available. A 10' ladder for each damper, 1/4" x 6' lg. rope and 2ea 12" adjustable wrenches.

3.1.3 Enhance SFP Air Circulation

1. To promote forced, filtered air flow, perform the following actions:

   - Ensure SFP Filtered Exhaust Fan F-1 or F-2 is operating to promote forced air circulation and filtered exhaust (AB6/entry into SFP).

2. If SFP Filtered Exhaust system is not available and fuel has been uncovered or it is anticipated that fuel may become uncovered, consider the following methods to enhance air circulation in the SFP area:

   To promote forced, unfiltered air flow, perform the following actions:

   NOTE: If this action is taken, damper D-1 must be unsecured. The potential exists for condensation to drip on safety related equipment as discussed in section F, "Makeup and Monitoring of the SFP and Recovery From a Boiling Condition."

   - For Units 1 & 2, ensure AHU-9 is operating. Ensure exhaust fans EF 19/20/21 (two of the three) are operating.
   - For Unit 3, ensure AHU 3-10 is operating. Ensure exhaust fans EF 3-4/3-5/3-6(two of the three) are operating.
   - For Units 1&2, ensure exhaust fans EF 19/20/21 (two of the three) are operating. Open fuel bay roll-up door as required to draw air through SFP area.
   - For Unit 3, ensure exhaust fans EF3-4/3-5/3-6 (two of the three) are operating. Open fuel bay roll-up door as required to draw air through SFP area.

   To promote natural, unfiltered air flow, perform the following actions:

   - Open fuel bay roll-up door as required. Open the door(s) between the SFP and the Purge Inlet Room(s) and the door(s) between the Purge Inlet Room(s) and the outside.
   - Open fuel bay roll-up door as required. Ensure open SFP Ventilation system damper D-1 (Units 1&2 -- AB6/Ceiling outside SFP)(Unit 3 -- AB6/AHU Room 650). **NOTE:** If this action is taken, damper D-1 must be unsecured.

3.1.4 Provide For Scrubbing of SFP Environment

1. If fuel has been uncovered, or it is anticipated that fuel will become uncovered, implement water spray for scrubbing radioactive materials from the air above the Spent Fuel Pool (SFP). Request the Fire Brigade to perform the following actions:

   - Coordinate actions with RP and Security
   - Retrieve stationary hose monitors (BlitzFire Monitors) from the following locations: Hose Houses on the east and south sides of the Turbine Building, Fire Brigade Equipment Trailer on the north side of the Radwaste Building, and/or the Fire/Rescue Truck.
   - Retrieve 2.5" fire hose from the following locations: Fire Brigade Equipment Trailers on the north side of the Radwaste Building or on the south side of the Oconee Office Building. Additional hose can be located in red Hose Houses around the site.
   - Place the stationary hose monitors where the hose stream will reach the atmosphere above the SFP. This could be in personnel doorways or by partially opening the Fuel Receiving Bay rollup door. Connect the monitors with 2.5" fire hose to the HPSW system.
   - Security and/or RP support may be required
   - Adjust the nozzle on the hose monitor to as wide a fog pattern as practical to help entrain the radioactive materials in the water droplets.

Additional equipment (fire engines, master stream devices, aerial trucks for elevated hose streams, etc.) may be requested through the offsite fire departments to supplement onsite equipment.

3.2 Background

To prevent uncovering the fuel in the SFP, various methods to makeup to the SFP are provided. These methods include normal makeup flow paths and emergency makeup flow paths. Table U.1 provides the various available normal and abnormal makeup flow paths, inventory volume, expected pump flow rates, location of pumps, and from where the pumps are controlled. This table should be used as a guide during a loss of SFP level event to determine the most appropriate suction source to refill the pool.

There are several methods by which air movement in the SFP area can be achieved. Performing one of the specified actions will assist in lowering area temperatures in the event of a reduction or complete loss of SFP inventory. There are three ways to enhance air flow in the spent fuel pool area:

1) forced, filtered air flow
2) forced, unfiltered air flow
3) natural, unfiltered air flow

If an event has occurred in which radioactive releases are occurring, the SFP filtered exhaust fans are designed to draw air from the SFP area and provide filtering capability by way of the RB Purge filter bank prior to release to the atmosphere. If this system is not available, unfiltered air flow paths must be used. The SFP Ventilation system is divided into a supply section and an exhaust section. If AHU-9 (Units 1 & 2) or AHU 3-10 (Unit 3) are available, they can be used in conjunction with the exhaust fans to promote forced, unfiltered air flow. If only the exhaust portion is available, the fuel bay roll up door can

be opened to aid in providing a source of cooler air to the SFP area. If no forced ventilation is available, opening the fuel bay roll-up door in conjunction with the doors in the Purge Inlet room will provide a natural, unfiltered air flow path to the outside. Finally, SFP Ventilation system damper D-1 can be opened in conjunction with the fuel bay roll-up door to provide another natural, unfiltered air flow path to the outside by way of the unit vent stack.

One method of limiting the release of airborne radioactive materials being emitted from damaged fuel is by spraying the air above the fuel with a fine water spray. This action will entrain some of the radioactive material in the water droplets. Fire Brigade equipment is readily available onsite and is stored in various areas inside the protected area which increases the chances for it being available during an incident. Fire Brigade members are trained on the set up of this equipment and practice using it during quarterly Fire Brigade drills. This action must be completed early in the incident to ensure that it is set prior to dose rates in the area increasing to the level which prohibits entry into the SFP area. This action may also provide additional makeup to the SFP following a loss of SFP level. The water spray may also provide cooling to uncovered spent fuel assemblies should SFP level decrease to below fuel level.

3.3 Implementation

Fire Brigade equipment must be deployed early in the incident before dose rates increase to levels prohibiting personnel access. Determine the cause of the loss of SFP inventory. Promote cooling air flow in the SFP area by one of the listed means for promoting air flow. RP should determine the stay times to perform the actions stated herein.

3.4 Expected Plant Response

Water spray above the SFP will reduce the levels of radioactive materials being released into the air following a SFP accident, may provide additional makeup to the SFP and/or provide some cooling to exposed spent fuel following a loss of SFP level. Promoting forced or natural circulation of air in the SFP area during a loss of SFP inventory event will assist in lowering area temperatures.

V. OPERATING ATMOSPHERIC DUMP VALVES DURING AN ACCIDENT THAT REQUIRES OPERATION OF THE SSF

1.0 Safety Concern

During an accident that requires operation of the SSF ASW System, the main steam relief valve (MSRV) with the lowest set point (1050 psig) on each main steam header will lift and reseat as needed to provide a flow path from the steam generators for decay heat removal from the RCS. Should failure of an MSRV be observed (e.g., failure to reseat), control of MS pressure should be taken with the MS Atmospheric Dump Valves (ADVs). (Reference PIP O-5-3770 Corrective Action 5; PIP O-7-1445 Corrective Action 4).

(This guidance is not applicable to other uses of ADVs specifically directed in the SSF Emergency Operating Procedure, such as use of ADVs to prevent overly rapid increase in MS pressure during isolation of MS branch lines, and use of ADVs for post-fire cooldown)

2.0 Procedure Entry Conditions

Any accident condition that requires operation of the SSF (and SSF ASW System) where a failed or failing MSRV(s) is observed.

3.0 Requested Action

3.1 Requested Action Summary

Decrease Main Steam header pressure below the MSRV set pressure to reseat affected MSRV(s), reduce the number of times that affected MSRV(s) must lift and reseat, or prevent further cycling of affected MSRV(s).

3.2 Background

MSRVs are credited for control of MS pressure at setpoint in SSF events without operator action, and no other equipment (e.g., ADVs) is licensed for the purpose of regulating MS pressure at setpoint in SSF events. However, the SSF is not required to withstand a single failure, so that failure of an MSRV during an SSF event would constitute a beyond-design-basis condition. In a beyond-design-basis condition actions are to be taken as necessary for safe plant control. Thus use of ADVs to control MS pressure in an SSF event is allowed if MSRV(s) failure is observed to have occurred or be occurring. Evaluations of potential MSRV failure modes and acceptable MSRV leakage rates were performed in 2005 and 2006 (reference PIP O-5-3770 CAs 2, 4 & 212; PIP O-6-7655 (Operability Evaluation). These evaluations provide a basis for determining through observation of MSRVs whether a failure of an MSRV has occurred or is occurring.

ADV control of MS pressure in the conditions described could prevent loss of MS pressure control and thereby prevent over cooling of the reactor coolant system (RCS) and potential loss of pressurizer level / RCS voiding, which is the purpose of this guidance. Limits on system

conditions are provided, along with directions for setting up local MS pressure indications and establishing of direct communication from the SSF Control Room to operators at the ADVs.

MS pressure shall not be reduced below 900 psig to prevent voiding in the RCS that could interrupt RCS natural circulation flow.

3.3 Implementation

3.3.1 Prerequisite Conditions

Complete 3.3.1A, 3.3.1B and 3.3.1C prior to using the ADVs to control MS pressure:

A. Observation to Identify MSRV Failure: TSC Engineering Manager

1. Direct Engineering personnel to observe MSRVs and evaluate whether MSRV(s) failure has occurred or is occurring with respect to MS pressure control in an SSF event, using the following considerations:

- Failure of MSRV(s) to reseat properly, or a simmering condition, could cause leakage in excess of that assumed in calculations applicable to latter portions of an SSF event. (Reference OSC 9030 /RETRAN).
- MSRV response during cycling, if different than expected, could indicate a pending failure or setpoint drift which would adversely affect SSF event mitigation.
- The following information is provided to aid in assessment of MSRV response and need for use of ADVs.

I. Without any specific mechanical problems, MSRV performance in an SSF event could range from discrete cycling to simmering to wisping.

a. Discrete cycles will occur when decay heat rate is high and the MS system pressurization rate is high. Discrete cycling is characterized by well defined periods of high flow blowdown followed by low leakage after the valve reseats.

b. Simmering will tend to occur when the MS system pressurization rate is low (decay low and/or other MS leakage high). Simmering may look like continuous leakage. There may be rapid, cyclic contact between the disk and seat during simmering. Because this contact is of low impact energy (very little separation between disk and seat) and because the disk and seat are of erosion resistant materials, simmering should not promote impact related damage or erosion/wire-drawing damage that creates a leak path. Whether simmering (rapid tapping sound) can be audibly detected so as to distinguish between simmering and gross leakage due to failure is not known.

i. Unlike discrete cycles or wisping, simmering could affect SSF accident mitigation and therefore indicate that use of ADVs is needed.

c. Wisping is characterized as a small amounts of steam emanating from the MSRVs when seated, as may occur during normal operation.

II. Normal MSRV reseating during cycling does not imply zero leakage. Failure to reseat implies gross leakage due to the following:

a. The spring does not bring the disk to the seat with normal force.

b. The disk is not in continuous contact with the seat, i.e. cocked.

c. The valve has suffered a mechanical failure, such as a broken spring.

III. How to evaluate MSRV performance during an SSF event

a. Available information:

i. MS pressure trend showing lift and reseat pressures.

ii. Comparison to MSRV on opposite header, visually and using data trends

iii. RCS data trends on each loop

b. Decreasing MS pressure with MSRVs not cycling indicates that total MS system leakage is excessive.

i. If the MSRVs are simmering or otherwise appear to not be reseated properly during cycling, use the ADVs to force the disk to the seat to reduce MSRV steam flow. (This will confirm gross leakage is not occurring due to some mechanical failure. It will also aid in determining if additional MS isolation is needed.)

ii. If the MSRVs are only wisping, use of the ADVs may not have much benefit. (Need for additional MS isolation may be indicated.)

c. Decreasing or increasing overall trend in MS pressure with MSRV(s) continuing to cycle implies MSRV setpoint drift. Use the ADVs to stop MSRV cycling and to control pressure in the required range.

d. A stable MS pressure trend implies that overall MS isolation is effective.

i. If the MSRVs are simmering or otherwise not reseating properly, use the ADVs to stop cycling/simmering and force the disk to the seat to reduce the potential for MSRV damage.

ii. If the MSRVs are only wisping, use of the ADVs may not have much benefit.

e. MSRVs on each of a unit's MS headers should be behaving similarly, i.e. cycling at approximately the same rate and MS pressure. If they are not similar, investigate to determine the cause. Use the guidance above based on MS pressure, RCS data and visual observation to determine if ADVs should be used.

i. The MS loop with better MS isolation will be more likely to exhibit discrete cycles at a higher rate and have higher MS pressure.

ii. If one MSRV is cycling and the other simmering, the difference in behavior could be due to normal physical differences between valves.

A.2 If an MSRV failure with respect to SSF event mitigation capability is determined to have occurred or be occurring, and use of ADVs could prevent further degradation, recommend to the TSC Emergency Coordinator that the remaining steps in this guide be performed.

B. Local Pressure Gauges at ADVs - Operations and (if necessary) Maintenance

Align local ADV pressure gauges and determine if pressure gauges are functioning properly. Local pressure gauges are provided at the ADVs. The following guidance is provided to align the required pressure gauges and to verify that the pressure gauges are functioning properly:

1. On each affected unit, verify closed the following valves:
   - 1,2,3MS-233
   - 1,2,3MS-234
   - 1,2,3MS IV0441
   - 1,2,3MS IV0445

2. On each affected unit, open or verify open the following valves:
   - 1,2,3MS IV0440
   - 1,2,3MS-222
   - 1,2,3MS-223
   - 1,2,3MS IV0444
   - 1,2,3MS-225
   - 1,2,3MS-226

3. If indicated pressure for 1,2,3MSPG1000 (MS header A pressure) and 1,2,3MSPG1001(MS header B pressure) on each affected unit is outside the expected pressure range (< 900 psig or > 1100 psig or alternate pressure range provided by TSC), install a local pressure gauge in parallel to the affected instrument (1,2,3MSPG1000 and 1,2,3MSPG1001) per guidance provided in AM/0/A/0270/001, Main Steam Atmospheric Dump Valves (ADV) Connection and Removal of Temporary Pressure Gauges.

C. Establishment/Verification of Initial Plant Conditions - Operations

- Establish a SG level between 240" and 260" in each affected unit's steam generators per guidance contained in AP/0/A/1700/25.

- Once SG level has been established, ensure pressurizer level is $\geq$ 200". Pressurizer level can be increased by isolating the SSF RC makeup system letdown flow path. Maintaining RCS pressure within AP/0/A/1700/25 limits, while raising pressurizer level, is accomplished by cycling pressurizer heaters and SSF RC makeup system letdown flow.

- Ensure that Enclosure 5.3A (Unit 1 Plant Actions), Enclosure 5.3B (Unit 2 Plant Actions), and Enclosure 5.3C (Unit 3 Plant Actions) of AP/0/A/1700/25 have been performed on affected units.

3.3.2 Control of MS Pressure using the ADVs

Direct communication shall be maintained between the operator at the ADV(s), the person observing the MSRVs, and the SSF Control Room Operator. The Operator at each ADV will control flow based on direction from the SSF Control Room Operator and guidance contained in the EOP (Ref EP/*/A/1800/001, Enclosure 5.24) for throttling flow through the ADVs. If the ADVs are opened too quickly, the resulting MS depressurization could cause overcooling of the

RCS that could lead to a loss of pressurizer level, a loss of pressurizer heater control, and potential voiding in the hot legs.

The SSF Control Room Operator shall direct control of the ADVs for each affected unit based on the following information:

a. Operation of a MS line's ADV(s) is not required if the corresponding MSRV is not lifting.

b. During use of the ADVs, control MS pressure so that the following limits are met:

- All limits stated in AP/0/A/1700/25 still apply.
- Control MS pressure using the local pressure gauges that are installed near the ADVs. If the local pressure gauges are not available or are inoperable, obtain TSC guidance for determining MS pressure.
- Initial pressurizer level is $\geq$ 200". After ADV flow is established, ensure pressurizer level remains $\geq$ 125".
- Ensure MS pressure is maintained $\geq$ 900 psig at all times.

Note: If the small bypass ADVs 1,2,3MS-237 and 1,2,3MS-238 are installed they will be used for steps 3.3.2c and 3.3.2d. On Unit 1 only, the respective upstream block valves 1MS-235 and 1MS-236 must first be opened.

c. Perform the following to reduce the actuation frequency of the MSRVs.

- Slowly throttle open the ADVs, starting with small bypass ADVs 1,2,3MS-237 and 1,2,3MS-238 (if installed on the affected units).
- If necessary, slowly throttle open 1,2,3MS-162 and 123MS-164 (a maximum of 1/4 turn open each time valve is operated) and allow time (at least 20 minutes or as directed by TSC) for the RCS to respond.

d. If directed by the TSC, perform the following to close the MSRVs.

- Continue to slowly throttle open the ADVs, starting with small ADVs 1,2,3MS-237 and 1,2,3MS-238 (if installed on the affected units).
- If necessary, slowly throttle open 1,2,3MS-162 and 1,2,3MS-164 (a maximum of 1/4 turn open each time valve is operated) and allow time (at least 20 minutes or as directed by TSC) for the RCS to respond.
- Prevent MSRVs from re-opening by maintaining MS pressure below 1000 psig.

The MSRVs are expected to reseat at ~1015 psig. If a MSRV does not fully reseat (seat leakage), leakage is expected to stop at ~970 psig based on operating experience. Once the MSRV has fully reseated, the 900 psig - 1000 psig control band still applies.

e. As RCS decay heat load decreases, throttle the ADVs to maintain MS pressure above 900 psig. Ensure that main steam system pressure does not exceed 1000 psig.

f. If MS pressure cannot be maintained $\geq$ 900 psig by throttling closed the ADVs, isolate the corresponding ADV flow path to return MS pressure control to the MSRVs.

3.4 Expected Plant Response

The MSRV lift frequency has significantly decreased or the MSRVs are not lifting because MS header pressure is being maintained below MSRV set pressure. MS header pressure is maintained between 900 psig and 1000 psig. Pressurizer level is maintained $\geq$ 125". The flow path for removing decay heat from the steam generators is through the ADVs.

If MS pressure cannot be controlled within the required pressure band using the ADVs, the corresponding ADV flow path is isolated to return MS pressure control to the MSRVs.

W. GUIDANCE FOR SECURING REACTOR BUILDING SPRAY PUMPS FOLLOWING A LOCA

1.0 SAFETY CONCERN

Potential to block Reactor Building Emergency Sump strainer due to chemical precipitants formed during a LOCA

2.0 PROCEDURE ENTRY CONDITIONS

The following conditions are considered in preparation of the following guidance.

- Loss of Coolant Accident with Reactor Building Spray in operation.

3.0 REQUIRED ACTIONS

3.1 Requested Action Summary

- Secure RBS pumps when radiological conditions allow.

3.2 Background

The operation of RBS post-LOCA acts to reduce RB pressure and temperature and remove iodine from the RB atmosphere that can potentially leak out and cause radiological consequences. If; however, the system is operated longer than necessary then negative effects can take place including instrument failure or degradation, Auxiliary Building room heatup, and potential RBES blockage due to chemical particulate produced by spraying aluminum. The room heatup analysis is contained within OSC-6667 and assumes the RBS pumps will be secured within 7 days of the accident. The effect of RBES blockage was analyzed as part of the Generic Letter 04-02 resolution and also assumes that the RBS pumps are secured within 7 days.

The dose analysis is documented in OSC-7734 and assumes that RBS is in operation for a minimum of 4.7 days after the accident. The analysis is based on Maximum Hypothetical conditions including 100% failed fuel. The 4.7 day duration is not required if there is no failed fuel.

3.3 Implementation

RBS should be secured as soon as radiological conditions permit.

3.4 Expected Plant Response

RBS is secured with no adverse effects on dose values to the general public and control room personnel.

X. DELETED

§50.54(q) Screening Evaluation Form

Activity Description and References: EM 5.1 Engineering Emergency Response Plan rev 30 BLOCK 1

Change 1) Section E, Natural Circulation Cooldown Considerations, Item 2.0, deleted bullets "Fire" and "Loss of any fire zone to (10CFR 50 Appendix R) fire". Replaced with "Loss of equipment in a fire area due to fire".

Reason for Change 1): This change provides more clarification as determined by the new NFPA 805 standard as to why a loss of a fire zone is so important. The loss of the equipment in a fire zone or area is the purpose for change of this procedure. This reasoning was understood by Operations and Engineering but needed to be spelled out in this procedure section to ensure loss of equipment was taken into consideration. This change also removes any reference to Appendix R.

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3

☐ The change is editorial or typographical

☒ The change is not editorial or typographical

Change Type: BLOCK 4

☐ The change does conform to an activity that has prior approval

☒ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
☐ §50.47(b)(2) – Onsite Emergency Organization
☐ §50.47(b)(3) – Emergency Response Support and Resources
☐ **§50.47(b)(4) – Emergency Classification System***
☐ **§50.47(b)(5) – Notification Methods and Procedures***
☐ §50.47(b)(6) – Emergency Communications
☐ §50.47(b)(7) – Public Education and Information
☐ §50.47(b)(8) – Emergency Facility and Equipment
☐ **§50.47(b)(9) – Accident Assessment***
☐ ***§50.47(b)(10) – Protective Response****
☐ §50.47(b)(11) – Radiological Exposure Control
☐ §50.47(b)(12) – Medical and Public Health Support
☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
☐ §50.47(b)(14) – Drills and Exercises
☐ §50.47(b)(15) – Emergency Responder Training
☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

Planning Standards were not impacted with this change. The revision is to consolidate two bulleted items into one bullet clarifying the need to emphasize that the equipment in the fire zone/area is what should be taken into consideration. This is to meet the standard of NFPA 805. There is no reduction in the effectiveness of the Emergency Plan as a result of this revision to EM 5.1.

☒ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment
Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment

Results: BLOCK 7

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature:	Date:
Pat Street		12-11-12
Reviewer Name:	Reviewer Signature:	Date:
RAY WATERMAN		12-11-12

Revision 12

OCONEE TRAINING DIVISION TRAINING STANDARD DTS-007 REV. 18

Prepared By: Ginger Ziskal
Approved By: Paul M. Stovall
Line Concurrence: Ray Waterman
Effective Date: 1/1/13
Original Date: 06/04/92
Revised Date: 12/10/12

Oconee Training Division Training Standard

Training Division Emergency Response Standard

1.0 OBJECTIVE

The purpose of this standard is to define the role that the Oconee Training Division Group fulfills in support of the Oconee Nuclear Station Emergency Plan.

NOTE: Emergency Planning must review revisions to this standard and receive a control copy within seven working days of approval. Also a 10CFR50.54(q) evaluation shall be completed by the Emergency Planning Manager prior to approval of changes to this document.

2.0 SCOPE

This standard is applicable to all Training Division personnel.

3.0 REFERENCES

Oconee Nuclear Station Emergency Plan
NSD 114 - Site Assembly/Evacuation Process
RP/0/A/1000/009 - Procedure for Site Assembly
RP/0/A/1000/010 - Procedure for Emergency Evacuation/Relocation of Site Personnel

4.0 RESPONSIBILITY

Each individual in the Training Division is responsible for following the requirements of this training standard in support of the Emergency Response Plan.

5.0 PROCEDURE

5.1 Accountability of Training Personnel

A. All ***Training Division personnel***, including those who support the Emergency Response Organization, shall assemble at their designated assembly location as follows:

- ***Oconee Training Center personnel*** assemble in their designated work area
- ***Maintenance Training Facility personnel*** assemble outside the Maintenance Training Supervisor's office
- ***TTF Training personnel*** assemble outside the Technical Training Manager's office

B. **Training personnel** inside the Protected Area who are unable to reach their designated assembly point within **eight** minutes shall go to the nearest card reader, swipe their security badge, and call their supervisor or Site Assembly Contact/Evacuation Coordinator.

C. **Training personnel** outside the Protected Area who are unable to reach their designated assembly point within **eight** minutes shall call their supervisor or Site Assembly Contact/Evacuation Coordinator.

D. ***Training personnel*** working **inside** the RCA/RCZ who are wearing protective clothing shall go to the nearest change room, frisk appropriately, and swipe their security badge at the card reader. They shall immediately call their supervisor or Site Assembly Contact/Evacuation Coordinator to report their location and await further instructions.

E. ***Training personnel*** who report to the *Technical Support Center* (TSC) or the *Operational Support Center* (OSC) as members of the Emergency Response Organization shall notify their Site Assembly Contact/Training Evacuation Coordinator listed on Enclosure 6.1 prior to leaving their assembly point and then again upon arrival at their designated Emergency Response Facility.

F. ***Permanently badged students*** attending classes at the MTF/TTF or Complex shall call and VERBALLY speak to their Station Work Group Contact, who will report accountability for them. The student should remain in the classroom until site assembly is secured per the PA announcement. The Training instructor will provide evacuation instructions in the event that a site evacuation should occur.

G. ***Permanently badged students*** attending classes in the Protected Area, shall go to the nearest card reader, swipe their badge, report back to the classroom, call and VERBALLY speak to their Station Work Group Contact, who will report accountability for them. The student should remain in the classroom until site assembly is secured per the PA announcement. The Training instructor will provide evacuation instructions in the event that a site evacuation should occur.

H. ***Students at the OTC*** will be accounted for as follows:

- The Training OTC Site Assembly Contact/Evacuation coordinator will report all students in long term classes, such as Hot License Prep Class, Introduction to Systems Specific, and GFES Class.

- Students in requal will be accounted for by the OSM.

- Operations staff personnel who are in training at the OTC during a site assembly shall verbally call their Station Work Group Contact who will report accountability for them.

- The Training OTC Site Assembly Contact/Evacuation Coordinator shall provide evacuation instructions in accordance with paragraph 5.5 of this standard.

I. ***Training Visitors (non-Duke):***

- Visitors being escorted inside the Protected Area should assemble with their permanently badged escort
- Visitors outside the Protected Area should assemble with their training contact

Training Visitors (badged from the G.O. or another Duke site):

- If visitor is inside the Protected Area, proceed to the nearest assembly point (reference RP/0/A/1000/009 and NSD 114), swipe security badge at the card reader, and call designated training contact
- If visitor is outside the Protected Area, assemble with designated training contact

J. Training personnel not supporting the Emergency Response Organization shall remain at their assembly location until released by the Emergency Coordinator.

K. If you report to the site during a site assembly, proceed as normal to your work location unless directed otherwise by Security.

5.2 Site Assembly - Normal Work Hours (Monday - Thursday)

A. Designated Training Division Site Assembly Contacts/Evacuation Coordinators are listed on Enclosure 6.1. Each site assembly contact should report the total number of training personnel for their group, and include in that number, training personnel who are supporting the emergency response and any training visitors interfacing with their group who are located outside the protected area. This report should be made to the Training Manager Administrative Specialist at extension 3291 within 10 minutes (or quicker if possible). If the Training Manager Administrative Specialist/designee is not available, a single point of contact should be established and that person should report ~~accountability to~~ the Security Shift Supervisor/designee at extension 5050. Provide the group name, site assembly contact name, telephone extension number, the status of accountability (i.e. accountability complete, or number of missing personnel, and their badge number(s). Security will call back for their names.

B. If telephone lines are inoperable, accountability status should be reported by available means (e.g., use of a messenger).

C. Name, group and last known location of unaccounted personnel will be provided by the person reporting the personnel accountability. If last known location of unaccounted personnel is inside the Protected Area, Security will try to locate. If the last known location is outside the Protected Area, Training is responsible for locating personnel.

5.3 Site Assembly - Back Shifts, Weekends and Holidays

A. The Supervisor or senior individual at each designated assembly location shall report accountability to the Security Shift Supervisor/ designee at extension 5050.

B. If telephone lines are inoperable, accountability status should be reported by available means (e.g., use of a messenger).

C. Any individual not accounted for shall be identified by name, group and last known location.

5.4 Providing Twenty-Four (24) Hour Coverage

A. If the emergency situation dictates, a shift rotation schedule will be developed for emergency response personnel to provide twenty-four hour coverage. The shift rotation schedule will be developed prior to implementation of site evacuation.

5.5 Site Evacuation

A. The Emergency Coordinator will assess plant conditions and determine when an emergency situation requires site evacuation or relocation of personnel.

B. If evacuation or relocation is required, the TSC OffSite Communicator is responsible for ensuring that evacuation/ relocation instructions are provided for the site. The Training Division Site Assembly Contacts/Evacuation Coordinators listed on Enclosure 6.1 are responsible for coordinating and implementing evacuation/relocation activities for the Training Division.

C. Evacuation instructions will be coordinated by the Site Assembly Contacts/Evacuation Coordinators in accordance with NSD 114 and RP/0/A/1000/10. NSD 114 provides evacuation instruction sheets when the LAN is unavailable.

D. The following guidelines are to be used by the Site Assembly Contact/Evacuation Coordinator should site evacuation take place:

1. When the PA announcement is made to evacuate, access the Site Evacuation Plan from the following location: *"Duke Application Environment, Evacuation Plan - ONS."* *Print the plan, provide a copy to the group and students.*

2. Each Site Assembly Contact/Evacuation Coordinator will be contacted by the Training Manager/designee to discuss evacuation plans, shift coverage and other evacuation related information. When the Training Manager is not available the Technical Training Manager/designee will fulfill this responsibility.

3. Obtain the Training Manager/designee's phone number for future call back and communication. Per the Training Manager, everyone will be evacuated unless otherwise notified.

4. Make copies of the evacuation plan for each person.

5. Call the TSC Offsite Communicator at extension 3706 to arrange bus transportation for personnel who cannot access their personal vehicle or obtain a ride with a co-worker.

6. Instruct personnel, including students, to evacuate at designated times to designated location, based on instructions provided.

7. Report the status of Evacuation/Relocation to phone mail 5094.

8. If personnel are relocated to the OTC or Complex, contact the Training Manager/designee and provide the phone number of your new location and the number of personnel at the relocation area.

9. The Site Assembly Contact/Evacuation Coordinator should be the last person to evacuate even if they are identified as Category 1 or 2.

10. Call the Training Manager/designee (using extension obtained in step 4 above) to report evacuation complete.

5.6 Staffing the Emergency Response Organization

A. The TSC/OSC will be staffed in accordance with the Emergency Response Organization. Facility locations are as follows:

Primary
TSC: Units 1 & 2 Control Room - Kitchen Area
OSC: Room behind Unit 3 Control Room

Alternate
TSC: Oconee Office Building Room 316
OSC: Oconee Office Building Room 316A

B. Notification of Activation during Normal Work Hours:

Notification of TSC/OSC activation will normally occur over the site public address and pager systems if the condition or event results in an emergency classification of Alert, Site Area Emergency, or General Emergency. Designated TSC/OSC personnel shall respond as required. These personnel shall notify their Training Evacuation Coordinator prior to leaving their assembly point.

C. Notification of Activation during Off-Normal Work Hours:

During back shifts, weekends, and holidays, TSC/OSC response personnel shall be notified by pager and/or the nuclear call out system. If a Duty person is notified through the nuclear call out system, the response code he/she must use is 1 2 3 4. Weekly Pager Test (PIP-O-05-4414)

D. All ERO members receive the pager test initiated each Tuesday night. Only the duty person is required to respond to the ~~test~~ survey. Members shall report any problems with their pagers via the survey.

E. Pager Messages

ERO members may be notified by the PA system, the pager system, and/or the nuclear call out system. The following messages may be sent to ERO members over these system(s) depending on the situation:

ONS Drill Activate the TSC/OSC/EOF
ONS Emergency Activate the TSC/OSC/EOF

ONS Drill Bridges Activate the TSC/OSC/EOF
ONS Drill + Alternate TSC/OSC
ONS Drill + Caution - Security Event in Progress - Caution

ONS Emergency Bridges Activate the TSC/OSC/EOF
ONS Emergency + Alternate TSC/OSC
ONS Emergency + Caution - Security Event in Progress - Caution

F. The Training Division staffs the *Technical Support Center* for the following positions:

TSC Emergency Coordinator
Operations Superintendent Assistant
TSC NRC Communicator
Offsite Communicator
Emergency Planning
Operations Interface Manager

6.0 Enclosure

6.1 Oconee Training Division Contacts

Enclosure 6.1

OCONEE TRAINING DIVISION CONTACTS

SITE ASSEMBLY CONTACTS / EVACUATION COORDINATORS

Training Facility	Primary Contact	Alternate Contact
Maintenance Trng.	Sara Morse (3506)	Terry Mason (4659)
Technical Training	Donna Curl (3291)	Ginger Ziskal (4267)
Oconee Trng. Center	Teresa Merck (3020)	David Covar (3452) Diane Perry (3664)

TRAINING GUIDE REVIEW AND PROCESS CHANGE RECORD

No. and TITLE DTS-007 Rev. 18 Training Division Emergency Response Standard

DATE	DESCRIPTION	INITIAL
12/10/12	Changed Title to reflect Standard vs. Guide Changed Preparers Name Changed Training Manager Name 3.0 5.1 K Changed RP/O/B to RP/O/A 5.1 A Removed references to "OOB Training Personnel" and replace with "TTF Training Personnel. Deleted Reference to using the nearest card reader outside the Assembly Area 5.1 I & J Removed references to In- Processing students 5.1 K Revised Duke Visitors inside the PA 5.2 A Revised Training Mgr Admin Spec name and extension, and process for reporting accountability 5.5 D 1. Updated location of evacuation procedure 5.5 D 2. Deleted 5.6 C changed Notification of Activation for Back Shift Personnel Enclosure 6.1 Changed Primary and Alternate Contacts for all Training Departments.	

§50.54(q) Screening Evaluation Form

Activity Description and References: DTS-007, Training Division Emergency Response Standard rev 18 (screening 1) BLOCK 1

Description of Change:

1) Page 2 of 8, Section 5.1, Rev 17 states: ***OOB Training personnel*** shall go to the nearest card reader, swipe their badge, and then assemble outside the Technical Training Manager's office.

2) Section I and J of rev 17 targets guidance for In-Processing personnel receiving training inside and outside the protected area. This section can be deleted since In-Processing is now performed at the JIC Training area in Clemson and at the In-Processing facility in Kings Mountain, NC

3) Page 4 of 8, Rev. 17, section 5.2, Section A, this section was revised to clarify guidance that a "single point of contact" must be established prior to calling the 5050 accountability line. This is necessary if the Training manager Administrative assistant is not present to take accountability of the training section. This guidance explains that personnel should report their accountability in 10 minutes. Additional guidance was incorporated that this call be made as quick as possible.

4) Page 5 of 9, section D, Item 1, added "Print the plan, provide a copy to the group and students"

5) Page 5 of 9, section D, Item 2, This line item was revised and removed the fact that the OTC does not get plant pages this is no longer a true statement. Other communications described in this section are accurate and will remain in rev 18.

6) Page 7 of 9, section D, This section was revised to incorporate the new survey system that is generated and sent to all ERO members so they can respond as to whether they had duty and/or if they experienced pager difficulties.

Reason for Change:

1) ONS has built a new facility, the Technical Training Facility (TTF) and has moved all the training personnel housed in the Oconee Office Building (OOB) to this facility. The procedure needed to be revised to capture this movement of the training staff. The guidance in rev 18 will have the TTF personnel assemble outside the TTF Managers office for accountability. It should be noted that all training personnel are located outside of the Protected Area now. No Security badge readers are necessary to account for these people but a call in to their site assembly coordinator is, this is consistent with guidance in their procedure and in NSD 114.

2) In-Processing of a contingent work force is no longer performed at the plant so this guidance can be deleted since it will not apply anymore.

3) This added guidance will eliminate multiple calls into the 5050 accountability line obstructing Security from getting the accountability done in a timely manner. Training is trying to establish accountability as quick as possible by adding guidance to encourage staff to call in before the 10 minute period. This is an enhancement.

4) Additional guidance clarifying the entire process for Evacuation Plan distribution for the training group.

5) The OTC has wireless plant speakers installed throughout the facility allowing those personnel to experience the site assembly/evacuation announcements plus any other emergency message distributed to the station.

6) EP no longer requires ERO personnel to call in to confirm they were available for duty. This is now handled via an electronic survey.

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3

☐ The change is editorial or typographical

☒ The change is not editorial or typographical

Change Type: BLOCK 4

☐ The change does conform to an activity that has prior approval

☒ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
☐ §50.47(b)(2) – Onsite Emergency Organization
☐ §50.47(b)(3) – Emergency Response Support and Resources
☐ **§50.47(b)(4) – Emergency Classification System***
☐ **§50.47(b)(5) – Notification Methods and Procedures***
☐ §50.47(b)(6) – Emergency Communications
☐ §50.47(b)(7) – Public Education and Information
☐ §50.47(b)(8) – Emergency Facility and Equipment
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☐ §50.47(b)(11) – Radiological Exposure Control
☐ §50.47(b)(12) – Medical and Public Health Support
☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
☐ §50.47(b)(14) – Drills and Exercises
☐ §50.47(b)(15) – Emergency Responder Training
☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

The changes to the Oconee Training Division Emergency Response Standard are due to movement of the training personnel to another facility on site but outside of the protected area. Processing of contingent work force personnel to offsite locations and general changes to incorporate clarification to the new and old guidance. Site assembly/site evacuation processes still applies to the onsite Training personnel. The site evacuation process does not change but having this group located outside of the protected area swiping of the security badges will no longer be necessary. These individuals will be required to make the call in only to their site assembly coordinator if they are located outside the protected area. If for some reason a training person is located inside the protected area they are still required by this standard to swipe their security badge at the closest badge reader. Accountability times and requirements other than swiping of the security badge when outside of the Protected Area remain the same. Personnel names and numbers for accountability in enclosure 6.1 have changed but trained personnel also having previous experience have replaced those revised out of the procedure. Planning Standard 50.47 (b) (10) has not been compromised and it has been determined that a 50.54Q evaluation is not necessary since all requirements for complying with site assembly and site evacuation are still in place.

☒ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☒ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: RP/0/A/1000/009, RP/0/A/1000/010, NRC Part 50 50.47 (b) (10) - Protective Response and NUREG 0654, Protective Response

☐ The activity does not involve a site specific EP commitment

Screening Evaluation Results: BLOCK 7		
☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation ☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation		
Preparer Name: Ray Waterman	Preparer Signature Ray Waterman	Date: 12-7-12
Reviewer Name: Robert Taylor	Reviewer Signature Robert Taylor	Date: 12/10/12

§50.54(q) Screening Evaluation Form

Activity Description and References: DTS-007, Training Division Emergency Response Standard rev 18 (screening 2) BLOCK 1

Description of Change:

1) Enclosure 6.1 revised Oconee Office Building to Technical Training Facility and revised contact names to conform to those presently available to perform accountability and evacuation processes.

2) Throughout procedure changed reference to RP procedures as "A" safety classifications instead of "B". To align our E-Plan Implementing Procedures with NSD703 permanent technical procedure requirements as determined by PIP O-12-1590, ONS Emergency Planning will revise the procedure titles (as procedure revisions become necessary) to incorporate the Safety Classification to "A" instead of "B".

Reason for Change:

1) Editorial change to accurately portray existing staffing and new location of this staffing.

2) NSD 703.5.1, Permanent technical procedures are used to direct station activities during operating, testing, refueling, maintenance, and modifications. These procedures provide guidance for activities that are of a repetitive nature, or when conditions requiring the procedure may occur in the future and the procedure is essential if the situation occurs. Permanent technical procedures are designated in the procedure number as follows:

Activity Scope: BLOCK 2

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type: BLOCK 3

☒ The change is editorial or typographical

☐ The change is not editorial or typographical

Change Type: BLOCK 4

☐ The change does conform to an activity that has prior approval

☐ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
☐ §50.47(b)(2) – Onsite Emergency Organization
☐ §50.47(b)(3) – Emergency Response Support and Resources
☐ **§50.47(b)(4) – Emergency Classification System***
☐ **§50.47(b)(5) – Notification Methods and Procedures***
☐ §50.47(b)(6) – Emergency Communications
☐ §50.47(b)(7) – Public Education and Information
☐ §50.47(b)(8) – Emergency Facility and Equipment
☐ **§50.47(b)(9) – Accident Assessment***
☐ **§50.47(b)(10) – Protective Response***
☐ §50.47(b)(11) – Radiological Exposure Control
☐ §50.47(b)(12) – Medical and Public Health Support
☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
☐ §50.47(b)(14) – Drills and Exercises
☐ §50.47(b)(15) – Emergency Responder Training
☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☒ The proposed activity does not impact a Planning Standard

Commitment Impact Determination: BLOCK 6

☒ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: RP/0/A/1000/009, RP/0/A/1000/010, NRC Part 50 50.47 (b) (10) - Protective Response and NUREG 0654, Protective Response

☐ The activity does not involve a site specific EP commitment

Screening Evaluation Results: BLOCK 7

☒ The activity can be implemented without performing a §50.54(q) effectiveness evaluation

☐ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Ray Waterman	Ray Waterman	12-7-12
Reviewer Name:	Reviewer Signature	Date:
Robert Taylor	Robert Taylor	12/10/12

Duke Energy

T. PRESTON GILLESPIE, JR.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

February 18, 2013

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station, Units 1, 2, and 3
Docket Nos. 50-269,-270,-287
Emergency Plan, Volume A, Revision 2012-05

Please find attached for your use and review copies of the revision to the Oconee Nuclear Station Emergency Plan.

This revision is being submitted in accordance with 10 CFR 50.54(q) and does not reduce the effectiveness of the Emergency Plan or the Emergency Plan Implementing Procedures. By copy of this letter, two copies of this revision are being provided to the NRC, Region II, Atlanta, Georgia.

If there are any questions or concerns pertaining to this submittal please call Pat Street, Emergency Planning Manager at 864-873-3124.

Sincerely,

TPGillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

Attachments:
Revision Instructions
Emergency Plan Revision 2012-05
50.54(q) Evaluation(s)

AX45
LIRR

xc: (w/2 copies of attachments)

Mr. V. M. McCree
U.S. Nuclear Regulatory Commission - Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

w/copy of attachments

Mr. John Boska
Oconee Project Manager, NRR/DORL
U.S. Nuclear Regulatory Commission
11555 Rockville Pike - Mail Stop O-8G9A
Rockville, MD 20852-2746
(Send via E-mail)

w/o attachments

NRC Senior Resident Inspector
Oconee Nuclear Station

§50.54(q) Screening Evaluation Form

Activity Description and References: Revised OCONEE Emergency Plan Volume A

See attached sheet for all changes.

Activity Scope:

☒ The activity is a *change* to the *emergency plan*

☐ The activity is not a *change* to the *emergency plan*

Change Type:

☐ The change is editorial or typographical

☒ The change is not editorial or typographical

Change Type:

☐ The change does conform to an activity that has prior approval

☒ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination:

☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
☐ §50.47(b)(2) – Onsite Emergency Organization
☐ §50.47(b)(3) – Emergency Response Support and Resources
☐ **§50.47(b)(4) – Emergency Classification System***
☐ **§50.47(b)(5) – Notification Methods and Procedures***
☐ §50.47(b)(6) – Emergency Communications
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☐ §50.47(b)(12) – Medical and Public Health Support
☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
☐ §50.47(b)(14) – Drills and Exercises
☐ §50.47(b)(15) – Emergency Responder Training
☒ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard

Commitment Impact Determination:

☒ The activity does involve a site specific EP commitment

Record the commitment or commitment reference: Annual review as required by FAM 3.1, ONS E-Plan was established for the protection of the life and property in all emergency situations, and NUREG 0654 which provides for the standard for emergency plan development.

☐ The activity does not involve a site specific EP commitment

Results:

☐ The activity can be implemented without performing a §50.54(q) effectiveness evaluation

☒ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Donald A. Crowl		10-10-12 DAC 12-12-12

Reviewer Name:	Reviewer Signature	Date:
RAY WATERMAN	Ray Waterman	1-29-13

evision 12

§50.54(q) Effectiveness Evaluation Form

Activity Description and References: Revised OCONEE Emergency Plan Volume A

Reference attached list of changes and markup.

Activity Type:

☒ The activity is a *change* to the *emergency plan*

☐ The activity affects implementation of the *emergency plan*, but is not a *change* to the *emergency plan*

Impact and Licensing Basis Determination:

1. *Per RG 1.219 0609B Program functions, Section P Emergency Plan Maintenance: 50.47(b)(16) Responsibility for emergency plan development and review. The plan is being revised based on annual review requirements. Changes reflected in the attached table are mainly editorial or formatting. Additional changes are being made to reflect current name changes and update agreement letters, and spill prevention and control, and ground water monitoring programs.*

   Licensing Basis:

   No changes are being made that affect licensing basis or what is described in the ELL letters. reference attached copy of USFSAR section 13.3

Compliance Evaluation and Conclusion:

1. Evaluation:
   Process and programmatic functions are not being changed. Expired documents are being replaced by more current versions such as agreement letters and calendar. Other changes involve formatting and name changes; however, the function being performed is not changing. There is no impact on compliance with 50.47(b) or Appendix E. Changes are being made as required per annual review requirements described in FAM 3.1, NUREG 0654 also states the standards for which the E-Plans are maintained

   Conclusion:

   The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

Reduction in Effectiveness (RIE) Evaluation and Conclusion:

1. Evaluation:
   No changes are being made to functions required by the Emergency Plan.

   Conclusion:

   The proposed activity ☐ does / ☒ does not constitute a RIE.

Effectiveness Evaluation Results

☒ The activity does continue to comply with the requirements of §50.47(b) and §50 Appendix E **and** the activity does not constitute a reduction in effectiveness. Therefore, the activity can be implemented without prior approval.

☐ The activity does not continue to comply with the requirements of §50.47(b) and §50 Appendix E **or** the activity does constitute a reduction in effectiveness. Therefore, the activity cannot be implemented without prior approval.

Preparer Name: Donald A. Crowl	Preparer Signature	Date: 12/12/12
Reviewer Name: Ray Waterman	Reviewer Signature	Date: 1-29-13
Approver Name: Patrick M Sena	Approver Signature	Date: 1/29/13

Revision 12

13.3 Emergency Planning

The Emergency Program for the Duke Power Company's Oconee Nuclear Site consists of the Oconee Nuclear Site Emergency Plan and related implementing procedures. Also included are related radiological emergency plans and procedures of state and local governments. The purpose of these plans is to provide protection of plant personnel and the general public and to prevent or mitigate property damage that could result from an emergency at the Oconee Nuclear Site. The combined emergency preparedness programs have the following objectives:

1. Effective coordination of emergency activities among all organizations having a response role.
2. Early warning and clear instructions to the population-at-risk in the event of a serious radiological emergency.
3. Continued assessment of actual or potential consequences both on-site and off-site.
4. Effective and timely implementation of emergency measures.
5. Continued maintenance of an adequate state of emergency preparedness.

The Emergency Plan has been prepared in accordance with Section 50.47 and Appendix E of 10CFR Part 50. The plan shall be implemented whenever an emergency situation is indicated. Radiological emergencies can vary in severity from the occurrence of an abnormal event, such as a minor fire with no radiological health consequences, to nuclear accidents having substantial onsite and/or offsite consequences. In addition to emergencies involving a release of radioactive materials, events such as security threats or breaches, fires, electrical system disturbances, and natural phenomena that have the potential for involving radioactive materials are included in the plans. The plan contains adequate flexibility for dealing with any type of emergency that might occur.

The activities and responsibilities of outside agencies providing an emergency response role are detailed in the State of South Carolina emergency plans and the emergency plans for Oconee and Pickens Counties.

The emergency response resources available to respond to an emergency consist of the following: 1. ONS Site Personnel, 2. Duke Power corporate headquarters personnel, 3. Other Duke Power nuclear station personnel, and, in the longer term, federal emergency response organizations (e.g. NRC, DOE, FEMA). The first line of defense in responding to an emergency lies with the normal operating shift on duty when the emergency begins. Therefore, members of the Oconee staff are assigned emergency response roles that are to be assumed whenever an emergency is declared. The overall management of the emergency is initially performed by the Operations Shift Manager until he/she is relieved by the Station Manager/Designee. In the event of an emergency, he serves as the Emergency Coordinator. Onsite personnel have preassigned roles to support the Emergency Coordinator and to implement his directives. Special provisions have been made to assure that ample space and proper equipment are available to effectively respond to the full range of possible emergencies. The emergency facilities available include the Oconee Control Room, Operational Support Center, Technical Support Center, Joint Information Center, and the Emergency Operations Facility. These facilities are described in the site emergency plan. Emergency plan implementing procedures define the specific actions to be followed in order to recognize, assess, and correct an emergency condition and to mitigate its consequences. Procedures to implement the Plan provide the following information:

1. Specific instructions to the plant operating staff for the implementation of the Plan.
2. Specific authorities and responsibilities of plant operating personnel.

3. A source of pertinent information, forms, and data to ensure prompt actions are taken and that proper notifications and communications are carried out.
4. A record of the completed actions.
5. The mechanism by which emergency preparedness will be maintained at all times.

THIS IS THE LAST PAGE OF THE TEXT SECTION 13.3.

§50.54(q) Screening Evaluation Form

Activity Description and References: Oconee Nuclear Station Emergency Plan, Section O, Revision 001 — BLOCK 1

Step O.2, Onsite Emergency Response Training
Inserted the following:

Emergency Response Training for the Duke Energy Charlotte ~~(Common)~~ EOF is described in Nuclear Generation Department "Employee Training And Qualification System" (ETQS) Standard 7111.0.

Reason: The Charlotte EOF ~~(Common EOF)~~ replaced the Oconee EOF in 2005. Prior NRC approval was acquired to make this change. Oconee Emergency Plan Section O does not reference/describe the document which controls EOF training. Section O.2 states, Emergency Response Training required at the Oconee Nuclear Site is described in the Oconee Training Division Training Guide ERTG 001, "Emergency Response Organization and Emergency Services Training Program." The EOF training requirements were standardized and moved to ETQS 7111.0 in Revision 4 on July 13, 2010.

Reference PIP O-12-7586.

Activity Scope: — BLOCK 2

- ☒ The activity is a *change* to the *emergency plan*
- ☐ The activity is not a *change* to the *emergency plan*

Change Type: — BLOCK 3

- ☐ The change is editorial or typographical
- ☒ The change is not editorial or typographical

Change Type: — BLOCK 4

- ☐ The change does conform to an activity that has prior approval
- ☒ The change does not conform to an activity that has prior approval

Planning Standard Impact Determination: BLOCK 5

- ☐ §50.47(b)(1) – Assignment of Responsibility (Organization Control)
- ☐ §50.47(b)(2) – Onsite Emergency Organization
- ☐ §50.47(b)(3) – Emergency Response Support and Resources
- ☐ **§50.47(b)(4) – Emergency Classification System***
- ☐ **§50.47(b)(5) – Notification Methods and Procedures***
- ☐ §50.47(b)(6) – Emergency Communications
- ☐ §50.47(b)(7) – Public Education and Information
- ☐ §50.47(b)(8) – Emergency Facility and Equipment
- ☐ **§50.47(b)(9) – Accident Assessment***
- ☐ **§50.47(b)(10) – Protective Response***
- ☐ §50.47(b)(11) – Radiological Exposure Control
- ☐ §50.47(b)(12) – Medical and Public Health Support
- ☐ §50.47(b)(13) – Recovery Planning and Post-accident Operations
- ☐ §50.47(b)(14) – Drills and Exercises
- ☒ §50.47(b)(15) – Emergency Responder Training
- ☐ §50.47(b)(16) – Emergency Plan Maintenance

***Risk Significant Planning Standards**

☐ The proposed activity does not impact a Planning Standard.

Commitment Impact Determination: BLOCK 6

☐ The activity does involve a site specific EP commitment
Record the commitment or commitment reference: _____

☒ The activity does not involve a site specific EP commitment

Screening Evaluation Results: BLOCK 7

☐ The activity can be implemented without performing a §50.54(q) effectiveness evaluation
☒ The activity cannot be implemented without performing a §50.54(q) effectiveness evaluation

Preparer Name:	Preparer Signature	Date:
Robert Taylor	Robert Taylor	8/20/12
Reviewer Name:	Reviewer Signature	Date:
Ray Waterman	Ray Waterman	1-29-13

§50.54(q) Effectiveness Evaluation Form

Activity Description and References: Oconee Nuclear Station, Emergency Response Training Guide – 001, Revision 24 BLOCK 1

Step O.2, Onsite Emergency Response Training
Inserted the following:

Emergency Response Training for the Duke Energy Charlotte (~~Common~~ RLT) EOF is described in Nuclear Generation Department "Employee Training And Qualification System" (ETQS) Standard 7111.0.

Reason: The Charlotte EOF (~~Common EOF~~ RLT) replaced the Oconee EOF in 2005. Prior NRC approval was acquired to make this change. Oconee Emergency Plan Section O does not reference/describe the document which controls EOF training. Section O.2 states, Emergency Response Training required at the Oconee Nuclear Site is described in the Oconee Training Division Training Guide ERTG 001, "Emergency Response Organization and Emergency Services Training Program." The EOF training requirements were standardized and moved to ETQS 7111.0 in Revision 4 on July 13, 2010.

Reference PIP O-12-7586.

Activity Type: BLOCK 2

☒ The activity is a *change* to the *emergency plan*
☐ The activity affects implementation of the *emergency plan*, but is not a *change* to the *emergency plan*

Impact and Licensing Basis Determination: BLOCK 3

10 CFR 50.47 (b)(15) – Emergency Responder Training
10 CFR 50 Appendix E, IV (F) - Training

Licensing Basis:

10 CFR 50.47(b)(15) – Emergency Responder Training
The regulation states "Radiological emergency response training is provided to those who may be called on to assist in an emergency.

10 CFR 50 Appendix E, IV (F) - Training
Guidance found in Appendix E states that "The training of employees and exercising, by periodic drills, of radiation emergency plans to ensure that employees of the licensee are familiar with their specific emergency response duties, and the participation in the training and drills by other persons who assistance may be needed in the event of a radiation emergency shall be described.

Compliance Evaluation and Conclusion: BLOCK 4

1. Evaluation:
The Charlotte EOF (~~Common EOF~~ PET) replaced the Oconee EOF in 2005. Prior NRC approval was acquired to make this change. Section O.2 of the ONS Emergency Plan states, Emergency Response Training required at the Oconee Nuclear Site is described in the Oconee Training Division Training Guide ERTG 001, "Emergency Response Organization and Emergency Services Training Program"; however, the EOF training requirements were standardized and moved to ETQS 7111.0 in Revision 4 on July 13, 2010. Since ETQS 7111.0 was revised to describe the EOF training requirements, the Oconee Emergency Plan Section O has not referenced/described where training requirements for the EOF were located. This revision corrects this deficiency. Reference PIP O-12-7586.

Conclusion:
The regulations require that training programs for emergency responders be described. This revision corrects an over sight that occurred in 2010 when the training requirements for the Charlotte EOF were standardized and moved to ETQS Standard 7111.0 but where the ONS EPLAN was not revised with that change to reference it for the EOF.

The proposed activity ☒ does / ☐ does not continue to comply with the requirements.

Reduction in Effectiveness (RIE) Evaluation and Conclusion: BLOCK 5

1. Evaluation:
This revision is being made to reference an administrative change in how the training is described for the Charlotte EOF. With this change the Fleet EP training document (ETQS 7111.0) is being referenced along with the site document (ERTG-001). ONS sought and received prior NRC approval in 2005 to relocate its EOF to the Charlotte EOF.

Conclusion:

The proposed activity ☐ does / ☒ does not constitute a RIE.

Effectiveness Evaluation Results BLOCK 6

☒ The activity does continue to comply with the requirements of §50.47(b) and §50 Appendix E **and** the activity does not constitute a reduction in effectiveness. Therefore, the activity can be implemented without prior approval.

☐ The activity does not continue to comply with the requirements of §50.47(b) and §50 Appendix E **or** the activity does constitute a reduction in effectiveness. Therefore, the activity cannot be implemented without prior approval.

Preparer Name: Robert Taylor	Preparer Signature: Robert Taylor	Date: 8/20/12
Reviewer Name: RAY WATERMAN	Reviewer Signature: Ray Waterman	Date: 10-12-12
Approver Name:	Approver Signature	Date:

February 18, 2013

OCONEE NUCLEAR STATION

SUBJECT: Oconee Nuclear Site Emergency Plan
Volume A, Revision 2012-05

Please make changes to the Emergency Plan, Volume A by following the below directions.

Each Section listed has been revised; replace entire Sections with the exception of Appendix 5 and Appendix 8.

Appendix 5 - Agreement letters are listed that have been revised
Appendix 8 - Keep site drawing

Cover Sheet

List of Effective Pages

List of Figures

Record of Changes

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Section C

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Section P

Appendix 1

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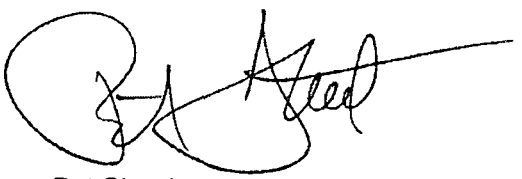
Appendix 3

Appendix 5 - Agreement Letters - 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 21, 22, 23, and 24

Appendix 6

Appendix 8 - Keep Site Drawing

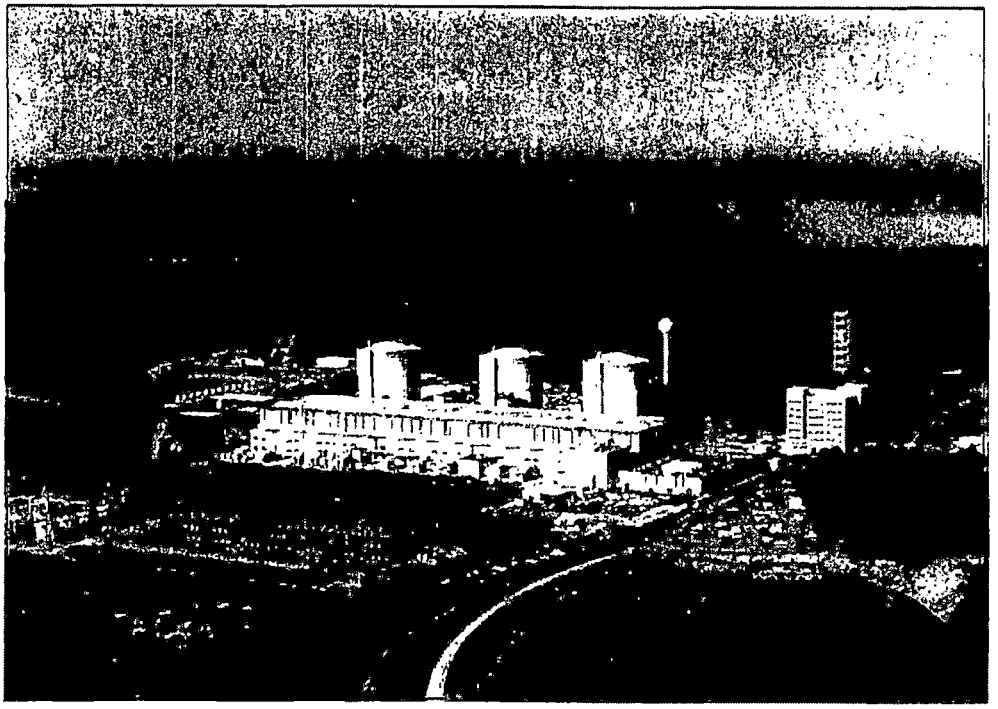
Appendix 9



Pat Street
Emergency Planning Manager
Oconee Nuclear Station

Duke Energy®

OCONEE NUCLEAR STATION
EMERGENCY PLAN



APPROVED:

T P Gillespie

T. Preston Gillespie, Jr.
VP, Oconee Nuclear Station

7 Feb 13
Date Approved

2-18-2013
Effective Date

VOLUME A
REVISION 2012-05
DECEMBER 2012

Oconee Emergency Plan
List Of Effective Pages

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Record Of Changes			
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J. Protective Response			
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Oconee Emergency Plan
List Of Effective Pages

APPENDIX 5
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Agreement Letter 3	Rev. 2012-05	April 18, 2011
Agreement Letter 4	Rev. 2012-05	April 18, 2011
Agreement Letter 5	Rev. 2012-05	April 14, 2011
Agreement Letter 6	Rev. 2010-01	February 23, 2010
Agreement Letter 7	Rev. 2012-05	October 21, 2011
Agreement Letter 8	Rev. 2012-05	April 30, 2012
Agreement Letter 9	Rev. 2012-05	April 14, 2011
Agreement Letter 10	Rev. 2012-05	April 25, 2011
Agreement Letter 11	Rev. 2012-05	April 15, 2011
Agreement Letter 12	Rev. 2012-05	December 13, 2011
Agreement Letter 13	Rev. 2012-05	September 21, 2009
Agreement Letter 14	Rev. 2012-05	July 9, 2012
Agreement Letter 15	Rev. 2012-05	July 6, 2012
Agreement Letter 16	Rev. 2012-05	September 30, 2011
Agreement Letter 17 DELETED	Rev. 2004-01	DELETED - 08/26/03
Agreement Letter 18	Rev. 2012-05	September 05, 2012

	Agreement Letter 19	Rev. 2012-05	March 22, 2011
	Agreement Letter 20	Rev. 2010-01	January 05, 2010
	Agreement Letter 21	Rev. 2012-05	June 7, 2011
	Agreement Letter 22	Rev. 2012-05	May 29, 2012
	Agreement Letter 23	Rev. 2012-05	April 24, 2012
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LIST OF FIGURES

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LIST OF FIGURES

RECORD OF CHANGES

REVISION NUMBER	EFFECTIVE DATE	REASON FOR REVISIONS
Revision 1	April 1, 1981	Meteorological Update
Revision 2	December 31, 1981	Rewrite Emergency Plan in Nureg 0654 Format
Revision 3	March, 1982	Update Emergency Plan
Revision 4	April, 1982	Revisions & Changes to update Emergency Plan
Revision 5	September 1, 1982	Revision to coincide with Crisis Management Plan
Revision 6	November 1, 1982	Revision update
Revision 7	December 14, 1982	Review and update
83-1	June 10, 1983	Changes required by action items due to annual exercise and review and general update
83-2	November 17, 1983	Changes required by review and general update
84-1	March 26, 1984	Revisions as determined by QA audit and minor editing
84-2	November 15, 1984	Revisions as determined by annual review
85-1	June 7, 1985	Revisions/changes/editing
85-2	----------	Revisions/changes/editing-annual review
86-1	March 8, 1986	New Oconee Brochure
86-2	November 13, 1986	Revisions/changes/editing-annual review
86-3	December 9, 1986	Correct changes identified as deficiencies by the NRC in Rev. 85-2.
87-1	February 4, 1987	Revision update, minor editing changes, included failed fuel accident assessment information.

RECORD OF CHANGES (Continued)

REVISION NUMBER	EFFECTIVE DATE	REASON FOR REVISIONS
87-2	----------	Revision update, minor editing changes Review Section D. Agreement letters updated.
87-4	December 10, 1987	Incorporate alternate TSC and OSC into Emergency Plan
88-1	June 7, 1988	Revised EALS in Section D.
88-2	October 14, 1988	Annual review. Minor editorial revisions.
89-1	February 28, 1989	Major revision to Section D. Added Appendix 7. Minor editorial changes.
89-2	August 14, 1989	Change to Section D. Minor editorial revisions.
89-3	January 5, 1990	Annual Review.
90-1	March 1, 1990	Changes to Section D as required by NRC commitment.
90-2	June 1, 1990	Changes reflect upgrade of radiation monitor system and minor editing.
90-3	July 2, 1990	Change to Section D, Emergency Classification.
90-4	October 31, 1990	Annual Review
91-1	January 21, 1991	Section D revision. (RIA upgrade)
91-2	February 20, 1991	Section D revision. (TS to SLC)
91-3	March 22, 1991	Section D revision. (RIA upgrade) Section D revision. (SLB revision)
91-5	September 19, 1991	Section D revision. (RIA upgrade)
91-6	December 16, 1991	Annual review.
92-1	March 1, 1992	Section D (RIA upgrade). Minor editorial changes.
92-2	June 30, 1992	Major Revision
92-3	October 29, 1992	Annual review

RECORD OF CHANGES (Continued)

REVISION NUMBER	EFFECTIVE DATE	REASON FOR REVISIONS
92-4	12/31/92	Section B, D, H, J, Appendix 4, 5 & 6 changes.
93-1	03/01/93	Sections D, G, H, N, P, and Appendix 6
93-2	05/07/93	Sections A, B, D, Appendix 5 and 6
93-3	07/23/93	Sections A, B, G, H, I, J, L, M, N, & Appendix 6
93-4	08/11/93	Sections B, D, and Appendix 5
93-05	01/01/94	Annual Review, Incorporation of EPA-400 guidelines.
94-01	03/15/94	Additions of Appendix 8 and 9. - (Minor revisions)
94-02	05/09/94	Changes to Appendix 5, Pages 1 and 2; Changes to Appendix 6, Pages 2 and 4; State of South Carolina Agreement Letter
94-03	05/25/94	Changes to Appendix 5, Page 2; Changes to Appendix 6, Pages 4 and 5; INPO Agreement Letter
94-04	06/06/94	Changes to Appendix 5, Page 2; Change Teledyne Isotopes Badge Service Service Company
94-05	08/08/94	Changes to Section D
94-06	12/29/94	Annual review. Editorial changes, minor revisions.
95-01	02/23/95	Changes to Sections B, G, Appendix 5.
95-02	10/23/95	Annual review and changes
95-03	11/01/95	Section D. Change, Incorporated new EAL'S.
95-04	12/31/95	Calendar 1996, HAZMAT Changes, RP/14 deleted
96-01	02/13/96	Changes to Sections B, D, and N.
96-02	06/25/96	Changes to Section D
96-03	07/96	Changes to Section D
96-04	12/96	Annual review, editorial changes, minor changes with major change to Appendix 10.

RECORD OF CHANGES

REVISION NUMBER	EFFECTIVE DATE	REASON FOR CHANGE
97-01	07-97	Section B, I, Appendix 5 & 7, with editorial/minor changes to Section H & P
97-02	12-97	Annual review and editorial/minor changes
98-01	02-98	Section D, page 35. Correction of title on Enclosure 4.3
98-02	03-98	Section N, page 1 & 2, Added part a (General) to Section N.2 to ensure drills conducted between NRC evaluated exercises are performed in accordance with 10CFR50, Appendix E, Section IV.F.2.b
98-03	04-98	List of Figures page number corrections, Added Emergency Operation Facility to Figure H-15, Figure H-20 reformatted. Added Agreement Letter with Keowee-Key Volunteer Fire Department, Appendix 5, #24. Appendix 10 - Hazardous Materials Response Plan, corrections on Table of Contents with minor revisions. Headings on Appendix 10, Figure 2 with minor revisions.
98-04	12-98	Annual review and editorial/minor changes.
99-01	03-99	The ONS Technical Specifications have been converted to a set of Technical Specifications based on NUREG 1430. "Standard Technical Specifications Babcock and Wilcox Plants." Replaced the description phrases (titles) in Section D for Operating Modes with the Mode number from Improved Technical Specifications. In Section I the portion describing leak rate volume percent per day was changed to percent of the containment air weight per day. The reference to Tech Spec 4.4.1.1 was changed to reference Improved Technical Specification 5.5.2. NOTE: The implementation date of Improved Tech Specs was moved from March 4, 1999 to March 27, 1999, therefore the revision date for revision 99-01 will depict February when the actual administrative changes were completed.
99-02	12-99	Annual review and editorial/minor changes
2000-01	04-2000	Addition of List of Effective Pages
2000-02	05/2000	Editorial /minor changes
2000-03	12/2000	Annual review and editorial/minor changes
2001-01	02/07/2001	Additions and corrections as result of 50.54(t) audit.

RECORD OF CHANGES

REVISION NUMBER	EFFECTIVE DATE	REASON FOR CHANGE
		Additional information added to Basis Document and additional EAL's resulting from EP drill critiques.
2001-02	08/2001	Changes in areas of responsibility. Added note concerning RVLS to Fission Product Barrier Matrix; 2001 calendar; information added to EP Functional Area Manual; added/updated information on annual average meteorology; Appendix 5; Appendix 6; editorial/minor changes.
2001-03	12/2001	Added information in Basis Document concerning a reactor building containment break. Replaced the 2001 calendar with the 2002 calendar. Editorial/minor changes
2002-01	01/02	The present Oconee Nuclear Station Emergency Operating Procedure is written in a different format and with some different terms than the earlier version. The term PTS (Pressurized Thermal Shock) has replaced TSOR (Thermal Shock Operating Range). This is only a change in terminology. The additional EAL is to ensure a site specific credible threat results in a declaration of a notification of Unusual Event (NOUE). This change is also intended to achieve an appropriate level and consistent response Nationwide.
2002-02	06/02	Section B - minor changes; Section D - Added information requested by Emergency Coordinators to Enclosure 4.1; Section G - Rewrite of entire section; Section H - Updated information on Figure H-4 relating to Met Data; Appendix 5 - Updated Letters of Agreement; and miscellaneous spelling/grammar errors.
2002-03	09/02	Section A - Compliance with the NRC Security Interim Compensatory Measure (ICM) issued 02/25/02; Section P - Audit frequencies per revised 10 CFR 50.54 (t) as stated in Federal Register Vol 64, 03/29/99. Appendix 1 - Added definition of monthly and Semi-Annual; Appendix 5, Agreement Letters, updated #17, Appendix 6 - Changed name on 78A. Miscellaneous corrections.
2003-01	02/03	Section D - RIA setpoints change, Section G - 2003 Calendar, Appendix 3 - Siren upgrade, new map (i-5) ; Appendix 5 - Agreement Letters, Appendix 6 - Issued To change, Section B, E, F editorial/minor changes
2003-02	08/03	Section D - incorporates additional guidance for the Emergency Coordinator/EOF Director related to classification of a high energy line break, such as a Main Steam Line Break. In addition, Section D has been retyped using a consistent font style - no changes in content resulted from the retype.
2004-01	02/04	Incorporates a retype of the majority of the sections as an editorial change to adopt a consistent format: Section G - Added information concerning One Mile Exclusion Area Signs; Section H - Strip Chart Recorders were removed under an NSM; Section J - Incorporated guidance on the use of KI as a protective action recommendation; Section K - changed KI dose to 5 REM CDE from 25 REM; Appendix 4 - Incorporate results of Evacuation Time Estimate; Appendix 5 - Revised Agreement Letters

RECORD OF CHANGES

REVISION NUMBER	EFFECTIVE DATE	REASON FOR CHANGE
2004-02	12/21/04	Editorial changes to correct typos, drawings, and title/organizational names. This revision also incorporates clarifying information from the latest Evacuation Time Estimate (ETE); clarification of offsite agency responsibilities for protective actions for impediments and special populations; revised EAL #2 for Enclosure 4.3, Unusual Event IC #2; clarification of ERO activation after normal working hours; and revisions to the site's SPCC Plan included in Appendix 8. In addition to these changes, applicable references have replaced generic references in Figure P-1. This revision also incorporates the 2005 Calendar distributed to the 10 mile EPZ population.
2005-01	02/01/05	Section D, Enclosure 4.7, Page 66 - Duke Power Hydro-Electric Group has revised the Lake Keowee water level from 807 to 815.5 feet for initiating a Condition B. This elevation is used in Enclosure 4.7 for classifying the event as an Unusual Event. The Hydro -Electric Group notifies the Control Room when Condition B has been declared. No protective actions by the plant are changed.
2005-02	05/17/05	Section I & Letters of Agreement - Incorporates an editorial revision that describes the makeup of Field Monitoring Teams and updated Agreement Letters. I.7&8 replaced "....personnel from Radiation Protection and Chemistry." with "..a RP Technician and a Driver." Editorial Change - Chemistry personnel no longer perform the function of FMT Driver. FMT Drivers are now provided by other groups.
2005-03	08/24/05	Revision 2005-03 incorporates an addendum for the Fire Department/Volunteer Fire Department Agreement Letters. This addendum was added as a result of NRC guidance provided to utilities. The addendum to these letters provides guidance on the use of the Incident Command System at ONS and identifies the ONS Fire Brigade Leader as the on-scene commander and site-interface for responding offsite fire departments.
2005-04	09/15/05	Revision 2005-04 is a change to Page 66, Enclosure 4.7, Emergency Action Levels #1 - Reservoir elevation greater than or equal to 807.0 feet with all spillway gates open and the lake elevation continues to rise. This change undoes Revision 2005-01 which changed Keowee Lake level from 807 feet elevation to 815.5 feet elevation. This revision was determined to be a non conservative change in that it delayed the Unusual Event emergency classification. Appendix 5, Agreement Letter #21 has been updated.
2005-05	01/09/06	Revision 2005-05 incorporates editorial changes that clarify organizational charts/responsibilities, revise procedure references, replaces public information calendar, and replaces obsolete survey instruments. Agreement Letters #16 and #19 were updated.
2006-03	06/8/06	Section D - Change #1 Revised initiating condition #2 for the Alert classification for Enclosure 4.6 (Fire/Explosions and Security Events). This change is based on a correction to the NEI White Paper, Enhancements to Emergency Preparedness Programs For Hostile Actions which was endorsed in a letter from the NRC on December 8, 2005. Change #2 - Renumbered Emergency Action Levels through out Section D to match the numbering scheme found in RP/0/B/1000/001

RECORD OF CHANGES

REVISION NUMBER	EFFECTIVE DATE	REASON FOR CHANGE
		(Emergency Classification) procedure - Renumbering makes it easier for procedure users to locate the correct emergency action level in the Basis Document. - Appendix 5 - Agreement Letters #8, 14,15 & 23 were updated.
2006-04	11/06	Reference changes to the deletion of the Clemson EOF and incorporates reference to the Charlotte EOF. In addition, miscellaneous editorial changes are included in this revision.
2007-01	03/07	Appendix 5 Agreement Letters that have been updated/revised.
2007-02	12/07	Editorial changes including a revised 50 mile radius map (Figure B), a revision to the Emergency Classification Basis Section D , the 2008 Emergency Planning Calendar, a revised layout drawing for the JIC, a revised listing of portable survey instruments, the latest renewal of existing agreement letters and a revised Ground Water Monitoring Plan
2008-01	09/08	The original order of the EALs created a human performance trap. The first fission barrier column that the procedure user reviews is the RCS Barrier column which is on the left side of the page. The second fission barrier column that is reviewed is the Fuel Clad Barrier which is in the center of the page. This order gives the procedure user the mind set that the EALs are listed in the same order: RCS EAL followed by the Fuel Clad EAL. Changing the order of the EALs is not a deviation from the approved EAL scheme but is a difference. This change does not constitute a decrease in the effectiveness of the EPLAN since the EALs are exactly the same.
2008-02	10/08	As of this change 2008-02, the Emergency Plan is now available on NEDL/SCRIBE and has been completely re-issued. All changes in the future to the Emergency Plan will be completed thru NEDL/SCRIBE. The following Agreement Letters were also updated: 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 19 and 21.
2009-01	02/09	Revised existing information relating to organization names that have changed, removed specific names and replaced with a title to mitigate the need for future revisions due to personnel changes, and changed staging location names based on changes made to area designation names; however staging will still occur in same area. Changes made only reflect actual organization names, functional position names, and current location names being used to make the E-Plan more accurately reflect current information. No changes are being made to the process or conduct of the how the E-Plan is to be implemented
2010-10	02/10	Revised existing information relating to changes made to the callback system, who performs the dose assessments, the basis information for the Containment Barrier EAL based on NEI 99-01 Rev 5 FAQ lessons learned. Made name change for Oconee Medical Center, corrected information relating to testing frequency for major elements referenced in the E-Plan, the new neutron instrument used by radiation protection, and street name change for figure H-3A. Changes made are the result of the Annual Review process and no changes are being made to the process or conduct of how the E-Plan is to be implemented. The following Agreement Letters were also updated: Number - 6, 8, 13, 14, 15, 16, 18, 20, 22, & 23.

RECORD OF CHANGES

REVISION NUMBER	EFFECTIVE DATE	REASON FOR CHANGE
2011-01	05/11	Figure B-10 - Redistribution of support for Field Monitoring Teams from Chemistry to Business Management and Work Control. Section D - Basis corrected to delete reference to USFAR Table 15-114 which has been deleted, revised ICs 4.3.A.3 and 4.4.A.3, EAL A to align with RP/0/B/1000/001, revised ICs and EALs to add levels of operating modes that represent the operating levels of hot shutdown, cold shutdown and hot standby were listed, added "AC" back to IC 4.5.A.1 where it had been inadvertently deleted, add SSF to IC 4.6.U.1, correct IC 4.5.G.1, EAL 1 to reflect SSF maintaining Mode 3 (hot standby) rather than hot shutdown, add new ICs for Jocassee Dam condition A and B declarations, correct misprint in IC 4.7.A.2, EAL B, correct formatting errors, and add Security EALs. Section F - deleted onsite areas requiring phone notifications for site assembly due to new wireless system being installed in those areas. Section G - replace 2010 calendar with 2011 calendar. Figure H-1 - revised room layout to reflect current arrangement. Section N - Revised the testing cycle for the EPLAN from a 5 year cycle to a 6 year cycle. Appendix 5 - update letters of agreement.
2011-02	10/11	This evaluation supports a request to revise the Oconee (ONS), McGuire (MNS), and Catawba (CNS) Emergency Plans to allow for an alternate approach for compliance with 10 CFR 50.47(b)(2) relative to meeting the minimum staffing requirement during emergencies for site Radiation Protection (RP) personnel and the Emergency Operations Facility (EOF) position staffing to that in Table B-1 in NUREG-0654, endorsed by Regulatory Guide 1.101.
2012-01	06/12	Section F - A change to the process for answering the 4911 emergency phone calls. The new process will have both Operations and Security(SAS) answering the phone. Appendix 7 -Will clarify the ERDS related system description verbiage from the modem based data transfer system to the new VPN System.
2012-02	06/12	The NRC published Federal Register notice [RIN 3150-AI10], "Enhancements to Emergency Preparedness Regulations" on November 23, 2011. The amendments contained in the rule are summarized as twelve (XII) topics with varying implementation due dates. Emergency Plan changes to the following sections (C, D, H, I, J, P, and Appendix 1) are made in accordance with the rule and the appropriate guidance documents pertaining to Topic V – Emergency Action Level for Hostile Action, Topic VI – Emergency Declaration Timeliness, Topic VIII – Emergency Operation Facility (Performance Based), Topic IX – Emergency Response Organization Augmentation at Alternate Facility, and Topic XI – Protective Actions for On-site Personnel.
2012-03	06/13	Added Agreement Letter 25 - G&G Metal Fabrication to provide Hale pump technical support and Agreement Letter 26 Operating Agreement between Duke Energy's Lincoln Combustion Turbine Facility & MNS, CNS and ONS Nuclear Supply Chain concerning an Emergency Supply of Diesel Fuel.

RECORD OF CHANGES

REVISION NUMBER	EFFECTIVE DATE	REASON FOR REVISIONS
2012-04	12/12	Section B - This change is to incorporate the new staffing analysis for the new EP rule and editorial changes.
2012-05	12/12	Revised Section D, Enclosure 4.3 to add threshold values for unit vent sampling as a compensatory measure. Unit vent sampling is performed on the 6th floor auxiliary building at sampling equipment where manual grab samples are retrieved per HP/0/B/1000/060-D. Additionally, the use of RIA 56 was added as a compensatory measure for Site Area Emergency and General Emergency Classifications. This change allows for classification of gaseous radiological releases in the event of a loss of either RIA-45 or 46. This change only clarifies the values to be used in the event normal monitoring is not available. The plan is also being revised based on annual review requirements, changes are mainly editorial or formatting. Additional changes are being made to reflect current name changes, update Agreement letters, Spill Prevention and Control, and Goundwater monitoring programs.

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

EMERGENCY PLAN

TABLE OF CONTENTS

Introduction

A. Purpose

The Oconee Nuclear Site is located on the shore of Lake Keowee in Oconee County, South Carolina. The station is licensed to operate three nuclear units, each producing a net electrical output of 887 MWE. The Oconee units are similar to those of other current pressurized water reactors.

In an emergency, the process of evaluating, determining, recommending and implementing protective action is a very difficult task. This task, however, can be simplified and the response improved by a planned orderly approach to an emergency. The Oconee Nuclear Site Emergency Plan has been written to provide a prompt comprehensive method that will result in informed, reliable decision making during an emergency.

B. Scope and Applicability

The Emergency Plan for the Oconee Nuclear Site is established for the protection of life and property in all emergency and accident situations. It particularly applies to those radiological situations (radiation, contamination, and reactor accidents) where the health and safety of station personnel and the general public may be involved; but it also includes other general industrial emergency and accident conditions such as fire, vehicular accidents, natural disasters, station spent fuel transportation accident response, chemical spills, hazardous waste materials, medical injury or illness, and industrial security.

The plan described herein will be implemented at Oconee by incorporating it into detailed station-Emergency Response Procedures; as such, it will be coordinated with plant operating, radiological- control, spent fuel transportation, station fire plan, industrial security procedures, hazardous waste procedure, Spill Prevention Control and Countermeasure Plan, and Groundwater Monitoring Sampling and Analysis Plan, CTP 1, 2,3.

The Emergency Plan is a coordinated effort involving site personnel; site facilities and equipment; the resources of the Duke Energy Company corporate organization, and the emergency services of various local, state, and federal agencies having appropriate jurisdiction or responsibilities for public health and safety, particularly radiological emergency and disaster plans of local county Emergency Preparedness Agencies, the South Carolina Department of Health and Environmental Control, Bureau of Radiological Health and the Emergency Preparedness Division of the South Carolina Adjutant General's Office.

The Emergency Plan has been developed to provide guidelines for handling emergencies of all kinds. However, during an actual emergency or simulated emergency it may become prudent for the Emergency Coordinator and/or EOF Director to deviate from guidelines provided in the Oconee Nuclear Site Emergency Plan. Rationale for this philosophy is quoted from 10 CFR50.54 (x):

> A licensee may take reasonable actions that departs from a license condition or a technical specification (contained in license issued under this part) in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.

All known deviations from the Emergency Plan should be documented in the emergency log kept by the Emergency Coordinator in the Control Room, Technical Support Center or the EOF Director in the Emergency Operations Facility.

C. Planning Basis (Radiological)

The planning parameters of the Oconee Nuclear Site Emergency Plan are adopted from the documents Code of Federal Regulations (10CFR50 & 10CFR20), NUREG 0654, FEMA-REP-1, Rev. 1, NUREG 0696, Reg. Guides 1.23, 1.101, 1.109, RTM-92 and EPA-400-R-92-001. Emergency Planning Zones (EPZ's) of 10 and 50 miles (radii from the nuclear station) have been adopted for radiological emergency planning functions.

Emergency Planning Zones

Plume exposure pathway - - The principal exposure sources from this pathway are: (a) total effective dose equivalent- external and internal exposure from gamma radiation from the plume and from deposited material; and (b) committed dose equivalent inhalation dose from the passing radioactive plume. The duration of the release leading to potential dose could range from one-half hour to days. For the plume exposure pathway, shelter and/or evacuation would likely be the principal immediate protective actions to be recommended for the general public.

The size (about 10 miles radius) of the plume exposure EPZ was based primarily on the following considerations:

a. Projected doses from the traditional design basis accidents would not exceed Protective Action Guide levels outside the zone;

b. Projected doses from most core melt sequences would not exceed Protective Action Guide levels outside the zone;

c For the worst core melt sequences, immediate life threatening doses would generally not occur outside the zone;

d. Detailed planning within 10 miles would provide a substantial base for expansion of response efforts in the event that this proved necessary.

The NRC has concluded that it would be unlikely that any protective actions for the plume exposure pathway would be required beyond the plume exposure EPZ. Also, the plume exposure EPZ is of sufficient size for actions within this zone to provide for substantial reduction in early severe health effects (injuries or deaths) in the event of a worst case core melt accident.

Ingestion exposure pathway - - The principal exposure from this pathway would be from ingestion of contaminated water or foods such as milk, fresh vegetables or aquatic foodstuffs.

The duration of potential exposure could range in length from hours to months. For the ingestion exposure pathway, the planning effort involves the identification of major exposure pathways from contaminated food and water and the associated control and interdiction points and methods. The ingestion pathway exposures in general would represent a longer term problem, although some early protective actions to minimize subsequent contamination of milk or other supplies should be initiated (e.g., remove cows from pasture and put them on stored feed).

The size of the ingestion exposure EPZ (about 50 miles in radius, which also includes the 10-mile radius plume exposure EPZ) was selected because:

a. The downwind range within which contamination will generally not exceed the Protective Action Guides is limited to about 50 miles from a nuclear power plant because of wind shifts during the release and travel periods.

b. There may be conversion of atmospheric iodine (i. e. , iodine suspended in the atmosphere for long time periods) to chemical forms which do not readily enter the ingestion pathway;

c. Much of any particulate material in a radioactive plume would have been deposited on the ground within about 50 miles from the facility; and

d. The likelihood of exceeding ingestion pathway protective action guide levels at 50 miles is comparable to the likelihood of exceeding plume exposure pathway protective action guide levels at 10 miles.

D. Planning Basis (Other)

The Oconee Nuclear Site Emergency Plan includes planning for industrial hazards such as fire, hazardous waste spills, and oil spills, to mention a few. Specific regulations (40 CFR 265, Subpart C&D, 40 CFR 112) and the site NPDES permit have been addressed and these regulatory requirements for emergency planning have been addressed in the planning effort for the Oconee Nuclear Site.

It is the intent of site management that all emergency planning efforts should be addressed by the Oconee Nuclear Site Emergency Plan.

FIGURE A

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

10 – MILE EMERGENCY PLANNING ZONE

This map includes the following information:

1. 1-mile site Boundary
2. 2-mile area (Sector A-0)
3. 5-mile area (A-1 thru F-1)
4. 10-mile area (Aa-2 thru F-2)
5. Predesignated sampling points (offsite monitoring)
6. Site evacuation resassembly locations
7. Siren locations

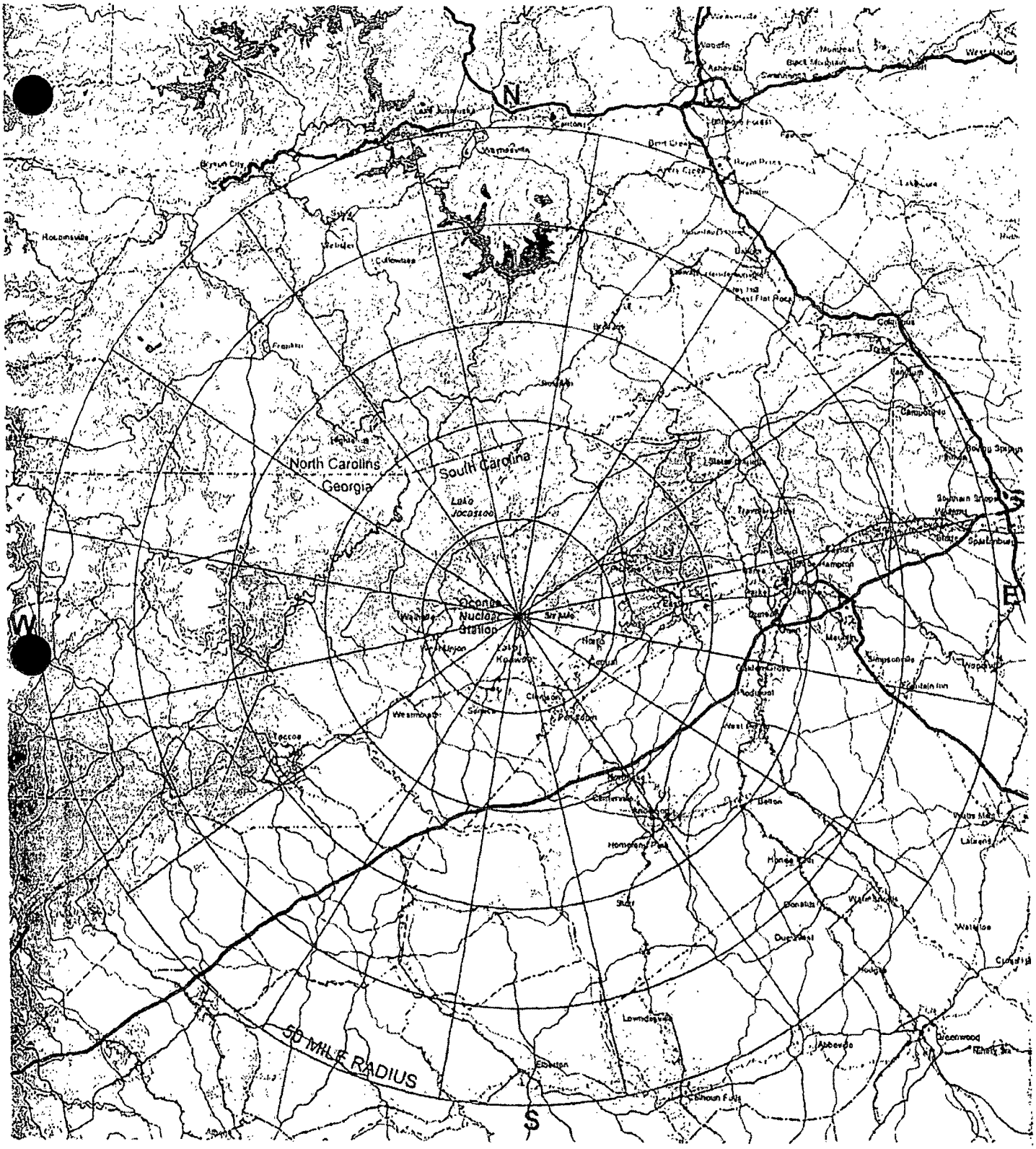


Figure B

Duke Energy Corporation
Oconee Nuclear Site

Counties Within A 50 Mile Radius

FIGURE B

DUKE ENERGY CORPORATION
OCONEE NUCLEAR SITE

LISTING OF COUNTIES WITHIN A 50 MILE RADIUS

GEORGIA	NORTH CAROLINA	SOUTH CAROLINA
Banks	Buncombe	Abbeville
Elbert	Clay	Anderson
Franklin	Haywood	Laurens
Habersham	Henderson	Greenville
Hall	Jackson	Greenwood
Hart	Macon	Oconee
Jackson	Polk	Pickens
Madison	Swain	Spartanburg
Rabun	Transylvania	
Stephens		
Towns		
White		

A. ASSIGNMENT OF RESPONSIBILITY (Organizational Control)

Overall Response Organization

1.a The Oconee Nuclear Station Emergency Plan is a coordinated effort involving: site personnel, site emergency plans, plant facilities and equipment, the emergency resources of Duke Energy Company corporate organization, emergency services of various local, state, and federal agencies having appropriate jurisdiction or concern for public health and safety.

FEDERAL

NRC (Nuclear Regulatory Commission)
DHS (Department Homeland Security)
EPR (Emergency Preparedness And Response)
FEMA (Federal Emergency Management Agency)
DHS/EPR/FEMA
DOE (Department of Energy)

Note: NRC, FEMA and DOE will coordinate response of other Federal Agencies per the National Response Plan, Nuclear/Radiological Incident Annex.

STATE

State of North Carolina -

See State of South Carolina FNF Plan

Note: North Carolina counties are located in the Oconee Ingestion Pathway.

State of South Carolina -

SC Emergency Management Division
SC Department of Health and Environmental Control, Bureau of Solid and Hazardous Waste Management

Note: These two agencies are the lead agencies in SC and coordinate activities of other departments.

State of Georgia -

See State of South Carolina FNF Plan

Note: Georgia counties are located in the Oconee Ingestion Pathway.

COUNTY

See Oconee County FNF Plans
See Pickens County FNF Plans

I.b During the first critical hours (until outside agencies responsible for public health and safety can properly respond), the Operations Shift Manager on duty at the Oconee Nuclear Station assumes responsibility for initiating protective action required for any location within the Site Boundary or Emergency Planning Zones that may be affected as a result of an emergency. The Operations Shift Manager will determine the emergency action level. Notification of Unusual Events dictate that offsite agencies be notified and that site management and corporate management are made aware of the event. If no further deterioration transpires, the event is closed out and agencies so notified. However, if the event is escalated and determined that a higher action level exists, the Emergency Response Organization is activated.

Pickens County, Oconee County, the State of South Carolina Warning Point, and the Nuclear Regulatory Commission are notified of any emergency status. The Corporate Office is notified of all emergency classifications and would provide support to the site as requested.

The Pickens County and Oconee County Emergency Management Agencies coordinate designated agency response through their Emergency Operation Centers. Until the State of South Carolina Emergency Organization is in a position to respond to the radiological emergency, the local county emergency preparedness offices will be responsible for the public and will make the necessary response required to provide for the health, safety and welfare of the public. Until the State of South Carolina is in place at their emergency operations center, direct contact will be made through the designated warning point in Columbia, South Carolina.

After the station manager assumes the role as Emergency Coordinator in the Technical Support Center, the Operations Shift Manager is then able to devote his full attention to the Control Room. The Technical Support Center will provide contact to offsite agencies until relieved by the Emergency Operations Facility. Technical support and accident mitigation strategy will be provided to the control room by the Technical Support Center.

Once the EOF Director assumes control of the Emergency Operations Facility, the Technical Support Center will be relieved of the responsibility of contact with offsite agencies. The EOF Director is responsible for providing technical information to the local and state governmental agencies that will be utilized to determine actions required to protect the health and safety of the public.

During a security event involving an intrusion/attempted intrusion into the site by a hostile force after normal working hours, activation of the Technical Support Center will be delayed for personnel safety. In this situation the Emergency Operations Facility may be activated and relieve the Operations Shift Manager of his Emergency Coordinator responsibilities. This transfer of Emergency Coordinator responsibilities directly to the Emergency Operations Facility will allow the Operations Shift Manager to devote his full attention to the control room.

The Emergency Operations Facility will augment the plant emergency organization staff with additional Duke Energy management, (both administrative and technical personnel). The Charlotte EOF will be staffed with qualified personnel from the Duke Energy Nuclear General Office and Catawba and McGuire Nuclear Stations. The lines of authority, responsibilities and functions for the EOF Organization are established in the Oconee Nuclear Station Emergency Plan. Functions are:

-Management of offsite Duke Energy emergency response
-Coordination of radiological and environmental assessment
-Protective Action Recommendations (PARS) for the public
-Coordination of emergency response activities with federal, state, and local agencies.

1.c Interrelationships of Response Organizations

Block diagrams, Figure Al, show the interrelationships of County, State, and Federal government agencies with the Oconee Nuclear Station Emergency Response Organization during any given emergency.

1.d. Emergency Coordinator (Figure B-5)

The Station Manager is designated as the individual who shall be in charge of the plant emergency response at the Oconee Nuclear Station. However, the Operations Shift Manager has been given the authority and the responsibility to initiate emergency actions until the Station Manager or his designated alternate is available. Once the Emergency Operations Facility is activated, the EOF Director becomes responsible for the functions as shown in B-6.

1.e. Emergency Response - 24 hours per day

The Switchboard at the Oconee Nuclear Station is operated twenty-four hours a day, seven days a week. The Oconee Nuclear Station has assigned duty personnel who are on call by phone or pager after hours and on weekends. Rosters are listed at the switchboard, in the Operations Shift Manager's office for ready access, and on the ONS WEB Page, (Computer System).

Duty personnel are assigned to the Emergency Response Organizations as first responders since they can be readily reached after hours and weekends. Recall procedures for emergency response is shown as Figure A-2A (weekdays Monday-Thursday 0700-1730), Figure A-2B (after hours, weekends, holidays). The OSM (or Designee) will activate the ERO pagers.

2.a Assignment of Responsibilities

See Oconee County FNF Plans
See Pickens County FNF Plans
See State of South Carolina FNF Plans

2.b Legal Basis for Authority

See Oconee County FNF Plans
See Pickens County FNF Plans
See State of South Carolina FNF Plans

3. Agreement Letters

Appendix 5 is a display of agreement letters

Letters of agreement shall be updated as necessary and at least every three (3) years, or in accordance to conditions set by agreeing agency to insure adequate awareness on the part of all concerned of the existence and commitment to provide agreed services or assistance.

4. Continuity of Resources

The Station Vice-President is the individual responsible for assuring continuity of resources within the Oconee Nuclear Station Emergency Plan. The EOF Director in the Emergency Operations Facility is responsible for assuring continuity of resources in an emergency situation.

FIGURE A1

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

INTER-RELATIONSHIP OF RESPONSE ORGANIZATIONS

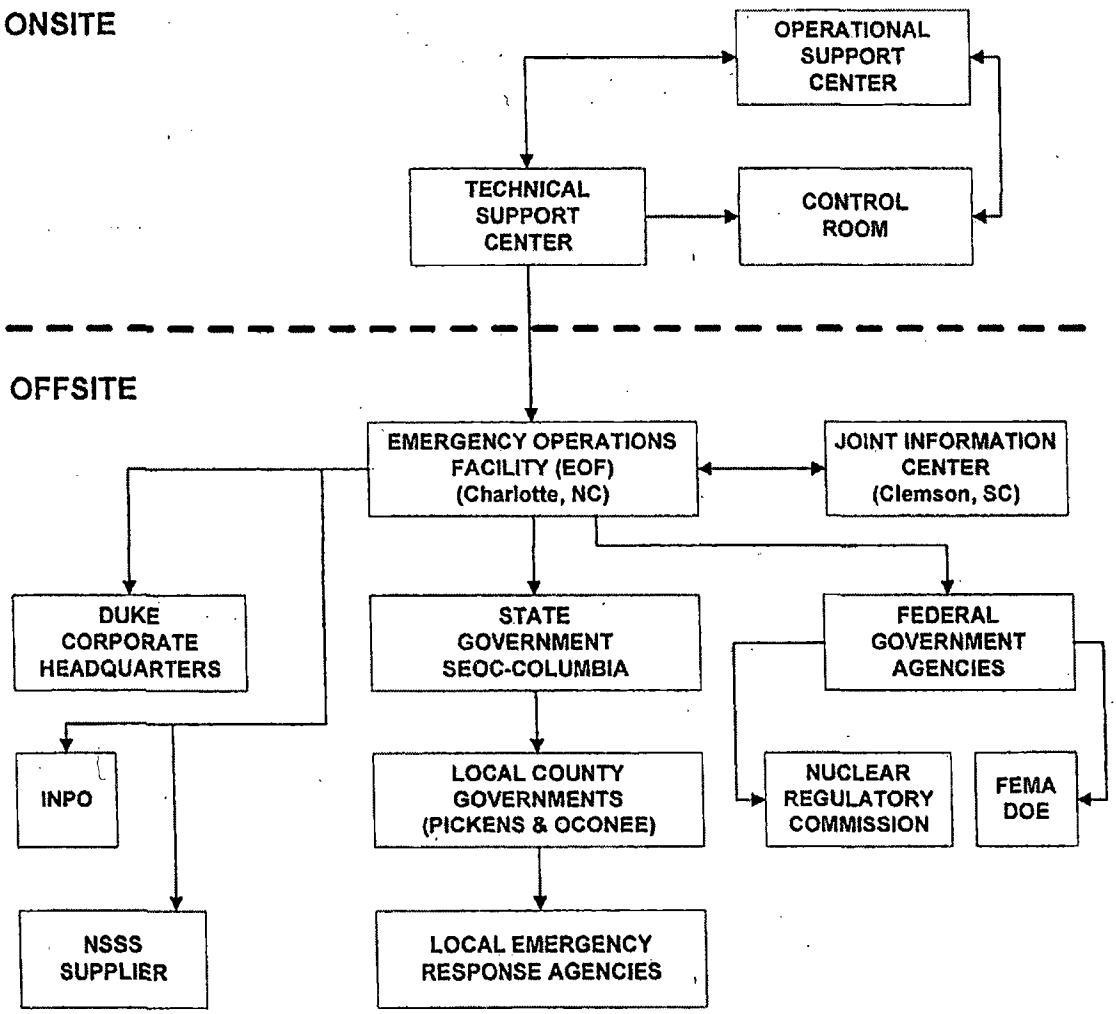
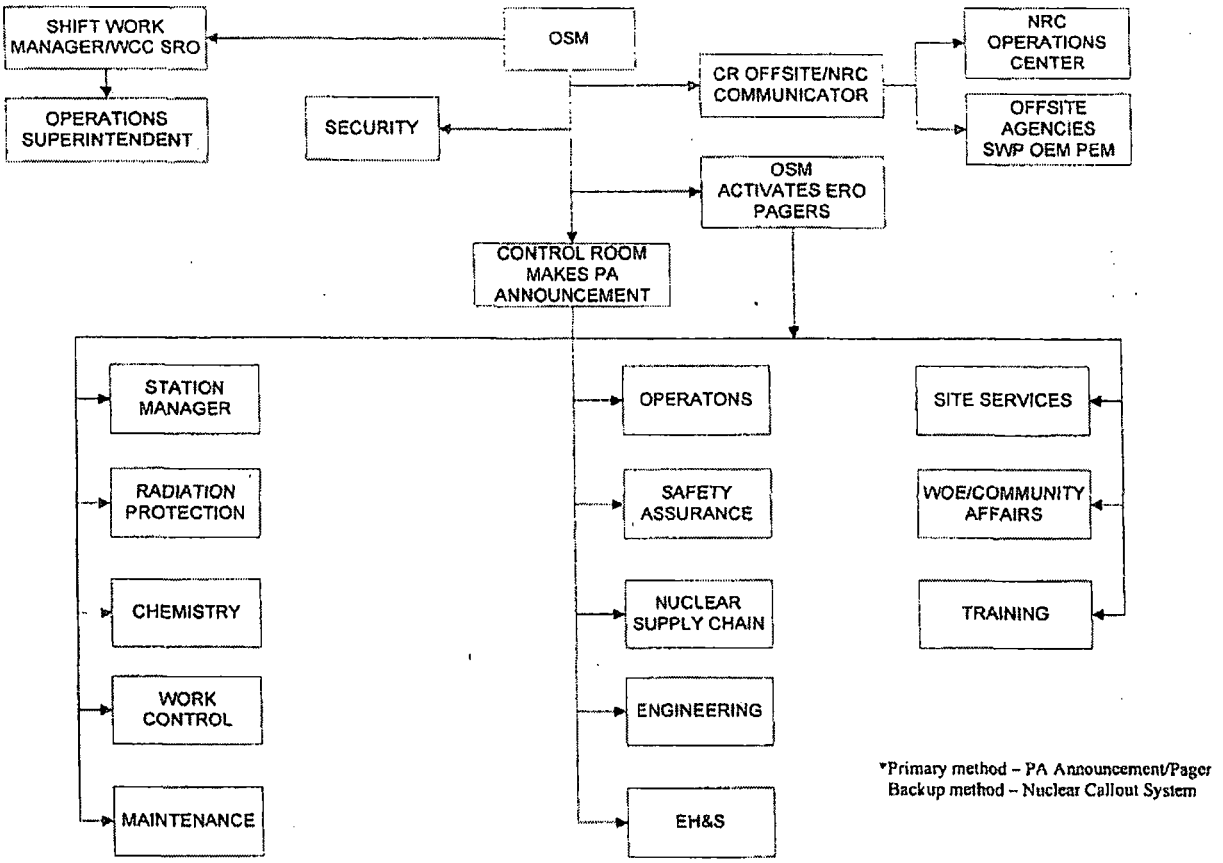


FIGURE A-2A

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

EMERGENCY ORGANIZATION RECALL – NORMAL WORKING HOURS*



*Primary method – PA Announcement/Pager
Backup method – Nuclear Callout System

FIGURE A-2B

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE
EMERGENCY ORGANIZATION RECALL – BACKSHIFT, HOLIDAYS, WEEKENDS

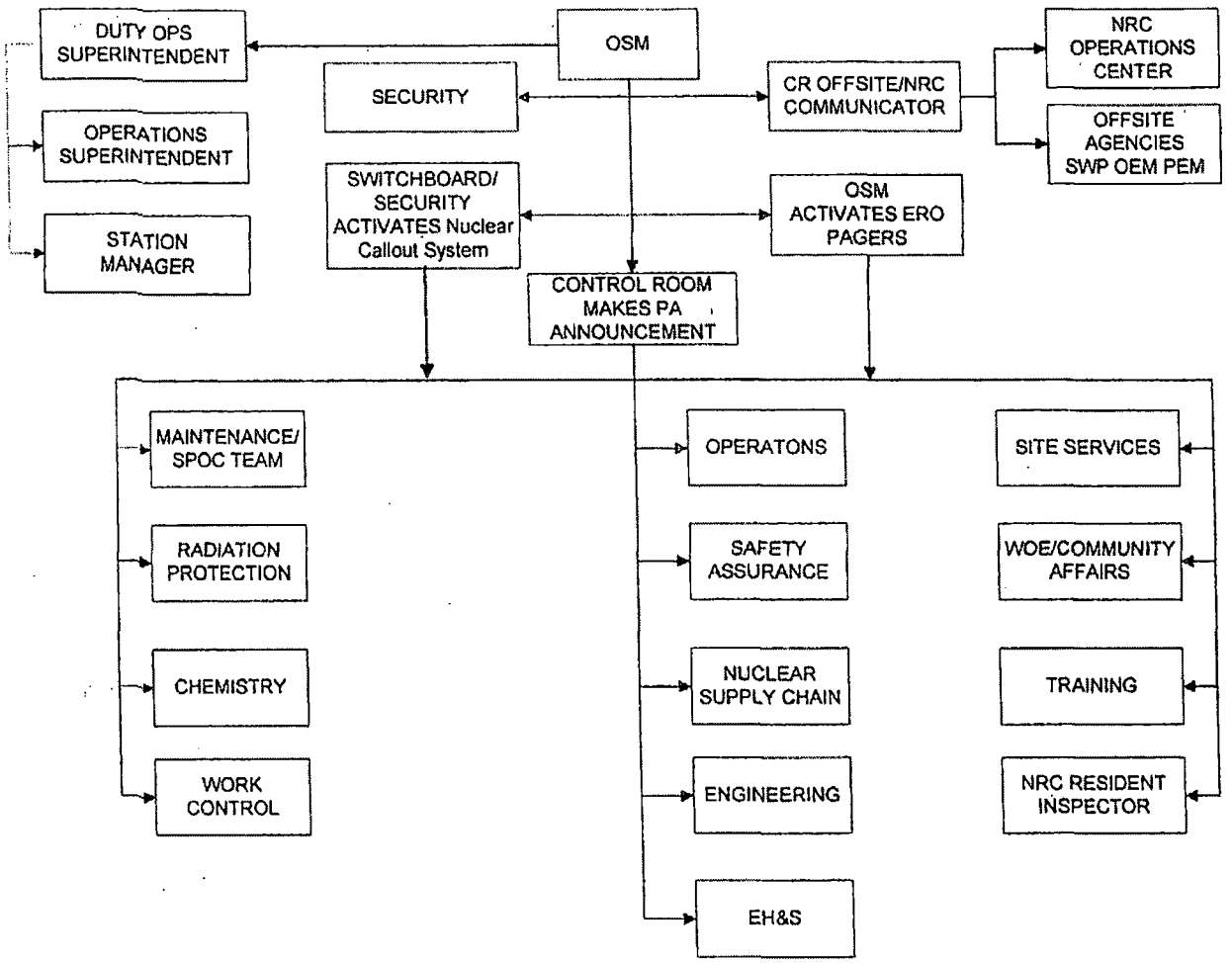


FIGURE A-3

RESPONSIBILITY FOR EMERGENCY RESPONSE FUNCTIONS

Emergency Class

Emergency Response Function	Unusual Event	Alert	Site Area Emergency	General Emergency
Supervision of reactor operations and manipulation of controls	CR	CR	CR	CR
Management of plant operations	CR	TSC	TSC	TSC
Technical Support to reactor operations	CR	TSC	TSC	TSC
Management of corporate emergency response resources	CR	EOF	EOF	EOF
Radiological effluent and environs monitoring, assessment, and dose projections	CR	EOF	EOF	EOF
Inform state and local emergency response organizations and make recommendations for public protective actions	CR	EOF	EOF	EOF
Management of recovery operations (Onsite)	CR	TSC	TSC	TSC
Management of recovery operations (Offsite)			EOF	EOF
Technical support of recovery operations	CR	TSC	TSC	TSC

Note: The Emergency Response Organization will be activated at the Operations Shift Manager's discretion for an emergency classification of Unusual Event. For any classification above an Unusual Event, the Emergency Response Organization will be activated.

C. EMERGENCY RESPONSE SUPPORT AND RESOURCES

Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and Local staff at Duke Energy's Emergency Operations Facility have been made, and for other organizations capable of augmenting the planned response are identified.

C.1a Individuals Authorized to Request Federal Assistance

Environmental radiological measurements are made in the field by radiological survey teams described in site implementing procedures. This information is used by the Radiological Assessment Manager in the EOF to confirm environmental projections of doses and dose rates. If necessary to relieve Duke personnel, environmental surveillance support personnel from the DOE Radiological Assistance Plan may be requested by the Radiological Assessment Manager through the EOF Director.

C.1b Federal Response Capability

The agreement letter between Duke Energy Company and DOE - Savannah River is found in Appendix 5. DOE emergency radiological assistance is expected within 4 to 5 hours from a call for these services at Oconee. (Driving and set time - does not consider use of helicopter or other aerial means of transportation). NRC's full team from Region 2 would be on-site within 4-5 hours and at the Charlotte EOF within 7-8 hours of the declaration of an emergency at Oconee Nuclear Station. Some portions of their team could arrive on-site or in Charlotte earlier via helicopter/air transport from Atlanta.

Accommodations have been made for 12 NRC site team members at the Charlotte EOF. If the decision is made to relocate NRC site team members from the EOF to Oconee, accommodations for up to 10 people (approximately 75 ft^2/person), including NRC, State, or other Federal responders (e.g., DHS-CNPPD) will be available at the Clemson JIC or an equivalent "near-site" facility. Telecommunication and habitability provisions (lighting, furniture, HVAC systems, power outlets) will also be maintained at this facility.

C.1c Resources Available to Federal Response Organization

Air Field - Greenville/Spartanburg Airport
Air Field - Anderson Airport
Air Field - Oconee/Clemson Airport
Air Field - Charlotte-Douglas International Airport

C.2a State and County Representation at the Charlotte Emergency Operations Facility/Oconee JIC

SC State representatives have space and communications available in the Charlotte EOF. The State and counties in the EPZ around Oconee Nuclear Station have space and communications available in the Clemson JIC.

C.2b Representative Exchange

Provisions have been made to dispatch representatives to principal off-site governmental Emergency Operations Centers (EOC's).

C. 3. Laboratory Facilities

Fixed facilities are available for gross counting and spectral analysis in the plant counting laboratory and at the Duke Energy Environmental Laboratory near McGuire Nuclear Station, Charlotte, North Carolina. In addition, the plant has emergency vehicles for mobile assessment purposes. Additional mobile monitoring capabilities and laboratory facilities are available through the S.C. Department of Health and Environmental Control, Bureau of Radiological Health, and the DOE Radiological Assistance Team.

A backup to the site counting laboratory is available in the ONS Body Burden Room in the Admin Building (See Figure H-3F) Equipment used in this area is portable and will be brought to the area as needed from the RP issue point and/or count room.

C.4 Assistance From Other Organizations

The following agencies have agreed to provide support to Duke Energy Company, Oconee Nuclear Station:

-INPO Fixed Nuclear Facility, Voluntary Assistance Agreement Signatories, Atlanta, GA

-U. S. Department of Energy (DOE) Savannah River, Aiken, SC

-Radiation Emergency Assistance Center/Training Site (REAC/TS), Oak Ridge, TN

D. EMERGENCY CLASSIFICATION SYSTEM

NUREG 1.101, Rev. 3, August, 1992, approved the guidance provided by NUMARC/NESP-007, Revision 2, as an Alternative Methodology for the Development of Emergency Action Levels. Oconee Nuclear Site used the NUMARC guidance for the development of initiating conditions and emergency action levels. The emergency action levels provided in this section have been modified to implement the guidance provided in NRC Bulletin 205-02, NEI guidance as endorsed in Regulatory Issue Summary 2006-12 and to support the implementation of NEI 03-12.

The emergency classification system utilizes four categories for classification of emergency events.

D.1.a. UNUSUAL EVENT

Events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

The purpose of an Unusual Event classification is to provide notification of the emergency to the station staff, State and Local Government representatives, and the NRC.

Specific initiating conditions and their corresponding emergency action levels are provided in the Basis Document beginning on page D-4.

D.1.b ALERT

Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

The purpose of the Alert classification is to assure that emergency personnel are readily available to:

1. Activate the onsite response centers

2. Respond if the situation becomes more serious or to perform confirmatory radiation monitoring if required

3. Provide offsite authorities current status information

Specific initiating conditions and their corresponding emergency action levels are provided in the Basis Document beginning on page D-4.

D.1.c. SITE AREA EMERGENCY

Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.

The purpose of the Site Area Emergency classification is to:

1. Activate the offsite response centers

2. Assure that monitoring teams are mobilized

3. Assure that personnel required for taking protective actions of near site areas are at duty stations should the situation become more serious

4. Provide current information to the public and be available for consultation with offsite authorities

Specific initiating conditions and their corresponding emergency action levels are provided in the Basis Document beginning on page D-4.

D.1.d. GENERAL EMERGENCY

Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

The purpose of the General Emergency classification is to:

1. Initiate predetermined protective actions for the public

2. Provide continuous assessment of information from onsite and offsite measurements

3. Initiate additional measures as indicated by event releases or potential releases

4. Provide current information to the public and be available for consultation with offsite authorities

Specific initiating conditions and their corresponding emergency action levels are provided in the Basis Document beginning on page D-4.

D.2 Initiating Conditions

The initiating conditions and their corresponding emergency actions levels are contained in the BASIS document beginning on page D-4. Classification procedure (RP/0/B/1000/001) provides the guidance necessary to classify events and promptly declare the appropriate emergency condition within 15 minutes after the availability of indications to cognizant facility staff that an emergency action level threshold has been exceeded. Specific response procedures are in place for the Control Room, Technical Support Center and the Emergency Operations Facility which delineate the required response during the appropriate classification.

D.3 LOCAL AND STATE EMERGENCY ACTION LEVELS

Pickens County FNF Plans
Oconee County FNF Plans
State of South Carolina FNF Plans (Site Specific)

D.4 LOCAL AND STATE EMERGENCY PROCEDURES

Pickens County FNF Plans
Oconee County FNF Plans
State of South Carolina FNF Plans (Site Specific)

ENCLOSURE 4.1

FISSION PRODUCT BARRIER MATRIX

DETERMINE THE APPROPRIATE CLASSIFICATION USING THE TABLE BELOW: ADD POINTS TO CLASSIFY. SEE NOTE BELOW

RCS BARRIERS (BD 5-7)		FUEL CLAD BARRIERS (BD 8-9)		CONTAINMENT BARRIERS (BD 10-12)	
Potential Loss (4 Points)	**Loss (5 Points)**	**Potential Loss (4 Points)**	**Loss (5 Points)**	**Potential Loss (1 Point)**	**Loss (3 Points)**
RCS Leakrate ≥ 160 gpm	RCS Leak rate that results in a loss of subcooling.	Average of the 5 highest CETC ≥ 700° F	Average of the 5 highest CETC ≥ 1200° F	CETC ≥ 1200° F ≥ 15 minutes **OR** CETC ≥ 700° F ≥ 15 minutes with a *valid* RVLS reading 0"	Rapid unexplained containment pressure decrease after increase **OR** containment pressure or sump level not consistent with LOCA
SGTR ≥ 160 gpm		*Valid* RVLS reading of 0" **NOTE:** RVLS is **NOT** valid if one or more RCPs are running **OR** if LPI pump(s) are running **AND** taking suction from the LPI drop line.	Coolant activity ≥ 300 µCi/ml DEI	RB pressure ≥ 59 psig **OR** RB pressure ≥ 10 psig and no RBCU or RBS	Failure of secondary side of SG results in a direct opening to the environment with SG Tube Leak ≥ 10 gpm in the **SAME** SG
Entry into the PTS (Pressurized Thermal Shock) Operation **NOTE:** PTS is entered under either of the following: • A cooldown below 400°F @ > 100°F/hr. has occurred. • HPI has operated in the injection mode while NO RCPs were operating.	1RIA 57 or 58 reading ≥ 1.0 R/hr 2 RIA 57 reading ≥ 1.6 R/hr 2 RIA 58 reading ≥ 1.0 R/hr 3RIA 57 or 58 reading ≥ 1.0 R/hr		**Hours Since SD** / **RIA 57 R/hr** / **OR RIA 58 R/hr** 0 - <0.5 / ≥ 300 / ≥ 150 0.5 - < 2.0 / ≥ 80 / ≥ 40 2.0 - 8.0 / ≥ 32 / ≥ 16	**Hours Since SD** / **RIA 57 R/hr** / **OR RIA 58 R/hr** 0 - < 0.5 / ≥ 1800 / ≥ 860 0.5 - < 2.0 / ≥ 400 / ≥ 195 2.0 - 8.0 / ≥ 280 / ≥ 130	SG Tube Leak ≥ 10 gpm exists in one SG. **AND** the other SG has secondary side failure that results in a direct opening to the environment **AND** is being fed from the affected unit.
HPI Forced Cooling	RCS pressure spike ≥ 2750 psig			Hydrogen concentration ≥ 9%	Containment isolation is incomplete and a release path to the environment exists
Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment	Emergency Coordinator/EOF Director judgment

UNUSUAL EVENT (1-3 Total Points)	ALERT (4-6 Total Points)	SITE AREA EMERGENCY (7-10 Total Points)	GENERAL EMERGENCY (11-13 Total Points)
OPERATING MODE: 1, 2, 3, 4	**OPERATING MODE:** 1, 2, 3, 4	**OPERATING MODE:** 1, 2, 3, 4	**OPERATING MODE:** 1, 2, 3, 4
4.1.U.1 Any potential loss of Containment	4.1.A.1 Any potential loss or loss of the RCS	4.1.S.1 Loss of any two barriers	4.1.G.1 Loss of any two barriers and potential loss of the third barrier
4.1.U.2 Any loss of containment	4.1.A.2 Any potential loss or loss of the Fuel Clad	4.1.S.2 Loss of one barrier and potential loss of either RCS or Fuel Clad Barriers	4.1.G.2 *Loss of all three barriers*
		4.1.S.3 Potential loss of both the RCS and Fuel Clad Barriers	

NOTE: An event with multiple events could occur which would result in the conclusion that exceeding the loss or potential loss threshold is **IMMINENT** (i.e., within 1-3 hours). In this IMMINENT LOSS situation, use judgment and classify as if the thresholds are exceeded.

ENCLOSURE 4.1

BASIS INFORMATION FOR FISSION PRODUCT BARRIER REFERENCE TABLE

RCS BARRIER EALs: (1 or 2 or 3 or 4 or 5)

The RCS Barrier includes the RCS primary side and its connections up to and including the pressurizer safety and relief valves, and other connections up to and including the primary isolation valves.

1. RCS Leak Rate

Small leaks may result in the inability to maintain normal liquid inventory within the Reactor Coolant System (RCS) by normal operation of the High Pressure Injection System. The capacity of one HPI pump at normal system pressure is approximately 160 gpm. Leakage in excess of this value would call for compensatory action to maintain normal liquid inventory. As such, this is an indication of a degraded RCS barrier and is considered to be a potential loss of the barrier.

The loss of subcooling is the fundamental indication that the inventory loss from the primary system exceeds the capacity of the inventory control systems. If the loss of subcooling is indicated, the RCS barrier is considered lost.

2. SG Tube Rupture

Small Steam Generator tube leaks may result in the inability to maintain normal liquid inventory within the Reactor Coolant System (RCS) by normal operation of the High Pressure Injection System. The capacity of one HPI pump at normal system pressure is approximately 160 gpm. Leakage in excess of this value would call for compensatory action to maintain normal liquid inventory. As such, this is an indication of a degraded RCS barrier and is considered to be a potential loss of the barrier.

A tube rupture (> than 160 gpm) with an unisolable secondary line rupture is generally indicated by a reduction in primary coolant inventory, increased secondary radiation levels, and an uncontrolled or complete depressurization of the ruptured SG. This set of conditions represents a potential loss of the RCS and loss of containment fission product barrier and will result in the declaration of a Site Area Emergency. Escalation to a General Emergency would be indicated by at least a potential loss of the fuel clad barrier.

ENCLOSURE 4.1

2. SG Tube Rupture

Secondary radiation increases should be observed via radiation monitoring of Condenser Air Ejector Discharge, Main Steam, and/or SG Sampling System. Determination of the "uncontrolled" depressurization of the ruptured SG should be based on indication that the pressure decrease in the ruptured steam generator is not a function of operator action. This should prevent declaration based on a depressurization that results from an EOP induced cooldown of the RCS that does not involve the prolonged release of contaminated secondary coolant from the affected SG to the environment. This EAL should encompass steam breaks, feed breaks, and stuck open safety or relief valves.

A steam generator tube leak less than 160 gpm would be classified under Enclosure 4.2, Systems Malfunctions, RCS leakage as an Unusual Event. If a release also occurs such as steam through a steam relief valve failed open, feedwater line break, steam line break on the affected steam generator then a loss of the Containment Barrier has also occurred. Upgrade to a higher classification would be by Enclosure 4.3, Abnormal Rad Levels/Radiological Effluent or further degradation of RCS or Fuel Clad Barriers.

3. Entry Into PTS

Entry into Pressurized Thermal Shock Operation could cause damage to the reactor vessel severe enough to cause a loss of coolant accident. Therefore, this situation represents a potential loss of the RCS. This EAL is satisfied if Rule 8 (Pressurized Thermal Shock) is implemented.

4. Reactor Coolant System Integrity

HPI Forced cooling represents the failure of the steam generators to remove heat from the core. To use this mode of cooling indicates that all feedwater (both main and emergency) are not available for use and the pressure in the reactor coolant system is greater than or equal to 2300 psig. The power-operated relief valve must be opened to initiate the cooling through the high pressure injection system. In effect, a self-imposed loss of coolant is established. The condition is classified as a potential loss of the reactor coolant system.

A reactor coolant system pressure spike of greater than or equal to design pressure of 2750 psig represents a loss of the RCS barrier.

ENCLOSURE 4.1

5. Containment Radiation Monitoring

A containment radiation monitor reading of > 1 R/hr on radiation monitors 1RIA-57 or 58 (Unit 1), 2RIA-58 (Unit 2), and 3RIA-57 or 58 (Unit 3) indicates the release of reactor coolant to the containment. A containment radiation monitor reading of >1.6 R/hr on radiation monitor 2RIA-57 (Unit 2) also indicates the release of reactor coolant to the containment. The difference in these values is due to the relative strength of the detector check source which affects the background readings for the detector (the source for 2RIA-57 is stronger than that for the remaining detectors). This reading is less than that specified for Fuel Clad Barrier EAL#3. Thus, this EAL would be indicative of a RCS leak only. If the radiation monitor reading increased to that specified by Fuel Clad Barrier EAL #3, fuel damage would also be indicated.

There is no "Potential Loss" EAL associated with this item.

6. Emergency Coordinator/EOF Director Judgment

This EAL is intended to address unanticipated conditions not addressed explicitly but warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator/EOF Director to fall under either the loss or potential loss of the RCS Barrier.

ENCLOSURE 4.1

FUEL CLAD BARRIER EALs: (1 or 2 or 3 or 4)

The Fuel Clad Barrier is the zircalloy tubes that contain the fuel pellets.

1. Core Exit Thermocouple Readings

The "Potential Loss" EAL reading corresponds to loss of subcooling. The value of 700 °F is indicative of superheated steam and is a value referenced in the Emergency Operating procedure. The loss of subcooling may lead to clad damage and, therefore, this is a potential loss of the fuel clad barrier.

The "Loss" EAL reading (1200 °F) indicates significant superheating of the coolant and core uncovery. Clad damage under these conditions is likely; therefore, this is indication of loss of the Fuel Clad Barrier.

2. Primary Coolant Activity Level

The value of 300 µCi/ml DEI coolant activity is well above that expected for iodine spikes and corresponds to about 4% fuel clad damage. This amount of clad damage indicates significant clad damage and thus the Fuel Clad Barrier is considered lost. Basis for determination is Engineering Calculation OSC-5283.
There is no equivalent "Potential Loss" EAL for this item.

3. Reactor Vessel Water Level

A valid reading of 0" on the RVLS (Reactor Vessel Level System) is an indicator that the fuel **could be** uncovered and would signify a potential loss of the fuel clad barrier. RVLS is invalid if LPI pumps are running and taking suction from the LPI drop line.

4. Containment Radiation Monitoring

Containment monitor readings on RIA 57/58 in the below listed table is higher than can be attributed to normal reactor coolant activity alone. These levels indicate that approximately 4% of the fuel cladding has failed which is consistent with the release of 300 uC/ml DEI to the containment atmosphere. Release of this amount of activity into containment corresponds to a loss of both the fuel clad and RCS barriers. Basis for the calculation which determined the activity levels can be found in Engineering calculation OSC-5283.

Hours Since SD	RIA 57	RIA 58
0 - <0.5	≥ 300	≥ 150
0.5 - < 2.0	≥ 80	≥ 40
2.0 - 8.0	≥ 32	≥ 16

There is no "Potential Loss" EAL associated with this item.

ENCLOSURE 4.1

5. Emergency Coordinator/EOF Director Judgment

This EAL is intended to address unanticipated conditions not addressed explicitly but warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator/EOF Director to fall under either the loss or potential loss of the Fuel Clad Barrier.

ENCLOSURE 4.1

CONTAINMENT BARRIER EALs: (1 or 2 or 3 or 4 or 5 or 6)

The Containment Barrier includes the containment building, its connections up to and including the outermost containment isolation valves. This barrier also includes the main steam, feedwater, and blowdown line extensions outside the containment building up to and including the outermost secondary side isolation valve.

1. Containment Pressure

- Containment pressure above 59 psig (the design pressure) indicates that the containment or its heat removal systems are not functioning as intended. This degradation of containment pressure control represents a potential loss of containment integrity.

- Containment pressure of 10 psig with no reactor building cooling units or reactor building spray available represents a degradation in the control of the containment conditions. Therefore, this situation represents a potential loss of containment integrity.

- A containment hydrogen concentration greater than 9 percent volume is sufficient to expect that any ignition would result in complete combustion of the hydrogen in containment and a significant pressure rise. At hydrogen concentrations near 9 percent volume no challenge to containment integrity would be expected. At levels somewhat higher the possibility of a deflagration to detonation transition raises the uncertainty as to the actual response of the containment. Therefore, it is prudent that this level of hydrogen in the containment be considered a potential loss of containment integrity.

- Rapid unexplained loss of pressure (i.e., not attributable to containment spray or condensation effects) following an initial pressure increase indicates a loss of containment integrity.

  Containment pressure and sump levels should increase as a result of the mass and energy release into containment from a LOCA. Thus, sump level or pressure not increasing indicates an interfacing systems LOCA which is a containment bypass and a loss of containment integrity.

ENCLOSURE 4.1

2. Containment Isolation Valve Status After Containment Isolation

Failure to isolate those containment pathways which would allow containment atmosphere to be released to the environment is a loss of the containment barrier.

The use of the modifier "direct" in defining the release path discriminates against release paths through interfacing liquid systems. The existence of an in-line charcoal filter does not make a release path indirect since the filter is not effective at removing fission product noble gases. Typical filters have an efficiency of 95-99% removal of iodine. Given the magnitude of the core inventory of iodine, significant releases could still occur. In addition, since the fission product release would be driven by boiling in the reactor vessel, the high humidity in the release stream can be expected to render the filters ineffective in a short period.

There is no Potential Loss threshold associated with this item.

The decision of whether this EAL is satisfied should be based on present and readily available information. This includes physical data seen and heard. It is not the intent of this EAL to use relatively long term calculations to make the determination. If there is a pathway which would allow containment atmosphere to be released to the environment, this EAL is satisfied.

There is no "Potential Loss" EAL associated with this item.

3. SG Secondary Side Release With Primary To Secondary Leakage

Secondary side releases directly to the atmosphere include atmospheric dump valves and stuck open main steam safety valves. If the main condenser is available, there may be releases via air ejector, gland seal exhauster, and other similar controlled, and often monitored, pathways. These pathways do not meet the intent of a direct opening to the environment. These minor releases are assessed using Abnormal Rad Levels/Radiological Effluent Initiating Conditions. A failure of the secondary side which results in a direct opening to the environment, in combination with Primary to Secondary leakage $\geq$ 10 gpm in the same steam generator, constitutes a bypass of the containment, and therefore, a loss of the containment barrier.

Likewise, a failure of the secondary side which results in a direct opening to the environment, in combination with Primary to Secondary leakage $\geq$ 10 gpm in the other steam generator, constitutes a bypass of the containment, **IF** the SG with the secondary side failure is being fed feedwater from the affected unit. Therefore, this condition also constitutes a loss of the containment barrier.

ENCLOSURE 4.1

In combination with the SG Tube Rupture EAL under the RCS barrier section, the appropriate classification can be determined.

There is no "Potential Loss" EAL associated with this item.

4. Significant Radioactive Inventory in Containment

Containment radiation readings shown in the table below are values which indicate significant fuel damage well in excess of the EALs associated with both loss of Fuel Clad and loss of RCS Barriers. NUREG-1228, "Source Estimations During Incident Response to Severe Nuclear Power Plant Accidents," indicates that such conditions do not exist when the amount of clad damage is less than 20%. This amount of activity in containment, if released, could have such severe consequences that it is prudent to treat this as a potential loss of containment.

By treating the radioactive inventory in containment as a potential loss, a General Emergency will be declared when the conditions of the fuel clad and RCS barriers are included in the evaluation. This will allow the appropriate protective actions to be recommended.

Hours Since SD	RIA 57	RIA 58
0 - < 0.5	≥ 1800	≥ 860
0.5 - < 2.0	≥ 400	≥ 195
2.0 - 8.0	≥ 280	≥ 130

There is no "Loss" EAL associated with this item.

5. Core Exit Thermocouple

Core Exit Thermocouple temperatures ≥ 1200 °F or ≥ 700 °F with a valid RVLS reading for greater than 15 minutes, in this potential loss EAL represent imminent core damage that, if not terminated, could lead to vessel failure and an increased potential for containment failure. The potential for containment challenge as a result of events at reactor vessel failure makes it prudent to consider an unmitigated core damage condition as a potential loss of the containment barrier.

Severe accident analyses (e.g., NUREG-1150) have concluded that function restoration procedures can arrest core degradation within the reactor vessel in a significant fraction of the core damage scenarios, and that the likelihood of containment failure is very small in these events. Given this, it is appropriate to provide a reasonable period to allow function

5. Core Exit Thermocouple

restoration procedures to arrest the core melt sequence. Whether or not the procedures will be effective should be apparent within 15 minutes. The Emergency Coordinator should make the declaration as soon as it is determined that the procedures have been, or will be ineffective.

There is no "Loss" EAL associated with this item.

6. Emergency Coordinator/EOF Director Judgement

This EAL is intended to address unanticipated conditions not addressed explicitly but warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator/EOF Director to fall under either the loss or potential loss of the Containment Barrier.

Reference

NUMARC/NESP-007, Rev 2, 01/92, Table 5-F-3

ENCLOSURE 4.2

SYSTEM MALFUNCTION

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
RCS Leakage	Unplanned Loss of Most or All Safety System Annunciation or Indication in Control Room With Either (1) a Significant Transient in Progress, or (2) Compensatory Non-Alarming Indicators are Unavailable	Inability to Monitor a Significant Transient in Progress	
Unplanned Loss of Most or All Safety System Annunciation or Indication in the Control Room for Greater than 15 minutes			
Inability to Reach Required Shutdown Within Technical Specification Limits			
Unplanned Loss of All Onsite or Offsite Communications			
Fuel Clad Degradation			

ENCLOSURE 4.2

SYSTEM MALFUNCTION

UNUSUAL EVENT

1. RCS Leakage

OPERATING MODE APPLICABILITY: **1,2,3,4**

EMERGENCY ACTION LEVELS:

A. Unidentified leakage $\geq$ 10 gpm

B. Pressure boundary leakage $\geq$ 10 gpm

C. Identified leakage $\geq$ 25 gpm
- Includes SG tube leakage

BASIS:
Reactor Coolant system (RCS) Leakage is defined in RCS Operational Leakage in the Technical Specifications Basis B 3.4.13.

This IC is included as an Unusual Event because it may be a precursor of more serious conditions and, as result, is considered to be a potential degradation of the level of safety of the plant. The 10 gpm value for the unidentified and pressure boundary leakage was selected as it is observable with normal control room indications. Lesser values must generally be determined through time-consuming surveillance tests (e.g., mass balances). The EAL for identified leakage is set at a higher value due to the lesser significance of identified leakage in comparison to unidentified or pressure boundary leakage. In either case, escalation of this IC to the Alert level is via Fission Product Barrier Degradation ICs or IC, Enclosure 4.4, Loss of Shutdown Function, "Inability to Maintain Plant in Cold Shutdown".

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SU5

ENCLOSURE 4.2

SYSTEM MALFUNCTION

UNUSUAL EVENT

2. Unplanned Loss of Most or All Safety System Annunciation or Indication in The Control Room for Greater Than 15 Minutes.

OPERATING MODE APPLICABILITY: 1,2,3,4

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. Unplanned loss of >50% of the following annunciators for greater than 15 minutes

Units 1&3	1SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16 and 18 3SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16 and 18
Unit 2	2SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15 and 16

AND

In the opinion of the Operations Shift Manager, the loss of the annunciators or indicators requires additional personnel (beyond normal shift compliment) to safely operate the unit.

BASIS:

This IC and its associated EAL are intended to recognize the difficulty associated with monitoring changing plant conditions without the use of a major portion of the annunciation or indication equipment.

"Unplanned" loss of annunciators or indicator excludes scheduled maintenance and testing activities. Fifteen minutes was selected as a threshold to exclude transient or momentary power losses. Equipment monitored by referenced annunciator panel is shown on page 20.

This Unusual Event will be escalated to an Alert if a transient is in progress during the loss of annunciation or indication.

Due to the limited number of safety systems in operation during cold shutdown, refueling, and defueled modes, no IC is indicated during these modes of operation.

Reference NUMARC/NESP-007, Rev. 2, 01/92, SU3

ENCLOSURE 4.2

SYSTEM MALFUNCTION

UNUSUAL EVENT

3. Inability to Reach Required Shutdown Within Technical Specification Limits

OPERATING MODE APPLICABILITY: 1, 2, 3, 4

EMERGENCY ACTION LEVELS:

A. Plant is not brought to required operating mode within Technical Specifications LCO Action Statement Time.

BASIS:

Technical Specification Actions Statements require the plant to be brought to a required shutdown mode when the Technical Specification required configuration cannot be restored. Depending on the circumstances, this may or may not be an emergency or precursor to a more severe condition. In any case, the initiation of plant shutdown required by the site Technical Specifications requires a one hour report under 10 CFR 50.72 (b) Non-emergency events. The plant is within its safety envelope when being shut down within the allowable action statement time in the Technical Specifications. An immediate Notification of an Unusual Event is required when the plant is not brought to the required operating mode within the allowable action statement time in the Technical Specifications. **Declaration of an Unusual Event is based on the time at which the LCO-specified action statement time period elapses under the site Technical Specifications and is not related to how long a condition may have existed.** Other required Technical Specification shutdowns that involve precursors to more serious events are addressed by other System Malfunction, Hazards, or Fission Product Barrier Degradation ICs.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SU2

ENCLOSURE 4.2

SYSTEM MALFUNCTION

UNUSUAL EVENT

4. Unplanned Loss of All Onsite or Offsite Communications

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. Loss of all onsite communications capability(internal phone system, PA system, pager system, onsite radio system) affecting the ability to perform routine operations.

B. Loss of all offsite communications capability (Selective Signaling, ETS lines, offsite radio system, commercial phone system) affecting the ability to communicate with offsite authorities.

BASIS:

The purpose of this IC and its associated EALs is to recognize a loss of communications capability that either defeats the plant operations staff ability to perform routine tasks necessary for plant operations or the ability to communicate problems with offsite authorities. The loss of offsite communications ability is expected to be significantly more comprehensive than the condition addressed by 10 CFR 50.72.

This EAL is intended to be used only when extraordinary means are being utilized to make communications possible (relaying of information from radio transmissions, individuals being sent to offsite locations, etc.).

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SU6

ENCLOSURE 4.2

SYSTEM MALFUNCTION

UNUSUAL EVENT

5. Fuel Clad Degradation.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL:

A. DEI > 5 uCi/ml

BASIS:

Chemistry analysis which indicates the presence of > 5 uci/ml dose equivalent iodine in the reactor coolant system clearly denotes a potential degradation in the level of safety of the plant and a potential precursor of more serious problems. The basis for the 5 uCi/ml is based upon the Oconee FSAR, Chapter 15, Table 15-14 of RCS Coolant Activity for 1% failed fuel. Escalation of this IC to the Alert level is via the Fission Product Barrier Degradation Monitoring ICs, Enclosure 4.1 of this document.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SU4

ENCLOSURE 4.2

SYSTEM MALFUNCTION

ALERT

1. Unplanned Loss of Most or All Safety System Annunciation or Indication in Control Room With Either (1) a Significant Transient in Progress, or (2) Compensatory Non-Alarming Indicators are Unavailable.

OPERATING MODE APPLICABILITY: 1, 2, 3, 4

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. Unplanned loss of > 50% of the following annunciators for greater than 15 minutes.

Units 1&3 1SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, and 18
3SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, and 18

Unit 2 2SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15 and 16

AND

In the opinion of the Operations Shift Manager, the loss of the annunciators or indicators requires additional personnel (beyond normal shift compliment) to safely operate the unit.

AND

Either of the following:

A significant plant transient is in progress.

OR

Loss of the OAC and PAM indications.

ENCLOSURE 4.2

SYSTEM MALFUNCTION

BASIS:

SA 1-9 : ES, RPS, CRD breakers, basic information concerning primary system, fire alarms, seismic trigger, condenser cooling, HPSW and LPSW system status.

SA 14-16: Electrical load (Keowee emergency start, load shed, emergency power switching logic)

SA-18 : CRD shunt trip relay, ICS, PZR relief valve flow, hydrogen concentration in RB, chlorine gas leakage.

This IC and its associated EAL are intended to recognize the difficulty associated with monitoring changing plant conditions without the use of a major portion of the annunciation or indication equipment during a transient.

Fifteen minutes was selected as a threshold to exclude transient or momentary power losses.

"Significant Transient" includes response to automatic or manually initiated functions such as scrams, runbacks involving greater than 25% thermal power change, ECCS injections, or thermal power oscillations of 10% or greater.

Significant indication is available from the OAC (operational aid computer) and from post accident monitoring (PAM). Loss of this data in conjunction with the loss of other indications would further impair the ability to monitor plant parameters.

Due to the limited number of safety systems in operation during cold shutdown, refueling and defueled modes, no IC is indicated during these modes of operation.

This Alert will be escalated to a Site Area Emergency if the operating crew cannot monitor the transient in progress.

Reference
NUMARC/NESP-007, Rev. 2, 01/92/ SA4

ENCLOSURE 4.2

SYSTEM MALFUNCTION

SITE AREA EMERGENCY

1. Inability to Monitor a Significant Transient in Progress

OPERATING MODE APPLICABILITY: 1, 2, 3, 4

EMERGENCY ACTION LEVEL:
The following conditions exist:

A Unplanned loss of > 50% of the following annunciators for greater than 15 minutes.

Units 1&3	1SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, and 18 3SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, and 18
Unit 2	2SA 1, 2, 3, 4, 5, 6, 7, 8, 9, 14, 15, and 16

AND

A significant plant transient is in progress.

AND

Loss of the OAC and the PAM indications.

AND

Inability to directly monitor any one of the following functions:

- Subcriticality
- Inadequate core cooling
- Heat sink
- Containment Integrity
- RCS integrity
- RCS Inventory

BASIS:
This IC and its associated EAL are intended to recognize the inability of the control room staff to monitor the plant response to a transient. The inability to directly monitor indicates that computer data points or SPDS indicators are not available to monitor the critical safety functions.

ENCLOSURE 4.2

SYSTEM MALFUNCTION

SITE AREA EMERGENCY

"Significant Transient" includes response to automatic or manually initiated functions such as scrams, runbacks involving greater than 25% thermal power change, ECCS injections, or thermal power oscillations of 10% of greater.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SS6

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the SLC Limits for 60 Minutes or Longer	Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the SLC limits for 15 Minutes or Longer	Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 100 mRem TEDE or 500 mRem CDE thyroid for the Actual or Projected Duration of the Release	Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 1000 mRem TEDE or 5000 mRem CDE thyroid for the Actual or Projected Duration of the Release
Unexpected Increase in Plant Radiation Levels or Airborne Concentration	Major Damage to Irradiated Fuel or Loss of Water Level that Has or Will Result in the Uncovering of Irradiated Fuel Outside the Reactor Vessel		
	Release of Radioactive Material or Increases in Radiation Levels Within the Facility That Impedes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown		

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

UNUSUAL EVENT

1. Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the SLC Limits for 60 Minutes or Longer

OPERATING MODE APPLICABILITY: **ALL**
EMERGENCY ACTION LEVELS:

A. A valid indication on radiation monitor RIA 33 of ≥ 4.06E+06 cpm for > 60 minutes. (See Note)

B. Valid indication on radiation monitor RIA-45 of ≥ 9.35E+05 cpm or RP sample reading of ≥ 6.62E-2uCi/ml Xe 133 eq for > 60 minutes. (See Note)

C. Confirmed sample analysis of liquid effluent being released exceeds two times SLC 16.11.1 for > 60 minutes as determined by Chemistry procedures.

D. Confirmed sample analysis of gaseous effluent being released exceeds two times SLC 16.11.2 for > 60 minutes as determined by Radiation Protection procedures.

Note: If monitor reading is sustained for the time period indicated in the EAL <u>AND</u> the required assessments (procedure calculations) cannot be completed within this period, declaration must be made on the valid Radiation monitor reading.

BASIS:
The term "Unplanned", as used in this context, includes any release for which a liquid waste release (LWR) or gaseous waste release (GWR) package was not prepared, or a release that exceeds the conditions (e.g., minimum dilution flow, maximum discharge flow, alarm setpoints, etc.) on the applicable package.

Valid means that a radiation monitor reading has been confirmed to be correct.

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

UNUSUAL EVENT

Chapter 16, Selected Licensee Commitments, of the Oconee Nuclear Station FSAR provides guidance to ensure that the release of liquid or gaseous effluent does not exceed the limits established in 10 CFR 20, Appendix B, Table II and Appendix I, 10 CFR 50. Unplanned releases in excess of two times the selected licensee commitments that continue for 60 minutes or longer represent an uncontrolled situation and hence, a potential degradation in the level of safety. It is not intended that the release be averaged over 60 minutes. The event should be declared as soon as it is determined that the release duration has or will likely exceed 60 minutes.

1. **Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the SLC Limits for 60 Minutes or Longer**

Monitor indications are based on the methodology of the site Offsite Dose Calculation Manual (ODCM). Annual average meteorology (semi-elevated 1.672E-06 sec/m3) has been used. Radiation Protection will use HP/0/B/1009/015 to quantify a gaseous release. Chemistry will use CP/0/B/5200/045 and/or CP/0/B/5200/048 to quantify a liquid release.

Reference
NUMARC/NESP/-007, Rev. 2, 01/92, AU1

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

UNUSUAL EVENT

2. Unexpected Increase in Plant Radiation or Airborne Concentration.

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVELS:

A. LT 5 reading 14" and decreasing with makeup not keeping up with leakage **WITH** fuel in the core

B. Valid indication of *uncontrolled* water decrease in the SFP or fuel transfer canal with all fuel assemblies remaining covered by water **AND** unplanned *valid* RIA 3, 6 or portable area monitor readings increase.

C. 1 R/hr radiation reading at one foot away from a damaged irradiated spent fuel dry storage module.

D. Valid area or process monitor exceeds limits stated in Enclosure 4.9 of RP/0/B/1000/001.

BASIS:

Valid means that a radiation monitor reading has been confirmed to be correct.

EAL 1 indicates that the water level in the reactor refueling cavity is uncontrolled. **If the area/process monitors reach the HIGH alarm setpoint, classification should be upgraded to an Alert.**

All of the above events tend to have long lead times relative to potential for radiological release outside the site boundary, thus impact to public health and safety is very low.

In light of reactor cavity seal failure incidents, explicit coverage of these types of events via EALs 1 and 2 is appropriate given their potential for increased doses to plant staff. Classification as an Unusual Event is warranted as a precursor to a more serious event.

EAL 3 applies to licensed dry storage of older irradiated spent fuel to address degradation of this spent fuel.

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

UNUSUAL EVENT

EAL 4 addresses unplanned increases in in-plant radiation levels that represent a degradation in the control of radioactive material, and represent a potential degradation in the level of safety of the plant. The RIA readings for an Unusual Event are 1000 times the normal value. Enclosure 4.9 of RP/0/B/1000/001 will provide the actual readings for the monitors.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, AU2
NEI 99-01, Rev. 4, 08/00, AU2

ENCLOSURE 4.9 (RP/O/B/1000/001)

UNEXPECTED/UNPLANNED INCREASE IN AREA MONITOR READINGS

This initiating condition is not intended to apply to anticipated temporary increases due to planned events (e.g., incore detector movement, radwaste container movement, depleted resin transfers, etc.)

MONITOR NUMBER	UNIT 1, 2, 3	
	UNUSUAL EVENT 1000 x normal levels mRad/hr	ALERT mRad/hr
RIA 7, Hot Machine Shop Elevation 796	150	≥ 5000
RIA 8, Hot Chemistry Lab Elevation 796	4200	≥ 5000
RIA 10, Primary Sample Hood, Elevation 796	830	≥ 5000
RIA 11, Change Room Elevation 796	210	≥ 5000
RIA 12, Chem Mix Tank Elevation 783	800	≥ 5000
RIA 13, Waste Disposal Sink, Elevation 771	650	≥ 5000
RIA 15, HPI Room Elevation 758	**NOTE***	≥ 5000

NOTE*: RIA 15 normal readings are approximately 9 mRad/hr on a daily basis. Applying the 1000 x normal readings would put this monitor greater than 5000 mRad/hr just for an Unusual Event. For this reason, an Unusual Event will not be declared for any reading less than 5000 mRad/hr

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

ALERT

1. **Any Unplanned Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times Radiological Technical Specifications for 15 Minutes or Longer.**

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVELS:

A. Valid indication of RIA-46 of ≥ 2.09E+04 cpm or RP sample reading of ≥ 6.62 uCi/ml Xe 133 eq for > 15 minutes (See Note)

B RIA 33 HIGH alarm **AND** Liquid effluent being released exceeds 200 times the level of SLC 16.11.1 for > 15 minutes as determined by Chemistry procedure.

C. Gaseous effluent being released exceeds 200 times the level of SLC 16.11.2 for > 15 minutes as determined by RP procedure.

Note: If monitor reading is sustained for the time period indicated in the EAL AND required assessments (procedure calculations) cannot be completed within this period, declaration must be made on the valid Radiation monitor reading.

BASIS:

The term "Unplanned", as used in this context, includes any release for which a liquid waste release (LWR) or gaseous waste release (GWR) package was not prepared, or a release that exceeds the conditions (e.g., minimum dilution flow, maximum discharge flow, alarm setpoints, etc.) on the applicable package.

Valid means that a radiation monitor reading has been confirmed to be correct.

This event escalates from the Unusual Event by escalating the magnitude of the release by a factor of 100.

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

ALERT

It is not intended that the release be averaged over 15 minutes. The event should be declared as soon as it is determined that the release duration has or will likely exceed 15 minutes.

Monitor indications are based on the methodology of the site Offsite Dose Calculation Manual (ODCM). Annual average meteorology (semi-elevated release 1.672 E-06 sec/m3) has been used.

Chapter 16, Selected Licensee Commitments, of the Oconee Nuclear Station FSAR outlines the release limits for gaseous effluent is released by the Control Room. Liquid effluent is discharged by Chemistry from the Radwaste Facility. Effluent monitors have setpoints established to alarm should activity be detected that would exceed limits established by 10 CFR 20, Table B, Appendix II. Radiation Protection and/or Chemistry would calculate the release rate and quantify the amount being released.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, AA1

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

ALERT

2. Release of Radioactive Material or Increases in Radiation Levels Within the Facility That Impedes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. Valid radiation reading $\geq$ 15 mRad/hr in the Control Room, CAS, or Radwaste Control Room.

B. Unplanned/unexpected valid area radiation monitor readings exceed limits stated in Enclosure 4.9 of RP/0/B/1000/001.

BASIS:
Valid means that a radiation reading has been confirmed by the operators to be correct.

This IC addresses unplanned/unexpected increased radiation levels that impede necessary access to operating stations, or other areas containing equipment that must be operated manually, in order to maintain safe operation or perform a safe shutdown. It is this impaired ability to operate the plant that results in the actual or potential substantial degradation of the level of safety of the plant.

The Control Room, Central Alarm Station (CAS) and the Radwaste Control Room are areas that will need to be continuously occupied. No radiation monitors are in the CAS or the Radwaste Control Room.

Oconee has chosen to use a generic emergency action level of greater than or equal to 5000 mRad/hr for the Alert classification for areas in the plant that would need to be utilized for safe operation or safe shutdown of the unit. Enclosure 4.9 of RP/0/B/1000/001 provides the monitor number and the location of the area monitor.

This IC is not intended to apply to anticipated temporary increases due to planned events (e.g., incore detector movement, radwaste container movement, depleted resin transfers, etc.)

Reference
NUMARC/NESP-007, Rev. 2, 01/92, AA3

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

ALERT

3. Major Damage to Irradiated Fuel or Loss of Water Level that Has or Will Result in the Uncovering of Irradiated Fuel Outside the Reactor Vessel.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. Valid RIA 3*, 6, 41 or 49* **HIGH** alarm readings
*Applies to Mode 6 and No Mode Only

B. Valid **HIGH** alarm reading on portable area monitors on the main bridge or spent fuel pool bridge.

C. Report of visual observation of irradiated fuel uncovered.

D. Operators determine water level drop in either the SFP or fuel transfer canal will exceed makeup capacity such that irradiated fuel will be uncovered.

BASIS:

This IC applies to spent fuel requiring water coverage and is not intended to address spent fuel which is licensed for dry storage.

The HIGH alarm for RIA 3 (containment area monitor) and RIA 49 (RB gaseous process monitor) corresponds to the setpoints established to assure that 10 CFR 20 limits are not exceeded.

The HIGH alarm setpoint for RIA 6 (SFP bridge area monitor) is designed to make operators aware of increased readings above 10 CFR 20 limits. The HIGH alarm setpoint for RIA 41 (Spent Fuel Pool gaseous atmosphere) is set to alarm if 4 times the limits of 10 CFR 20 are exceeded based upon Xe-133. RIA 49 monitors the reactor building gas. Portable monitors are established during refueling outages and are located on the main bridge, and the spent fuel pool bridge.

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

ALERT

There is time available to take corrective actions, and there is little potential for substantial fuel damage. Thus, an Alert Classification for this event is appropriate. Escalation, if appropriate, would occur via Abnormal Rad Level/Radiological Effluent or Emergency Coordinator Judgement.

Reference NUMARC/NESP-007, Rev. 2, 01/92, AA2

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

SITE AREA EMERGENCY

1. **Boundary Dose Resulting from an Actual or Imminent Release of Radioactivity Exceeds 100 mRem TEDE or 500 mRem CDE Adult Thyroid for the Actual or Projected Duration of the Release.**

OPERATING MODE APPLICABILITY: ALL
EMERGENCY ACTION LEVELS:

A. Valid reading on RIA-46 of ≥ 2.09E+05 cpm or RIA 56 reading of ≥ 17.5 R/hr or RP sample reading of 6.62E+01 uCi/ml Xe 133 eq for > 15 minutes. (See Note)

B. Valid reading on RIA 57 or 58 as shown on Enclosure 4.8 of RP/0/B/1000/001. (See Note)

C. Dose calculations result in a dose projection at the site boundary of 100 mRem TEDE or 500 mRem CDE Adult Thyroid.

D. Field survey results indicate site boundary dose rates exceeding 100 mRad/hr expected to continue for more than one hour; **OR** analysis of field survey samples indicate adult thyroid dose commitment (CDE) of 500 mRem for one hour of inhalation.

Note: If actual Dose Assessment cannot be completed within 15 minutes, then the valid monitor reading should be used for emergency classification.

BASIS:

Valid means that a radiation monitor reading has been confirmed to be correct.
The calculation for RIA 46 (vent monitor) setpoint is based on whole body dose (100 mRem) using ODCM guidance: average annual meteorology (semi-elevated release 1.672E-6 sec/m3), vent flow rate of 65,000 cfm, and release duration of 15 minutes. No credit is taken for vent filtration.

The calculation for RIA 57/58 (incontainment monitors) setpoints are based on the following: LOCA conditons which provide the more conservative reading, Committed Dose Equivalent (CDE) thyroid (500 mRem), average annual meteorology (7.308 E-6 sec/m3), design basis leakage of 5.6E6 ml/hr, release duration of one hour, and time since unit trip. No credit is taken for filtration.

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

SITE AREA EMERGENCY

Dose assessment team members use actual meteorology, release duration, and unit vent flow rate or actual leakage rate from containment. Therefore, the predetermined monitor readings would not be used if dose assessment team calculations are available from the TSC or EOF in a timely manner (within approximately 15 minutes).

The 100 mRem Total Effective Dose Equivalent (TEDE) and the 500 mRem Committed Dose Equivalent (CDE) thyroid in this initiating condition is based on 10 CFR 20 annual average population exposure. The dose projection uses a 4-hour default for time of release. If the real time release time is known it will be used in the calculation. One order of magnitude is the gradient factor between the Site Area Emergency and General Emergency classes. These values are 10% of the EPA PAG values given in EPA-400-R-92-001.

The field monitoring survey results are based on actual hand-held instrument readings at the site boundary. It is assumed that the release will continue for more than one hour. Adult thyroid is considered to be the limiting factor.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, AS1

ENCLOSURE 4.8 (RP/0/B/1000/001)
RADIATION MONITOR READINGS FOR EMERGENCY CLASSIFICATION

NOTE: IF ACTUAL DOSE ASSESSMENT CANNOT BE COMPLETED WITHIN 15 MINUTES, THEN THE VALID MONITOR READING SHOULD BE USED FOR EMERGENCY CLASSIFICATION.

ALL RIA VALUES ARE CONSIDERED TO BE GREATER THAN OR EQUAL TO.

HOURS SINCE REACTOR TRIPPED	RIA 57 R/hr		RIA 58 R/hr*	
	Site Area Emergency	General Emergency	Site Area Emergency	General Emergency
0 - < 0.5	5.9E+003	5.9E+004	2.6E+003	2.6E+004
0.5 - < 1.0	2.6E+003	2.6E+004	1.1E+003	1.1E+004
1.0 - < 1.5	1.9E+003	1.9E+004	8.6E+002	8.6E+003
1.5 - < 2.0	1.9E+003	1.9E+004	8.5E+002	8.5E+003
2.0 - < 2.5	1.4E+003	1.4E+004	6.3E+002	6.3E+003
2.5 - < 3.0	1.2E+003	1.2E+004	5.7E+002	5.7E+003
3.0 - < 3.5	1.1E+003	1.1E+004	5.2E+002	5.2E+003
3.5 - < 4.0	1.0E+003	1.0E+004	4.8E+002	4.8E+003
4.0 - < 8.0	1.0E+003	1.0E+004	4.4E+002	4.4E+003

*Note: RIA 58 is partially shielded.

Assumptions used for calculation of high range in-containment monitors RIA 57 and 58:

1. Average annual meteorology (7.308 E-6 sec/m3)
2. Design basis leakage (5.6 E6 ml/hr)
3. One hour release duration
4. General Emergency PAGs are 1 rem TEDE and 5 rem CDE: SAE determination is based on 10% of the General Emergency PAGs.
5. Calculations for monitor readings are based on CDE (adult thyroid - 500 mRem) because thyroid dose is limiting.
6. No credit is taken for filtration.
7. LOCA conditions are limiting and provide the more conservative reading.

Assumptions used for calculation of vent monitor RIA 46:

1. Average annual meteorology (1.672 E-6 sec/m3), semi-elevated
2. Vent flow rate 65,000 cfm (average daily flow rate)
3. No credit is taken for vent filtration
4. Fifteen minute release duration.
5. General Emergency PAGs are 1 rem TEDE and 5 rem CDE; SAE determination is based on 10% of the General Emergency PAGs.
6. Calculations for monitor readings are based on whole body dose (100 mRem).
7. Calculation is based on ODCM methodology and NUMARC guidance

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

SITE AREA EMERGENCY

2. Loss of Water Level in the Reactor Vessel That Has or Will Uncover Fuel in the Reactor Vessel.

OPERATING MODE APPLICABILITY: 5, 6

EMERGENCY ACTION LEVEL:

Loss of Reactor Vessel Water Level as indicated by:

A. Failure of heat sink causes loss of Mode 5 (Cold Shutdown) conditions **AND** LT-5 indicates 0 inches after initiation of RCS makeup.

B. Failure of heat sink causes loss of Mode 5 (Cold Shutdown) conditions **AND** either train ultrasonic level indication less than 0 inches and decreasing after initiation of RCS makeup.

BASIS:

Under the conditions specified by this IC, severe core damage can occur due to prolonged boiling following loss of decay heat removal. Declaration of a Site Area Emergency is warranted under the conditions specified by the IC. Escalation to a General Emergency is via Enclosure 4.3, Abnormal Rad Levels/Radiological Effluent.

Note: Both the LT-5 and the ultrasonic level instrumentation are located in the center line of the hot leg.

Reference
NUMARC/NESP-007, Rev.2, 01/92, SS5

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

GENERAL EMERGENCY

1. **Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 1000 mRem TEDE or 5000 mRem (CDE) Adult Thyroid for the Actual or Projected Duration of the Release Using Actual Meteorology.**

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVELS:

A. Valid reading on RIA 46 of ≥ 2.09E+06 cpm or RIA 56 reading of ≥ 175 R/hr or RP sample reading of 6.62E +02uCi/ml Xe 133 eq for ≥ 15 minutes (See Note)

B. Valid reading on RIA 57 or 58 as shown on Enclosure 4.8 of RP/0/B/1000/001. (See Note)

C. Dose calculations result in a dose projection at the site boundary of ≥ 1000 mRem TEDE **OR** ≥ 5000 mRem CDE (Adult Thyroid).

D. Field survey results indicate site boundary dose rates exceeding 1000 mRad/hr expected to continue for more than one hour; **OR** analyses of field survey samples indicate adult thyroid commitment (CDE) of 5000 mRem for one hour of inhalation.

Note: If actual Dose Assessment cannot be completed within 15 minutes, then the valid monitor reading should be used for emergency classification.

BASIS:

Valid means that a radiation monitor reading has been confirmed to be correct.
The calculation for RIA 46 (vent monitor) setpoint is based on the following: whole body dose (100 mRem) using ODCM guidance, average annual meteorology (semi-elevated release 1.672E-6 sec/m3), vent flow rate of 65,000 CFM, and release duration of 15 minutes. No credit is taken for vent filtration.

The calculation for RIA 57/58 (incontainment monitors) setpoints are based on the following: LOCA conditions which provide the more conservative reading, Committed Dose Equivalent (CDE-adult thyroid 500 mRem), average annual meteorology (7.308 E-6, sec/m3), design basis leakage of 5.6E6 ml/hr, release duration of one hour, and time since unit trip. No credit is taken for filtration.

ENCLOSURE 4.3

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

GENERAL EMERGENCY

Calculations by the dose assessment team use **actual** meteorology, duration, and unit vent flow rate or actual leakage rate from containment. Therefore, the predetermined monitor readings would not be used if dose assessment calculations are available from the TSC or EOF in a timely manner (within approximately 15 minutes).

The 1000 mRem Total Effective Dose Equivalent (TEDE) and the 5000 mRem Committed Dose Equivalent (CDE) adult thyroid in this initiating condition is based on 10 CFR 20 annual average population exposure. These values are EPA PAG guidelines as expressed in EPA-400-R-92-001. The dose calculation procedure utilizes a default of 4 hours for the release time. This default value will be utilized until a corrected release time is determined.

Field monitoring results will utilize a one hour period of time for calculating survey results.

Enclosure 4.8 of RP/0/B/1000/001 is shown on page 34 of this document.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, AG1

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTION

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Unexpected increase in plant radiation levels or airborne concentrations	Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Scram Was Successful	Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Scram Was NOT Successful	Failure of the Reactor Protection System to Complete an Automatic Scram and Manual Scram was NOT Successful and There is Indication of an Extreme Challenge to the Ability to Cool the Core
	Inability to Maintain Plant in Cold Shutdown	Complete Loss of Function Needed to Achieve or Maintain Hot Shutdown	
	Major damage to irradiated fuel or loss of water level that has or will result in the uncovering of irradiated fuel outside the reactor vessel	Loss of Water Level in the Reactor Vessel That Has or Will Uncover Fuel in the Reactor Vessel	

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

UNUSUAL EVENT

1. Unexpected Increase in Plant Radiation or Airborne Concentration.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. LT 5 reading 14" and decreasing with makeup not keeping up with leakage **WITH** fuel in the core

B. Valid indication of *uncontrolled* water decrease in the SFP or fuel transfer canal with all fuel assemblies remaining covered by water **AND** unplanned *valid* RIA 3, 6 or portable area monitor readings increase.

C. 1 R/hr radiation reading at one foot away from a damaged irradiated spent fuel dry storage module.

D. Valid area or process monitor exceeds limits stated in Enclosure 4.9 of RP/0/B/1000/001.

BASIS:

Valid means that a radiation monitor reading has been confirmed to be correct.

EAL 1 indicates that the water level in the reactor refueling cavity is uncontrolled. **If the area/process monitors reach the HIGH alarm setpoint, classification should be upgraded to an Alert.**

All of the above events tend to have long lead times relative to potential for radiological release outside the site boundary, thus impact to public health and safety is very low.

In light of reactor cavity seal failure incidents, explicit coverage of these types of events via EALs 1 and 2 is appropriate given their potential for increased doses to plant staff. Classification as an Unusual Event is warranted as a precursor to a more serious event.

EAL 3 applies to licensed dry storage of older irradiated spent fuel to address degradation of this spent fuel.

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

UNUSUAL EVENT

EAL 4 addresses unplanned increases in in-plant radiation levels that represent a degradation in the control of radioactive material, and represent a potential degradation in the level of safety of the plant. The RIA readings for an Unusual Event are 1000 times the normal value. Enclosure 4.9 of RP/0/B/1000/001 will provide the actual readings for the monitors.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, AU2
NEI 99-01, Rev. 4, 08/00, AU2

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

ALERT

1. **Failure of Reactor Protection System Instrumentation to Complete or Initiate and Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Scram Was Successful.**

OPERATING MODE APPLICABILITY: 1, 2, 3

EMERGENCY ACTION LEVEL:
The following conditions exist:

A. VALID reactor trip signal received or required without automatic scram

AND ONE OF THE FOLLOWING:

DSS has inserted Control Rods

OR

Manual reactor trip from the control room is successful and reactor power is less than 5% and decreasing.

BASIS:

This condition indicates failure of the automatic protection system to scram the reactor. This condition is more than a potential degradation of a safety system in that a front line automatic protection system did not function in response to a plant transient and thus the plant safety has been compromised, and design limits of the fuel may have been exceeded. An Alert is indicated because conditions exist that lead to potential loss of fuel clad or RCS. Reactor protection system setpoint being exceeded (rather than limiting safety system setpoint being exceeded) is specified here because failure of the automatic protection system is the issue. If the reactor protective system fails, the Diverse Scram Signal system (which was installed at Oconee since 10/7/91 as a result of Generic Letter 83-28) will drop control rod groups 5,6,7 into the core.

A manual scram is any set of actions by the reactor operator(s) at the reactor control console which causes control rods to be RAPIDLY inserted into the core and brings the reactor subcritical.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SA2

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

ALERT

Operator action to drive rods does **NOT** constitute a reactor trip, (i.e. does not meet the rapid insertion criterion).

Failure of Diverse Scram Signal and the manual scram would escalate the event to a Site Area Emergency.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SA2

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

ALERT

2. Inability to Maintain Plant in Mode 5 (Cold Shutdown).

OPERATING MODE APPLICABILITY: 5, 6

EMERGENCY ACTION LEVELS:

A. Loss of LPI and/or LPSW

AND

Inability to maintain RCS temperature below 200 °F as indicated by either of the following:
RCS temperature at the LPI pump suction

OR

Average of the 5 highest CETCs as indicated by ICCM display.

OR

Visual observation

BASIS:
LPI is the low pressure injection system
LPSW is low pressure service water.

This IC is based on concerns raised by Generic Letter 88-17, "Loss of Decay Heat Removal." number of phenomena such as pressurization, vortexing, RCS level differences when operating at a mid-loop condition, decay heat removal system design, and level instrumentation problems can lead to conditions where decay heat removal is lost and core uncovery can occur. NRC analyses show sequences that can cause core uncovery in 15 to 20 minutes and severe core damage within an hour after decay heat removal is lost.

Loss of the LPI system and/or the LPSW system causes an uncontrolled temperature rise in the reactor coolant system. Uncontrolled is understood to be "not as the result of operator action." Rising temperature of the reactor coolant system can be determined at the LPI pump suction, average of the 5 highest CETCs as indicated by ICCM display or through operator visual observation (steam or boiling) in the reactor building.

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

ALERT

With a loss of LPI pumps there will be no RCS flow at the LPI pump suction and RCS temperature at that point will not represent RCS temperature in the reactor vessel. Also, with the reactor head in place, visual observation may not be possible.

Escalation to the Site Area Emergency is by, "Loss of Water Level in the Reactor Vessel That Has or Will Uncover Fuel in the Reactor Vessel," or by Abnormal Rad Levels/Radiological Effluent ICs.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SA3

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

ALERT

3. Major Damage to Irradiated Fuel or Loss of Water Level that Has or Will Result in the Uncovering of Irradiated Fuel Outside the Reactor Vessel.

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVELS:

A. Valid RIA 3*, 6, 41 or 49* **HIGH** alarm readings
Applies to Mode 6 and No Mode Only.

B. Valid **HIGH** alarm reading on portable area monitors on the main bridge or spent fuel pool bridge.

C. Report of visual observation of irradiated fuel uncovered.

D. Operators determine water level drop in either the SFP or fuel transfer canal will exceed makeup capacity such that irradiated fuel will be uncovered.

BASIS:

This IC applies to spent fuel requiring water coverage and is not intended to address spent fuel which is licensed for dry storage.

The HIGH alarm for RIA 3 (containment area monitor) and RIA 49 (RB gaseous process monitor) corresponds to the setpoints established to assure that 10 CFR 20 limits are not exceeded.

The HIGH alarm setpoint for RIA 6 (SFP bridge area monitor) is designed to make operators aware of increased readings above 10 CFR 20 limits. The HIGH alarm setpoint for RIA 41 (Spent Fuel Pool gaseous atmosphere) is set to alarm if 4 times the limits of 10 CFR 20 are exceeded based upon Xe-133. RIA 49 monitors the reactor building gas. Portable monitors are established during refueling outages and are located on the main bridge, and the spent fuel pool bridge.

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

ALERT

There is time available to take corrective actions, and there is little potential for substantial fuel damage. Thus, an Alert Classification for this event is appropriate. Escalation, if appropriate, would occur via Abnormal Rad Level/Radiological Effluent, Loss of Shutdown Functions or Emergency Coordinator Judgement.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, AA2

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

SITE AREA EMERGENCY

1. **Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Scram Was NOT Successful.**

OPERATING MODE APPLICABILITY: 1, 2

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. VALID reactor trip signal received or required without automatic scram

AND

DSS has **NOT** inserted Control Rods

AND

Manual reactor trip from the control room was not successful in reducing reactor power to less than 5% and decreasing.

BASIS:

Automatic and manual scram are not considered successful if action away from the reactor control console is required to scram the reactor.

Under these conditions, the reactor is producing more heat than the maximum decay heat load for which the safety systems are designed. A Site Area Emergency is indicated because conditions exist that lead to imminent loss or potential loss of both fuel clad and RCS. Although this IC may be viewed as redundant to the Fission Product Barrier Degradation IC, its inclusion is necessary to better assure timely recognition and emergency response. Escalation of this event to a General Emergency would be via Fission Product Barrier Degradation or Emergency Coordinator Judgement ICs.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SS2

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

SITE AREA EMERGENCY

2. Complete Loss of Function Needed to Achieve or Maintain Mode 4 (Hot Shutdown).

OPERATING MODE APPLICABILITY: 1, 2, 3, 4

EMERGENCY ACTION LEVELS:

Any of the following conditions exist:

A. Average of the 5 highest CETCs $\geq$ 1200 °F on ICCM.

B. Unable to maintain reactor subcritical

C. EOP directs feeding SG from SSF ASWP or station ASWP

BASIS:

This EAL addresses complete loss of functions, core cooling and heat sink, required for hot shutdown with the reactor at pressure and temperature. Under these conditions, there is an actual major failure of a system intended for protection of the public. Thus, declaration of a Site Area Emergency is warranted. Escalation to General Emergency would be via Abnormal Rad Levels/Radiological Effluent, Emergency Coordinator Judgment, or Fission Product Barrier Degradation ICs.

Core exit thermocouple readings are considered to be the average of the five (5) highest thermocouple readings shown on the Inadequate Core Cooling Monitor.

The SSF can provide the following: (1) makeup to the Reactor Coolant pump seals, (2) low pressure service water to the steam generators (additional method for heat sink), (3) capability to keep the unit in hot shutdown for 72 hours following an Appendix R fire.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SS4

ENCLOSURE 4.4.

LOSS OF SHUTDOWN FUNCTIONS

SITE AREA EMERGENCY

3. Loss of Water Level in the Reactor Vessel That Has or Will Uncover Fuel in the Reactor Vessel.

OPERATING MODE APPLICABILITY: 5, 6

EMERGENCY ACTION LEVEL:

Loss of Reactor Vessel Water Level as indicated by:

A. Failure of heat sink causes loss of Mode 5 (Cold Shutdown) conditions.

AND

LT-5 indicates 0 inches after initiation of RCS makeup.

B. Failure of heat sink causes loss of Mode 5 (Cold Shutdown) conditions.

AND

Either train ultrasonic level indication less than 0 inches and decreasing after initiation of RCS makeup.

BASIS:

Under the conditions specified by this IC, severe core damage can occur due to prolonged boiling following loss of decay heat removal. Declaration of a Site Area Emergency is warranted under the conditions specified by the IC. Escalation to a General Emergency is via Enclosure 4.3, Abnormal Rad Levels/Radiological Effluent.

Note: Both the LT-5 and the ultrasonic level instrumentation are located in the center line of the hot leg.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SS5

ENCLOSURE 4.4

LOSS OF SHUTDOWN FUNCTIONS

GENERAL EMERGENCY

1. Failure of the Reactor Protection System to Complete an Automatic Scram and Manual Scram was NOT Successful and There is Indication of an Extreme Challenge to the Ability to Cool the Core.

OPERATING MODE APPLICABILITY: 1, 2

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. VALID reactor trip signal received or required **WITHOUT** automatic scram

AND

Manual reactor trip from the control room was not successful in reducing reactor power to less than 5% and decreasing.

AND

Average of five highest CETCs $\geq$ 1200 °F on the ICCM.

BASIS:

Automatic and manual scram are not considered successful if action away from the reactor control console is required to scram the reactor. Under the conditions of the IC and its associated EALs, the efforts to bring the reactor subcritical have been unsuccessful and, as a result, the reactor is producing more heat than the maximum decay heat load for which the safety systems were designed. The extreme challenge to the ability to cool the core is intended to mean that the core exit temperatures are at or approaching 1200 °F. (Note: CETCs reading $\geq$ 1200 °F is also a good indicator that the reactor vessel water level is below the top of the active fuel. Oconee does not have an indication for the reactor vessel water level below the top of the active fuel.)

The General Emergency declaration is intended to be anticipatory of the fission product barrier matrix declaration to permit maximum offsite intervention time.

Reference

NUMARC/NESP-007, Rev. 2, 01/92, SG2

ENCLOSURE 4.5

LOSS OF POWER

Error! Bookmark not defined.UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Loss of All Offsite Power to Essential Busses for Greater Than 15 Minutes	Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Busses During Cold Shutdown Or Refueling Mode	Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Busses	Prolonged Loss of All (Offsite and Onsite) AC Power
Unplanned Loss of Required DC Power During Cold Shutdown or Refueling Mode for Greater than 15 Minutes	AC power to essential busses reduced to a single power source for greater than 15 minutes such that an additional single failure could result in station blackout	Loss of All Vital DC Power	

ENCLOSURE 4.5

LOSS OF POWER

UNUSUAL EVENT

1. Loss of All Offsite Power to Essential Busses for Greater Than 15 Minutes.

OPERATING MODE APPLICABILITY ALL

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. Unit auxiliaries being supplied from Keowee or CT5.

AND

Inability to energize either MFB from an offsite source (either switchyard) within 15 minutes.

BASIS:

Prolonged loss of AC power reduces required redundancy and potentially degrades the level of safety of the plant by rendering the plant more vulnerable to a complete Loss of AC Power (Station Blackout). Fifteen minutes was selected as a threshold to exclude transient or momentary power losses.

Keowee Hydro station provides the emergency power to the Oconee Nuclear Site. CT5 is powered from the Lee Steam Station and provides back-up power to the site.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SU1

ENCLOSURE 4.5

LOSS OF POWER

UNUSUAL EVENT

2. **Unplanned Loss of Required DC Power During Mode 5 (Cold Shutdown) or Mode 6 (Refueling Mode) for Greater than 15 Minutes.**

OPERATING MODE APPLICABILITY: 5, 6

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. Unplanned Loss of Vital DC power to required DC busses as indicated by bus voltage less than 110 VDC.

AND

Failure to restore power to at least one required DC bus within 15 minutes from the time of loss.

BASIS:

The purpose of this IC and its associated EALs is to recognize a loss of DC power compromising the ability to monitor and control the removal of decay heat during Cold Shutdown or Refueling operations. This EAL is intended to be anticipatory in as much as the operating crew may not have necessary indication and control of equipment needed to respond to the loss.

"Unplanned" is included in this IC and EAL to preclude the declaration of an emergency as a result of planned maintenance activities.

If this loss results in the inability to maintain cold shutdown, the escalation to an Alert will be per Enclosure 4.4, Loss of Shutdown Functions "Inability to Maintain Plant in Cold Shutdown."

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SU7

ENCLOSURE 4.5

LOSS OF POWER

ALERT

1. Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Busses During Mode 5 (Cold Shutdown) Or Mode 6 (Refueling Mode).

OPERATING MODE APPLICABILITY: 5, 6, Defueled

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. MFB 1 and 2 de-energized.

AND

Failure to restore power to at least one main feeder bus within 15 minutes from the time of loss of both offsite and onsite AC power.

BASIS:

Loss of all AC power compromises all plant safety systems requiring electric power including RHR, ECCS, Containment Heat Removal, Spent Fuel Heat Removal and the Ultimate Heat Sink. When in cold shutdown, refueling, or defueled mode the event can be classified as an Alert, because of the significantly reduced decay heat, lower temperature and pressure, increasing the time to restore one of the emergency busses, relative to that specified for the Site Area Emergency EAL. Escalating to Site Area Emergency, if appropriate, is by Enclosure 4.3, Abnormal Rad Levels/Radiological Effluent, or Enclosure 4.7, Natural Disasters, Hazards, and Other Conditions Affecting Plant Safety, Emergency Coordinator Judgement ICs. Fifteen minutes was selected as a threshold to exclude transient or momentary power losses.

References

NUMARC/NESP-007, Rev. 2, 01/92, SA1

ENCLOSURE 4.5

LOSS OF POWER

ALERT

2. AC power capability to essential busses reduced to a single power source for greater than 15 minutes such that an additional single failure could result in station blackout.

OPERATING MODE APPLICABILITY: 1, 2, 3, 4

EMERGENCY ACTION LEVEL:

The following condition exists:

A. AC power capability has been degraded to a single power source for > 15 min. due to the loss of all but one of the following:

Unit Normal Transformer (backcharged)
Unit Startup transformer
Another Unit Startup Transformer (aligned)
CT4
CT5

BASIS:

This IC and the associated EAL is intended to provide an escalation from IC, "Loss of All Offsite Power To Essential Busses for Greater Than 15 Minutes." The condition indicated by this IC is the degradation of the offsite and onsite power systems such that an additional single failure could result in a station blackout. In this particular situation, a station blackout applies to the unit in question even though the other units may not be affected. This condition could occur due to a loss of offsite power with a concurrent failure of either CT4 or CT5 to supply power to the main feeder busses.

The subsequent loss of this single power source would escalate the event to a Site Area Emergency in accordance with IC, "Loss of All Offsite and Loss of All Onsite AC Power to Essential Busses."

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SA5

ENCLOSURE 4.5

LOSS OF POWER

SITE AREA EMERGENCY

1. Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Busses

OPERATING MODE APPLICABILITY: 1, 2, 3, 4

EMERGENCY ACTION LEVEL:

Loss of all offsite and onsite AC power as indicated by:

A. MFB 1 and 2 de-energized

AND

Failure to restore power to at least one main feeder bus within 15 minutes from the time of loss of both offsite and onsite AC power.

BASIS:

Loss of all AC power compromises all plant safety systems requiring electric power including RHR, ECCS, Containment Heat Removal and the Ultimate Heat Sink. Prolonged loss of all AC power will cause core uncovering and loss of containment integrity, thus this event can escalate to a General Emergency.

Escalation to General Emergency is via Enclosure 4.1 Fission Product Barrier Degradation or IC, "Prolonged Loss of All Offsite Power and Prolonged Loss of All Onsite AC Power."

Loss of offsite power (6900V) eliminates the use of power from Duke Power grid and also eliminates distribution of power from the unit generator. Loss of onsite AC (4160V) which includes both Keowee Hydro units, eliminates the use of HPI pumps, LPI pumps, reactor building spray pumps, low pressure service water pumps, CCW pumps, condensate booster pumps, hotwell pumps, heater drain pumps and motor driven emergency feedwater pumps. Turbine driven emergency feedwater pumps are assumed to be available. It is assumed for this scenario that the Standby Shutdown Facility would be available for RCS and secondary inventory control utilizing the RC makeup pump and the auxiliary service water pump.

References

NUMARC/NESP-007, Rev. 2, 01/92, SS1

ENCLOSURE 4.5

LOSS OF POWER

SITE AREA EMERGENCY

2. Loss of All Vital DC Power.

OPERATING MODE APPLICABILITY: 1, 2, 3, 4

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. Unplanned Loss of Vital DC power to required DC busses as indicated by bus voltage less than 110 VDC.

AND

Failure to restore power to at least one required DC bus within 15 minutes from the time of loss.

BASIS:

Loss of all DC power compromises ability to monitor and control plant safety functions. Prolonged loss of all DC power will cause core uncovering and loss of containment integrity when there is significant decay heat and sensible heat in the reactor system. Escalation to a General Emergency would occur by Enclosure 4.3, Abnormal Rad Levels/Radiological Effluent, Enclosure 4.1, Fission Product Barrier Degradation, Enclosure 4.7, Natural Disasters, Hazards and Other Conditions Affecting Plant Safety or Emergency Coordinator Judgement ICs. Fifteen minutes was selected as a threshold to exclude transient or momentary power losses.

ENCLOSURE 4.5

LOSS OF POWER

SITE AREA EMERGENCY

The purpose of the onsite DC Power system is:

1. Provide a source of reliable, continuous power for instrumentation and controls needed for normal operation and safe shutdown of the unit through the vital DC power distribution system panelboards and essential DC power which feed Inverters for an uninterrupted source of AC power.

2. Supply DC motor operated valves and pumps required during normal operation and a total loss of AC.

Loss of DC power would place the plant in a situation of losing vital instrumentation, valves, and pumps needed to safely operate and shutdown the plant any time the unit is above cold shutdown conditions.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SS3

ENCLOSURE 4.5

LOSS OF POWER

GENERAL EMERGENCY

1. Prolonged Loss of All Offsite Power and Prolonged Loss of All Onsite AC Power.

OPERATING MODE APPLICABILITY: 1, 2, 3, 4

EMERGENCY ACTION LEVEL:

Prolonged loss of all offsite and onsite AC power as indicated by:

A. MFB 1 and 2 de-energized

AND

Standby Shutdown Facility (SSF) fails to maintain Mode 3 (Hot Standby).

AND

AT LEAST ONE OF THE FOLLOWING:

Restoration of power to at least one MFB within 4 hours is NOT likely

OR

Indication of continuing degradation of core cooling based on Fission Product Barrier monitoring.

BASIS:

Loss of all AC power compromises all plant safety systems requiring electric power including RHR, ECCS, Containment Heat Removal and the Ultimate Heat Sink. Prolonged loss of all those functions necessary to maintain hot shutdown will lead to loss of fuel clad, RCS, and containment.

The Standby Shutdown Facility (SSF) is capable of providing the necessary functions to maintain Mode 3 (Hot Standby) condition for up to 72 hours. No fission product barrier degradation would be expected if the SSF is functioning as intended.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SG1

ENCLOSURE 4.5

LOSS OF POWER

GENERAL EMERGENCY

Analysis in support of the station blackout coping study indicates that the plant can cope with a station blackout for 4 hours without core damage.

The likelihood of restoring at least one emergency bus should be based on a realistic appraisal of the situation since a delay in an upgrade decision based on only a chance of mitigating the event could result in a loss of valuable time in preparing and implementing public protective actions.

In addition, under these conditions, fission product barrier monitoring capability may be degraded. Although it may be difficult to predict when power can be restored, it is necessary to give the Emergency Coordinator a reasonable idea of how quickly (s)he may need to declare a General Emergency based on two major considerations:

1. Are there any present indications that core cooling is already degraded to the point that Loss or Potential Loss of Fission Product Barriers is IMMINENT?

2. If there are no present indications of such core cooling degradation, how likely is it that power can be restored in time to assure that a loss of two barriers with a potential loss of the third barrier can be prevented?

Thus, indication of continuing core cooling degradation must be based on Fission Product Barrier monitoring with particular emphasis on Emergency Coordinator judgment as it relates to IMMINENT Loss or Potential Loss of fission product barriers and degraded ability to monitor fission product barriers.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, SG1

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Fire/Explosion Within the Plant	Fire or Explosion Affecting the operability of plant safety systems required to establish or maintain safe shutdown	HOSTILE ACTION within the Protected Area	
Confirmed Security condition or threat which indicates a potential degradation in the level of safety of the plant	HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat	Other conditions exist which in the judgment of the Emergency Director warrant declaration of a SITE AREA EMERGENCY	HOSTILE ACTION resulting in Loss of Physical Control of the Facility
Other conditions exist which in the judgment of the Emergency Director warrant declaration of a NOUE	Other conditions exist which in the judgment of the Emergency Director warrant declaration of an ALERT		Other conditions exist which in the judgment of the Emergency Director warrant declaration of a GENERAL EMERGENCY

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

UNUSUAL EVENT

1. Explosion or Fire Within the Plant

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL: Note: Within the plant means Turbine Building, Auxiliary Building, Reactor Building, Keowee Hydro, Transformer Yard, B3T, B4T, Service Air Diesel Compressors, Keowee Hydro and associated transformers and SSF.

A. Fire within the plant not extinguished within 15 minutes of control room notification or verification of a control room alarm.

B. Unanticipated explosion within the plant resulting in visible damage to permanent structures/equipment.

- Includes steam line break and FDW line break

BASIS:

The purpose of this IC is to address the magnitude and extent of fires/explosions that may be potentially significant precursors to damage to safety systems. This excludes such items as fires within administration buildings, waste-basket fires, and other small fires of no safety consequence. **This IC applies to buildings and areas contiguous to plant vital areas containing safety equipment or other significant buildings or areas.** Verification of the alarm in this context means those actions taken in the control room to determine that the control room alarm is not spurious. **The intent of the 15-minute duration of extinguishing efforts is to size the fire and to discriminate against small fires that are readily extinguished.**

Only those explosions of sufficient force to damage permanent structures or equipment within the plant and **Keowee Hydro** should be considered. As used here, an explosion is a rapid, violent, unconfined combustion, or a catastrophic failure of pressurized equipment, that potentially imparts significant energy to near-by structures and materials. A high energy line break (e.g., Main Steam Line or Main Feedwater Line, Heater Drain Line, etc.) would satisfy this EAL **IF** no additional damage is done to ECCS (safety related systems) equipment/components. No attempt is made in this EAL to assess the actual magnitude of the damage. The occurrence of the explosion with reports of evidence of damage (e.g., deformation, scorching) is sufficient for declaration. The Emergency Coordinator also needs to consider any security aspects of the explosion, if applicable.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

UNUSUAL EVENT

Escalation to a higher emergency class is by, "Fire/Explosion Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown".

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HU2

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

UNUSUAL EVENT

2. **CONFIRMED SECURITY CONDITION or THREAT which indicates a potential degradation in the level of Safety of the plant.**

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVELS:

A. A SECURITY CONDITION that does **NOT** involve a HOSTILE ACTION as reported by the security shift supervisor.

B. A credible site-specific security threat notification.

C. A validated notification from NRC providing information of an aircraft threat.

BASIS:

NOTE: Timely and accurate communication between Security Shift Supervisor and the control room is crucial in the implementation of effective Security EALs.

Security events which do not represent a potential degradation in the level of safety of the plant are reported under 10 CFR 73.71 or in some cases under 10 CFR 50.72. Security events assessed as HOSTILE ACTIONS are classifiable under 4.6.A.2, 4.6.S.1, and 4.6.G.1

A higher initial classification could be made based upon the nature and timing of the threat and potential consequences. The licensee shall consider upgrading the emergency response status and emergency classification in accordance with the Safeguards Contingency Plan and Emergency Plans.

EAL A

Reference is made to site specific security shift supervision because these individuals are the designated personnel on-site qualified and trained to confirm that a security event is occurring or has occurred. Training on security event classification confirmation is closely controlled due to the strict secrecy controls placed on the plant Safeguards Contingency Plan.

This threshold is based on site specific security plans. Site specific Safeguards Contingency Plans are based on guidance provided by NEI 03-12.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

UNUSUAL EVENT

EAL B

This threshold is included to ensure that appropriate notifications for the security threat are made in a timely manner. This includes information of a credible threat. Only the plant to which the specific threat is made need declare the Notification of an Unusual Event.

The determination of "credible" is made through use of information found in the site specific Safeguards Contingency Plan.

EAL C

The intent of this EAL is to ensure that notifications for the aircraft threat are made in a timely manner and that OROs and plant personnel are at a state of heightened awareness regarding the credible threat. It is not the intent of this EAL to replace existing non-hostile related EALs involving aircraft.

This EAL is met when a plant receives information regarding an aircraft threat from NRC. Validation is performed by calling the NRC or by other approved methods of authentication. Only the plant to which the specific threat is made need declare the Unusual Event.

The NRC Headquarters Operations Officer (HOO) will communicate to the licensee if the threat involves an airliner (airliner is meant to be a large aircraft with the potential for causing significant damage to the plant). The status and size of the plane may be provided by NORAD through the NRC.

Escalation to Alert emergency classification level would be via 4.6.A.2 would be appropriate if the threat involves an airliner within 30 minutes of the plant.

Reference

NEI 99-01, Rev. 5, 02/2008, HU4

Frequently asked questions (FAQs) generated by users and developers during conversion from previous classifications schemes to NEI 99-01, Revision 4

Security EALs with the Hostile Action changes endorsed by the NRC in RIS 2006-12 on July 19, 2006 Enhanced guidance related to Security EALs to ensure consistency with NEI 03-12.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

UNUSUAL EVENT

3. Other conditions exist which in the judgment of the Emergency Director warrant declaration of a NOUE.

OPERATING MODE APPLICABILITY: ALL

A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

BASIS

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the NOUE emergency classification level.

Reference

NEI 99-01, Rev. 5, 02/2008, HU5

Frequently asked questions (FAQs) generated by users and developers during conversion from previous classifications schemes to NEI 99-01, Revision 4

Security EALs with the Hostile Action changes endorsed by the NRC in RIS 2006-12 on July 19, 2006

Enhanced guidance related to Security EALs to ensure consistency with NEI 03-12.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

ALERT

1. Fire or Explosion Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL: Note: Only one train of a system needs to be affected or damaged in order to satisfy this condition.

The following conditions exist:

A. Fire or explosion **AND ONE OF THE FOLLOWING:**

Affected safety-related system parameter indications show degraded performance

OR

Plant personnel report visible damage to permanent structures or equipment required for safe shutdown of the unit.

BASIS:

With regard to explosions, only those explosions of sufficient force to damage permanent structures or equipment required for safe operation of the plant should be considered. As used here, an explosion is a rapid, violent, unconfined combustion, or a catastrophic failure of pressurized equipment, that potentially imparts significant energy to near-by structures and materials. A fire is combustion characterized by heat and light. Sources of smoke such as slipping drive belts or overheated electrical equipment do not constitute fires. Observation of flames is preferred but is NOT required if large quantities of smoke and heat are observed.

The key to classifying fires/explosions as an Alert is the damage as a result of the incident. The fact that safety-related equipment required for safe shutdown of the unit has been affected or damaged as a result of the fire/explosion is the driving force for declaring the Alert. **It is important to note that this EAL addresses a fire/explosion and not just the degradation of a safety system. The reference to damage of the systems is used to identify the magnitude of the fire/explosion and to discrimate against minor fires/explosions.**

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

ALERT

Escalation to a higher emergency class, if appropriate, will be based on System Malfunction, Fission Product Barrier Degradation, Abnormal Rad Levels/Radiological Effluent, or Emergency Coordinator Judgement ICs.

Reference

NUMARC/NESP-007, Rev. 2, 01/92

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

ALERT

2. HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL: (A or B)

A. A HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLED AREA as reported by the Security Shift Supervisor.

B. A validated notification from NRC of an airliner attack threat within 30 minutes of the site.

BASIS:

Note: Timely and accurate communication between Security Shift Supervision and the Control Room is crucial for the implementation of effective Security EALs.

These EALs address the contingency for a very rapid progression of events, such as that experienced on September 11, 2001. They are not premised solely on the potential for a radiological release. Rather the issue includes the need for rapid assistance due to the possibility for significant and indeterminate damage from additional air, land or water attack elements.

The fact that the site is under serious attack or is an identified attack target with minimal time available for further preparation or additional assistance to arrive requires a heightened state of readiness and implementation of protective measures that can be effective (such as on-site evacuation, dispersal or sheltering).

EAL A

This EAL addresses the potential for a very rapid progression of events due to a HOSTILE ACTION. It is not intended to address incidents that are accidental events or acts of civil disobedience, such as small aircraft impact, hunters, or physical disputes between employees within the OCA.

Note that this EAL is applicable for any HOSTILE ACTION occurring, or that has occurred, in the OWNER CONTROLLED AREA. This includes ISFSI's that may be outside the PROTECTED AREA but still within the OWNER CONTROLLED AREA.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

ALERT

EAL B

This EAL addresses the immediacy of an expected threat arrival or impact on the site within a relatively short time.

The intent of this EAL is to ensure that notifications for the airliner attack threat are made in a timely manner and that OROs and plant personnel are at a state of heightened awareness regarding the credible threat. Airliner is meant to be a large aircraft with the potential for causing significant damage to the plant.

This EAL is met when a plant receives information regarding an airliner attack threat from NRC and the airliner is within 30 minutes of the plant. Only the plant to which the specific threat is made need declare the Alert.

The NRC Headquarters Operations Officer (HOO) will communicate to the licensee if the threat involves an airliner (airliner is meant to be a large aircraft with the potential for causing significant damage to the plant). The status and size of the plane may be provided by NORAD through the NRC.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

ALERT

Reference

NEI 99-01, Rev. 5, 02/2008, HA4

Frequently asked questions (FAQs) generated by users and developers during conversion from previous classifications schemes to NEI 99-01, Revision 4

Security EALs with the Hostile Action changes endorsed by the NRC in RIS 2006-12 on July 19, 2006

Enhanced guidance related to Security EALs to ensure consistency with NEI 03-12.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

ALERT

3. Other conditions exist which in the judgment of the Emergency Director warrant declaration of an ALERT.

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVEL:

A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

BASIS:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the Alert emergency classification level.

Reference

NEI 99-01, Rev. 5, 02/2008, HA6

Frequently asked questions (FAQs) generated by users and developers during conversion from previous classifications schemes to NEI 99-01, Revision 4

Security EALs with the Hostile Action changes endorsed by the NRC in RIS 2006-12 on July 19, 2006

Enhanced guidance related to Security EALs to ensure consistency with NEI 03-12.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

SITE AREA EMERGENCY

1. HOSTILE ACTION within the PROTECTED AREA.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. A HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA as reported by the (Security Shift Supervision).

BASIS

This condition represents an escalated threat to plant safety above that contained in the Alert in that a HOSTILE FORCE has progressed from the OWNER CONTROLLED AREA to the PROTECTED AREA.

This EAL addresses the contingency for a very rapid progression of events, such as that experienced on September 11, 2001. It is not premised solely on the potential for a radiological release. Rather the issue includes the need for rapid assistance due to the possibility for significant and indeterminate damage from additional air, land or water attack elements.

The fact that the site is under serious attack with minimal time available for further preparation or additional assistance to arrive requires ORO readiness and preparation for the implementation of protective measures.

This EAL addresses the potential for a very rapid progression of events due to a HOSTILE ACTION. It is not intended to address incidents that are accidental events or acts of civil disobedience, such as small aircraft impact, hunters, or physical disputes between employees within the PROTECTED AREA. Those events are adequately addressed by other EALs.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

SITE AREA EMERGENCY

NORAD, FBI, FAA or NRC. However, the declaration should not be unduly delayed awaiting Federal notification.]

Escalation of this emergency classification level, if appropriate, would be based on actual plant status after impact or progression of attack.

Reference

NEI 99-01, Rev. 5, 02/2008, HS4

Frequently asked questions (FAQs) generated by users and developers during conversion from previous classifications schemes to NEI 99-01, Revision 4

Security EALs with the Hostile Action changes endorsed by the NRC in RIS 2006-12 on July 19, 2006

Enhanced guidance related to Security EALs to ensure consistency with NEI 03-12.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

SITE AREA EMERGENCY

2. Other conditions exist which in the judgment of the Emergency Director warrant declaration of a Site Area Emergency

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts: (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.

BASIS:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the emergency classification level description for Site Area Emergency.

Reference:

NEI 99-01, Rev. 5, 02/2008, HS3

Frequently asked questions (FAQs) generated by users and developers during conversion from previous classifications schemes to NEI 99-01, Revision 4

Security EALs with the Hostile Action changes endorsed by the NRC in RIS 2006-12 on July 19, 2006

Enhanced guidance related to Security EALs to ensure consistency with NEI 03-12.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

GENERAL EMERGENCY

1. HOSTILE ACTION resulting in loss of physical control of the facility.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS: (A or B)

A A HOSTILE ACTION has occurred such that plant personnel are unable to operate equipment required to maintain safety functions.

B. A HOSTILE ACTION has caused failure of Spent Fuel Cooling Systems and IMMINENT fuel damage is likely for a freshly off-loaded reactor core in pool.

Basis:

EAL A

This EAL encompasses conditions under which a HOSTILE ACTION has resulted in a loss of physical control of VITAL AREAS (containing vital equipment or controls of vital equipment) required to maintain safety functions and control of that equipment cannot be transferred to and operated from another location.

Typically, these safety functions are reactivity control (ability to shut down the reactor and keep it shutdown) RCS inventory (ability to cool the core), and secondary heat removal (ability to maintain a heat sink).

Loss of physical control of the control room or remote shutdown capability alone may not prevent the ability to maintain safety functions per se. Design of the remote shutdown capability and the location of the transfer switches should be taken into account. Primary emphasis should be placed on those components and instruments that supply protection for and information about safety functions.

If control of the plant equipment necessary to maintain safety functions can be transferred to another location, then the threshold is not met.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

GENERAL EMERGENCY

EAL B

This EAL addresses failure of spent fuel cooling systems as a result of HOSTILE ACTION if IMMINENT fuel damage is likely such as when a freshly off-loaded reactor core is in the spent fuel pool.

Reference:

NEI 99-01, Rev. 5, 02/2008, HG1

Frequently asked questions (FAQs) generated by users and developers during conversion from previous classifications schemes to NEI 99-01, Revision 4

Security EALs with the Hostile Action changes endorsed by the NRC in RIS 2006-12 on July 19, 2006

Enhanced guidance related to Security EALs to ensure consistency with NEI 03-12.

ENCLOSURE 4.6

FIRE/EXPLOSIONS AND SECURITY EVENTS

GENERAL EMERGENCY

2. Other conditions exist which in the judgment of the Emergency Director warrant declaration of a General Emergency.

Operating Mode Applicability: All

EMERGENCY ACTION LEVEL:

A. Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels off-site for more than the immediate site area.

BASIS:

This EAL addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the emergency classification level description for General Emergency.

Reference

NEI 99-01, Rev. 5, 02/2008, HG2

Frequently asked questions (FAQs) generated by users and developers during conversion from previous classifications schemes to NEI 99-01, Revision 4

Security EALs with the Hostile Action changes endorsed by the NRC in RIS 2006-12 on July 19, 2006

Enhanced guidance related to Security EALs to ensure consistency with NEI 03-12.

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
Natural and Destructive Phenomena Affecting the Protected Area	Natural and Destructive Phenomena Affecting the Plant Vital Area	Control Room Evacuation Has Been Initiated and Plant Control Cannot Be Established	Other Conditions Existing Which in the Judgement of the Emergency Coordinator Warrant Declaration of General Emergency
Natural and Destructive Phenomena Affecting Keowee Hydro Condition B			
Natural and destructive phenomena affecting Jocassee Hydro Condition B.			
Release of Toxic or Flammable Gases Deemed Detrimental to Safe Operation of the Plant	Release of Toxic or Flammable Gases Jeopardizes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown	Keowee Hydro Dam Failure	
	Turbine Building Flood	Other Conditions Existing Which in the Judgement of the Emergency Coordinator Warrant Declaration of Site Area Emergency	
Other Conditions Existing Which in the Judgement of the Emergency Coordinator Warrant Declaration of an Unusual Event	Control Room Evacuation Has Been Initiated		
Natural and Destructive Phenomena Affecting Keowee Hydro	Other Conditions Existing Which in the Judgement of the Emergency Coordinator Warrant Declaration of an Alert		

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

1. Natural and Destructive Phenomena Affecting the Protected Area.

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVELS:

A. Tremor felt and valid alarm on the "strong motion accelerograph".

B. Tornado striking within protected area boundary.

C. Vehicle crash into plant structures or systems within protected area boundary.

D. Turbine failure resulting in casing penetration or damage to turbine or generator seals.

BASIS:

The protected area boundary is typically that part within the security isolation zone and is defined in the site security plan.

EAL 1. Damage may be caused to some portions of the site, but should not affect ability of safety functions to operate. Strong motion accelerograph will begin to record at .01g. As defined in the EPRI-sponsored "Guidelines for Nuclear Plant Response to an Earthquake", dated October 1989, a "felt earthquake" is:

> ***An earthquake of sufficient intensity such that: (a) the vibratory ground motion is felt at the nuclear plant site and recognized as an earthquake based on a consensus of control room operators on duty at the time, and (b) valid alarm on seismic instrumentation occurs.***

EAL 2. A tornado striking (touching down) within the protected boundary may have potentially damaged plant structures containing functions or systems required for safe shutdown of the plant. If such damage is confirmed visually or by other in-plant indications, the event may be escalated to Alert.

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

EAL 3 Addresses such items as a car, truck, plane, or helicopter crash, or train crash that may potentially damage plant structures containing functions and systems required for safe shutdown of the plant. If the crash is confirmed to affect a plant area containing equipment required for safe shutdown of the unit, the event may be escalated to Alert.

EAL 4 Addresses main turbine rotating component failures of sufficient magnitude to cause observable damage to the turbine casing or to the seals of the turbine generator. Of major concern is the potential for leakage of combustible fluids (lubricating oils) and gases (hydrogen cooling) to the plant environs. Actual fires and flammable gas build up are appropriately classified via other EALs. This EAL is consistent with the definition of an Unusual Event while maintaining the anticipatory nature desired and recognizing the risk to non-safety related equipment. Escalation of the emergency classification is based on potential damage done by the missiles generated by the failure.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HU1

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

2. Natural and Destructive Phenomena Affecting Keowee Hydro Condition B.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. Reservoir elevation greater than or equal to 805.0 feet with all spillway gates open and the lake elevation continues to rise.

B. Seepage readings increase or decrease greatly or seepage water is carrying a significant amount of soil particulates.

C. New area of seepage or wetness, with large amounts of seepage water observed on dam, dam toe, or the abutments.

D. A slide or other movements of the dam or abutments which could develop into a failure.

E. Developing failure involving the powerhouse or appurtenant structures and the operator believes the safety of the structure is questionable.

F. Emergency Coordinator judgment

BASIS:

Keowee Hydro is the emergency AC power source for the Oconee Nuclear Station and is covered by the site emergency plan. The conditions cited above are considered to be situations where dam failure may develop. The potentially hazardous situation may allow days or weeks for mitigative actions to prevent failure.

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

3. Natural and Destructive Phenomena Affecting Jocassee Hydro Condition B.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. Condition B has been declared for Jocassee

BASIS:

Jocassee Hydro is located upstream of the Oconee Nuclear Station. The mitigation strategies for a Condition B for the Jocassee Dam includes shutdown of all operating Oconee Nuclear units and relocation and installation of other equipment in anticipation of the Condition B escalating to a Condition A.

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

4. Release of Toxic or Flammable Gases Deemed Detrimental to Safe Operation of the Plant.

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVELS:

A. Detection of toxic or flammable gases that could enter within the site area boundary in amounts that can affect normal operation of the plant.

B. Report by Local, County or State Officials for potential evacuation of site personnel based on offsite event.

BASIS:

This IC is based on releases in concentrations within the site boundary that will affect the health of plant personnel or the safe operation of the plant with the plant being within the evacuation area of an offsite event (i.e., tanker truck accident releasing toxic gases, etc.) The evacuation area is as determined from the DOT Evacuation Tables for Selected Hazardous Materials in the DOT Emergency Response Guide for Hazardous Materials.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HU3

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

UNUSUAL EVENT

5. Other Conditions Existing Which in the Judgment of the Emergency Coordinator Warrant Declaration of an Unusual Event.

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVEL:

Other conditions exist which in the judgement of the Emergency Coordinator indicate a potential degradation of the level of safety of the plant.

BASIS:

This EAL is intended to address unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator to fall under the Unusual Event emergency class.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HU5

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

ALERT

1. Natural and Destructive Phenomena Affecting the Plant Vital Area.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVELS:

A. Tremor felt and seismic trigger actuates (.05g)

Note: Only one train of a safety related system needs to be affected or damaged in order to satisfy these conditions.

B. Tornado, high winds, missiles resulting from turbine failure, vehicle crashes, or other catastrophic events **AND** one of the following:

Plant personnel report visible damage to permanent structures or equipment required for safe shutdown of the unit

OR

Affected safety related system parameter indications show degraded performance

BASIS:

EAL 1 Based on the FSAR design basis. Seismic events of this magnitude can cause damage to safety functions.

EAL 2 is intended to address the threat to safety related structures or equipment from uncontrollable and possibly catastrophic events. Damage to safety-related equipment and or structures housing safety-related equipment caused by natural phenomena after striking the site is the key point of this EAL. Only one train of a safety-related system needs to be affected or damaged in order to satisfy this condition. This EAL is, therefore, consistent with the definition of an ALERT in that if events have damaged areas containing safety-related equipment the potential exists for substantial degradation of the level of safety of the plant.

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

ALERT

Structures/equipment which provide safety functions are designed to withstand sustained wind force of 95mph. These structures are designed to withstand external wind forces resulting from a tornado having a velocity of 300mph. Because high winds may disable the meteorological instrumentation well before the design basis speed is reached, the meteorological tower should not be used for assessment of tornado winds for emergency classification. For tornados, damage would be the prima facie evidence of winds exceeding design basis.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HA1

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

ALERT

2. **Release of Toxic or Flammable Gases Jeopardizes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Mode 5 (Cold Shutdown).**

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVELS:

A. Report or detection of toxic gases in concentrations that will be life threatening to plant personnel.

B. Report or detection of flammable gases in concentrations that will affect the safe operation of the plant.

Reactor Building
Auxiliary Building
Turbine Building
Control Room

BASIS:

EAL 1 is based on toxic gases that have entered a plant structure that are life-threatening to plant personnel. This EAL applies to structures required to maintain safe operations or to establish or maintain cold shutdown. It is appropriate that increased monitoring be done to ascertain whether consequential damage has occurred. Escalation to a higher emergency class, if appropriate, will be based on System Malfunction, Fission Product Barrier Degradation, Abnormal Rad Levels/Radioactive Effluent, or Emergency Coordinator Judgement ICs.

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

ALERT

EAL 2 is based on the detection of flammable gases in areas containing equipment required for safe shutdown of the unit. It is appropriate that increased monitoring be done to ascertain whether consequential damage has occurred. Escalation to a higher emergency class, if appropriate, will be based on System Malfunction, Fission Product Barrier Degradation, Abnormal Rad Levels/Radioactive Effluent, or Emergency Coordinator Judgement ICs.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HA3

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

ALERT

3. TURBINE BUILDING FLOOD

OPERATING MODE APPLICABILITY: **ALL**

EMERGENCY ACTION LEVEL:

A. Turbine building flood requiring use of AP/1,2,3/A/1700/010, Turbine Building Flood.

BASIS:

This initiating condition is discussed in the Oconee Probabilistic Risk Assessment report. A flood caused by the rupture of the Jocassee Dam could flood the turbine building basement which could disable the main feedwater pumps and the turbine and motor driven emergency feedwater pumps. Also, rupture of some portions of the condenser intake piping could result in a flood in the turbine building basement. Water tight doors have been provided to prevent the water from seeping into the auxiliary building. This scenario assumes that the Standby Shutdown Facility (SSF) would be available to provide water to the steam generators. Escalation of the event to a higher category would be based on the ability to maintain core cooling or shutdown functions.

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

ALERT

4. Control Room Evacuation Has Been Initiated.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL:

A. Evacuation of control room **AND** one of the following:

Plant control is established from the Aux SD panel or the SSF

OR

Plant control is being established from the Aux SD panel or the SSF

BASIS:

The auxiliary shutdown panel will allow operators to use turbine bypass valves to maintain RCS temperature, one HPI pump for RCS inventory control, pressurizer heaters to maintain RCS pressure and control of the feedwater startup valves but not control over the feedwater pumps.

The standby shutdown facility can maintain hot shutdown by using auxiliary service water to the steam generators for primary heat removal and also to provide makeup to the reactor coolant system. The SSF is only used under extreme conditions since it may involve pumping lake water into the steam generators for heat removed purposes.

With the control room evacuated, additional support, monitoring and direction through the Technical Support Center and/or other Emergency Operations Facility is necessary. Inability to establish plant control from outside the control room, as evidenced by the inability to maintain RCS or SG inventories, will escalate this event to a Site Area Emergency.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HA5

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

ALERT

5. Other Conditions Existing Which in the Judgement of the Emergency Coordinator Warrant Declaration of an Alert.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL:

A. Other conditions exist which in the Judgement of the Emergency Coordinator indicate that plant safety systems may be degraded **AND** that increased monitoring of plant functions is warranted.

BASIS:

This EAL is intended to address unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator to fall under the Alert emergency class.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HA6

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

SITE AREA EMERGENCY

1. Control Room Evacuation Has Been Initiated and Plant Control Cannot Be Established.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL:

The following conditions exist:

A. Control room evacuation has been initiated

AND

Control of the plant cannot be established from the Aux SD panel or the SSF within 15 minutes.

BASIS:

The timely transfer of control to alternate control areas has not been accomplished. This failure to transfer control would be evidenced by deteriorating reactor coolant system or steam generator parameters. For most conditions RCP seal LOCAs or steam generator dryout would be indications of failure to accomplish the transfer in the necessary time.

Escalation of this event, if appropriate, would be by Fission Product Barrier Degradation, Abnormal Rad Levels/Radiological Effluent, or Emergency Coordinator Judgement ICs

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HS2

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

SITE AREA EMERGENCY

2. Keowee Hydro Dam Failure

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL:

A. Imminent/actual dam failure exists involving any of the following:
Keowee Hydro Dam
Little River Dam
Dikes A,B,C,D
Intake Canal Dike
Jocassee Dam - Condition A

BASIS:

The Keowee Hydro Dam project includes the Keowee Hydro Dam, Little River Dam and Dikes A, B, C, D, and the Intake Canal Dike. Dam failure of any portion of the Keowee Hydro Dam would result in loss of the emergency AC power supply AND the potential to lose the ultimate heat sink source. Some flooding of the site may result. Evaluation of the plant status following failure of the dam would determine the need to escalate to a General Emergency. Failure of the Jocassee Dam has the potential to result in the failure of the Keowee Hydro Project Dams/Dikes.

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

SITE AREA EMERGENCY

3. Other Conditions Existing Which in the Judgement of the Emergency Coordinator Warrant Declaration of Site Area Emergency.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL:

A. Other conditions exist which in the Judgement of the Emergency Coordinator indicate actual or likely major failures of plant functions needed for protection of the public.

BASIS:

This EAL is intended to address unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator/EOF Director to fall under the emergency class description for Site Area Emergency.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HS3

ENCLOSURE 4.7

NATURAL DISASTERS, HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY

GENERAL EMERGENCY

1. Other Conditions Existing Which in the Judgement of the Emergency Coordinator Warrant Declaration of General Emergency.

OPERATING MODE APPLICABILITY: ALL

EMERGENCY ACTION LEVEL:

A. Other conditions exist which in the Judgement of the Emergency Coordinator/ EOF DIRECTOR indicate:

(1) Actual or imminent substantial core degradation with potential for loss of containment

OR

(2) Potential for uncontrolled radionuclide release that would result in a dose projection at the site boundary greater than 1000 mRem TEDE or 5000 mRem CDE Adult Thyroid.

BASIS:

This EAL is intended to address unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Coordinator/EOF Director to fall under the General Emergency class.

Releases (if made) can reasonably be expected to exceed EPA PAG levels outside the site boundary.

Reference
NUMARC/NESP-007, Rev. 2, 01/92, HG2

ENCLOSURE 4.8

Radiation Monitor Readings for Emergency Classification

All RIA values are considered GREATER THAN or EQUAL TO

HOURS SINCE REACTOR TRIPPED	RIA 57 R/hr		RIA 58 R/hr*	
	Site Area Emergency	General Emergency	Site Area Emergency	General Emergency
0.0 - < 0.5	5.9E+003	5.9E+004	2.6E+003	2.6E+004
0.5 - < 1.0	2.6E+003	2.6E+004	1.1E+003	1.1E+004
1.0 - < 1.5	1.9E+003	1.9E+004	8.6E+002	8.6E+003
1.5 - < 2.0	1.9E+003	1.9E+004	8.5E+002	8.5E+003
2.0 - < 2.5	1.4E+003	1.4E+004	6.3E+002	6.3E+003
2.5 - < 3.0	1.2E+003	1.2E+004	5.7E+002	5.7E+003
3.0 - < 3.5	1.1E+003	1.1E+004	5.2E+002	5.2E+003
3.5 - < 4.0	1.0E+003	1.0E+004	4.8E+002	4.8E+003
4.0 - < 8.0	1.0E+003	1.0E+004	4.4E+002	4.4E+003

*** RIA 58 is partially shielded**

Assumptions used for calculation of high range in-containment monitors RIA 57 and 58:

1. Average annual meteorology (7.308 E^{-6} sec/m^3)
2. Design basis leakage (5.6 E^6 ml/hr)
3. One hour release duration
4. *General Emergency* PAGs are 1 rem TEDE and 5 rem CDE; *Site Area Emergency* determination is based on 10% of the *General Emergency* PAGs
5. Calculations for monitor readings are based on CDE because thyroid dose is limiting
6. No credit is taken for filtration
7. LOCA conditions are limiting and provide the more conservative reading

F. EMERGENCY COMMUNICATIONS

Provisions exist for prompt communications among principal response organizations and to emergency personnel and to the public.

F.1. Emergency Response Organization

The Emergency Response Organization has been developed in such a manner to list primary and alternate personnel. Primary and backup means of communication between the Site, local government agencies, and State response organizations have been established (Figure F-1).

F.1.a Calls to activate State/County agency's emergency function are the responsibility of the Operations Shift Manager/Emergency Coordinator. These calls are made:

1. By selective signaling phone system (where applicable).

2. The site telephone system to a 24-hour emergency number.

Some agencies have numbers for designated work schedules. Numbers can be found in the Emergency Telephone Directory.

A back-up radio system provides alternate communications with Oconee and Pickens Counties emergency response organizations. (Figure F-2)

F.1.b On a monthly basis, a communication check is made to state and local government warning points within the Emergency Planning Zone. Communications during an emergency situation would be by selective signaling phone system, site telephone system/commercial phone service, or by radio (where appropriate).

F.1.c The EOF organization has the responsibility to ask for federal response. However, communication with the Nuclear Regulatory Commission from the emergency response facilities, would be by use of the Emergency Telecommuication System (ETS) located in the Control Room areas, Technical Support Center, or the Emergency Operations Facility.

F. EMERGENCY COMMUNICATIONS

F.1.d The Emergency Response Organization has the following communications systems available for use during emergencies:

1) Oconee Nuclear Station Telephone System
(Generator backed and battery backed)

Fiber-Optic to Charlotte GO (65 lines)
Telephone line to Easley (6 circuits)
Anderson (4 lines)
Six-Mile (4 lines)
Site Telephone System - Inward and outward direct dial available from the Control Room, TSC, and OSC

2) Commercial phone service does not go through the site telephone system

3) Duke Selective Signaling (Generator backed at the microwave tower)

The Selective Signaling System is the primary means of communication with the offsite agencies. The Selective Signaling is on the Duke fiber optic system tied to short leased lines from the local telephone company. This circuit allows intercommunication among the EOF, TSC, control room, counties, and states.

Oconee County
Pickens County
State Warning Point
State Emergency Operations Center (Columbia)
Emergency Operations Facility (Charlotte)
Technical Support Center
Control Rooms 1&2,
Alternate Technical Support Center

4) Emergency Radio System (Offsite System-Battery Backed)

Control Room Units 1&2
Technical Support Center
Field Monitoring Teams
Emergency Operations Facility
Pickens County
Oconee County
State of South Carolina

F. EMERGENCY COMMUNICATIONS

5) Radio Systems (Onsite) (Emergency Back-up Power by Keowee Hydro Units)

Control Room 1&2, 3
Fire Brigade
Chemistry
Safety
Radiation Protection
Maintenance
Medical Emergency Response Team
Hazardous Materials Response Team

6) Security Radio System (Emergency Back-up Power by Standby Shutdown Facility)

CAS/SAS
All Security Guards
Oconee County LEC
Control Room 1&2, 3

7) Paging System

Oconee Nuclear Station (Protected Area)
Oconee Office Building
Oconee Administration Building
Oconee Complex
Oconee Maint. Training Facility (Unique Page Number)
Oconee Garage (Unique Page Number)
Oconee Training Facility (Unique Page Number)
Keowee Hydro Station (Unique Page Number)
World of Energy

8) Site Assembly Warning System

Paging by Control Room
Warble Tone over PA
Siren Assembly Horn (Outside Warning)

F. EMERGENCY COMMUNICATIONS

9) EOF Communication System (Energy Center has back-up generator power)

The emergency communications systems at the Charlotte EOF are designed to ensure the reliable, timely flow of information between all parties having an emergency response role. The Selective Signaling System is the primary means of communicating changes in event classification and protective action recommendations to the state and counties. The Decision Line provides the state and counties with a dedicated line to discuss and coordinate protective action recommendations. Existing commercial telephone service will serve as the designated backup means for communications in the event of a Selective Signaling System or Decision Line failure.

Duke Telephone System (battery backed)
Selective Signaling System (for state/county notifications)
Decision Line (for discussions/coordination of PARs)
Commercial telephones from the Charlotte switch network
Radio System to communicate with the Field Monitoring Teams
NRC Emergency Telecommunications System phones
South Carolina Local Government Radio

F.1.e Recall of Emergency Response Organization

Should an emergency occur that will require activation of the Emergency Response Organization, the Operations Shift Manger will require the following actions to occur:

Normal Working Hours (Figure A-2A)

1. Have announced over the Public Address system that the Emergency Response Organization (Technical Support Center and Operational Support Center) are to be staffed.

2. Activate the offsite pagers from the TSC or request the Switchboard to activate offsite pagers.

3. Notify Duty Operations Engineer who verifies Plant Manager and Superintendent of Operations have been notified.

4. Initiate a Site Assembly

5. Individual groups will contact corporate personnel for support.

EMERGENCY COMMUNICATIONS

Weekends, Holidays, Backshift (Figure A-2B)

1. Activate the offsite pagers from the TSC or request Security to perform this function. Security will also set in motion the Nuclear Callout System for additional personnel to fill the emergency response positions.

2. Duty Operations Engineer who verifies Plant Manager and Superintendent of Operations have been notified.

3. Announce over the PA system that the Emergency Response Organization (Technical Support Center and Operational Support Center) is to be activated.

4. Initiate a Site Assembly.

5. Individual groups will contact corporate personnel for support.

F.1.f Redundant two way communication exists for communication with the Nuclear Regulatory Commission. The ETS system, the regular site or EOF telephone system exists for the communication link with NRC. (Figure F-1)

F.2 Medical Support Communication Link

Operations and/or Security will utilize the public address system and radio pager system to activate the Medical Emergency Response Team to respond to a medical emergency to assess the situation and render first aid. If an ambulance is needed, Operations and/or Security will call for an ambulance to be dispatched from the Oconee Medical Center by one of several ways:

1. Regular ONS switchboard line
2. Outside line (Commercial Phone Service)
3. Selective Signaling phone to Oconee County who then would contact the Oconee Medical Center. (Operations only)
4. Radio in the Control Room and/or CAS/SAS to Oconee County, who then would contact the Oconee Medical Center.

However, should an emergency at the Oconee Nuclear Station cause the Emergency Response Organization to be activated, personnel will staff the Operational Support Center who can respond to a medical emergency. Calls will be made from the Operational Support Center for additional medical assistance (i.e. ambulance transport and hospital contact).

F.3 Periodic Testing of the Emergency Communications System

Testing of the Emergency Communications System will be tested on a monthly and a quarterly basis in accordance with site procedures. Phones and radios will be checked to determine their availability.

FIGURE F-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

EMERGENCY COMMUNICATIONS SYSTEM

Organization	Commercial Phone Service Private Line	ONS Site Phone System	Select Signal System	DPC Offsite Radio System	DPC Onsite Radio System	DPC Mcrwav. System	State LGR Radio System	Decision Line	ETS System	EOF Phone System
Control Room	x	x	x	x	x	x			x	x
Technical Support Center	x	x	x	x	x	x			x	x
Operational Support Center		x			x	x				x
Emergency Operations Facility	x		x	x		x	x	x	x	x
Pickens LEC	x	x	x	x				x		x
Pickens EOC	x	x	x	x			x	x		x
Oconee LEC	x	x	x	x				x		x
Oconee EOC	x	x	x				x	x		x
State EOC	x	x	x				x	x		x
State FEOC	x	x	x	x			x	x		x
NRC Headquarters	x	x							x	x
NRC Region II	x	x							x	x

FIGURE F-2

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

EMERGENCY RADIO NETWORK

The offsite emergency radio network at the Oconee Nuclear Station (ONS) is specifically limited to use in an emergency event. The network consists of two radio frequencies which provide the following services:

A. 48.5 MHZ

- Backup communications between ONS, Pickens County Emergency Preparedness Agency and Oconee County Emergency Preparedness Agency.
- Backup internal communications between the Technical Support Center and the Emergency Operations Facility.
- Operating instructions are shown in the Emergency Telephone Directory and SH/0/B/2005/002 (Protocol for the Field Monitoring Coordinator During Emergency Conditions)

B. 800 MHZ

- Provide communications between Field Monitoring Team Coordinator and field teams.
- Base station radios are located in the TSC, alternate TSC and EOF.
- Operating instructions are located in RP Directive 11.7 and SH/0/B/2005/002 (Protocol for the Field Monitoring Coordinator During Emergency Conditions)

G. Public Information and Education

Information will be made available to the public on a yearly basis concerning notification of a nuclear plant emergency and the response that will be required from the public sector.

G.1 & G.2 Public Education and Information Program (G-1)

On an annual basis, the licensee will update and distribute to residents within the plume exposure pathway emergency planning zone, emergency planning information concerning Oconee Nuclear Station. It will provide educational information on radiation, emergency planning contacts, protective actions, primary emergency alert system radio station, evacuation routes, pick-up points for school children, relocation centers, shelters, and information for residents with special needs. Local telephone numbers to call with questions will also be listed.

Public information for the transient population includes lake-access signs, one-mile exclusion signs, and emergency planning information. Transient locations will be identified by the Emergency Planning Manager/designee, the site public affairs staff, and state and county emergency management officials. These locations may include but are not limited to motels, hotels, marinas, lake access (signs), and one-mile site exclusion area.

The list of transient locations will be reviewed quarterly and updated as needed. Locations will be contacted periodically to ensure adequate copies of materials are available.

G.3.a Public Affairs - Location and Contacts

During a drill or emergency, public information at Oconee Nuclear Station will be coordinated and disseminated through the on-site media center located on Rochester Highway, Seneca, S. C. or the Joint Information Center (JIC) and Oconee media center located on Issaqueena Trail, Clemson, S.C. During the initial stages of an emergency situation, response to media questions relative to plant status will be provided at the on-site media center. The Oconee media center will be activated as needed. The news release will indicate the location of the primary media center. The news manager and public spokesperson are the primary contacts for the news media.

G. Public Information and Education (Continued)

If the Emergency Operations Facility (EOF) is not activated, the normal Duke Energy news release process is followed. If the EOF is activated, then the Standard Procedure for Public Affairs Response To The Emergency Operations Facility (SR/0/B/2000/001), and the Duke Energy Company Communications and Community Relations World of Energy Emergency Response Plan (RP/0/B/1000/028) are implemented for gathering and disseminating information.

G.3.b Public Affairs – Media Centers

In a nuclear plant emergency, the licensee relies on the news media to provide prompt, accurate information to local residents and the public. To provide ready access to current information on plant status, a media center is promptly established. An on-site media center will provide space for a limited number of media. A larger media center at the Oconee media center, located on Issaqueena Trail, Clemson, S.C., can be activated as needed to support additional media.

G.4.a Public Spokesperson

A public spokesperson will provide plant status and company information during scheduled news conferences and media briefings at a designated media center. Designated public spokespersons are the chief nuclear officer and his direct reports, and their designees.

G.4.b Spokesperson Information Exchange

State, county and licensee spokespersons/public information officers are co-located in the Joint Information Center (JIC) to promote a timely exchange and coordination of emergency information.

G.4.c Rumor Control

A licensee liaison will work with state, county, and federal public information officers in the JIC to acknowledge rumors and determine the origin. A coordinated response will be made to deal with rumors or correct misinformation.

G. Public Information and Education

G.4.c Rumor Control (continued)

Customer inquiries are handled by our Customer Contact Centers. Employees are updated via the company intranet/portal. Elected officials and regulatory agencies are updated through our public affairs and governmental affairs departments. Industry groups would assist in disseminating information to other industry groups.

G.5 News Media Training Sessions

The licensee will annually provide the news media with information about emergency planning, radiation, and points of contact for release of public information in an emergency.

FIGURE G-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

PUBLIC EMERGENCY NOTIFICATION BROCHURE

(Calendar)

(HARDCOPY ONLY SEE MANUAL FOR COPY)

FIGURE G-2

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

LOCATIONS FOR LAKE WARNING AND ONE-MILE EXCLUSION AREA SIGNS

Emergency Planning Functional Area Manual 3.6

I. Accident Assessment

To assure the adequacy of methods, systems and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition.

I.1 Emergency Action Level Procedures

Implementing procedures to the Oconee Nuclear Station Emergency Plan have been developed. These procedures have been developed by many sections of the station. The Oconee Nuclear Station Implementing Procedures make up Volumes B and C of the station emergency plan. The Emergency Classification procedure (RP/0/B/1000/001) identifies plant parameters that can be used to determine emergency situations that require activation of the station emergency plan. NUMARC/NESP-007 (Rev. 2) which was approved by the NRC in Rev. 3 of Regulatory Guide 1.101 and subsequent guidance provided in NRC Bulletin 2005-02, the NEI guidance as endorsed in RIS 2006-12 and to support implementation of NEI 03-12 has been used as guidance. See BASIS document Section D.

I.2 Onsite Capability and Resources to Provide Initial Values and Continuing Assessment

Post Accident Sampling -

The NRC issued Amendments No. 346 (Renewed License No. DPR-38), No. 348 (Renewed License No. DPR-47), and No. 347 (Renewed License No. DPR-55) on 07/12/05. These amendments, effective 01/08/06, delete Technical Specification Section 5.5.4, Post Accident Sampling for Oconee Nuclear Site Units 1, 2, and 3 and thereby eliminate the requirements to have and maintain Post Accident Sampling Systems - PASS (PALS/PAGS). Consistent with the requirements of the NRC safety evaluation, contingency plans for obtaining samples have been developed.

Procedures have been developed for taking and analyzing post accident reactor coolant samples using either the normal sample points or the existing PALS sample panels. Containment atmosphere samples are no longer required; however, procedures are in place for surveying the containment building wall as well as sampling the environment and using these values to develop off site dose projections and provide appropriate protective action recommendations for the public.

Radiation and effluent monitors

Radiation and effluent monitors are indexed in Figure H-5. The chart shows location, range, radiation detected.

Containment High Range Radiation Monitor

Duke Energy has designed a system for monitoring containment high range radiation. 1, 2, 3 RIA-57 and 58 are the post-accident high range containment monitors. RIA-57 is located in a penetration in the East Penetration Room. RIA-58 is located in a penetration in the West Penetration Room. The monitors are coaxial ion chambers with a range of 1 to 10E8 Rad/hr which corresponds to an activity of 1.11E0 μCi/ml to 1.11E8 μCi/ml at the time of trip/incident.

In- Plant Iodine Instrumentation

The Oconee Nuclear Station has developed Procedure HP/0/B/1009/009 for quantifying high level gaseous radioactivity releases during accident conditions. The purpose of the procedure is to determine quantitative release of radioiodines and particulates for dose calculation and assessment.

Failed Fuel Determination

(1) The attached Figures I-1, I-2, I-3, and I-4 provide the technical basis for estimating failed fuel for three conditions: non-overheating, fuel overheating without fuel melt, and overheating with fuel melt, respectively.

(2) The NON-OVERHEATING CONDITION METHODOLOGY for assessing failed fuel is based on steady-state iodine radionuclides in the reactor coolant system. This methodology is judged to provide a significant improvement in accuracy over previous NON-OVERHEATING CONDITION methods employing a single escape coefficient. The reason being the new methods explicitly models the production, decay, and release of radionuclides to the coolant as a function of measured iodine ratio.

The methods CAN ONLY PROVIDE THE best estimate analysis and are not intended for making conservative or licensing related calculations. These methods are benchmarked to long term steady-state iodine behavior, typically reached near mid to end of cycle. Therefore, leaker estimates (percent failed fuel) will vary substantially if based on other than steady-state conditions.

Radioisotope inventories predicted by LOR2 Computer Program are used to compare release isotope quantities to expected core inventories for the fuel overheating without fuel melt and overheating with fuel melt conditions. In order to determine a conservative core inventory for Oconee, three LOR2 computer runs were made. All three runs assumed an enrichment of 3.3%.

Each run represents a different burn-up region of the core. (i.e., one run assumes fuel used for 3 cycles, another run assumes fuel used for 2 cycles and the last run assumes fuel used for 1 cycle.) Each region assumed 59 assemblies. Figure I-5, page 1 of 2, gives activity level for one fuel assembly for each region. Figure I-5, page 2 of 2, gives total activity in the core and compares these values to UFSAR values. Most of the core values are close to UFSAR values except for XE-133 and XE-135. It is possible that this difference is the result of the higher enrichment value used in the LOR2 runs.

(3) Figures I-6 and I-7 provide the technical basis for an estimate of failed fuel from readings from area monitors (without fuel melt and with fuel melt, respectively).

(4) Figure I-8 provides the technical basis for an estimate of failed fuel from readings of containment building hydrogen analyzers.

(5) Figure I-9 provides calculations for decay correction in the event it is not available from analytical instrumentation.

I.3 Method for Determining Release Source Term

I.3.a Source Term of Releases of Radioactive Material within Plant Systems

Operations (Control Room Personnel) will use Enclosure 4.8 & 4.9 of RP/0/B/1000/001 to determine if radiation monitor readings will require classification. This enclosure is a simplified predetermined dose calculation for vent and in-containment radiation monitors. Operations can also get offsite dose projections from on-shift Radiation Protection technicians using procedure HP/0/B/1009/022. HP/0/B/1009/022 uses release paths of unit vents and the main steam relief valves. Assumptions for the calculations are based on the following:

1. Annual average meteorology for ground-level release points (7.308 E-6 sec/m^3) which is used for the reactor building and is in the ODCM. Annual average meteorology for semi-elevated release points 1.672E-6 sec/m^3 is used for the vent and is also in the ODCM.

2. Design basis leakage (5.6 E6 ml/hr) and/or daily average vent flow rate of 65,000 cfm.

3. One hour release duration

4. Calculations for reactor building monitor readings are based on CDE because thyroid dose is more limiting for this pathway. Calculations for vent monitor readings are based on whole body dose because whole body dose is more limiting for this pathway.

5. Offsite Protective Actions Guides are 1 rem Total Effective Dose Equivalent and 5 rem Committed Dose Equivalent (thyroid) for a General Emergency. Site Area Emergency levels are one-tenth the General Emergency PAGs.

6. LOCA conditions are limiting for calculating in-containment high range monitors readings for site area and general emergency conditions.

7. Core melt conditions are limiting for calculating vent monitor radiation monitor readings for site area and general emergency conditions.

I.3.b Magnitude of the Release of Radioactive Materials

Procedure HP/0/B/1009/18, SH/0/B/2005/001 and/or HP/0/B/1009/022 determines the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors (vent release).

I.4 Dose Calculation Methodology

HP/0/B/1009/018 and SH/0/B/2005/001 establish the relationship between effluent monitor readings or reactor building dose rate readings and onsite/offsite doses for various meteorological conditions.

HP/0/B/1009/022 provides guidance for on shift personnel to perform initial dose assessment using a computer based tool.

I.5 Meteorological Information Availability

Meteorological information will be available to the Charlotte Emergency Operations Facility, the Technical Support Center, and the Control Room through the automated plant data system. Meteorological data averaged over a period of 15 minutes, will be available to the NRC through the ETS phone, by direct telephone communications with the individual responsible for making offsite dose assessments at the Emergency Operations Facility or through the NRC Emergency Response Data System.

Meteorological information will also be given to both County Emergency Operations Centers, and the State of South Carolina, during follow-up messages.

I.6 Release Rates/Projected Doses for Offscale Instrumentation Situations

HP/0/B/1009/018 and SH/0/B/2005/001 are procedures that can be used to make offsite dose projections and/or protective action recommendations should instrumentation used for assessment indicate offscale or are inoperable.

I.7 Offsite Field Monitoring-Emergency Planning Zone

&

I.8 Field teams have been organized by the Oconee Nuclear Station under the direction of the Field Monitoring Coordinator located in the Emergency Operations Facility. These teams are comprised of a RP Technician and a Driver. Radiation Protection Section Manual 11.7 describes predetermined sampling locations, sampling and monitoring equipment to be used, location of TLD's and air samplers and directions for taking Potassium Iodide Tablets.

I.9 Detect and Measure Radioiodine Concentration in the EPZ

Oconee Nuclear Station shall use appropriate instrumentation to measure radioactivity in counts per minute (CPM) and dose rates in mRad/hr. Air samples (taken with a Portable Air Sampler equipped with appropriate cartridge) shall be measured by a portable iodine analysis system.

Interference from the presence of noble gas and background radiation shall not decrease the minimum detectable activity of 1.0 E-7 uCi/cc (I-131) under field conditions.

Samples taken by the offsite monitoring teams will be evaluated further by one of the available laboratory facilities described in H.6.C of this Plan as necessary.

I.10 Relationship Between Contamination Levels and Integrated Dose/Dose Rates

Duke Energy Company has developed a means for relating the various measured parameters (e.g. contamination levels, air and water) and gross radioactivity levels.

I.11 Plume Tracking

The states of North Carolina, South Carolina and Georgia have arrangements to locate and track an airborne plume of radioactive materials. Duke Energy Company will have monitoring teams in the field, fixed TLD sites, and the capability for airborne monitoring to assist in plume tracking.

See State of North Carolina, FNF Plans
See State of South Carolina, FNF Plans
See State of Georgia, FNF Plans

FIGURE I-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION
ACCIDENT ASSUMPTIONS

DBA assumes draft NUREG 1465 release of fission products to the containment atmosphere:

(1) 100% of all core noble gas activity.

(2) 40% of all core iodine activity.

(3) Various quantities of particulate activity.

Loss of reactor coolant assumes the release of one reactor coolant volume with noble gas and iodine activity associated with operation at 100% power with 1% fuel failure before the release.

Gap activity release assumes that there is cladding failure sufficient to release all fission products in the gas gap of the fuel pins to the containment atmosphere. Assumed is loss of 5% of all core noble gas activity, 5% of all core iodine activity, and 5% of cesium particulate activity to the containment atmosphere.

The maximum allowable containment leakage rate following the accident is expressed in percent of the containment air weight per day.

Regulatory Guide 1.4 requires that we assume the design leak rate (Technical Specifications 5.5.2) the first 24 hours and half the design leak rate for the rest of the accident.

For Oconee these values are:

(a)	0.25%/day	for	0-24 hours
(b)	0.125%/day	for	24 hours - 30 days

The 0.25%/day is the Tech. Spec. leak rate at the peak calculated containment internal pressure, 59 psig, for the design basis LOCA.

Assumptions used in determining the contribution to the total dose from ECCS leakage are:

(a) 7520 cc/hr leakage from the pump seals and valves of the ECCS in the auxiliary building.

(b) An iodine partition factor of 0.1 is used to determine the amount of iodine released to the auxiliary building atmosphere.

(c) All activity released to the auxiliary building is released to the atmosphere with no filtering.

Most Oconee penetrations through the containment are located in the penetration room. This room has its own ventilation system which draws a negative pressure on the room. The air drawn from the penetration room passes through charcoal filters and is exhausted through the unit vent. Bypass leakage is the fraction of the total containment that bypasses the penetration room and escapes to the atmosphere unfiltered. Some examples of potential bypass leakage paths are:

(1) Leakage around the equipment hatch seals.

(2) Leakage through isolation valves that do not seal properly.

(3) Leakage through microscopic holes or cracks in the containment wall.

At Oconee the containment bypass leakage is 50% of the total containment leakage.

Tech. Spec. 5.5.2 requires that during the containment leak rate test, if the containment leakage is greater that 50% of the design leakage rate, local leak rate tests must be performed. These tests must verify that any leakage greater than 50% of the design leakage is going into the penetration room. This only verifies that the maximum leakage bypassing the penetration room is 50% of the containment leakage. It does not give the actual bypass leakage.

Dose contributions are as follows:

(a) Bypass leakage contributes approximately 84% of the total thyroid dose.

(b) ECCS leakage contributes approximately 1% of the total thyroid dose.

(c) Penetration room exhaust contributes approximately 15% of the total thyroid dose.

FIGURE I-2

TECHNICAL BASIS FOR ESTIMATION OF FAILED FUEL
NON-OVERHEATING CONDITION

A. Assumptions

1. All Iodine and Xenon isotopes are at equilibrium.

2. All Iodine isotopes in the RCS pass through a 90% efficient demineralizer at the rate of one coolant volume per day.

3. There is no plate out of Iodine in the RCS.

4. The noble gases are equally mixed throughout the RCS and consideration is not given to noble gases that may be in the letdown storage tank or pressurizer.

5. The reactor is operating at 100% power - 2568 MWT or at any steady-state power level with Steps 1 through 4 applicable.

B. Two Region Model Theory

The two region model assumes a single escape coefficient for the release from the fuel directly into the coolant through the defect site. The model first solves for the dynamic iodine concentrations in the fuel pellet, then through the use of an escape coefficient, solves for the steady-state release into the coolant. Once into the coolant, the methodology also calculates the effects of radioactive decay and coolant purification on the measured iodine concentrations. The following is a delineation of the dynamic solution of the above phenomena, including a simplification for steady-state conditions where appropriate.

I. In-Fuel Concentration

The rate of change of the number of atoms is given by:

$$\frac{dN_i^f}{dt} = \text{(GENERATION RATE) - (DECAY RATE) - (RELEASE RATE)}$$

$$\frac{dN_i^f}{dt} = \dot{F}\,\bar{Y} - N_i^f\,\lambda - N_i^f\,\upsilon \quad \text{.....(1)}$$

Where N_i^f is the dynamic number of atoms of a short-lived isotope in a single fuel rod (atoms/rod)

t is the time (sec)

$\dot{F}$ is the rod volumetric total fission rate, which is a constant for the limits of integration (fiss/sec)

$\bar{y}$ is the effective fission product yield (atoms/fiss)

λ is the decay constant for the isotope (decay probability fraction per atom per second)

υ is the two-region model escape-rate coefficient from the fuel to the coolant for the isotope (escape probability fraction per atom per second).

SOLVING FOR TIME EQUALS TO ZERO YIELDS:

$$N_i^f = {}_0^f e^{-(\lambda+\upsilon)t} + \frac{\dot{F}\bar{y}}{(\lambda+\upsilon)} = (1 - e^{-(\lambda+\upsilon)t})$$

II. In-Coolant Concentration

The rate of change of the number of atoms of the isotope in the reactor coolant system is given by:

$$\frac{dN}{dt}^{c}_{i} = N_i^f(\upsilon) - N_i^c(\lambda) - N_i^c K = \frac{dN}{dt}^{c}_{i} = \text{(Release Rate) - (Decay Rate) - (Purification Rate)} \quad (3)$$

where N_i^c is the dynamic number of atoms of a short-lived isotope in the reactor coolant system (atoms)

K is the purification constant associated with the letdown system and is equal to the system mass flow rate divided by the total non-stagnant coolant mass (purification probability fraction per atom per second)

SOLVING FOR TIME EQUALS TO ZERO YIELDS:

$$N_i^c = \frac{\dot{F}\,\bar{y}\,\upsilon}{(\lambda+\upsilon)(\lambda+K)}\left(1 - \frac{1}{(K-\upsilon)}\left[(\lambda+K)e^{-(\lambda+\upsilon)t} - (\lambda+\upsilon)e^{-(\lambda+K)t}\right]\right)$$

$$+ \frac{N_o^f \upsilon}{(K-\upsilon)}\left[e^{-(\lambda+\upsilon)t} - e^{-(\lambda+K)t}\right]$$

$$+ N_o^c\left[e^{-(\lambda+K)t}\right]$$

$$\text{or } N_i^c = N_i^{c1} + N_i^{c2} + \dot{N}_i^{c3} \quad (4)$$

In the above:

1) N_i^{c1} is the atoms of an isotope remaining in the coolant at time, t, from the inventory of atoms generated by fission events during the current time step (t=0 to t=t)

2) N_i^{c2} is the atoms of an isotope remaining in the coolant at time, t, from the inventory of atoms within the rod generated by fission events prior to the current time step; and

3) N_t^{c3} is the atoms of an isotope remaining in the coolant at time, t, from the atoms in the coolant at the beginning of the current time step.

For the event that fissioning begins at time t equals to zero, N_t^{c2} and N_t^{c3} are also equal to zero at all t. Furthermore, assuming steady-state conditons, Equation 4 reduces to:

$$N_{oo}^{c} = \frac{\dot{F}\,\bar{y}\upsilon}{(\gamma+\upsilon)(\lambda+K)} \qquad \text{(steady-state)}$$

The conventional units for measuring the concentration of atoms of a radioisotope are in terms of isotopic activity, with units of μCi/ml. A_t^c is defined as the activity associated with the concentration N_t^c

Since N_t^{c1}, N_t^{c2}, and N_t^{c3} are in units of atoms per rod in Equation 4, the following conversion is required to obtain A_t^c:

$$A_t^c = A_t^{c1} + A_t^{c2} + A_t^{c3}$$

$$A_t^c = [N_t^{c1} + N_t^{c2} + N_t^{c3}] \frac{(atoms)}{(rod)} \text{ x } N_r \text{ (rods) x } \frac{1}{V^c(ml)} \text{ x } \lambda \frac{(decay\ probability)}{(atom)(\text{sec})}$$

$$\text{x } \frac{1(\mu Ci)}{2.22x\ 10^6} \quad \frac{(decays)}{(\text{min})} \text{ x } 60 \frac{(\text{sec})}{(\text{min})}, \text{ or}$$

$$A_t^c = [N_t^{c1} + N_t^{c2} + N_t^{c3}]\ [2.703\text{E-}5\ \lambda N_r/V^c],\ (\mu\text{Ci/ml}) \qquad (5)$$

where N_r is the number of perforated rods in the core

V^c is the non-stagnant volume of the reactor primary coolant system

And for steady-state conditions:

$$A_{\infty}^{c} = \frac{\dot{F}\,\bar{y}\upsilon}{(\lambda+\upsilon)(\lambda+K)} \times \frac{2.703E-5\,\lambda}{V^{c}} \mathrm{N_r}\ ((\mu ci/ml) \qquad (6)$$

III. Escape Rate Methodology

This section describes the model and supporting technical basis for an escape rate coefficient model dependent on measured iodine ratio. The need for such a model is illustrated by the following two examples.

At one extreme, assume a leaker with a tight radial through wall capillary type crack, which in effect bottles up the fission products and allows very little leakage to the coolant. At the other extreme, assume a pin with a large open hydride blister, exposing the surrounding fuel directly to the coolant. Obviously, both represent only one defect, however, the latter case would release much more fission products to the coolant than the first case.

Therefore, the need exists to differentiate between various defect conditions. To do this, the concept of holdup time, and its affect on relative radioactive decay is used. The tight defect, due to the long holdup time, would shift the iodine ratio (131/133) towards the high end (>1) due to the faster 133 decay (133 half life - 20.8 hrs, 131 half life - 8.05 days). For little or no holdup times, the existing ratio would be around 0.1. This is consistent with observations during failure generation events in which the observed iodine ratio in the coolant approaches two or greater. Calculations for an intact rod (infinite holdup time) yield ratios in excess of 10 or 15.

This rational forms the basis for an iodine ratio dependent escape coefficient model. It certainly is not perfect in that a combination of defects could easily exist at any one time, but it does give an approximation as to the average condition.

Towards this end, an empirical model was developed based on a Combustion Engineering Data Base. The data consists of several operating cycles in which the coolant activities and specific leaking rods were well characterized. The model is empirical, in that the necessary escape coefficients were back calculated and plotted as a function of corrected iodine ratio. However, the ratio needs to be corrected for the decay and purification effects occurring in the primary coolant, so that a consistent and independent model (independent of letdown flow, resin bed efficiency, etc.) can be developed.

The correct or "normalized" iodine ratio is determined as follows:

The equilibrium coolant activity ratio, as determined by Equation 6, is shown here as follows:

$$AR_{\infty}^{c} = \frac{\bar{y}131\,\upsilon131\,\lambda131\,(\lambda133+\upsilon133)(\lambda133+K)}{\bar{y}133\,\upsilon133\,\lambda133\,(\lambda133+\upsilon131)(\lambda131+K)} \qquad (7)$$

Assume that:

$R = AR_{\infty}^{c}$

$\upsilon_{133} = a$

υ_{133}

Substituting and solving for υ_{131} gives:

$$\upsilon_{131} = \frac{1 - \dfrac{R\,(\lambda 131 + K)\,\bar{y}\,133}{a\,(\lambda\,133 + K\,\bar{y}\,131}}{\dfrac{R\,(\lambda 131 + K)\,\bar{y}\,133 - 1}{a\,(\lambda 133 + K\,\bar{y}131\lambda 131\,a\lambda 131}} \qquad (8)$$

The normalized iodine ratio (R') is independent of the coolant volume and purification flow rate and is defined as:

$$R' = \frac{(\lambda_{131} + K)}{(\lambda_{133} + K)}\,(R) \qquad (9)$$

Equation 8 can be re-written as:

$$\frac{\upsilon_{131}}{\upsilon_{131}} = 1 - \frac{R'}{a}\,\frac{\bar{y}_{133}}{\bar{y}_{131}}$$

$$\frac{R'}{a}\quad\frac{\bar{y}_{133}}{\bar{y}_{131}}\quad\frac{1}{\lambda_{131}}\quad\frac{-1}{a\lambda_{133}} \qquad (10)$$

Equation 10 gives a relationship between the iodine-131 escape rate and the normalized iodine ratio. The constant "a", which describes the relationship between the iodine-131 and iodine-133 escape rates, was derived through an analysis of 3 plant cycles in which the number of leaking rods was determined at the end of each cycle. Parametric cases were run to determine, given the known number of leaking rods, the iodine-131 and iodine-133 escape rates required

to predict the equilibrium activity levels of these isotopes for the 3 plant cycles. All data were taken at 100% power and at equilibrium conditions.

The escape rate (ration $\upsilon_{131} / \upsilon_{133} = a$) was assumed to be function of the normalized iodine ratio. A curve was fit to the data resulting in:

$$\frac{\upsilon_{131}}{\upsilon_{133}} = a = \frac{R'}{.437260 + .021089R' - .013293R'^2} \qquad (11)$$

Power Dependence of Escape Rate

The kinetics of fission product migration through the fuel pellet into the rod plenum/gap is governed primarily by temperature. Since temperature is primarily a function of power, a power dependent correction factor was developed based on total rod radial power.

The power dependence of escape rate was determined by evaluating the equilibrium coolant iodine-131 activity as a function of core power level. These data were taken from periods of operation at varying power levels for 8 plant-cycles.

A power function was assumed to represent each individual data set:

$$A_{131} = CP^n$$

where:

A_{131} is the equilibrium level of iodine 131 (μCi/ml)

C and n are fitting constants, and

P is the core power level (%)

C varies with the plant conditions (purification flow rate, etc.) and numbers of leaking rods but, in theory, n should be constant if the data are consistent. Least-squares analyses were performed for each of the sets of data. The values of n determined from this analysis ranged from 1.8 to 5.4. A value of n = 3.6 was selected as a reasonable representation of the data.

From Equation 6, the equilibrium coolant activity level is directly proportional to power (fission rate) and the escape rate. Therefore, the escape rate must be proportional to power to the (n-1), or 2.6 power. Escape rates are therefore calculated with the following equation:

$$\upsilon = \upsilon_o (P/P_o)^{2.6} \quad \text{or } \upsilon = \upsilon_o (Pr/P_o)^{2.6} \qquad (12)$$

where:

υ_o is the escape rate (sec^{-1}) determined at power P_o (%) (As derived from Equation #10); and

P is, optionally, the core power level (%), or Pr, the product of core power level and rod or batch peaking factor (relative to core).

If a specific rod or batch peaking factor is suspected, Pr should be used since it can make an appreciable difference.

FIGURE 1-3

TECHNICAL BASIS FOR ESTIMATION OF FAILED FUEL

Nuclear Engineering uses the following calculations to determine Fuel Overheating without Fuel Melt, Utilization of Area Monitors for Overheat Without Fuel Melt, and Utilization of Area Monitors for Fuel Melt Conditions.

OSC-5283 - ONS Core Damage Assessment Guidelines

OSC-3794 - Failed Fuel Determination using RIA 57-58

Nuclear Engineering uses the following calculations to determine containment volume versus containment level.

OSC-300 - Containment Volume and Heat Sink in Reactor Building

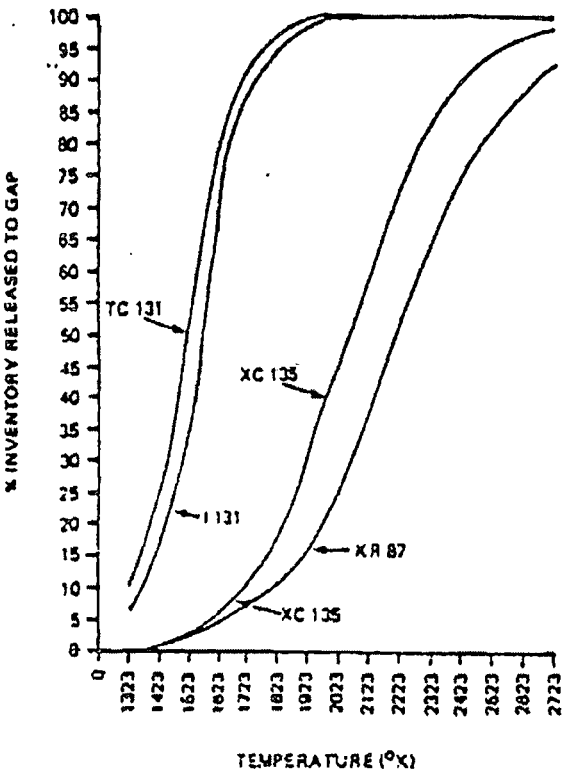
OSC-200 - Water Depth in Reactor Building

Information derived from the above calculations are used in RP/O/B/1000/18 to determine estimated failed fuel.

NOTE: Calculation documentation can be viewed at the Oconee Nuclear Engineering offices.

FIGURE I-3A

GAP INVENTORY VS. TEMPERATURE



BURNUP = 30,000 MWD/MTU
TIME = 420 DAYS

FIGURE I-3B

PERCENT ACTIVITY RELEASE FOR 100 PERCENT OVERTEMPERATURE CONDITIONS

Nuclear	Min.*	Max.*	Nominal**	Min.***	Max.***
Kr-85	40	70			
Xe-133	42	66	52.	40	70
I-131	41	55			
Cs-137	45	60			
Sr-90	0.08****				
Ba-140	0.1	0.2	0.15	0.08	0.2

* Release values based on TMI-2 measurements.

** Normal value is simple average of all Kr, Xe, I, and Cs measurements.

*** Minimum and maximum values of all Kr, Xe, I and Cs measurements.

**** Only value available.

FIGURE I-3C

RELATIONSHIP OF % FUEL OVERTEMPERATURE WITH % CORE INVENTORY RELEASED OF XE, KR, I, OR CS

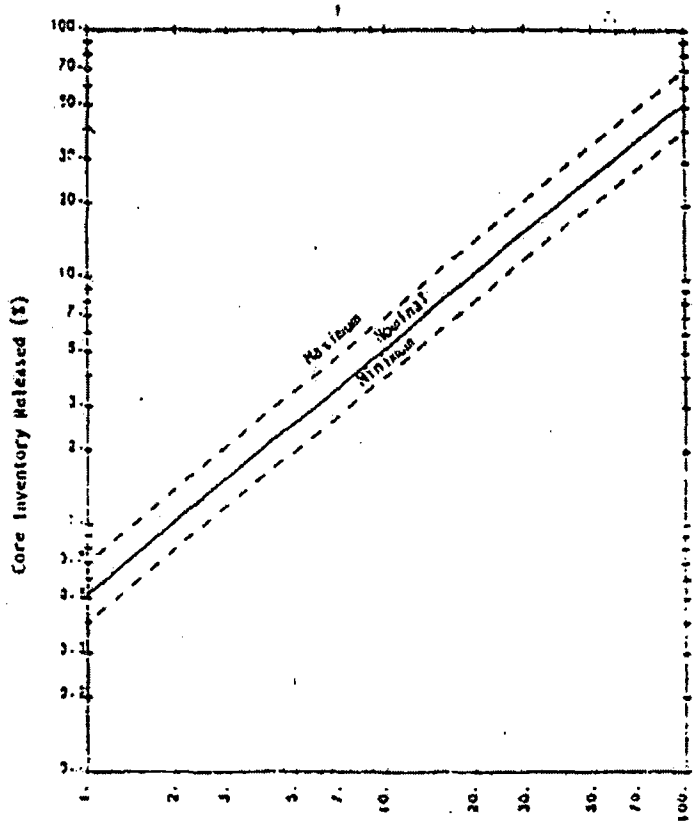


FIGURE I-4

TECHNICAL BASIS FOR ESTIMATION OF FAILED FUEL OVERHEATING WITH FUEL MELT

A. THEORY

In a fuel melt condition, all five release mechanisms discussed in Figure I-3 are involved. As fuel melts, up to 99% of the halogens and noble gases will be released. There will also be a significant release of barium and praseodymium. As in Case II, a linear relationship between failed fuel and isotope activity will be assumed. (See Figures I-4b and I-4c).

The major difference between fuel overheating without fuel melt and overheating with fuel melt is the percent of fission product inventory released from the fuel. The methodology for correcting isotopic decay and reactor power remains the same. The methodology for using hydrogen concentration to estimate core damage remains the same. The main changes will be in the radiochemistry method and area monitor method.

B. General Equations for Iodine and Xenon

1) $$P_i^{low} = \frac{\textit{Total Activity for Isotope}}{(\textit{Power Correction Factor})\,(\textit{Isotope Core Inventory})}\,(100)$$

2) $$P_i^{high} = \frac{\textit{Total Activity for Isotope}}{(0.7)\,(\textit{Power Correction Factor})\,(\textit{Isotope Core Inventory})}\,(100)$$

C. General Equations for Barium

1) $$P_i^{low} = \frac{\textit{Total Activity for Isotope}}{(0.44)\,(Y)\,(\textit{Isotope Core Inventory})}\,(100)$$

2) $$P_i^{high} = \frac{\textit{Total Activity for Isotope}}{(0.10)\,(Y)(\textit{Isotope Core Inventory})}\,(100)$$

D. General Equations for Praseodymium

1) $$P_i^{low} = \frac{\textit{Total Activity for Isotope}}{(0.024)\,(Y)\,(\textit{Isotope Core Inventory})}\,(100)$$

2) $$P_i^{high} = \frac{\textit{Total Activity for Isotope}}{(0.008)\,(Y)\,\textit{Isotope Core Inventory})}\,(100)$$

FIGURE I-4A

PERCENT ACTIVITY RELEASE FOR 100 PERCENT CORE MELT CONDITONS

Species	Large* LOCA	Transient*	Small* LOCA	Nominal** Release	Min.*** Release	Max.*** Release
Xe	88.35	99.45	78.38			
Kr	88.35	99.45	78.38			
				87	70	90
I	88.23	99.44	78.09			
Cs	88.55	99.46	78.84			
Te	78.52	94.88	71.04			
Sr	10.44	28.17	14.80	24	10	44
Ba	19.66	43.87	24.08			
Pr	0.82	2.36	1.02	1.4	0.8	2.4

* Calculated releases for severe accident scenarios without emergency safe-guard features, taken from draft NUREG-0956

** Normal release are averages of Xe, Kr, I, Cs, and Te groups or Sr and Ba groups

*** Maximum and minimum releases represent extremes of the groups.

FIGURE I-4B

RELATIONSHIP OF % FUEL MELT WITH % CORE INVENTORY RELEASED OF BA OR SR

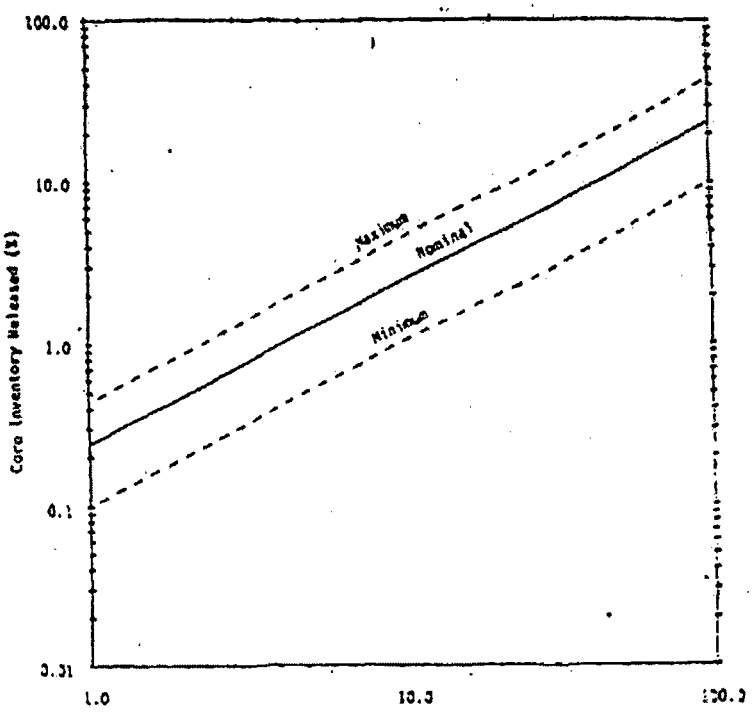


FIGURE I-4C

RELATIONSHIP OF % FUEL MELT WITH % CORE INVENTORY RELEASED OF XE, KR, I, CS, OR TE

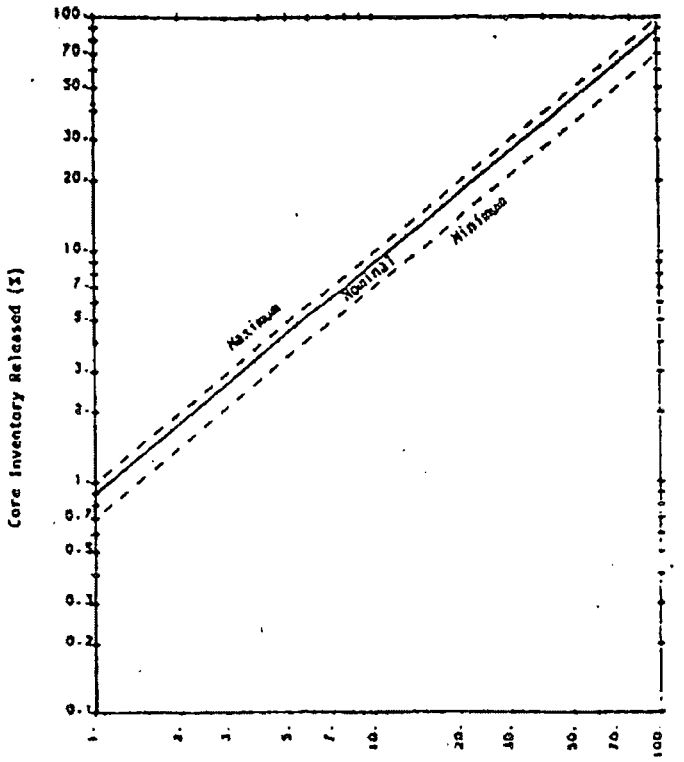


FIGURE I-5

ACTIVITY PER FUEL ASSEMBLY

Isotope	1 Cycle (Curies)	2 Cycles (Curies)	3 Cycles (Curies)
Kr85	2.102(3)*	3.272(3)	4.524(3)
Kr87	2.264(5)	1.433(5)	1.550(5)
Kr88	3.206(5)	2.030(5)	2.194(5)
Xe133	3.483(5)	6.335(5)	3.161(5)
Xe133m	1.610(5)	9.016(4)	1.164(5)
Xe135	4.714(5)	3.973(5)	4.499(5)
Xe135m	1.610(5)	1.255(5)	1.669(5)
I131	3.982(5)	3.075(5)	4.066(5)
I133	8.469(5)	6.317(5)	8.134(5)
I135	7.869(5)	5.879(5)	7.603(5)
Ba139	7.608(5)	5.561(5)	7.051(5)
Ba140	7.429(5)	5.432(5)	6.331(5)
Ba141	6.955(5)	5.073(5)	6.392(5)
Pr145	4.32(5)	3.177(5)	3.950(5)
Pr146	3.437(5)	2.537(5)	3.200(5)

*2.102(3) = 2.102×10^3

TOTAL CORE ACTIVITY

(Isotope)	(Curies)	(Curies)	% Δ*
Kr85	5.8405(5)**	5.84(5)	0.0
Kr87	3.0958(7)	4.00(7)	-29.207
Kr88	4.3837(7)	5.60(7)	-27.775
Xe133	1.355(8)	1.28(8)	7.800
Xe133m	2.1686(7)	3.07(6)	85.84
Xe135	7.7798(7)	2.19(7)	71.85
Xe135m	2.6751(7)	3.31(7)	-23.73
I131	6.5626(7)	7.42(7)	-13.065
I133	1.3523(8)	1.28(8)	5.340
I135	1.2597(8)	1.27(8)	-0.82
Ba139	1.193(8)		
Ba140	1.165(8)		
Ba141	1.087(8)		
Pr145	6.820(7)		
Pr146	5.442(7)		

$$\frac{*LOR2 - FSAR}{LOR2} \times 100$$

LOR2 = 59 (cycle 1 + cycle 2 + cycle 3)
where cycle 1, cycle 2, cycle 3 is on Table 5

**5.8405(5) = 5.8405×10^5

NOTE: FSAR values assume 400 EFPD and LOR2 values assume 421 EFPD

FIGURE I-6

TECHNICAL BASIS FOR ESTIMATION OF FAILED FUEL

AREA MONITORS FOR OVERHEAT WITHOUT FUEL MELT

Generally, a radiochemistry sample will give a more accurate indication of core damage than area monitors in the containment building. However, radiochemistry samples take a long time to evaluate, whereas area monitors give results immediately. This section will attempt to make some simplifying assumptions and give a rough estimate of failed fuel versus dose rate in containment. It will be assumed that only noble gases are in the containment atmosphere.* The noble gases are also assumed to be equally distributed throughout the containment building.

$\dot{X} = (2.62 \times 10^5) \times E\gamma \times 3600$ sec/hr

$\dot{X} = (9.432 \times 10^7) \times E\gamma$ R/hr

Where $\dot{X}$ = Ci/cm^3

$E\gamma$ = Average energy of all -γ rays per disintegration

$\dot{X}$ = Dose rate (R/HR)

Figure I-6a lists the average gamma energy level for the most prominent noble gas isotopes. Figure I-6b shows the methodology for calculating total noble gas dose rate. Figure I-6c is a plot of dose rate from Figure I-6b as the noble gases decay.

An approximation of failed fuel can be determined by the equation:

$$Fm = \frac{\dot{X}\, m}{(Y)\ \dot{X}(t)} \times 100$$

Where: Xm = Area monitor reading in the containment (R/HR)

$\dot{X}$ (t) = Dose rate from Figure I-6c (R/HR) at the appropriate time after shutdown

Y = Power correction factor

$$\text{Where } Y = \frac{Average\ Power\ for\ Prior\ 30\ days}{Rated\ power\ level}$$

Fm = Fuel failure percent according to area monitors

It should be noted that this equation assumes a "PUFF" release of noble gases. If a small break LOCA occurs then the failed fuel estimate of m will be low. One possible method for using this equation during a small break LOCA is to wait until the monitor dose rate peaks and starts to decline. Figure I-9 is used to account for decay if required.

*It is understood that more isotopes than noble gases are released to the containment. However, modeling which isotopes and their activity is difficult. Therefore, only noble gases are considered. This will give a conservative estimate of failed fuel.

FIGURE I-6A

AVERAGE GAMMA ENERGY LEVEL

Isotope	(Mev)	Half-Life
Kr85m	0.151	4.4 Hrs.
Kr85	0.00211	10.76 Yrs.
Kr87	1.37	76.0 Min.
Kr88	1.74	2.79 Hrs.
Xe133m	0.326	2.26 Days
Xe133	0.030	5.27 Days
Xe135m	0.422	15.70 Min.
Xe135	0.246	9.20 Hrs.

FIGURE I-6B

VALUES FOR CALCULATING TOTAL NOBLE GAS DOSE RATE

Isotope	Activity in Containment At Shutdown	Eγ	χ	X
Kr85m	4.8405 (5)*	0.00211	9.3302(-6)	18.569
Kr87	2.0958 (7)	1.370	4.0397(-4)	5.22(5)
Kr88	3.0686 (7)	1.740	5.9148(-4)	9.71(5)
Xe133	9.3558 (7)	0.030	1.8034(-3)	5.10(4)
Xe133m	1.5180 (7)	0.0326	2.9260(-4)	9.00(4)
Xe135	5.4459 (7)	0.246	1.0497(-3)	2.43(5)

Total dose rate at shutdown = 1.88(6) R/HR)

* $4.8405(5) = 4.8405 \times 10^5$

FIGURE I-6C

DOSE RATE VS TIME FOR FUEL OVERHEATING WITHOUT FUEL MELT

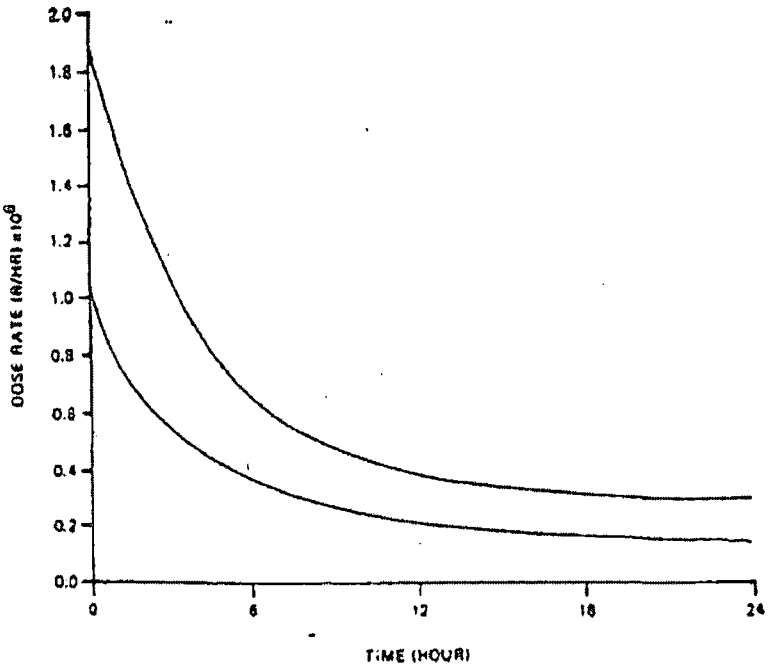


FIGURE I-7

TECHNICAL BASIS FOR ESTIMATION OF FAILED FUEL AREA MONITORS FOR FUEL MELT CONDITION

Dose rate is based on 70 to 100 percent release of noble gases instead of the 40 to 70 percent used in Figure I-6. Figure I-7a shows a plot of dose rate versus time for 100% failed fuel. An approximation of failed fuel can be determined by the equation:

$$Fm = \frac{X\,m}{(Y)\,(X(t))} \cdot 100$$

Where: Xm = Area monitor reading in the containment (R/HR)

X(t) = Dose rate from Figure I-7a

Y = Power correction factor= $\frac{Average\ Power\ for\ Prior\ 30\ days}{Rated\ power\ level}$

F m = Fuel failure percent

FIGURE I-7A

DOSE RATE VS. TIME FOR FUEL MELT

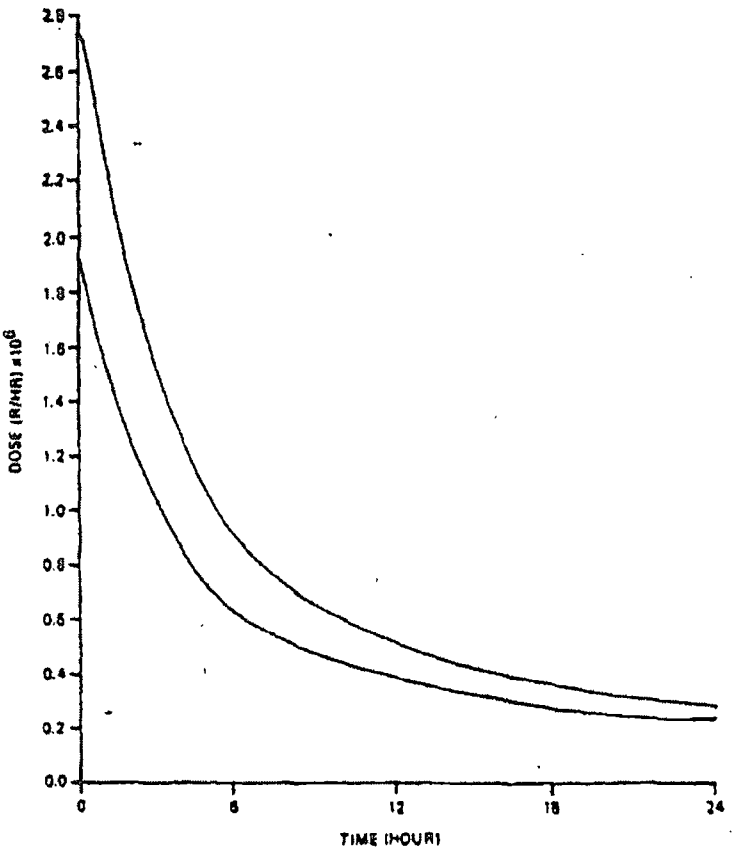


FIGURE I-8

TECHNICAL BASIS FOR ESTIMATION OF FAILED FUEL HYDROGEN CONCENTRATION IN THE CONTAINMENT BUILDING

At approximately 1600°F zirconium reacts with water to produce hydrogen. The greater the temperature the faster the reaction rate. During the zirconium - water reaction heat is also released which raises the cladding temperature which increases the reaction rate. If the hydrogen concentration is constant or increasing slightly without recombiners on, then the cladding temperature is probably around 1600°F or less. If hydrogen concentration is increasing rapidly (with or without recombiners) then the clad temperature is above 1600°F. A rough estimate of core damage can be made, based on hydrogen concentration in the containment if the following assumptions are made.

1. All hydrogen produced in the RCS is released to the containment building.
2. All hydrogen in the containment building comes from the zirconium - water reaction*.
3. The recombiners have not be turned on (i.e., no hydrogen has been burned).

The equation for the zirconium - water reaction is

$Zr + 2H_20 \rightarrow Zr0_2 + 2H_2$

or

Two moles of hydrogen in the containment building are produced by the reaction of one mole of zirconium in the core.

At STP 1 mole of hydrogen has a volume of

22.4. ℓ or 0.79 ft^3

Volume of hydrogen in containment = hydrogen concentration

(volume percent unit) X containment free volume

or

$V_{H_2} = X_{H_2}$ ' ' *containment*

where V_{H2} is the volume of hydrogen in containment as a percent of atmosphere.

$$\frac{P_1 V_1}{T_s} = \frac{P_2 V_2}{T_2}$$

* There are other sources of hydrogen, but assuming all hydrogen is produced by the zirconium - water reaction will give a conservative estimate.

$$V_{STP} = \frac{P_C \, V_{H_2} \, T_{STP}}{P_{STP} \, T_C}$$

$$V_{STP} = \frac{P_C}{T_C} \quad \frac{TSTP}{P_{STP}} \quad XH_2 \quad V_C$$

Where V_{STP}, T_{STP}, P_{STP} = Volume, temperature, and pressure at STP

$T_{STP} = 492°R$

$P_{STP} = 14.7$ PSI

$T_{STP} = 492°R$

$P_{STP} = 14.7$ PSI

V_c = Containment free volume = 1,832,033 ft^3

$$V_{STP} = \frac{P_C}{T_C} \quad \frac{492}{14.7} \quad (1{,}832{,}033) \quad \left(X_{H_2}\right)$$

$$V_{STP} = \frac{P_C}{T_C} \quad X_{H_2} \quad (6.1317 \text{ s } 10^7)$$

The total amount of hydrogen moles in the containment = $\frac{V_{STP}}{Volume \ of \ one} \ mole$

$$M_H = \frac{P_C}{T_C} \quad X_{H_2} \quad \frac{6.317 \times 10^7}{0.79} = \frac{P_C}{T_C} \quad X_{H_2} \quad (7.7616 \times 10^7)$$

Since it takes 1 mole of Zr to produce 2 moles of H_2 then the number of zirconium moles reacting with hydrogen is 1/2 M_H

or

$$M_{Zr} = 1/2 \, M_H = 1/2 \quad \frac{P_C}{T_C} \quad X_{H_2} \quad (7.7616 \times 10^7)$$

The zirconium mass that reacts can be calculated by the equation

$Z_r = M_{Zr} \times W_m$

Where W_m = gram - Atomic Weight = 91.22 gr/mole

$$Z_r = (M_{Zr}) \, (91.22) = \left(\frac{P_C}{T_C} \quad X_{H_2}\right) (3.5401 \times 10^9)$$

The fraction of zirconium that reacts with water is calculated by

$$F_{Zr} = \frac{Z_r}{Z_{r_{tot}}}$$

Where Zr_{tot} = total amount of zirconium in the core = 8.1204×10^7 gm

$$F_{Zr} = \frac{P_C}{T_C} \quad X_{H_2} \frac{3.5401 \times 10^9}{8.1204 \times 10^7} = \frac{P_C}{T_C} \quad X_{H_2} \quad (43.594)$$

$$F_{Zr} = \frac{P_C}{T_C} \quad X_{H_2} \frac{43.6}{100} = \frac{P_C}{T_C} \quad P_{H_2} \quad (.436)$$

Where: F_{Zr} = Fraction of core damage

P_{Zr} = Percent of core damage

P_c = Containment pressure (PSIA)

T_c = Containment temperature (°F + 460)

P_{H_2} = Percent of hydrogen in containment atmosphere

$$X_{H_2} = \frac{P_{H_2}}{100}$$

It should be noted that when estimates of core damage are made using radio-chemistry samples, area monitors and hydrogen concentration that the results can be greatly different. Whenever possible, all three methods should be used and their combined results used as an indication of core damage.

FIGURE I-9

TECHNICAL BASIS FOR ESTIMATION OF FAILED FUEL

ISOTOPE DECAY CORRECTION

The specific activity of a sample is decay adjusted to time of reactor shutdown using the following equation.

$$\text{Specific activity at shutdown} = \frac{\textit{Specific activity (meaured)}}{e^{-\lambda_i t}}$$

Where:

λ_i = Radioactive decay constant, 1/sec

t = Time period from reactor shutdown to time of sample analysis, sec.

Since this correction may also be performed by some analytical equipment, care must be taken to avoid duplicate correction. Also, considerations must be given to account for precursor effect during the decay of the nuclide. For this methodology, only the parent-daughter relationship associated with the methodology. The decay scheme of the parent-daughter relationship (Figure I-9a) is described by the following equation.

$$Q_B = \frac{\lambda_B}{\lambda_B - \lambda_A} Q_A^{\circ} \left(e^{-\lambda A^{'}} - e^{-\lambda B^{'}}\right) Q_B^{\circ} e^{-\lambda B^{'}}$$

Where:

Q_A° = Activity (Ci) or specific activity (μCi/gm or μCi/cc) of the parent at shutdown

Q_B° = Activity (Ci) or specific activity (μCi/gm or μCi/cc) of the daughter at shutdown

Q_B = Activity (Ci) or specific activity (μCi/gm or μCi/cc) of the daughter at time of sample

λ_A = Decay constant of the parent, sec^{-1}

λ_B = Decay constant of the daughter, sec^{-1}

t = Time period from reactor shutdown to time of sample analysis, sec.

Since the activity of the daughter at sample time is due to the decay of the parent and the decay of the daughter initially released at shutdown, an estimation of the fraction of the measured activity at sample time due to only the decay of daughter is required.

To use the above equation to determine the fraction, an assumption is made that the fraction of source inventory released of the parent and the daughter at time of shutdown are equal (for the nuclides used here within a factor of 2). The following steps should be followed to calculate the fraction of the measured activity due to the decay of the daughter that was released and then to calculate the activity of the daughter released at shutdown.

1. Calculate the hypothetical daughter concentration (Q_B) at the time of the sample analysis assuming 100 percent release of the parent and daughter source inventory.

$$Q_B = \frac{\lambda_B}{\lambda_B - \lambda_A} Q_A^o \left(e^{-\lambda A^t} - e^{-\lambda B^t}\right) Q_B{}^o e^{-\lambda B^t}$$

Where:

Q_A^o = 100% source inventory (Ci) of parent, Table 6

Q_B^o = 100% source inventory (ci) of daughter, Table 6

$Q_B(t)$ = Hypothetical daughter activity (Ci) at sample time

K = If parent has 2 daughters, K is the branching factor, Table 6

λ_A = Parent decay constant, sec^{-1}

λ_B = Daughter decay constant, sec^{-1}

t = Time period from reactor shutdown to time of sample analysis, sec.

2. Determine the contribution of only the decay of the initial inventory of the daughter to the hypothetical daughter activity at sample time.

$$Fr = \frac{Q_B^o e^{-\lambda B^t}}{Q_B(t)}$$

3. Calculate the amount of the measured sample specific activity associated with the decay of the daughter that was released.

   M_B = Fr x measure specific activity (μCi/gm or μCi/cc)

4. Decay correct the specific activity (M_B) to reactor shutdown.

$$M_B = \frac{B}{-\lambda_B t}$$

FIGURE I-9A

PARENT-DAUGHTER RELATIONSHIPS

Parent	Parent Half Life[1]*	Daughter	Daughter Half Life*	K^{2}**
Kr-88	2.8 h	Rb-88	17.8 m	1.00
I-131	8.05 d	Xe-131m	11.8 d	.008
I-133	20.3 h	Xe-133m	2.26 d	0.24
I-133	20.3 h	Xe-133	5.27 d	.976
Xe-133m	2.26 d	Xe-133	5.27 d	1.00
I-135	6.68 h	Xe-135	9.14 h	.70
Xe-135m	15.6 m	Xe-135	9.14 h	1.00
I-135	6.68 h	Xe-135m	15.6m	.30
Te-132	77.7 h	I-132	2.26 h	1.00
Sb-129	4.3 h	Te-129	68.7 m	.827
Te-129m	34.1 d	Te-129	68.7 m	.680
Sb-129	4.3 h	Te-129m	34.1 d	.173
Ba-140	12.8 d	La-140	40.22 h	1.00
Ba-142	11 m	La-142	92.5 m	1.00
Ce-144	284 d	Pr-144	17.27 m	1.00

[1] * Table of Isotopes, Lederer, Hollander, and Perlman, Sixth Edition

[2] ** Branching of decay factor

J. PROTECTIVE RESPONSE

To assure that a range of protective actions is available for the plume exposure pathway for emergency workers and the public. Guidelines for protective actions during an emergency, consistent with Federal guidance, are developed and in place and protective actions for the ingestion exposure pathway appropriate to the locale have been developed.

To protect onsite personnel during hostile action and ensure the continued ability to safely shutdown the reactor and perform the functions of the emergency plan a range of protective actions are in place.

J. 1 Accountability

The Oconee Nuclear Site has a Site Assembly Procedure that gives specific instructions to follow during a site assembly. Also, each division/section has specific directives that provide guidance for their personnel. (Site Assembly locations, Figure J-7)

Methods to notify and alert onsite personnel (essential and non-essential) during hostile action activities are described in AP/0/A/1700/045, "Site Security Threats". RP/0/B/1000/010 "Procedure for Emergency Evacuation/Relocation of Site Personnel". RP/0/B/1000/009, "Procedure for Site Assembly".

J. 2 Relocation Assembly Areas and Evacuation Routes

Should it be determined that non-essential personnel would need to be relocated onsite or evacuated from the site, procedures are in place to handle this process. Agreements have been reached with local authorities for the use of the Oconee and Pickens school facilities for evacuation of personnel. (Appendix 5)

Site directives and procedures establish onsite relocation areas as well as evacuation routes (Figure J-2) to suitable offsite locations.

J. 3 Site Evacuation Procedures - Personnel

The site evacuation procedure establishes guidelines for evacuation from the station site. This procedure outlines the radiological exposure limits. All station personnel inside the protected area will be monitored before being evacuated from the station. Records will be kept of the individual's exposure/contamination level prior to evacuation. All personnel, so designated, will then be evacuated to pre-designated areas for thorough personnel monitoring and decontamination. Records will be kept for the station and personnel files. All personnel will be required to sign a copy of the monitor readings that will be recorded in personnel files. (Figures J-5, J-6)

During hostile threat conditions relocation of personnel away from the hazard areas are performed in accordance with AP/0/A/1700/045, "Site Security Threats". RP/0/B/1000/010, "Procedure for Emergency Evacuation/Relocation of Site Personnel". RP/0/B/1000/009, "Procedure for Site Assembly".

J. 4 Site Evacuation Procedures-Decontamination/Non Essential/Essential Personnel Criteria

Personnel who have been determined to be non-essential may be evacuated from the plant site in the event of a Site Area Emergency Classification. However, non-essential personnel are always evacuated from the site during a General Emergency Classification. Provisions are made for the decontamination of vehicles and personnel at an offsite location if the situation should warrant that to be necessary.

EPZ - Population Alerting and Notification

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans, Site Specific.
See Appendix 3.

J.5 & J.6 Site Evacuation Procedures-Personnel Accountability

Within thirty minutes of a Site Assembly, all persons at the Oconee Nuclear Station shall be accounted for and any person(s) determined to be missing from their control station, will be identified by name. To assist in the location of missing person(s), the Emergency Coordinator will appoint a Search and Rescue Team. Search procedures will be coordinated through the Operational Support Center.

After all non-essential personnel have been evacuated from the site, logsheets will be kept by Radiation Protection personnel in the Operational Support Center of all persons onsite together with their Radiation Protection records to include the following:

a. Individual respiratory protection
b. Protective clothing
c. Use of Radioprotective drugs

During hostile threat conditions personnel accountability is performed in accordance with AP/0/A/1700/045, "Site Security Threats" and RP/0/B/1000/009, "Procedure for Site Assembly".

J. 7 Protective Actions Recommendations

The Emergency Coordinator (Operations Shift Manager or Station Manager) or the EOF Director (depending on the facility activation) will be responsible for contacting the State and/or local governments to give prompt notification for implementing protective measures within the plume exposure pathway, and beyond it if necessary. Procedure RP/0/B/1000/024, "Protective Action Recommendations" and SR/0/B/2000/003, "Activation of the Emergency Operations Facility" has been written to provide specific guidance for issuing protective action recommendations under various plant conditions to the Emergency Coordinator in the TSC and the EOF Director in the EOF Figure (J-1) respectively. The decision to use sheltering as an alternative to evacuation for impediments and special populations is one that will be made by offsite officials. If dose projections show that PAGs have been exceeded at 10 miles, the dose assessment code and in-field measurements, when available, shall be used to calculate doses at various distances down wind to determine how far from the site PAG levels are exceeded. The Radiological Assessment Manager shall forward the results to the EOF Director who will communicate this information to the offsite authorities.

Figure J-1A (Protective Action Guides) is adopted from EPA 400 and guidance in state plans on use of KI and considers protective action based on projected avoided dose.

J. 8 Evacuation Time Estimates

A description of the methods and assumptions used in developing the evacuation times is included in the 2002 study of the Oconee Nuclear Site prepared by Duke Energy Environmental Health And Safety Services. These estimates will be considered in evaluating protective action recommendations from the Technical Support Center or the Emergency Operations Facility. A copy of the study is available in the Technical Support Center and the Emergency Operations Facility.

Figures J-3A through J-4I provide information concerning population (permanent, seasonal and transient). These figures also provide the estimated time for evacuation. See also Appendix 4 for a discussion of the evacuation scenarios covered by the study.

Approximately every 10 years after new data becomes available from the U.S. Census Bureau, the data will be reviewed to determine whether the evacuation time estimates need to be updated. The evacuation time estimates will be updated whenever reliable information indicates that significant changes have occurred that would invalidate the current estimates.

J.9 Implementing Protective Measures

See Pickens County FNF Plans.
See Oconee County FNF Plan.
See State of South Carolina FNF Plans, Site Specific.

For hostile action events, a range of protective actions for onsite workers including evacuation of essential personnel from potential target buildings, timely evacuation or relocation of non-essential site personnel, dispersal of critical personnel to safe locations, sheltering of personnel away from potential site targets and accountability of personnel after the attack are provided in emergency plan implementing procedures AP/0/A/1700/045, "Site Security Threats", RP/0/B/1000/010, "Procedure for Emergency Evacuation/Relocation of Site Personnel", RP/0/B/1000/009, "Procedure for Site Assembly".

J.10 Implementation of Protective Measures for Plume Exposure Pathway

J.10.a EPZ - Maps of Oconee EPZ.
See Figure A, page i-5.

J.10.b EPZ - Population Distribution Charts
See Figures J-3B through J-4E

J.10.c EPZ - Population Alerting and Notification

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans, Site Specific.

See Appendix 3.

J.10.d EPZ - Protecting Immobile Persons

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans, Site Specific.

J.10.e Use of Radioprotective Drugs for Persons in EPZ

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina Operational Radiological Emergency Response Plan - SCOREP, (FNF Plans, Site Specific).

J.10.f Conditions For Use of Radioprotective Drugs

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina SCOREP, (FNF Plans, Site Specific).

J.10.g Means of Relocation and
J.10.h State/County Relocation Center Plans

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans, Site Specific.

J.10.i Evacuation Route - Traffic Conditions

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans, Site Specific.

J.10.j Evacuated Area Access Control

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans, Site Specific.

J.10.k Planning for Contingencies in Evacuation

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans, Site Specific.

J.10.l State/County Evacuation Time Estimates

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans, Site Specific.

J.10.m Bases for Protective Action Recommendations

DUKE ENERGY uses the following considerations in determining protective action recommendations:

1) Protective Action Guides (PAG)
2) Core Condition

See State of South Carolina FNF Plan, Site Specific

J.11 Ingestion Pathway Planning:

See State of South Carolina FNF Plans.
See State of Georgia FNF Plans.
See State of North Carolina FNF Plans.

J. 12 Relocation Center - Registering: & Monitoring

See Oconee County FNF Plans.
See Pickens County FNF Plans.
See State of South Carolina FNF Plans.

FIGURE J-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

PROTECTIVE ACTION RECOMMENDATION FLOW CHART

CONDITION	FUEL DAMAGE SYMPTOMS	CONTAINMENT STATUS	PROTECTIVE ACTION RECOMENDED
General Emergency Declared	♦Loss of critical functions required for core protection ♦High CETCs ♦RB High rad levels	Not applicable	Evacuate 2- mile radius and 5- miles downwind unless conditions make evacuation dangerous. (See Note 1). Shelter any sector not evacuated.
Additional protective recommendations will be based on the following conditions from either the Technical Support Center or the Emergency Operations Facility. TSC or the EOF shall continue assessment based on all available plant and field monitoring information. Modify protective actions as necessary. Locate and evacuate people from hot spots. Do not relax protective actions until the source of the threat is clearly under control.			
Fuel Damage Detected by Monitors	♦High rad levels as determined by Reactor Building and unit vent monitors	Known containment breach or RB pressure greater than 1 PSIG	Dose calculations required to determine additional evacuation requirements and recommendations on use of stable iodine. Shelter any sector not evacuated.
Condition 2 failed fuel as determined by RP/0/B/1000/018	♦RB high rad levels ♦H-2 increasing ♦Clad >1200° F	No credit is taken for containment.	Evacuate 5-mile radius and 10-miles downwind. Shelter any sector not evacuated.

Note 1. Dangerous travel conditions or immobile infirmed population.

FIGURE J-1A

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

PROTECTIVE ACTION GUIDES

Protective Action	Recommended Actions	Comments
Evacuation	1-5 rem TEDE from significant external and internal exposure from gamma radiation from the plume and from deposited material	Although the PAG is expressed as a range, under normal conditions evacuation of the public is usually justified when the projected dose to an individual is one rem.
Evacuation	5-25 rem thyroid CDE from significant inhalation of activity in the plume	Although the PAG is expressed as a range, under normal conditions evacuation of the public is usually justified when the projected dose to an individual is five rem.
Administration of stable iodine (e.g. KI)	5 rem thyroid CDE from radioiodine	Duke Energy will recommend that offsite agencies consider the use of KI at 5 rem thyroid CDE.

Sheltering Concepts:

Duke Energy will make evacuation recommendations to the offsite agencies. However, if hazardous environmental conditions exists, Oconee emergency personnel will provide information (plant status, release magnitude, release duration, consequences) for the offsite agencies to use in making their decisions as to whether or not the public will be evacuated or sheltered.

FIGURE J-2

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

EVACUATION ROUTES CHART

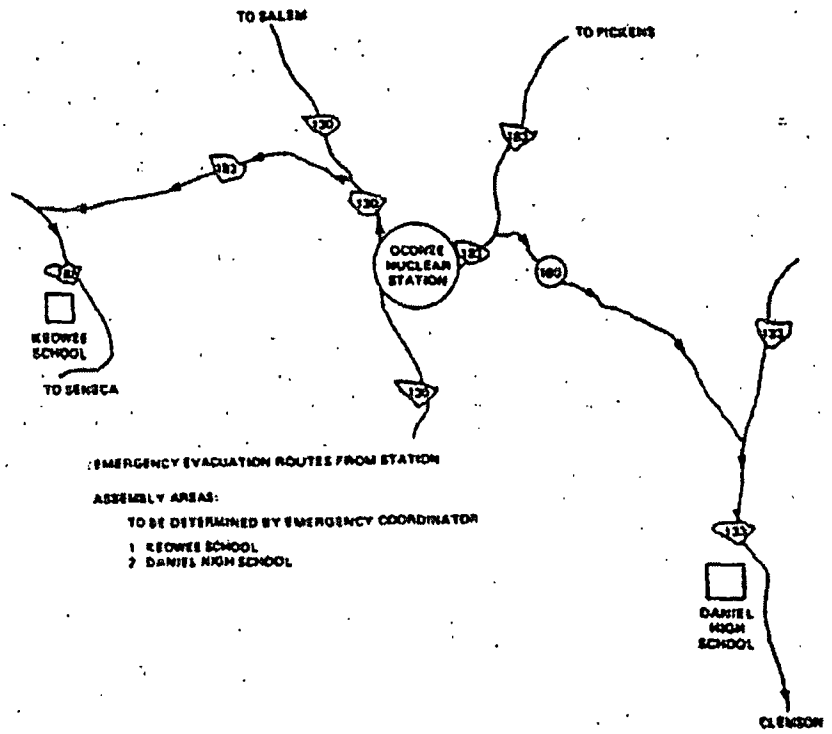


FIGURE J-3A
DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

EPZ EVACUATION TIME ESTIMATE SUMMARY - 2002

Analysis Case	Approx. Distance (Miles)	Approx. Direction	Subareas Included	Evacuation time (minutes)[3] Fair Weather Winter Weekday	Fair Weather Winter Weeknight	Fair Weather Summer Weekend	Adverse Weather[4] Winter Weekday	Adverse Weather[4] Winter Weeknight	Adverse Weather[4] Summer Weekend
1	0-2	180°, E	A-0[1]	160	160	160	160	160	160
2	0-2	180°, W	A-0[2]	160	160	160	160	160	160
3	0-5	90°, NE	A-0[1], A-1	180	180	180	180	180	180
4	0-5	90°, SE	A-0[1], B-1, C-1	160	160	160	160	160	160
5	0-5	90°, NW	A-0[2], E-1, F-1	160	160	160	180	180	180
6	0-5	90°, SW	A-0[2], D-1	160	160	160	180	180	160
7	0-10	90°, NE	A-0[1], A-1, A-2	180	180	180	200	200	200
8	0-11	90°, SE	A-0[1], B-1, C-1, B-2, C-2	200	180	180	260	200	200
9	0-12	90°, NW	A-0[2], E-1, E-2, F-1, F-2	200	200	200	220	220	200
	0-13	90°, SW	A-0[2], D-1, D-2	215	200	200	270	225	215
11	0-14	180°, E	Pickens County; A-0[1], A-1, A-2, B-1, B-2, C-1, C-2	200	180	180	260	200	200
12	0-13	180°, W	Oconee County; A-0[2], D-1, D-2, E-1, E-2, F-1, F-2	215	200	200	270	225	215
13	0-14	360°	Entire EPZ, A-0[1], A-0[2], A-1, A-2, B-1, B-2, C-1, C-2, D-1, D-2, E-1, E-2, F-1, F-2	215	200	200	270	225	215

[1] Included portion of subarea A-0 in Pickens County
[2] Includes portion of subarea A-0 in Oconee County
[3] Includes times associated with notification, preparation, and travel out of the EPZ Area, rounded to the nearest 5-minute interval.
Evacuation of transient facilities throughout the entire EPZ is included in all evacuation cases, per the offsite RERP's.
[4] Reduction in roadway capacities and travel speeds of 20% for summer weekend condition (rain), 30% for winter weekday and winter weeknight conditions (ice).

FIGURE J-3B

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

Permanent Resident Population by Sector

Distance (miles)	Direction															
	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	N
1	0	0	1	1	1	1	1	0	1	3	0	0	0	3	5	0
2	8	22	16	21	22	18	12	8	5	25	6	15	15	219	88	0
3	34	60	77	121	89	85	39	5	50	7	146	91	28	309	426	17
4	90	175	284	335	178	64	31	37	17	140	315	210	59	273	595	297
5	22	221	455	421	301	232	224	188	184	238	238	184	103	56	50	13
6	66	380	386	395	279	401	570	1,122	474	320	384	252	217	138	74	17
7	62	338	338	406	247	448	103	1,004	1,031	381	122	330	290	269	130	28
8	32	248	413	304	503	580	2,340	958	2,318	1,256	395	682	244	352	334	39
9	62	231	408	406	894	5,354	10,191	577	4,318	1,073	795	1,146	241	498	358	75
10	18	437	295	733	743	1,841	1,775	479	2,249	530	1,279	2,022	205	321	200	60
11	0	129	20	413	51	228	548	109	14	97	299	1,440	98	143	16	20
Totals	394	2,241	2,693	3,556	3,307	9,253	15,834	4,487	10,661	4,068	3,979	6,372	1,499	2,581	2,276	568

FIGURE J-4A
DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

SEASONAL RESIDENT POPULATION BY SECTOR

Subarea	Residential	Work Force	School	Special Facilities	Recreational	Hotel/Motel	Total
A-0	529	763	0	0	38	0	1,330
A-1	752	9	0	40	308	0	1,109
A-2	1,961	20	300	0	8	0	2,289
B-1	2,938	13	783	41	0	0	3,775
B-2	5,822	483	29	9	0	0	6,343
C-1	476	0	0	0	0	0	476
C-2	24,363	179	21,924	52	16	501	47,035
D-1	493	0	0	0	4	0	497
D-2	19,219	920	4,412	263	1,011	72	25,897
E-1	1,235	0	281	0	8	0	1,524
E-2	10,669	1,816	3,154	60	62	19	15,780
F-1	2,033	0	0	0	54	100	2,187
F-2	3,695	50	509	0	16	0	4,270
Total	74,185	4,253	31,392	465	1,525	692	112,512

FIGURE J-4B
DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

TRANSIENT POPULATION FOR WINTER WEEKNIGHT CONDITIONS BY SECTOR

Subarea	Residential	Work Force	School	Special Facilities	Recreational	Hotel/Motel	Total
A-0	529	700	0	0	102	0	1,331
A-1	752	0	0	401	209	0	1,001
A-2	1,961	0	0	0	2	0	1,963
B-1	2,938	0	0	41	0	0	2,979
B-2	5,822	100	0	9	0	0	5,931
C-1	476	0	0	0	0	0	476
C-2	24,363	110	7,055	52	4	876	32,460
D-1	493	0	0	0	2	0	495
D-2	19,219	452	36	263	106	127	20,203
E-1	1,235	0	0	0	2	0	1,237
E-2	10,669	300	0	60	2	33	11,064
F-1	2,033	0	0	0	0	175	2,208
F-2	3,695	0	0	0	4	0	3,699
Total	74,185	1,662	7,091	465	433	1,211	85,047

FIGURE J-4C
DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

TRANSIENT POPULATION FOR SUMMER WEEKEND CONDITIONS BY SECTOR

Subarea	Residential	Work Force	School	Special Facilities	Recreational	Hotel/Motel	Total
A-0	529	700	0	0	1,025	0	2,254
A-1	752	0	0	40	1,025	0	1,817
A-2	1,961	0	0	0	25	0	1,986
B-1	2,938	0	0	41	0	0	2,979
B-2	5,822	68	0	9	0	0	5,889
C-1	476	0	0	0	0	0	476
C-2	24,363	140	6,830	52	50	1,252	32,687
D-1	493	0	0	0	14	0	507
D-2	19,219	129	0	263	2,032	182	21,825
E-1	1,235	0	0	0	25	0	1,260
E-2	10,669	140	0	60	195	48	11,112
F-1	2,033	0	0	0	170	250	2,453
F-2	3,695	0	0	0	50	0	3,745
Total	74,185	1,177	6,830	465	4,611	1,732	89,000

FIGURE J-4D
DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

TRANSIENT POPULATION FOR WINTER WEEKDAY CONDITIONS BY SECTOR

	Direction															
Distance (miles)	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	N
1	0	0	0	0	0	0	0	0	750	0	0	0	0	0	0	0
2	8	13	0	0	0	0	0	0	0	0	0	30	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
4	8	0	0	0	0	0	0	0	0	0	0	0	0	8	54	0
5	300	0	0	13	0	0	4	0	0	0	0	0	0	0	0	8
6	0	9	0	0	0	0	0	4	0	0	0	0	0	30	0	0
7	0	0	0	0	0	0	0	382	34	30	8	0	0	0	0	0
8	8	5	15	0	0	0	562	65	52	295	0	0	54	0	0	8
9	0	0	0	0	210	148	35	0	40	1,052	992	294	0	0	20	0
10	0	0	13	260	0	0	0	8	0	58	76	128	0	0	0	0
11	0	0	0	0	1	0	0	0	0	23	0	250	0	0	0	0
Totals	324	27	28	273	211	148	601	459	876	1,458	1,076	702	54	138	74	16

FIGURE J-4E
DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

TRANSIENT POPULATION FOR WINTER WEEKNIGHT CONDITIONS BY SECTOR

TRANSIENT POPULATION FOR CLEMSON FOOTBALL CONDITIONS BY SECTOR

	Direction															
Distance (miles)	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	N
1	0	0	0	0	0	0	0	0	700	0	0	0	0	0	0	0
2	2	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	175	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
5	207	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	125	41	100	2	0	0	0	0	0
8	2	0	0	0	0	0	873	42	20	262	0	0	0	0	0	2
9	0	0	0	0	60	110	92,475	0	65	0	100	125	0	0	0	0
10	0	0	0	40	0	0	0	2	0	88	0	25	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	213	0	0	40	60	110	93,350	169	826	450	102	250	0	177	0	4

FIGURE J-4F
DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

TRANSIENT POPULATION FOR SUMMER WEEKEND CONDITIONS BY SECTOR

TRANSIENT POPULATION FOR CLEMSON FOOTBALL CONDITIONS BY SECTOR

	Direction															
Distance (miles)	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	N
1	0	0	0	0	0	0	0	0	700	0	0	0	0	0	0	0
2	25	0	0	0	0	0	0	0	0	0	0	1,000	0	0	0	0
3	0	0	0	0	0	0	0	4	0	0	0	0	0	250	0	0
4	25	0	0	0	0	0	0	0	0	0	0	0	0	25	170	0
5	1,000	0	0	0	0	0	10	0	0	0	0	0	0	0	0	25
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	30	81	1,000	25	0	0	0	0	0
8	25	0	0	0	0	0	1,282	65	7	55	0	0	170	0	0	25
9	0	0	0	0	60	140	92,485	0	40	957	0	96	0	0	0	0
10	0	0	0	8	0	0	0	25	0	126	0	25	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	1,075	0	0	8	60	140	93,777	124	828	2,138	25	1,121	170	275	170	50

FIGURE J-4G

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

Special Facilities Population for Winter Weekday Conditions by Sectors

	Direction															
Distance (miles)	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	N
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	281	0	0	0	0
5	0	0	229	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	40	624	0	0	974	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	809	0	0	145	0	0	0	0	0	0	0
8	0	0	0	0	0	0	130	448	574	289	0	505	0	0	0	0
9	0	0	0	0	1,565	40	17,537	0	1,025	239	60	1,604	0	0	166	0
10	0	300	0	0	0	0	869	0	913	1,042	104	330	0	343	0	0
11	0	0	0	9	0	52	0	0	0	0	0	611	0	0	0	0
Totals	0	340	853	9	1,565	1,875	18,536	448	2,657	1,570	164	3,331	0	343	166	0

FIGURE J-4H

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

Special Facilities Population for Winter Weeknight Conditions by Sectors

	Direction															
Distance (miles)	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	N
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	00	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	40	41	0	0	974	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	809	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0
9	0	0	0	0	325	40	6,730	0	0	239	60	0	0	0	0	0
10	0	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0
11	0	0	0	9	0	52	0	0	0	0	0	0	0	0	0	0
Totals	0	40	41	9	325	52	6,730	0	36	263	60	0	0	0	0	0

FIGURE J-4I

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

Special Facilities Population for Summer Weekend Conditions by Sectors

	Direction															
Distance (miles)	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	N
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	40	41	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0
9	0	0	0	0	100	0	6,730	0	0	239	60	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	9	0	52	0	0	0	0	0	0	0	0	0	0
Totals	0	40	41	9	100	52	6,730	0	0	263	60	0	0	0	0	0

FIGURE J-5

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

INDIVIDUAL CONTAMINATION EXPOSURE LEVELS

LICENSEE: DUKE ENERGY COMPANY

IDENTIFICATION INFORMATION

Name:_____ Date: _____

Social Security Number _____ Time: _____

Employer:_____ R.P. Badge _____

CONTAMINATION EXPOSURE LEVELS

Instrument Used:_____ Instrument Reading: _____
(RM-14 with thin window detector or equivalent)

_____

Date:_____ Employee Signature: _____

Remarks: _____

Address: _____

To the individual named above_____, this report is furnished to you so that you have a prompt record of your radioactive contamination level.

_____
Radiation Protection Manager

Date: _____

Copies to:
Individual
Individual File
(New Form)

FIGURE J-6

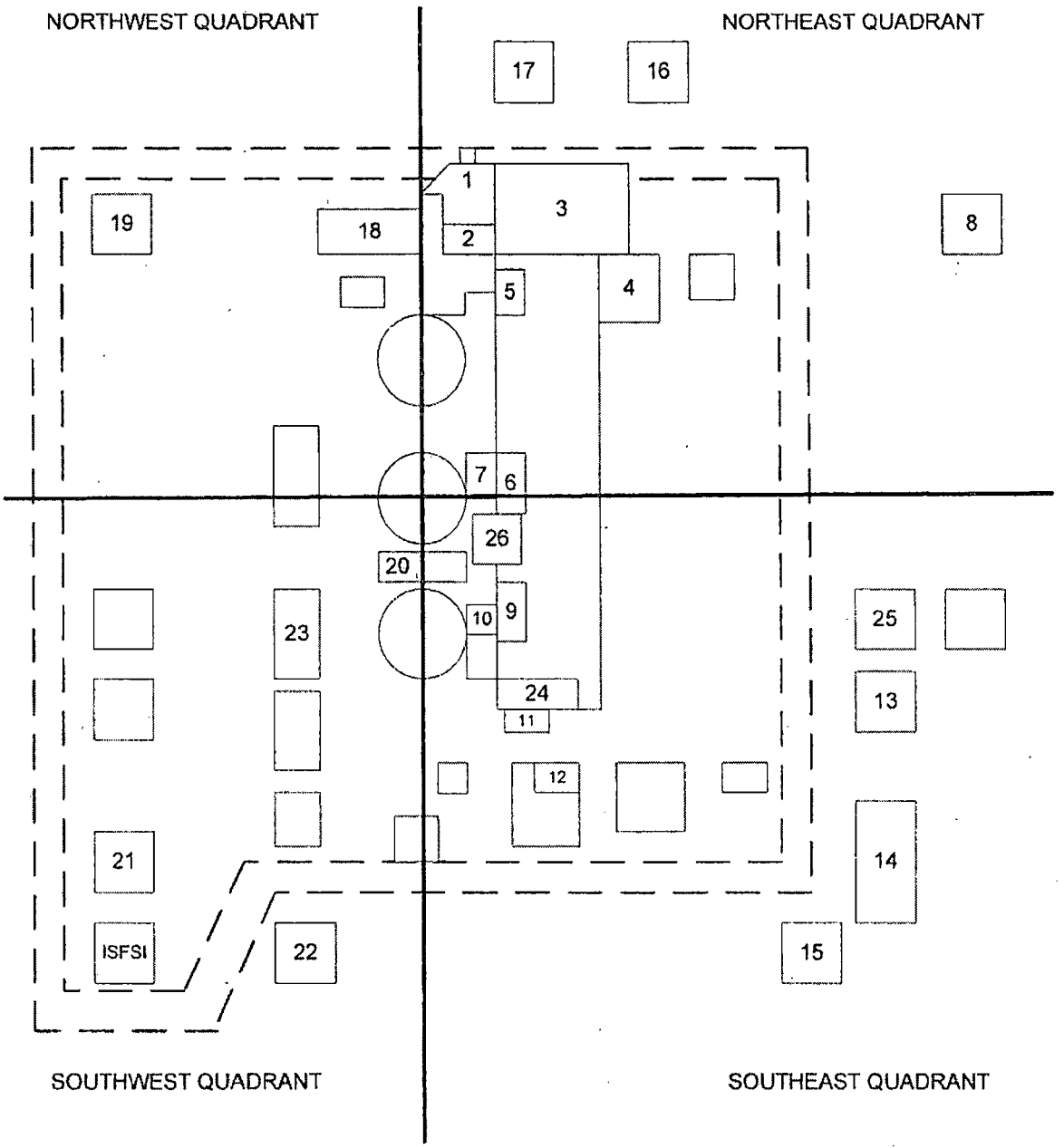
DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

INITIAL PERSONNEL CONTAMINATION RECORD
(ONSITE)

NAME	RP BADGE NUMBER	INITIAL DOSE RATE (mRad/hr)	DOSE RATE (mRad/hr) After Decon

FIGURE J-7

Oconee Nuclear Site
Building Layout



NORTHWEST QUADRANT		NORTHEAST QUADRANT
18. Administrating Building		1. Security Building
19. Oconee Office Building		2. Locker Building
SOUTHWEST QUADRANT		3. Maintenance Service Bd./Clean Machine Shop
20. RP Assembly Building		4. Maintenance Support Building
21. Interim Outage Building		5. Turbine Building North Offices
22. Operations Center (Geo-Technical Ctr.)		6. Turbine Building 1&2 Offices/WCC
23. Warehouse Offices		7. Unit 1&2 Control Room
SOUTHEAST QUADRANT		8. Keowee Hydro Station
9. Turbine Bd. 3 Offices	14. Oconee Complex	16. World of Energy
10. Unit 3 CR	15. L-1 Storage Yard	17. Oconee Training Center
11. Technical Support Bd.	24. Turbine Bd. South Offices	
12. Radwaste Facility	25. Maintenance Training Facility	
13. Oconee Garage	26. SPA, RP Assembly Area	

K. Radiological Exposure Control

To assure that means for controlling radiological exposures in an emergency are established for emergency workers and the affected population.

K.1 Onsite exposure guidelines have been established for the following categories:

MAXIMUM EXPOSURE LIMITS IN REM					
CATEGORIES	TOTAL EFFECTIVE DOSE EQUIVALENT*	LENS OF THE EYE	SKIN	EXTREMITIES	COMMITTED DOSE EQUIVALENT (ORGAN)**
All	5 rem	15 rem	50 rem	50 rem	50 rem
Protecting Valuable Property	10 rem	30 rem	100 rem	100 rem	100 rem
Lifesaving or Protection of Large Population	25 rem	75 rem	250 rem	250 rem	250 rem
VOLUNTEER BASIS: Lifesaving or Protection of Large Population	>25 rem	>75 rem	>250 rem	>250 rem	>250 rem

*Note TEDE to non-pregnant adults from exposure during an emergency situation. Special precautions should be taken to limit dose to eye lens, and other organs, tissues, or extremities. With regard to maximum limit, EPA concluded that it was not possible to prejudge the acceptable risk for saving a life. Doses may be authorized to the limits established in this chart.

**Note: Administration of stable iodine will be recommended for emergency workers if a dose of 5 rem CDE is projected to the thyroid from radioiodine. This action will require approval of the Radiation Protection Manager in the OSC or the Emergency Coordinator.

The following guidance is provided for use by the Emergency Coordinator or Radiation Protection Manager in determining appropriate actions concerning the rescue and recovery of personnel and the protection of health and property during periods of emergency.

Saving of Human Life

Evaluate inherent risks by considering:

-limits of error in calculating the dose rate in subject area.
- effects (biological) upon rescue workers

Assess the ability to reduce risk through use of protective equipment, remote manipulation equipment, portable shielding, or similar means.

Weigh the risk to rescue personnel against the probability of success of the rescue attempt.

Ensure that all personnel planned for use in the rescue attempt understand their actions are voluntary and they are aware of the known or estimated extent of risk.

Recovery of Deceased Victim

Recovery operation should be well planned as time is not a factor as above.

Radiation exposure should be controlled to remain within existing occupational exposure guidelines.

In special circumstances where removal of a body or bodies cannot take place without entry of emergency workers, the Emergency Coordinator may determine it necessary to exceed occupational exposure standards.

K.2 Doses in Excess of 10 CFR Part 20

The Operations Shift Manager in the Control Room, the Emergency Coordinator in the TSC, or the Radiation Protection Manager in the OSC is responsible for authorizing emergency workers to receive doses in excess of 10 CFR 20 limits. Onsite radiation protection programs shall be implemented during emergencies which shall be consistent with ALARA conditions. The site will be responsible for providing medical treatment and rescue efforts for lifesaving missions. Procedures are in place for expeditious decision making with reasonable consideration of the relative risks involved in a lifesaving mission involving radiation exposure.

Protection of Health and Property

Where the risk of the radiation hazard bears significantly on the health of people or may result in loss of property, so that immediate remedial action is required, the following criteria apply:

Planned exposures are not to exceed 5 Rad Total Effective Dose Equivalent. Under special circumstances, the Emergency Coordinator in the TSC or the Radiation Protection Manager in the OSC can extend limits to (personnel who volunteer) as shown in the table on page K-1.

K.3.a 24-hour Capability to Determine Doses by Emergency Personnel

Provisions have been made for maintaining records of emergency personnel during a radiological emergency. The Operational Support Center will provide a means for keeping track of dose to personnel involved in a nuclear accident. Distribution of dosimeters (self-reading and electronic) and TLD badges will be provided for all personnel.

Should any offsite agency respond to an emergency at the site during a nuclear emergency, dosimeters will be provided for their use to determine dose.

K.3.b Dose Records

The Surveillance and Control Coordinator in the Operational Support Center shall have the responsibility of keeping records of the doses received by personnel involved in any nuclear emergency. (Figure K-5 thru Figure K-6). Personnel dose will be kept using the Electronic Dose Capture (EDC) system. Should this system not be readily accessible or is not available, dose will be kept using the Daily Exposure Time Record Card (Figure K-4). Normal operating procedures shall be followed for the use of dosimeters and the TLD badges. Distribution of additional dosimeters and badges shall be through the Operational Support Center.

K. 4 PAGS for Emergency Workers

Oconee County FNF Plans.
Pickens County FNF Plans.
State of South Carolina FNF Emergency Plans, Site Specific.

K.5.a Action Levels for Determining the Need for Decontamination

Guidelines as established in the Radiation Protection Policy Manual for Contamination Control and decontamination will be used to determine action levels for decontamination. Preplanning efforts have been established by the Surveillance and Control Coordinator.

K.5.b Radiological Decontamination

Emergency Personnel wounds - Medical decontamination kits (Figure K-1 thru K-3) are available in several locations. Wounds (if contaminated) will be decontaminated if the welfare of the patient is not at stake. Decontamination efforts will take place at the site prior to medical care if the situation warrants it. However, if the injury is considered serious, decontamination efforts will not take place and the patient will be transported to the hospital immediately for proper medical care. A radiation protection technician will accompany the patient to the hospital. See Radiation Protection Policy Manual, Section VI-04, Investigation of Unusual Radiological Occurrences.

Supplies - The Radiation Protection Manager will determine whether it may be more economical to dispose of a class of items, rather than to decontaminate them.

Instruments and equipment - For specific information refer to Radiation Protection Policy Manual, Section III-9, Contamination Control.

Waste Disposal - Low-level solid wastes (contaminated trash) will be collected in labeled containers, and will normally be compacted. Intermediate and high level solid waste (spent resins, spent filters, evaporator bottoms, etc.) will be placed in containers and shielded as appropriate. All radioactive solid wastes will be shipped to an NRC-licensed or agreement state disposal facility offsite.

In accordance with Selected Licensee Commitments Manual Section 16.11, station discharge limits have been established for the disposal of airborne radioactive wastes. These limits are calculated based on 10 CFR 50 Appendix I requirements, the composition and concentration of the waste, the flow rate in the unit vents, a factor for site meteorological dilution, and 10 CFR 20 Appendix B allowable concentration for Unrestricted Areas.

After the required sampling and laboratory analyses are completed, contaminated liquid waste is pumped from the Liquid Waste Tank(s), essentially on a batch basis, and discharged, with the necessary dilution, to the environment. The liquid waste effluent discharge line is monitored by a process instrument, and the release will be stopped if preset concentration limits are reached.

K.6 Contamination Control Measures

K.6.a Area Access Control - The plant site will be evacuated should station management determine the potential exists for non-essential personnel to be exposed to an unplanned dose in excess of 10CFR20 limits. Once the site has been evacuated, access to the plant will be limited by the Highway Patrol on the public highway and then Site Security will limit access to the plant except through an established access entrance. Contamination Control Areas and Restricted Areas will be established by Site Radiation Protection personnel.

Drinking Water and Food Supplies - Drinking water and food supplies can be brought in by private vendor if necessary. No eating or drinking is permitted in radiation areas or zones unless permitted by the Radiation Protection Manager.

K.6.b Recovery efforts will be determined by the Onsite Recovery Organization on a case by case basis. Decontamination measures to return areas and items to normal use will be the responsibility of the site during the recovery effort. However, the use of good radiation protection decontamination practices as evidenced by the Radiation Protection Policy Manual will be the general criteria used.

K. 7 Decontamination of Personnel at Relocation Assembly Area

Should non-essential plant personnel be evacuated from the station to an offsite area, provisions for extra clothing and decontaminants suitable for any type of contamination have been made (Figure K-2).

Offsite assembly areas have been determined so that site personnel may be relocated to a safe site quickly and can be decontaminated (if necessary), monitored, and released (Figure J-2). Records will be made of the contamination levels of any/all personnel released from the site to an offsite assembly area (Figure K-5) and again when they are released from the offsite area (Figure K-5).

Offsite Evacuation Areas (Agreements appended to Appendix 5)

Pickens County Daniel High School, Central, S.C., east of the station, approximately 10 miles.

Oconee County Keowee Elementary School, Seneca, S.C., west of the station, approximately 7 miles.

FIGURE K-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

MEDICAL DECONTAMINATION KIT

See HP/0/B/1009/001

FIGURE K-2

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

LIST OF SUPPLIES FOR DECONTAMINATION OFFSITE*

See HP/0/B/1009/001

FIGURE K-3

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

EMERGENCY DECONTAMINATION SUPPLIES (ONSITE)*
INVENTORY LIST

See HP/0/B/1009/001

FIGURE K-4

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

DAILY EXPOSURE TIME RECORD CARD

Form 288347 (R5-97) ***DUKE ENERGY*** Previously Form 18555

DAILY EXPOSURE TIME RECORD

	RP BADGE #:		WORK GROUP		TEDE AT SHIFT START: ____mrem	REMAINING MAE: mrem	DATE
	PERMIT #		TIME RECORD		DOSE RECORD		
SIGNATURE	RWP	SRWP	TIME ENTER RCA/RCZ	TIME EXIT RCA / RCZ	DOSIMETER READING ENTER	DOSIMETER READING EXIT	DOSE RECEIVED THIS ENTRY

CONTACT RADIATION PROTECTION IF YOU EXPERIENCE DOSIMETER PROBLEMS. (SEE REVERSE SIDE.)

Form 288347 (R5-97) ***DUKE ENERGY*** Previously Form 18555

THIS CARD IS TO BE USED BY INDIVIDULS TO RECORD THE DOSIMETER DOSE HE/SHE RECEIVED FOR ENTRY OR WORK DONE UNDER EACH RWP.

COMPLETION OF THIS DOSE CARD ALSO MEANS THAT THE INDIVIDUAL HAS READ AND UNDERSTOOD EACH RWP AND HAS COMPLIED WITH ITS REQUIREMENTS.

FIGURE K-5

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

Individual Contamination Exposure Levels

LICENSEE: DUKE ENERGY COMPANY

IDENTIFICATION INFORMATION

Name: _____ Date: _____

Social Security Number: _____ Time: _____

Employer: _____ RP Badge #: _____

CONTAMINATION EXPOSURE LEVELS

Instrument Used: _____ Instrument Reading: _____
(RM-14 with thin window detector or equivalent)

_____

Date: _____ Employee Signature: _____

Remarks: _____ Address: _____
_____ _____
_____ _____

To the individual named above _____, this report is furnished to you so that you have a prompt record of your radioactive contamination level.

_____
Radiation Protection Manager

Date: _____

Copies to;

Individual _____
Individual File _____

FIGURE K-5 (Continued)

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

RECORD OF DECONTAMINATION PROCEDURE

NAME	RP BADGE NUMBER	INITIAL DOSE RATE (mrem/hr)	DOSE RATE AFTER DECON

FIGURE K-6

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

RADIATION WORK PERMIT

_____ NUCLEAR STATION RP Version	
Radiation Work Permit #	Revision #
Job Title:	
ED (MG) Set Points Dose Alarm: Dose Rate Alarm:	
Dress Category, Task Description, Special Dosimetry and Respiratory Requirements	
Comments/Special Instructions	
Activation Date & Time: Approval Date & Time: Approved By:	Termination Date & Time: Terminated By:

L. MEDICAL AND PUBLIC HEALTH SUPPORT

L.1 Local and Backup Hospital and Medical Support

Hospital - (Agreements located in Appendix 5)

Local - Oconee Medical Center, Seneca, S. C.

The Oconee Medical Center serves as the primary means of care for any contaminated and injured person from the Oconee Nuclear Site. A decontamination room has been added to the hospital for treatment of any person involved in an emergency that would require decontamination and medical treatment.

The hospital emergency room staff has been trained in medical decontamination techniques.

Procedures at the Oconee Nuclear Site are in place that require a Radiation Protection technician to accompany any injured and contaminated person to the Oconee Medical Center to assist in decontamination and to decontaminate any equipment, rooms, etc. that would have been used in the care and treatment of the injured. The Oconee Nuclear Site Radiation Protection technician would assist in evaluating the patient for radiation exposure and uptake. The Oconee Medical Center doctors would also consult with the staff of the Radiation Emergency Assistance Center located in Oak Ridge, Tennessee.

Once the doctors at the Oconee Medical Center have consulted with the REAC/TS group, a determination would be made for the necessity of further treatment at Oak Ridge, Tennessee.

Backup - Oak Ridge National Lab Hospital, Oak Ridge, Tennessee

- REAC/TS

Medical Support - (Agreements located in Appendix 5)

Local - Blue Ridge Emergency Physicians
Backup - (consultation - Physician on call 24 hours per day
Oak Ridge National Lab Hospital, Oak Ridge, Tennessee)

L.2 ONSITE FIRST AID CAPABILITY

A Medical Emergency Response Team (MERT) responds to medical emergencies. These teams are comprised of trained first responders assigned to ONS shift work. Medical kits are available in designated areas in the station. Figures L-1 and L-2 show locations and contents of trauma kits that are available for use by MERT personnel.

L.3 Public, Private: Emergency Medical Facilities

See State of South Carolina FNF Plans, Site Specific.

L.4 Transportation of Externally Contaminated Injured Person

The Oconee Nuclear Site has an agreement with the Oconee Medical Center Emergency Medical Service (Ambulance) to provide transportation for any medical emergency patient. If a patient is considered contaminated, either decontamination will be provided before transport (Figure K-1) or a Radiation Protection Technician may accompany the patient to the hospital to assist the emergency room staff and the hospital physician provide medical care under Radiation Protection guidance. Medical care will take precedence over decontamination.

A special decontamination room is available at the Oconee Medical Center. Supplies have been stocked at the hospital by the Oconee Nuclear Site for the hospital's use in working with a contaminated injured patient. (Figure L-3)

FIGURE L-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

TRAUMA KITS

Contents

See PT/0/B/0250/032
for location of kits.

FIGURE L-2

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

MEDICAL EQUIPMENT

See PT/0/B/0250/032

FIGURE L-3

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

RADIATION PROTECTION HOSPITAL KIT

See HP/0/B/1009/001

Location: Oconee Medical Center

M. RECOVERY AND REENTRY PLANNING AND POST-ACCIDENT OPERATIONS

M.1 Reentry/Recovery Plans and Procedures

After the EOF is activated, it is the EOF Director's responsibility to determine when it is appropriate to enter into Recovery and to terminate from an emergency event. Emergency Plan procedures identify criteria that must be addressed before terminating the emergency condition and initiating recovery operations. The decision to terminate from a General Emergency condition must be discussed with the Senior NRC and State(s) representatives.

Decisions to relax protective actions for the public will be made by the appropriate State representatives. The EOF Director will provide information to the appropriate State agencies to facilitate the decision.

Recovery from a serious emergency situation is guided by the following principles:

The protection of the public health and safety is the foremost consideration in formulating recovery plans.

Public officials would be kept informed of recovery plans so that they can properly carry out their responsibilities to the public,

Periodic information would be provided to the news media so that they can provide information to the public regarding recovery plans and progress made.

Periodic status reports would be given to company employees at other locations and to government and industry representatives.

Reentry Planning

The plans and procedures for area reentry will consider existing as well as potential conditions inside containment. Prior to reentry, the following actions shall be taken.

1. Review all available radiation survey data.

2. Determine site areas potentially affected by radiological hazards.

3. Review radiation dose history of all personnel scheduled to participate in recovery operations. Determine the need for additional personnel. The radiation doses to employees and other radiation workers would be kept as low as reasonably achievable.

4. Review the adequacy of radiation survey equipment available. Determine the need for additional equipment and a source of procurement.

5. Preplan team activities, including areas to be surveyed, anticipated radiation levels, survey equipment required, protective clothing requirements, access control procedures, dose control procedures and communication capabilities.

6. Conduct comprehensive radiation survey of site facilities and define all radiological problem areas.

7. Isolate and post with appropriate warning signs all radiation and contamination areas.

8. Perform visual inspection of site areas and equipment.

9. All radiological conditions discovered and existing in the facility as determined by the reentry survey will be evaluated by site management.

10. Upon evaluation of the radiological condition, site management will determine what procedures are required to restore the site to a normal status.

11. Personnel radiation dose will be closely controlled and documented.

12. Recovery coordinators will take appropriate actions to ensure emergency personnel and equipment are properly monitored and controlled prior to leaving the radiation control area. Radiological conditions at the scene of the emergency should be properly defined, barricaded, and posted with appropriate signs.

M.2 Recovery Organization

Before entering the recovery phase, the EOF Director and the Emergency Coordinator shall establish a Recovery organization that is appropriate for the existing on-site and off-site conditions. Figure M-1 and M-2 describe suggested organization structures. They may be modified or supplemented as necessary to fit the particular circumstances. In some situations (such as no core damage), the normal onsite outage organization is adequate and the need for an offsite recovery organization is not anticipated.

M.3 Initiation of Recovery Operation - Radiological

Guidance concerning recovery operations are provided in the following procedures:

TSC/OSC - RP/0/B/l000/019, RP/0/B/1000/027

EOF - SR/0/B/2000/003

JIC - RP/0/B/1000/031 (Note: Information carried in plan has now been placed in this procedure)

Initiation of Recovery Operation - Hazardous Wastes/Materials

Recovery will be provided as directed by Oconee Environmental Work Practice, Section 2.0.

M.4 Total Population Exposure Estimates

The Radiological Assessment Group will periodically update the estimate of total population exposure.

FIGURE M-1
DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

ONSITE RECOVERY ORGANIZATION

RECOVERY ORGANIZATION (ONSITE)

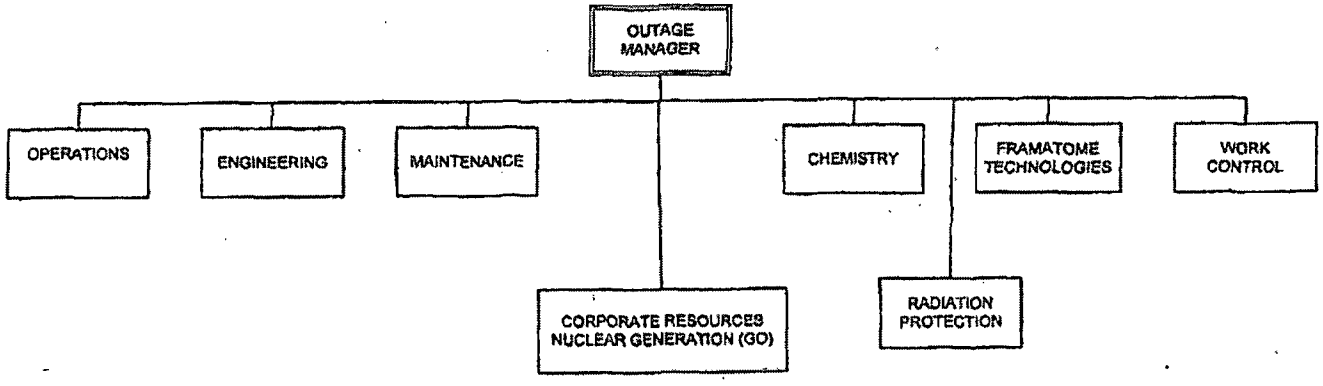
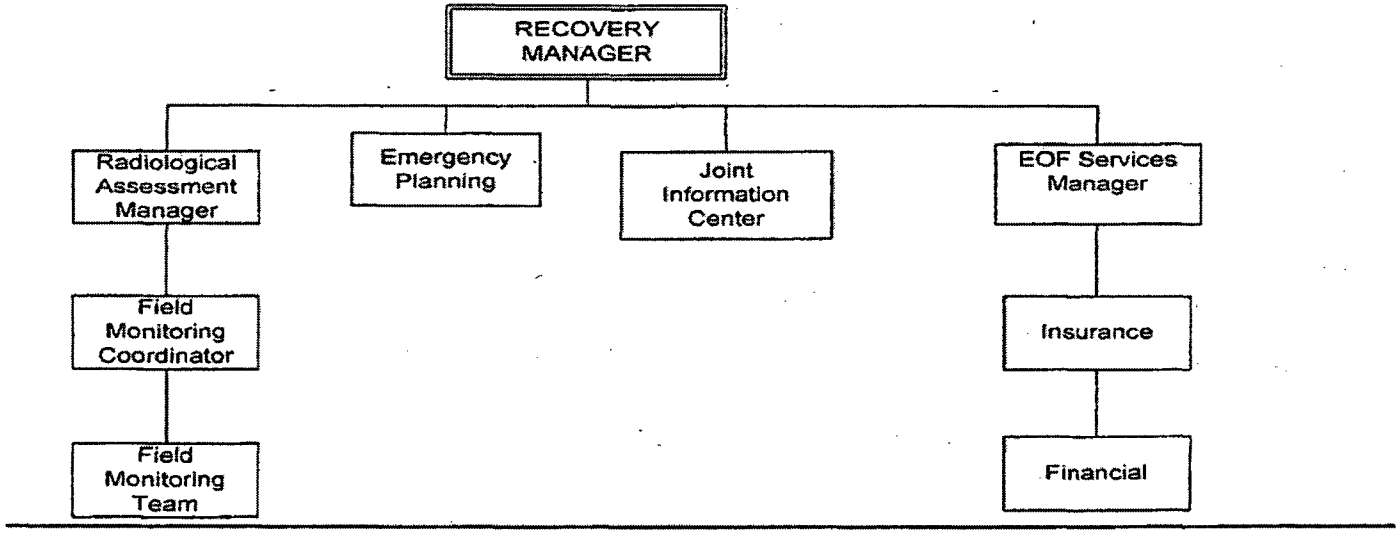


FIGURE M-2
DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

OFFSITE RECOVERY ORGANIZATION



N. Exercises and Drills

To assure that periodic exercises are conducted to evaluate major portions of emergency response capabilities, that the results of exercises form the basis for corrective action for identified deficiencies and that periodic drills are conducted to develop and maintain key skills.

N.1a & N.1b Exercises

Exercises will be designed to meet the requirements of 10 CFR Part 50, Appendix E. An exercise will be designed to test the integrated capability of those involved and a major portion of the basic elements existing within the plans and organization. The scenario for the biennial exercise will be varied from year to year such that all major elements of the plans and organizations will be tested within a six-year period.

Once every six years, a back-shift exercise shall be held as follows:

- If held during a weekday, the exercise shall start between the hours of 6 p.m. and 4 a.m.

- If held during the weekend, the exercise may start at any hour.

N.2 Drills

Drills shall be conducted to test, develop and maintain skills in a particular operation on the following frequency:

a. General

Oconee Nuclear Site will conduct drills in accordance with 10CFR50 Appendix E to ensure that adequate emergency response capabilities are maintained between exercises. At least one drill will be conducted between exercises involving a combination of the principal functional areas of Oconee's on site emergency response capabilities.

b. Communication Drills

Communication check with NRC Headquarters shall be conducted monthly.

Communication check with State and local governments within the plume exposure pathway Emergency Planning Zone shall be conducted monthly.

Communications check with Government agencies within the ingestion pathway Emergency Planning Zone shall be conducted quarterly.

Communications between the ONS, state and local emergency operations centers and field monitoring teams shall be conducted annually.

c. Fire Drills

Fire Drills (Onsite-within Protected Area; Offsite-outside Protected area) shall be conducted as specified in site procedures and directives.

d. Medical Emergency Drills

A medical emergency drill, involving a simulated externally contaminated injured individual, is required annually with participation by the Oconee Emergency Medical Service (Ambulance), Oconee Medical Center and physicians.

e. Radiological Monitoring Drills

A drill involving onsite and offsite radiological monitoring teams will be conducted annually. The monitoring teams will actually collect and analyze air samples, as appropriate. Soil, vegetable, and water samples may or may not be taken, as this is done in conjunction with the normal site environmental program. Decision to test these procedures during drills/exercises will be made by the Manager of Emergency Planning.

f. Radiation Protection Drills

Radiation Protection drills shall be conducted semi-annually and will test any one of the major aspects of the Radiation Protection Emergency Response duties.

g Site Assembly Drills

Site Assembly Drills are required to be held on a semi-annual basis.

h. Activation Drills

Drills to test the recall response time of the emergency response organization after hours will be held once during the calendar year. (ONS commitment to the NRC revised 2/14/96)

i. Multi-Station Event Drills

Drills to test the ability of the Common EOF to manage multi-station events involving activation of the emergency response organization and facilities, offsite notifications, dose assessment, and field monitoring team coordination will be conducted once every six years. This drill will be rotated between participation with Catawba and McGuire.

N.3 Scenarios

Drill scenarios are developed to test various components of the emergency plan. An annual schedule of the drills to be conducted is developed to ensure that all required drills are conducted. (Figure N-1)

N.4 Critiques

N.4.a Quarterly Drills and Biennial Annual Exercise

Critiques of quarterly drills and the biennial exercise will be held. A written critique summary report outlining any specific area that needs improvement and the corrective measures that will be taken to correct the problem will be required. Resolution of corrective measures is required.

N.4.b Significant Events/Real Emergencies

A critique and/or evaluation will be held as a result of an actual emergency to determine the effectiveness of the existing planned emergency response actions. A written critique summary report outlining any specific area that needs improvement and the corrective measures that will be taken to correct the problem will be required. Resolution of corrective measures is required.

N.5 Critique Action Items

Action items established as a result of an ONS drill/exercise or significant event/real emergency shall be identified and tracked until resolution is completed.

FIGURE N-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

SCHEDULE FOR EMERGENCY DRILLS

First Quarter (Year)

Five Fire Drills (Onsite)
Monthly Communication Check (Plume Exposure Pathway) (3)
Quarterly Communication Check (Ingestion Pathway)
Training Drills as determined.
Site Assembly Drill*
Radiation Protection Drill*
Recall of Emergency Response Organization**
Medical Drill**

Second Quarter (year)

Five Fire Drills
Monthly Communication Check (Plume Exposure Pathway) (3)
Quarterly Communication Check (Ingestion Pathway)
Training Drills as determined
Offsite Fire Drill**
Site Assembly Drill*
Radiation Protection Drill*
Recall of Emergency Response Organization**
Medical Drill**

Third Quarter (year)

Five Fire Drills
Monthly Communication Check (Plume Exposure Pathway) (3)
Quarterly Communication Check (Ingestion Pathway)
Training Drills as determined
Site Assembly Drill*
Radiation Protection Drill*
Recall of Emergency Response Organization**
Medical Drill**

Fourth Quarter (year)
Five Fire Drills
Monthly Communication Check (Plume Exposure Pathway) (3)
Quarterly Communication Check (Ingestion Pathway)
Training Drills as determined
Site Assembly Drill*
Radiation Protection Drill*
Recall of Emergency Response Organization**
Medical Drill**

*Drills are required semi-annually.
**Required during the calendar year.

O. Emergency Response Training

To insure that emergency response training is provided to those who may be called upon to assist in an emergency.

Site Specific Training - Offsite Emergency Organization

O.1 Offsite Emergency Response Training

The Oconee Nuclear Site will provide for the training of certain offsite response organizations. Site specific Emergency Response Training will be provided on an annual basis for Fire Support, Medical/Rescue, and Governmental Support. The Local Law Enforcement Agencies Training Program will be provided biennially (every two years). Topics of training to be provided are:

Emergency Response Training - Medical/Rescue Support
Emergency Response Training - LLEA Support
Emergency Response Training - Fire Support
Emergency Response Training - Governmental Support

Records will be maintained by the Training Department of those attending the offsite agency training sessions. Records will be retained for a period not less than 6 years. See the Oconee Training Division Training Guide ERTG-001, "Emergency Response Organization and Emergency Services Training Program."

O.2 Onsite Emergency Response Training

Emergency Response Training is required on an annual (plus or minus three months) basis. Records will be maintained by the site Training Section, using a Training Content Summary or similar form, as documentation. Training records checked against requirements will be audited on an annual basis to determine that all primary and at least 90% of the alternate members of the Emergency Response Organization have received the training that is required for their particular response.

Emergency Response Training for the Charlotte EOF is described in Nuclear Generation Department "Employee Training and Qualification System (ETQS)" Standard 7111.0.

O.3 Medical Emergency Response Training (MERT)

First responder training is provided to those personnel who have been designated to respond to medical emergencies.

O.4 Specific Training for Functional Areas of Emergency Response

The emergency response organization is designed so that each section will respond in their specific areas of responsibility. Training will be provided to the following categories of responders.

1) Emergency Coordinators
EOF Directors

2) Personnel responsible for accident assessment

3) Radiological monitoring teams and radiological analysis personnel

4) Security and fire fighting personnel

5) First Aid and rescue personnel

6) Local support services personnel (Note: These people will receive training under the offsite training program)

7) Medical support personnel (Note: These people will receive training under the offsite training program)

8) Corporate support personnel (Note: Oconee will utilize personnel who have been designated as responders to the Catawba and McGuire sites. ONS will take credit for the training provided by those sites).

9) Offsite communications

10) Repair/maintenance support

11) HazMat Team

O.5 Retraining of Personnel

See Oconee Training Division Training Guide ERTG-001, " Emergency Response Organization and Emergency Services Training Program."

FIGURE O-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

EMERGENCY RESPONSE TRAINING MATRIX

See Oconee Training Division Training Guide ERTG-001,
"Emergency Response Organization and Emergency Services Training Program."

P. Responsibility for the Planning Effort: Development, Periodic Review and Distribution of the Emergency Plans

To assure that responsibilities for plan development, review and distribution of emergency plans are established and that planners are properly trained:

P.1 Training for Emergency Planning Personnel

Training for emergency planning personnel shall be provided in the form of workshop/seminar sessions on an annual basis. Courses developed by the Duke Training Center are also available in technically related subjects that will enhance the working knowledge of these people.

P.2 & P.3 Overall Authority

The Site Vice-President has the overall authority and responsibility for all hazards emergency response planning. The planning effort is delegated to the Manager, Emergency Planning.

The Manager of Emergency Planning at the Oconee Nuclear Site shall have the responsibility for the development, review and coordination of the site emergency plans with other response organizations and shall be responsible for conducting the biennial exercise, drills and training sessions to test the Oconee Nuclear Site Emergency Plan. This person is employed in the Safety Assurance Group.

P.4 & P.5 Review and Update of Emergency Plan

The ONS Emergency Plan shall be reviewed and updated annually. An in-depth review of the Emergency Plan will be made to determine if any/all changes have been made as a result of drills, exercises, commitments, audits, new regulatory requirements, and any other identified mechanism used to determine the appropriateness of the Emergency Plan. The Manager of Emergency Planning or designee is responsible for conducting the review and updating/revising the Emergency Plan and/or Implementing Procedures, as required. Once the review has been completed and changes made as determined, the Emergency Plan shall be certified as current.

Approved revisions of the Emergency Plan and Implementing Procedures shall be distributed according to Appendix 6, (Distribution of Emergency Plan and Implementing Procedures). Appendix 6 carries an itemized list of all organizations and individuals receiving copies of the Emergency Plan and Implementing Procedures. Revised pages of the Emergency Plan shall be dated and marked to show where changes have been made.

P.6 Supporting: Plans

Figure P-2 lists plans in support of the ONS Emergency Plan.

P.7 Implementing Procedures

Written procedures will be established, implemented and maintained covering the activities associated with emergency plan implementation. Each procedure and changes thereto, shall be approved by the responsible manager prior to implementation.

Implementing procedures are indexed and cross referenced to the section applicable in NUREG 0654. (Figure P-1)

P.8 Table of Contents

The Oconee Nuclear Site Emergency Plan and Implementing Procedures contain a table of contents and an index tab system.

P.9 Independent Audit

The Nuclear Safety Review Board Chairman will arrange for an independent review of Oconee Nuclear Station's Emergency Preparedness Program as necessary, based on an assessment against performance indicators, and as soon as reasonably practicable after a change occurs in personnel, procedures, equipment, or facilities that potentially could adversely affect emergency preparedness, but no longer than 12 months after the change. In any case, all elements of the emergency preparedness program will be reviewed at least once every 24 months. Guidance for performing the assessment against the performance indicators is provided in the Emergency Planning Functional Area Manual. The independent review will be conducted by the Independent Nuclear Oversight Division, which will include the following plans, procedures, training programs, drills/exercises, equipment, and State/local government interfaces:

1. Oconee Nuclear Station Emergency Plan
2. Oconee Nuclear Station Emergency Plan Implementing Procedures
3. State/Local Support Agency Training Program
4. Site Emergency Response Training Program
5. Public & Media Training/Awareness
6. Equipment: Communications, Monitoring, Meteorological, Public Alerting
7. State/Local Plan Interface

The review findings will be submitted to the appropriate corporate and nuclear site management. The part of the review involving the evaluation of the adequacy of interface with State and local governments will be reported to the appropriate State and local governments. Corporate or nuclear site management, as appropriate, will evaluate the findings affecting their area of responsibility and ensure effective corrective actions are taken. The results of the review, along with recommendations for improvements, will be documented, and retained for a period of five (5) years.

The review findings will be submitted to the appropriate corporate and nuclear site management. Appropriate portions of the review findings will be reported to the involved federal, state, and local organizations. The corporate or nuclear site management, as appropriate, will evaluate the findings affecting their area of responsibility and ensure effective corrective actions are taken. The result of the review, along with recommendations for improvements, will be documented and retained for a period of five years.

P.10 Phone Number Update

The Emergency Telephone Directory is updated quarterly. The Emergency Telephone Directory is a separate document and is not a part of the Oconee Nuclear Site Implementing Procedures.

FIGURE P-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

IMPLEMENTING PLAN CROSS REFERENCE

A.1.a	Appendix 5 - Agreement Letters
A.1.b	RP/0/B/1000/002, RP/0/B/1000/019, SR/0/B/2000/003, RP/0/B/1000/025, SAD 6.1
A.2.a	Appendix 5 - Agreement Letters
B.1	CSM 5.1, MD 9.1, WPG 1.5, OMP 1-7, RPSM 11.1, Business Management Emergency Plan, SSG-102, NSC-110, EM-5.1, ONS HR Emergency Plan, DTG-007
B.4	SAD 6.1, RP/0/B/1000/019, RP/0/B/1000/002, SR/0/B/2000/003
B.5	RP/0/B/1000/019, RP/0/B/1000/025, SR/0/B/2000/003
C.1	RP/0/B/1000/031, Appendix 5 - Agreement Letters
D.1.a	RP/0/B/1000/002, RP/0/B/1000/019, SR/0/B/2000/003
D.1.b	RP/0/B/1000/002, RP/0/B/1000/019, SR/0/B/2000/003, AP/0/A/1700/045
D.1.c	RP/0/B/1000/002, RP/0/B/1000/019, SR/0/B/2000/003, AP/0/A/1700/045
D.1.d	RP/0/B/1000/002, RP/0/B/1000/019, SR/0/B/2000/003, AP/0/A/1700/045
E.1	RP/0/B/1000/002
E.2	Division/Section Directives
E.3	RP/0/B/1000/015 A, RP/0/B/1000/015 B, SR/0/B/2000/004, RP/0/B/1000/001, RP/0/B/1000/002, RP/0/B/1000/019, SR/0/B/2000/003
E.6	EP Functional Area Manual 3.3

FIGURE P-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

E.7	RP/0/B/1000/024, SR/0/B/2000/003
E.8	RP/0/B/1000/017
F.1.a	RP/0/B/1000/002
F.1.e	Division/Section Directives
F.2	RP/0/B/1000/001
G.3a	SR/0/B/2000/001, RP/0/B/1000/028
H.1	RP/0/B/1000/002
H.4	RP/0/B/1000/002, RP/0/B/1000/019, SR/0/B/2000/003
H.7	HP/0/B/1009/023
H.8	HP/0/B/1009/018, SH/0/B/2005/001, IP/0/B/1601/003
H.12	HP/0/B/1009/023, SH/0/B/2005/0002
I.1	RP/0/B/1000/010
I.2	HP/0/B/1009/015, HP/0/B/1009/009, HP/0/B/1009/018, RPSM 11.7, CSM 5.2, CP/1,2,3/A/2002/002, RP/0/B/1000/018, SH/0/B/2005/001
I.3.a	RP/0/B/1000/024, RP/0/B/1000/001, HP/0/B/1009/022
I.3.b	HP/0/B/1009/018, HP/0/B/1009/022, SH/0/B/2005/001
I.4	RP/0/B/1000/001, HP/0/B/1009/018, HP/0/B/1009/022, SH/0/B/2005/001
I.5	RP/0/B/1000/001
I.6	RP/0/B/1000/001, HP/0/B/1009/018, SH/0/B/2005/001
I.7 & 8	Radiation Protection Manual
I.9	Radiation Protection Manual

FIGURE P-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

I.10	HP/0/B/1009/018, SH/0/B/2005/001
J.1	RP/0/B/1000/009
J.2	HP/0/B/1009/016, HP/0/B/1009/018, HP/0/B/1009/009, SH/0/B/2005/001
J.3	HP/0/B/1009/016, HP/0/B/1009/018, RP/0/B/1000/010, Site Directive, SH/0/B/2005/001
J.4	HP/0/B/1009/016, HP/0/B/1009/018, SH/0/B/2005/001
J.5	HP/0/B/1009/009
J.6	Radiation Protection Manual, SH/0/B/2005/003
J.7	RP/0/B/1000/024, SH/0/B/2000/003
J.10.a	Radiation Protection Manual
J.10.e	SH/0/B/2005/003
J.10.m	RP/0/B/1000/024, SR/0/B/2000/003
K.2	RP/0/B/1000/011
K.3.a	Radiation Protection Manual
K.5.a	Radiation Protection Manual
K.5.b	Radiation Protection Manual
K.7	HP/0/B/1009/018, HP/0/B/1009/016, SH/0/B/2005/001
L.2	RP/0/B/1000/016

FIGURE P-1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

L.4	RP/0/B/1000/016
O.1	Oconee Training Division Training Guide ERTG-001
O.2	Oconee Training Division Training Guide ERTG-001
O.3	Security Training Plan, Oconee Training Division Training Guide ERTG-001
Appendix 4	Evacuation Time Estimates
Appendix 5	Letters of Agreement
Appendix 6	Distribution List
Appendix 7	Data System
Appendix 8	SPCC Plan (Spill Prevention Control And Countermeasure Plan)
Appendix 9	Oconee Nuclear Station Chemical Treatment Ponds 1, 2 and 3, Groundwater Monitoring Sampling And Analysis Plan
Appendix 10	Hazardous Materials Response Plan

FIGURE P-2

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

SUPPORTING PLANS

State of South Carolina

Oconee County

Pickens County

DOE-IRAP Plan

INPO-Fixed Facility Agreement

NRC Region II

APPENDIX 1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

DEFINITIONS

Affected Personnel

Persons who have received radiation dose or have been physically injured as a result of an accident to a degree requiring special attention as individuals, e.g., decontamination, first aid, or medical services.

Annual

For periodic emergency planning requirements, annual is defined as twelve months, plus or minus 25%. This is consistent with TS SR 3.0.2. (NOTE: This does not apply to scheduling of offsite agency training. This training is conducted during the calendar year based on the availability of the offsite agencies.)

Assessment Actions

Those actions taken during or after an accident to obtain and process information that is necessary to make decisions to implement specific emergency measures.

Biennial

For periodic emergency planning requirements, biennial is defined as at least once every two years, with a maximum interval of 912 days. This is consistent with TS SR 3.0.2 (NOTE: This does not apply to the scheduling of biennial exercises. An exercise can occur at any time during the second calendar year after the previous exercise.)

Cognizant Facility Staff

Any member of facility staff, who by virtue of training and experience, is qualified to access the indications or reports for validity and to compare the same to the EALs in the licensee's emergency classification scheme. (Does not include staff whose positions require they report, rather than access, abnormal conditions to the facility.)

Corrective Actions

Emergency measures taken to ameliorate or terminate an emergency situation at or near the source of problem to prevent an uncontrolled release of radioactive material or to reduce the magnitude of the release, e.g., shutting down equipment, fire-fighting, repair and damage control.

County/State Emergency Operation Center

Pickens County - Pickens S.C.; Oconee County - Walhalla, S.C. or for the state of South Carolina's office in Columbia, S.C. or Clemson, S.C.

Drill

A drill is a supervised instruction period aimed at testing, developing, and maintaining skills in a particular operation.

Emergency Action Levels (EAL's)

A pre-determined, site-specific, observable threshold for a plant Initiating Condition that places the plant in a given emergency class. An EAL can be: an instrument reading; an equipment status indicator; a measurable parameter (onsite or offsite); a discrete, observable event; results of analyses; entry into specific emergency operating procedures; or another phenomenon which, if it occurs, indicates entry into a particular emergency class.

Emergency Operations Facility (EOF)

The Emergency Operations Facility is utilized for direction, control and coordination of off-site activities such as dispatching mobile emergency monitoring teams, communications with local, State and Federal agencies, and coordination of corporate and other outside support.

Emergency Planning Zone (EPZ)

The area for which planning is needed to assure that prompt and effective actions can be taken to protect the public in the event of an accident. The plume exposure EPZ is about 10 miles in radius and the ingestion exposure EPZ is about 50 miles in radius.

Exercise

An exercise is an event that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations.

Hostile Action

An act toward a NPP or its personnel that includes the use of violent force to destroy equipment, takes **HOSTAGES**, and / or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, **PROJECTILEs**, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. **HOSTILE ACTION** should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Non-terrorism-based EALs should be used to address such activities, (i.e., this may include violent acts between individuals in the owner controlled area).

Hostile Force

One or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.

Ingestion Exposure Path (IPZ)

The principal exposure from this pathway would be from ingestion of contaminated water or foods such as milk or fresh vegetables. The time of potential exposure could range in length from hours to months.

Joint Information Center

Located in the Oconee EOF on Issaqueena Trail, Clemson, S.C.

Media Center

Co-located to the Oconee EOF in the Clemson Operations Center Assembly Room.

Monthly

For periodic emergency planning requirements, monthly is defined as once each month, with a maximum interval of 38 days. This is consistent with TS SR 3.0.2.

Operational Support Center (OSC)

The Operational Support Center is the place designated for station craft support personnel to report in an emergency situation.

Plume Exposure Pathway

The principal exposure sources from this pathway are (a) total effective dose equivalent-external and internal exposure from gamma radiation from the plume and from deposited material; and (b) committed dose equivalent inhalation dose from the passing radioactive plume. The duration of the release leading to potential dose could range from one-half hour to days.

Population-At-Risk

Those persons for whom protective actions are being or would be taken.

Protected Area

That part of the nuclear station property consisting of the Reactor, Auxiliary, Turbine, and Service Building and grounds, contained within the owner controlled security fence.

Protective Action Guides (PAG)

Projected radiological dose or dose-commitment values to individuals that warrant protective action. Protective actions would be warranted provided the reduction in individual dose expected to be achieved by carrying out the preventive action is not offset by excessive risks to individual safety in taking the protective action.

Protective Actions

Those emergency measures taken to prevent or minimize radiological exposures to persons that would be likely to occur if the actions were not taken.

Quarterly

For periodic emergency planning requirements, quarterly is defined as once every three months, with a maximum interval of 112 days. This is consistent with TS SR 3.0.2. (NOTE: This does not apply to quarterly siren test that are conducted during the Biennial Exercise at the request of offsite agencies. In this situation the maximum interval may be exceeded; however, the siren test will be conducted during the applicable quarter.)

Recovery Actions

Those actions taken after the emergency to restore the station as nearly as practicable to its pre-emergency condition.

Semi-Annual

For periodic emergency planning requirements, semi-annual is defined as once every 6 months, with a maximum interval of 228 days. This is consistent with TS SR 3.0.2.

Site Boundary

That area, including the protected area, in which DPC has the authority to control all activities including exclusion or removal of personnel and property (1 mile radius) from the center of Unit 2.

Technical Support Center (TSC)

The Technical Support Center is utilized for evaluation of plant status by knowledgeable personnel in support of operations during an emergency situation. Accident assessment and mitigation strategy are two of the prime goals of this center.

Vital Area

The vital area is the third level of security control and is protected by walls, doors, mechanical and electromagnetical locking devices, and security alarm systems.

Weekly

For periodic emergency planning requirements, weekly is defined as once every 7 days, with a maximum interval of 9 days. This is consistent with TS SR 3.0.2. (NOTE Weekly siren test may exceed this interval if requested/required by offsite agencies.)

World Of Energy

The Oconee Nuclear Station Information/Visitors Center.

APPENDIX 2

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

Meteorology And Offsite Dose Assessment Program

I. Meteorological Instrumentation (Figure H-4)

Basic meteorological parameters (wind speed, wind direction and delta temperature) averaged over a 15-minute period of time are available in each control room and in the Technical Support Center through a computer display. This information is also available to the Emergency Operations Facility and the Nuclear Regulatory Commission through the Emergency Response Data System (ERDS).

Meteorological data for dose calculation consists of a primary digital recording/storage system and a secondary data chart recording system both of which meet system accuracies and other specifications as suggested in Regulatory Guide 1.23, Proposed Revision 1. In the digital system meteorological variables are sampled at 60 second intervals from which 15 minute total or average quantities are computed. Digital data is placed on a 12-hour recall for emergency effluent dispersion modeling and dose calculation. The data recording system is maintained on the plant's OAC as a backup to the digital system. Therefore, the meteorological information is available on separated systems.

The river tower has wind speed, wind direction and precipitation instrumentation. In daytime conditions (1000 - 1559) a delta temperature of $\geq$ -0.26 degrees C (Stability Class D) is assumed if the primary tower delta temperature instrumentation is out of service. In nighttime conditions (1600 - 0959) a delta temperature of >+2.0 degrees C (Stability Class G) is assumed anytime the primary tower delta temperature instrumentation is out of service. Oconee Nuclear Site meets all the milestone requirements of NUREG 0654, Appendix 2; therefore, no additional compensatory meteorological actions are required.

Lightning protection is provided for all sensors and signal conditioning equipment; wind sensors are outfitted with heating jackets, when necessary, for protection against icing conditions. Signal conditioners are housed in an environmentally controlled enclosure at both high and low level towers. Signal cables to the OACs and analog recorders are shielded to minimize electrical interference.

Meteorological components have been designed, procured and installed as a non-safety related system. Equipment has been purchased from suppliers which have provided high quality, reliable products in the past. Surveillance during construction was provided as for any other non-safety system.

II. Calibration Requirements And Field Checks

A new primary meteorological tower and equipment were installed in 1988. Instrumentation accuracy for this tower meets the requirements of Proposed Revision 1, Reg. Guide 1.23. Meteorological instrumentation will be checked and calibrated in accordance with the guidance of this regulatory document as referenced in NUREG 0654, Appendix 2.

III. Offsite Dose Assessment

A. Class A Atmospheric Dispersion Model/Dose Calculation System

This system plots the movement and concentration of effluent during accident radiological conditions. The system uses meteorological data and Operational Aid Computer data from the applicable unit. The user is actively involved in the selection of data for the model input file.

The Class A Model which simulates the transport and diffusion of released effluent is a puff-advection model which incorporates a horizontal wind field that can vary in time but is consistent in space. It is assumed in the puff-type model that the spread within a puff along the direction of flow is equal to the spread in the lateral direction (i.e., horizontal Gaussian Symmetry). In the model, concentration averages are obtained by summing concentrations of individual elements for the grid points over which the puffs pass. Features incorporated into the model include the use of primary, backup ground release mode. Appropriate persistence would be used for initial releases until a meteorologist is notified to provide predictive data.

B. Back-Up Methodology

(1) Control Room Procedures

Enclosure 4.3 of RP/0/B/1000/001 provides the Operations Shift Manager in the Control Room with a conservative method of determining general emergency conditions based on reactor building and unit vent radiation monitors.

Initial protective actions are predetermined for Control Room use for general emergency conditions. Meteorological conditions at Oconee require a complex method for determining appropriate sectors to evacuate. The control room will evacuate out to five miles and shelter out to ten miles which will simplify the process for determining the appropriate sectors to evacuate and to shelter.

(2) TSC/EOF Procedures

Procedure HP/0/B/1009/018, provides personnel with methods of projecting offsite doses for unit vent releases, containment building releases and steam relief valve releases at 1, 2, 5 and 10 miles unless otherwise directed.

Unit Vent Release

This method calculates a four-hour dose projection for total effective dose equivalent (TEDE) and committed dose equivalent (CDE thyroid) based on either unit vent radiation monitors and flow rate monitors or actual unit vent sample data and flow rate monitors.

Containment Building Release

This method calculates a four-hour TEDE and CDE dose projection based on the design leak rate and the reactor building dose rate which is determined by the reading from the containment high range monitor or a hand held survey instrument.

Steam Relief Valve Release

This method calculates a TEDE and CDE dose projection based on the activity released using the readings from the main steam line radiation monitors and the volume of steam released.

CDE (thyroid) doses calculated by these procedures are based on I-131 equivalent concentrations and are calculated for an adult. The dose conversion factor are obtained from EPA-400.

APPENDIX 3

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

ALERT AND NOTIFICATION SYSTEM DESCRIPTION

GENERAL DESCRIPTION

The Alert and Notification System for Oconee Nuclear Site will include an acoustic alerting signal and notification of the public by commercial broadcast (EAS). The system is designed to meet the acceptance criteria of Section B of Appendix 3, NUREG-0654, FEMA-REP-1, Rev. 1.

The emergency plans of the State of South Carolina and the counties of Oconee and Pickens include the individuals, by title, who will be responsible for decision making in regards to the alert and notification system. The county locations from which the sirens would be activated and, potentially, the request for an EAS message would come are manned 24 hours per day. Each organization's plan describes provisions for use of public communications media or other emergency instructions to members of the public. The plan of the State of South Carolina includes a description of the information that would be communicated to the public under given circumstances.

A. Concept of Operations (Figure 2)

A system of 65 fixed sirens is installed in the 10 mile area around the Oconee Nuclear Site. A computerized feedback system is also available at the county level to poll each siren for activation response. Should a siren fail to activate, a backup means of alerting and notification is described in the State and County Plans. This backup method includes emergency service vehicles traversing the area and giving both an alerting signal and notification message.

Each county will control the activation of the sirens within its boundaries.

B. Criteria for Acceptance

The alert and notification system for the Oconee Nuclear Site provides an alerting signal and an informational or instructional message to the population (via the EAS) on an area wide basis throughout the 10 mile EPZ within 15 minutes from the time off-site agencies have determined the need for such alerting exists. The emergency plan of the state of South Carolina includes evidence of EAS preparation for emergency situations and the means for activating the system.

C. Physical Implementation

1. The activation of this alert and notification system requires procedures and relationships between both Duke Energy Company and the off-site agencies that support Duke and Oconee Nuclear Site. When an incident is determined to have reached the level requiring public protective actions, Duke contacts the cognizant off-site agency via the "Selective Signaling" or other phone system and provides its recommendations. This system is available for use 24 hours per day and links the control room, TSC, EOF, SC (EOC), the county warning points, and the county EOC's.

2. The alert and notification system has multipurpose use built into it. The sirens are capable of producing a three minute steady signal for the nuclear plant emergency or a three minute wailing signal for natural disasters or nuclear attack. Procedures exist at the counties to allow activation of either signal.

   The expected performance of the sirens used in this system is described in Figure 1. These sirens complement existing alerting systems. The ambient background sound level in the Oconee area is taken to be 50 db for areas of "less than 2000 persons/per square mile". On this basis, the siren coverage is designed to provide a signal 10 db above the average daytime ambient background (i.e., 60 db). Furthermore, the sirens have been located to assure that the maximum sound levels received by any member of the public should be lower than 123 db.

   Duke Energy Company installed this system without a field survey of ambient conditions. The basis for selection of the 60 db(c) and 70 db(c) criteria is documented as follows:

   Location of heavy industry - There is no "heavy industry" in the Oconee 10 mile EPZ.

   Attenuation factors with distance - 10 db loss per distance doubled (See Figure 1)

MODEL	TOP FREQUENCY	SOUND PRESSURE LEVEL AT 100'
Federal Signal 2001 AC	705 Hz	127dB(C)±1dB

*See Figure 1 for 10 dB loss column

Map showing siren location, - See i-5

Mounting height of sirens - 50 feet (approximate)

Special weather condition considerations (such as expected heavy snow) - None

The siren system will produce a 3 minute steady signal and is capable of repetition.

The siren system will be tested and maintained in accordance with the following schedule:

Test or Maintenance	Period
Silent Test	Every two weeks
Growl Test	Quarterly
Repair	Before returning to service
Full-cycle*	Annually
Preventive Maintenance	At least annually

*Note: Full-cycle tests may substitute for growl tests.

APPENDIX 3
FIGURE 1

DUKE ENERGY COMPANY
OCONEE NUCLEAR SITE

SIREN RANGE IN FEET

For Sirens Figured At 12 And 10 dB Loss Per Distance Doubled

MINIMUM LEVEL COVERAGE IN dB	127dB(C) SIREN FEDERAL SIGNAL 2001AC	
	12	10
85	1000	1600
80	1350	2250
75	1800	3200
73	2000	3700
70	2400	4500
68	2700	5200
63	3200	6400
60	4250	9050

NOTE: All range figures are rounded off to nearest 50 feet

APPENDIX 5

DUKE ENERGY COMPANY

OCONEE NUCLEAR STATION

LETTERS OF AGREEMENT

Agreement Number	Agency/Company	Date
1	Oconee County Sheriff's Department	05/17/2011
2	Pickens County Sheriff's Department	04/15/2011
3	S.C. Highway Patrol - Greenville, South Carolina	04/18/2011
4	S.C. Law Enforcement Division	04/18/2011
5	Oconee Medical Center (formerly Oconee Memorial Hospital)	04/14/2011
6	Blue Ridge Emergency Physicians	02/23/2010
7	Oconee Medical Center Emergency Dept. Director (formerly Oconee Memorial Hospital)	10/21/2011
8	Oconee County Emergency Services Fire\ Chemical Spill	04/30/2012
9	Pickens County Emergency Management Agency	04/14/2011
10	Oconee County Emergency Management Agency	04/25/2011
11	Oconee County School District	04/15/2011
12	Pickens County School District	12/13/2011
13	Six-Mile Volunteer Fire Department	12/10/2012
14	Keowee-Ebenezer Volunteer Fire Department	07/09/2012
15	Corinth-Shiloh Volunteer Fire Department	07/06/2012
16	INPO - Fixed Nuclear Facility Voluntary Assistance Agreement	10/30/2012
17	DELETED- Dominion Nuclear Connecticut, Inc. (DNC) Superseded by letter from GO RP	08/26/03
18	REAC/TS (Radiation Emergency Assistance Center/Training Site/Oak Ridge, TN	09/05/2012

APPENDIX 5

LETTERS OF AGREEMENT

Agreement Number	Agency/Company	Date
19	U. S. Department of Energy (DOE) Savannah River Site, Aiken, SC	03/22/2011
20	State of South Carolina	01/05/2010
21	SC/GA/NC Dose Assessment Agreements	06/07/2011
22	Memorandum of Understanding (Joint Information Center)	05/29/2012
23	Bartlett Nuclear, Inc.	04/24/2012
24	Keowee-Fire Tax District	12/24/2011
25	G & G Metal Fabrication, Inc.	05/23/2012
26	Duke Power's Lincoln Combustion Turbine Facility	06/06/2012

Agreement Letter #1

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 11, 2011

Mr. James Singleton, Sheriff
Oconee County
Oconee County Mailroom
Walhalla, South Carolina 29691

Subject: Oconee Nuclear Site
Emergency Support Agreement Confirmation

Dear Mr. Singleton:

This letter will confirm the previous agreement for your support of Oconee Nuclear Site's Emergency Plan, when returned with your signature. It is our policy to confirm such agreements every three years.

The Oconee County Sheriff's Department is listed in our Emergency Plan for support in the event of civil disturbances and radiological accidents. The Law Enforcement Center would serve as a warning point for Oconee County. Assistance as requested would be in accordance with previous disaster planning and arrangements within the limits of your resources as stated in the Oconee County Emergency Plan.

Please acknowledge this agreement by signing below and returning this letter to us at your earliest convenience. Thank you for your cooperation.

Sincerely,

TP Gillespie
T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

I acknowledge agreement for support of Oconee Nuclear Site's Emergency Plan as stated above.

Signature

Sheriff
Title

5-17-11
Date

Agreement Letter #2

Duke Energy®

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 12, 2011

Pickens County Sheriff's Office
216 L.E.C. Rd.
Pickens, South Carolina 29671

Subject: Oconee Nuclear Site
Emergency Support Agreement Confirmation
File No. EP 100

Dear Mr. Stone:

This letter will confirm the previous agreement for your support of Oconee Nuclear Site's Emergency Plan, when returned with your signature. It is our policy to confirm such agreements every three years.

The Pickens County Sheriff's office is listed in our Emergency Plan for support in the event of civil disturbances and radiological accidents. The Law Enforcement Center would serve as a warning point for Pickens County. Assistance as requested would be in accordance with previous disaster planning and arrangements within the limits of your resources as stated in the Pickens County Emergency Plan.

Please acknowledge this agreement by signing below and returning this letter to us at your earliest convenience. Thank you for your cooperation.

Sincerely,

T Gillespie
T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

I acknowledge agreement for support of Oconee Nuclear Site's Emergency Plan as stated above.

C. David Stone
Signature

Sheriff
Title

April 15, 2011
Date

Agreement Letter #3

Duke Energy®

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ONOIVP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 12, 2011

Captain Michael Warren
211 Century Dr.
Suite 210C
Greenville, South Carolina 29607

Subject: Oconee Nuclear Site
Emergency Support Agreement Confirmation

Dear Captain Warren:

This letter will confirm the previous agreement for your support of Oconee Nuclear Site's Emergency Plan, when returned with your signature. It is our policy to confirm such agreements every three years.

The South Carolina Highway Patrol is listed in our Emergency Plan for support in the event of civil disturbances, bomb threats, and evacuation of the area surrounding Oconee Nuclear Site. Such assistance will be in accordance with previous disaster planning and arrangements.

Please acknowledge this agreement by signing below and returning this letter to us at your earliest convenience. Thank you for your cooperation.

TPGillespie
T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

I acknowledge agreement for support of Oconee Nuclear Site's Emergency Plan as stated above.

Michael Warren
Signature

Captain
Title

4-18-2011
Date

Agreement Letter #4

Duke Energy®

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 12, 2011

Mr. Reginald I. Lloyd, Director
S. C. Law Enforcement Division
P.O. Box 21398
Columbia, SC 29221

Subject: Oconee Nuclear Site
Emergency Support Agreement Confirmation

Dear Mr. Lloyd:

This letter will confirm the previous agreement for your support of Oconee Nuclear Site's Emergency Plan, when returned with your signature. It is our policy to confirm such agreements every three years.

The South Carolina Law Enforcement Agency is listed in our Emergency Plan for support in the event of civil disturbances and radiological accidents which would require traffic control and security measures. Your role would be to provide overall control of law enforcement surrounding the Oconee Nuclear Site during an emergency as stated above. Such assistance will be in accordance with previous disaster planning and arrangements.

Please acknowledge this agreement by signing below and returning this letter to us at your earliest convenience. Thank you for your cooperation.

Sincerely,

TP Gillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

I acknowledge agreement for support of Oconee Nuclear Site's Emergency Plan as stated above.

Signature

Director
Title

4/18/2011
Date

Agreement Letter #5

Duke Energy®

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ONO1VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 12, 2011

Ms. Jean Ward
Oconee Medical Center
298 Memorial Drive
Seneca, SC 29672

Subject: Oconee Nuclear Site
Emergency Support Agreement Confirmation

Dear Ms. Ward:

This letter will confirm the previous agreement for your support of Oconee Nuclear Site's Emergency Plan. It is our policy to confirm such agreements every three years.

The Oconee Medical Center is listed in our Emergency Plan for support in the event of a medical emergency which could involve a radiological contaminated person. Our present offsite program provides good quality training to the Oconee Medical Center staff which enhances their response should they need to administer care to an injured and/or radiologically contaminated patient.

Presently the Oconee Medical Center is designated as the primary hospital in the Oconee County Emergency Plan. The hospital is required by this plan to administer medical care to persons who could become contaminated as a result of a nuclear emergency. Care of this type patient is required to be demonstrated (without Oconee Nuclear Site assistance) in an MS-1 Drill which is evaluated by the Federal Emergency Management Agency once every two years.

Due to technological advances in the area of radiation protection and changes in regulatory requirements, Oconee Nuclear Site has been able to reduce the number of radiation protection technicians required to be onsite after hours, holidays and weekends. An event could occur at our site that would necessitate an injured/contaminated employee to be transported to the hospital without immediate support from our radiation protection staff. Support would be provided by calling out someone from home to respond to the hospital. The hospital staff would handle the immediate radiological concerns until Oconee Nuclear Site personnel arrive.

The following items, determined through previous discussions with the Assistant Director of Nursing, Nursing Supervisor in the emergency room, Blue Ridge Emergency Physicians staff doctor, and the Oconee County Emergency Management Director, are still in effect:

1. Availability of radiation detection instrumentation

   Oconee County has provided radiation detection instruments for use in the hospital emergency room.

2. Dressout for Oconee Medical Center Staff

   Oconee Medical Center Staff will dress out in their own surgical clothing to treat a contaminated injured patient.

3. Information concerning contamination on patient being transported

   ONS will FAX a copy of the "body form" appropriately marked to the Oconee Emergency Room prior to the patient arriving at the hospital. The hospital emergency room fax number is 885-7384.

4. Training for Oconee Medical Center Staff

   Oconee Nuclear Site will continue to provide annual training to hospital staff (emergency room physicians, emergency room nursing staff and EMS personnel). The training schedule will be developed in cooperation with the Oconee Medical Center Emergency Room Staff.

Sincerely,

TP Gillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGMENT

I acknowledge agreement for support of Oconee Nuclear Site's Emergency Plan as stated.

Signature

CEO / President
Title

4/14/11
Date

Agreement Letter #7

Duke Energy®

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

October 17, 2011

Dr. Pat Johannes
Oconee Medical Center
Emergency Department Director
298 Memorial Dr.
Seneca, SC 29672

Subject: Oconee Nuclear Station
Emergency Support Agreement Confirmation

Dear Dr. Johannes:

This letter will confirm the previous agreement for your support of Oconee Nuclear Station's Emergency Plan. It is our policy to confirm such agreements every three years.

You are listed in our Emergency Plan for support in the event of a medical/contamination emergency. Your role would be to provide medical assistance as requested. Such assistance will be in accordance with previous disaster planning and previous arrangements.

Please acknowledge this agreement by signing below and returning this letter to us at your earliest convenience. Thank you for your cooperation.

Sincerely,

T Gillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

I acknowledge agreement for support of Oconee Nuclear Station's Emergency Plan as stated above.

Patrick Johannes
Signature

President - Blue Ridge Emergency Physicians
Title

10/21/2011
Date

Duke Energy®

....ESTON GILLESPIE, JR.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP - 7800 Rochester Hwy
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 19, 2012

Mr. Scott Krein
Oconee County Emergency Services Director
208 Booker Drive
Walhalla, South Carolina 29691

Subject: Oconee Nuclear Station

Dear Mr. Krein:

The Oconee County Emergency Services Department ("Emergency Services Department") is listed in Oconee Nuclear Station's ("Oconee") Emergency Plan ("EP") for support in certain emergency situations. On April 16, 2009, the Emergency Services Department signed an Agreement Acknowledgement with Oconee for this support of Oconee's EP. It is Company policy to confirm such Agreements every three years.

This letter is to confirm the Emergency Services Department's continued acknowledgement of its Agreement for support in the event that a fire, hazardous waste spill, or chemical spill could not be handled by the Oconee personnel. Further, the Emergency Services Department's volunteer fire department personnel would provide to Oconee the equipment and manpower to assist in bringing under control a fire or spill that occurred within the Oconee owner-controlled area. Additionally, the Emergency Services Department agrees that all individuals participating in either a drill or an emergency at Oconee shall be 18 years of age.

This Agreement shall be reviewed by the parties three years from the date of acceptance. This Agreement may be terminated by either party upon at least 30 days written notice to the other party, setting forth such termination and the date it shall become effective.

Please acknowledge this Agreement by signing below and returning this letter to us at your earliest convenience.

Thank you for your cooperation.

Sincerely,

TPGillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

On behalf of the Oconee County Emergency Services Department, I acknowledge agreement for the support of Oconee Nuclear Station's Emergency Plan as stated above.

Signature

Director of Emergency Managment
Title

4-30-12
Date

Agreement Letter #9

Duke Energy®

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 12, 2011

Mr. Lynn Fisher, Director
Pickens County Emergency Management Agency
304 Pendleton St.
Pickens, South Carolina 29671

Subject: Oconee Nuclear Site
Emergency Support Agreement Confirmation

Dear Mr. Fisher:

This letter will confirm the previous agreement for your support of Oconee Nuclear Site's Emergency Plan. It is our policy to confirm such agreements every three years.

The Pickens County Emergency Management Agency is listed in our Emergency Plan for support in the event of a major radiological accident. Such assistance will be in accordance with previous disaster planning and arrangements as provided in the Pickens County Emergency Plan.

Please acknowledge this agreement by signing below and returning this letter to us at your earliest convenience. Thank you for your cooperation.

Sincerely,

T P Gillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

I acknowledge agreement for support of Oconee Nuclear Site's Emergency Plan as stated above.

Lynn D. Fisher
Signature

Emergency Management Director
Title

April 14, 2011
Date

Agreement Letter #10

Duke Energy

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 12, 2011

Mr. Scott Krein
Oconee County Emergency Management Director
415 South Pine St.
Walhalla, South Carolina 29691

Subject: Oconee Nuclear Station
Emergency Support Agreement Confirmation

Dear Mr. Krein:

This letter will confirm the previous agreement for your support of Oconee Nuclear Site's Emergency Plan. It is our policy to confirm such agreements every three years.

The Oconee County Emergency Management Agency is listed in our Emergency Plan for support in the event of a major radiological accident. Such assistance will be in accordance with previous disaster planning and arrangements as provided in the Oconee County Emergency Plan.

Please acknowledge this agreement by signing below and returning this letter to us at your earliest convenience. Thank you for your cooperation.

Sincerely,

T Gillespie
T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

I acknowledge agreement for support of Oconee Nuclear Site's Emergency Plan as stated above.

Scott R Krein
Signature

Acting Emergency Manager.
Title

4-25-11
Date

Agreement Letter #11

Duke Energy®

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 12, 2011

Oconee County School District
414 S. Pine St.
Walhalla, South Carolina 29691

Attention: Mike Lucas
Superintendent of Oconee County Schools

Subject: Oconee Nuclear Site
Emergency Support Agreement Confirmation

Dear Mr. Lucas:

This letter will confirm the previous agreement for your support of Oconee Nuclear Site's Emergency Plan. It is our policy to confirm such agreements every three years.

The School District of Oconee County is listed in our Emergency Plan for support in the event of a major radiological accident. The Keowee School has been designated, as an alternate relocation area for plant personnel should evacuation from the site during an emergency become necessary. The use of this building allows us to store, on the school site, supplies and materials that would be used for personnel decontamination. The materials and supplies are safely stored in a locked cabinet and inspected by Oconee Nuclear Site Radiation Protection on a quarterly basis consistent with your designated school schedule.

In the event school equipment and/or facilities are contaminated due to the assembly of Duke employees or their agents, Duke shall make available its resources to the School District of Oconee County to control contamination and decontaminate school equipment and facilities to the extent necessary to ensure the continued accessibility of the Keowee School to the general public. Decontamination efforts would be under the scrutiny of the South Carolina Bureau of Radiological Health.

April 12, 2011

Mike Lucas
Superintendent of Oconee County Schools

Please acknowledge this agreement by signing below and returning this letter to us at your earliest convenience. Thank you for your cooperation.

Sincerely,

T P Gillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

I acknowledge agreement for support of Oconee Nuclear Site's Emergency Plan as stated above.

Mike Lucas
Signature

Superintendent
Title

4/15/11
Date

Duke Energy

Agreement Letter #12

T. PRESTON GILLESPIE, Jr.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP / 7800 Rochester Hwy.
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

LEASE AGREEMENT

This AGREEMENT is made and entered into this 6 day of December 2011, by and between the School District of Pickens County ("Lessor") and Duke Energy Carolinas, LLC, a limited liability corporation organized and existing under the laws of the State of North Carolina, ("Lessee"), owner of the Oconee Nuclear Station ("Oconee").

Lessor, for and in consideration of the covenants and agreements hereinafter expressed to be kept, and performed by the Lessee, and in consideration of the sum of One Dollar in hand paid the Lessor by the Lessee, receipt of which is hereby acknowledged, hereby grants Lessee permission to use the following described property in Pickens County, South Carolina, which is owned by Lessor: D. W. Daniel High School building and its facilities located 1819 Six Mile Highway, Central, South Carolina ("Facility"), for the purposes herein set forth and upon the following terms and conditions.

Use of the Facility

1. The Lessee covenants and agrees that the Facility will be used solely as an alternate relocation area for the Lessee's employees working at Oconee should evacuation from the station become necessary during a nuclear emergency. Utilization of the Facility shall be limited to the purpose of decontamination of the employees of the Lessee, storage and periodic inspection of decontamination materials, and the cleaning and/or decontamination of the facilities and equipment belonging to the Lessor.

2. The Lessee agrees to assume responsibility for the use of the premises by the Lessee's employees and other related personnel and agrees to hold harmless the Lessor for damages to persons or property of any persons using the premises or resulting from the Lessee's use thereof. In the event of any proceedings brought due to the injury or damage to persons or property, the Lessee agrees that it shall be the sole party in interest for the purpose of litigation.

3. It is agreed that the Lessee shall have the right to place within the Facility, at a location mutually agreeable, a cabinet to be used for the purpose of storing non-hazardous supplies to be used in any decontamination process. The right of periodic inspection and replacement or replenishment of these supplies is also hereby granted.

4. It is agreed that in order to carry out the stewardship of public property the Lessor shall have the right of reasonable access to the portions or portions of property during use by the Lessee.

5. The Lessee shall be responsible for the conduct and supervision of all persons who may be associated with the use of the Facility by the Lessee.

6. The Lessee shall assume responsibility of the care of said property and shall return the property to the Lessor after each period of use in as good or better condition than when the use thereof began. This shall include compliance with all local, state, and federal laws and/or regulations in effect at any given time of use as relates to the health and welfare of the present and future occupants.

7. The Lessee further agrees to coordinate with the Lessor concerning any question or problem which may arise and which may not be covered in this Agreement.

8. The Lessee covenants not to transfer possession, lease, or sublet said premises.

9. The Lessor does hereby grant permission to the Lessee to hold keys to the portion of said property necessary to effect the appropriate use thereof so long as the lease or its extension is in effect.

10. The Lessee agrees to make payment to the owner, or to otherwise provide satisfaction to the owner, for any damages directly or indirectly attributable to the use by the Lessee.

11. The term of this Agreement is a period of ten (10) years, beginning with the date of execution of Agreement, provided, however, Lessee is also granted the option of renewing the Agreement for an additional ten (10) year period, provided notice is given in writing to Lessor at least (90) days prior to the termination of the original ten (10) year period.

12. Either party shall have the option of terminating this Agreement upon one hundred twenty (120) days written notice to the other party thereto, except that Lessor would terminate this Agreement only upon the need of the Facility for school purposes, for disposal of said property, or as a result of new and compelling scientific evidence making unwise the intended use of the property by Lessee.

13. Notice of termination shall be deemed effective under this Agreement after written notice is deposited in the mail, postage paid, addressed to the other party as follows:

To Duke Energy:	Duke Energy Carolinas, LLC Oconee Nuclear Station 7800 Rochester Hwy. Seneca, SC 29672
Attention:	T. Preston Gillespie, Vice President Oconee Nuclear Station
To: Pickens County School District:	Pickens County School District 1348 Griffin Mill Rd. Easley, SC 29640
Attention:	Dr. Henry H. Hunt Superintendent of Pickens County Schools

SCHOOL DISTRICT OF PICKENS COUNTY

By: Henry H Hunt
Authorized Agent for Lessor

Title: Superintendent

Date: 12.13.11

DUKE ENERGY CAROLINAS, LLC

By: T P Gillespie

Title: Vice President

Date: 6 Dec 11

Agreement Letter #13

Duke Energy®

T. PRESTON GILLESPIE, JR.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP - 7800 Rochester Hwy
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

November 14, 2012

Michael Barrett, Chief
Six Mile Volunteer Fire Department
P.O. Box 429
Six Mile, South Carolina 29682

Subject: Oconee Nuclear Station

Dear Chief Barrett:

The Six Mile Volunteer Fire Department ("Six Mile VFD") is listed in Oconee Nuclear Station's ("Oconee") Emergency Plan ("EP") for support in certain emergency situations. On August 4, 2009, the Six Mile VFD entered into an Agreement with Duke Energy Carolinas, LLC, formerly Duke Energy Company ("Duke"), for such support.

The purpose of this Letter Agreement is to confirm that the Six Mile VFD will respond to a request by Duke for assistance during a fire emergency, hazardous waste or chemical spill or any other condition that may require use of firefighting resources within that portion of Oconee property located in Pickens County. This property shall include, but not be limited to, the Oconee Administration Building, Oconee Office Building, all warehouses inside the owner controlled area, lay-down yards, the Office Complex, Operations Center, World of Energy, and the Operations Training Center. This Agreement does not include nor does it have any bearing upon services which Six Mile VFD might provide to state or local agencies during any drill of emergency at Oconee.

The Six Mile VFD agrees that members of the Six Mile VFD will participate in annual training to include topics of Fire Protection, Radiation Protection, Station Familiarization and Station Security Procedures. This training will be conducted by Duke personnel under the supervision of the Oconee Emergency Planning Manager, at a mutually agreeable location and date.

The Six Mile VFD further agrees that members of the Six Mile VFD will participate, upon request by Duke, in fire or full exercise drills that are conducted at least annually at Oconee. The drill(s) will also be conducted under the supervision of the Oconee Emergency Planning Manager, who will provide written or verbal notice of such drills to the Six Mile VFD.

The Six Mile VFD further agrees that all members of the Six Mile VFD participating in a drill or an emergency at Oconee shall be at least 18 years of age.

As compensation for Six Mile VFD's agreement to (1) respond to any Duke request for on-site assistance and (2) participate in training and drills, both as more specifically outlined above, Duke agrees to make an annual payment of $3000.00 to the Six Mile VFD during each year that this Agreement remains in effect. Each annual payment shall be made by Duke to the Six Mile VFD during the month of November.

This Agreement shall be reviewed by the parties three (3) years from the date of acceptance. Further, this Agreement may be terminated by either party upon at least thirty (30) days written notice to the other party, setting forth such termination and the date it shall become effective.

If the terms set forth above are acceptable, please countersign this Agreement and return a fully-executed copy to me at your earliest convenience.

Thank you for your cooperation.

Sincerely,

TPGillespie
T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

ACKNOWLEDGED AND AGREED:

Six Mile Volunteer Fire Department

By: _____ 12/10/12
Name: Michael Barrett
Title: Chief

Duke Energy®

T. PRESTON GILLESPIE, JR.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP - 7800 Rochester Hwy
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

June 30, 2012

Troy McCurry, Chief
Keowee-Ebenezer Volunteer Fire Department
551 Burnt Tanyard Road
West Union, South Carolina 29696

Subject: Oconee Nuclear Station
Keowee-Ebenezer Volunteer Fire Department Letter Agreement

Dear Chief McCurry:

The Keowee-Ebenezer Volunteer Fire Department ("Keowee-Ebenezer VFD") is listed in Oconee Nuclear Station's ("Oconee") Emergency Plan ("EP") for support in certain emergency situations. On June 2, 2009, the Keowee-Ebenezer VFD entered into an Agreement with Duke Energy Carolinas, LLC, formerly Duke Energy Company (Duke), for this support of Oconee's EP. It is Company policy to confirm such Agreements every three years.

This letter is to confirm the Keowee-Ebenezer VFD's continued acknowledgement of its Agreement that the Keowee-Ebenezer VFD will respond to a request by Duke for assistance during a fire emergency, hazardous waste spill, or chemical spill or any other condition that may require use of firefighting resources within that portion of Oconee property located in Oconee County. This property shall include, but not be limited to, the Oconee Administration Building, Oconee Office Building, all warehouses inside the owner controlled area, lay-down yards, the Office Complex, Operations Center, World of Energy, and the Operations Training Center. This Agreement does not include nor does it have any bearing upon services which Keowee-Ebenezer VFD might provide to state or local agencies during any drill of emergency at Oconee.

It is further confirmed that the Keowee-Ebenezer VFD continues to acknowledge its Agreement that members of the Keowee-Ebenezer VFD will participate in annual training to include topics in Fire Protection, Hazardous Materials, Hazardous Wastes, Radiation Protection, Station Familiarization, and Station Security Procedures. This training will be conducted by Oconee personnel, under the supervision of the Oconee Emergency Planning Manager, at an agreeable location and date.

It is further confirmed that the Keowee-Ebenezer VFD continues to acknowledge its Agreement that members of the Keowee-Ebenezer VFD will participate, upon request, in fire/hazmat drills that are conducted at least annually at Oconee. The drill(s) will also be conducted under the supervision of the Oconee Emergency Planning Manager, who will provide written or verbal notice of such drills to Keowee-Ebenezer VFD.

Additionally, the Keowee-Ebenezer VFD agrees that all individuals participating in drills or an emergency at Oconee shall be at least 18 years of age.

Oconee utilizes the Incident Command System model, as described in the National Incident Management System (NIMS), to respond to emergency events at the station. The Operations Shift Manager functions as the Incident Commander and maintains command and control during

an emergency event. The on-scene contact for events that will require support from your department will be the Fire Brigade Leader. Guidance and direction in responding to the event will be through the Oconee Fire Brigade Leader.

As compensation for Keowee-Ebenezer VFD's Agreement to (1) respond to any Duke request for on-site assistance and (2) participate in training and training drills, as outlined herein, Duke continues to agree to make an annual payment of $3500.00 to the Keowee-Ebenezer VFD. Said payment shall be made during the month of September of each fiscal year.

This Agreement shall be reviewed by the parties three years from the date of acceptance. Further, this Agreement may be terminated by either party upon at least 30 days written notice to the other party, setting forth such termination and the date it shall become effective.

Please confirm the Keowee -Ebenezer VFD's continued acknowledgement of its Agreement with Duke by having the authorized representatives of the Keowee -Ebenezer VFD sign the Agreement Acknowledgement and returning this fully-executed letter Agreement to me at your earliest convenience.

Thank you for your cooperation.

Sincerely,

TP Gillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

On behalf of the Keowee-Ebenezer Volunteer Fire Department, I acknowledge agreement for the support of Oconee Nuclear Station as stated above.

Signature

TROY L. McCURRY
Print Name

CHIEF
Title

07-09-12
Date

Agreement Letter #15

T. PRESTON GILLESPIE, JR.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP - 7800 Rochester Hwy
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

June 30, 2012

Michael Zambito, Chief
Corinth-Shiloh Volunteer Fire Department
P. O. Box 1853
Seneca, South Carolina 29679

Subject: Oconee Nuclear Station

Dear Chief Zambito:

The Corinth-Shiloh Volunteer Fire Department ("Corinth-Shiloh VFD ") is listed in Oconee Nuclear Station's ("Oconee") Emergency Plan ("EP") for support in certain emergency situations. On June 5, 2009, the Corinth-Shiloh VFD entered into an Agreement with Duke Energy Carolinas, LLC, formerly Duke Energy Company (Duke), for this support of Oconee's EP. It is Company policy to confirm such Agreements every three years.

This letter is to confirm the Corinth-Shiloh VFD's continued acknowledgement of its Agreement that the Corinth-Shiloh VFD will respond to a request by Duke for assistance during a fire emergency, hazardous waste or chemical spill, or any other condition that may require use of firefighting resources at Oconee located in Oconee County. This property shall include, but not be limited to, the Oconee Administration Building, Oconee Office Building, all warehouses inside the owner controlled area, lay-down yards, the Office Complex, Operations Center, World of Energy, and the Operations Training Center. This Agreement does not include nor does it have any bearing upon services which Corinth-Shiloh VFD might provide to state or local agencies during any drill of emergency at Oconee.

It is further confirmed that the Corinth-Shiloh VFD continues to acknowledge its Agreement that members of the Corinth-Shiloh VFD will participate in annual training which will include, but not be limited to, topics in Fire Protection, Hazardous Materials, Hazardous Wastes, Radiation Protection, Station Familiarization, and Station Security Procedures. This training will be conducted by Oconee personnel, under the supervision of the Oconee Emergency Planning Manager, at a mutually agreeable location and date.

It is further confirmed that the Corinth-Shiloh VFD continues to acknowledge its Agreement that members of the Corinth-Shiloh VFD will participate, upon request, in fire/hazmat drills that are conducted at least annually at Oconee. The drill(s) will also be conducted under the supervision of the Oconee Emergency Planning Manager, who will provide written or verbal notice of such drills to Corinth-Shiloh VFD.

Additionally, the Corinth-Shiloh VFD agrees that all individuals participating in drills or an emergency at Oconee shall be at least 18 years of age.

Oconee utilizes the Incident Command System model, as described in the National Incident Management System (NIMS), to respond to emergency events at the station. The Operations Shift Manager functions as the Incident Commander and maintains command and control during an emergency event. The on-scene contact for events that will require support from your

department will be the Fire Brigade Leader who functions as the Deputy Incident Commander. Guidance and direction in responding to the event will be through the Oconee Fire Brigade Leader.

As compensation for Corinth-Shiloh VFD's Agreement to (1) respond to any Duke request for on-site assistance and (2) participate in training drills, both as outlined herein, Duke continues to agree to make an annual payment of $3500.00 to the Corinth-Shiloh VFD. Said payment shall be made during the month of September of each fiscal year.

This Agreement shall be reviewed by the parties three years from the date of acceptance. Further, this Agreement may be terminated by either party upon at least 30 days written notice to the other party, setting forth such termination and the date it shall become effective.

Please confirm the Corinth-Shiloh VFD's continued acknowledgement of its Agreement with Duke by having the authorized representatives of the Corinth-Shiloh VFD sign the Agreement Acknowledgement and returning this fully-executed letter Agreement to me at your earliest convenience.

Thank you for your cooperation.

Sincerely,

TPGillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

On behalf of the Corinth-Shiloh Volunteer Fire Department, I acknowledge agreement for the support of Oconee Nuclear Station as stated above.

Brandon Price
Signature

BRANDON PRICE
Print Name

PRESIDENT / CEO
Title

7/6/12
Date

Agreement Letter #16

INPO®

Institute of
Nuclear Power
Operations

Suite 100
700 Galleria Parkway, SE
Atlanta, GA 30339-5943
770-644-8000
FAX 770-644-8549

October 30, 2012

Dear Ladies and Gentlemen:

This letter certifies that the plant emergency assistance agreement between INPO and its member utilities remains in effect. In the event of an emergency at your utility, INPO will assist you in acquiring the help of other organizations in the industry, as described in Section 1 of the Emergency Resources Manual, INPO 03-001, and in the United States Nuclear Industry Response Framework. If requested, INPO will provide the following assistance:

- coordinate technical information flow from the affected utility to the nuclear industry and government agencies
- coordinate the procurement and shipping of equipment and supplies
- locate personnel with technical expertise
- facilitate industry vendor and commercial supplier support
- obtain technical information and industry operating experience regarding plant components and systems
- provide an INPO liaison to facilitate interface

This agreement will remain in effect until terminated in writing. Should you have any questions, please call Steve Meng at (770) 644-8548 or e-mail at MengSW@inpo.org.

Sincerely,

Jeffrey T. Gasser
Vice President
Emergency Response

JTG:cjm

Agreement Letter #18

Department of Energy

ORNL Site Office
P.O. Box 2008
Oak Ridge, Tennessee 37831-6269

September 5, 2012

Mr. Dhiaa M. Jamil
Executive Vice President and Chief Nuclear Officer
Duke Energy Corporation
Post Office Box 1321, Mail Code DEC48G
Charlotte, North Carolina 28201

Dear Mr. Jamil:

LETTER OF AGREEMENT – RADIATION EMERGENCY ASSISTANCE CENTER/TRAINING SITE (REAC/TS) SUPPORT

Please reference an electronic mail message of August 23, 2012, from Tina Kuhr, requesting that the Department of Energy (DOE) REAC/TS facilities and team continue to be available to provide back-up capability and assistance to the Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC in the event of a radiological emergency at Oconee, McGuire, or Catawba Nuclear Stations. This response constitutes our agreement to provide this service upon your request. The agreement remains in effect until terminated in writing by either party.

We wish to remind you that our REAC/TS facilities in the Oak Ridge Institute for Science and Education (ORISE) are government controlled and operated by the Oak Ridge Associated Universities under contract with DOE. Therefore, REAC/TS is prohibited from competing with commercial firms that can provide radiological emergency services. Only if the magnitude or uniqueness of a radiological emergency exceeds your in-house and commercially available capabilities would REAC/TS be authorized to provide back-up services.

Since these facilities are government controlled, no fee or retainer is required to assure the availability of back-up services by REAC/TS. However, if you utilize the services of REAC/TS, we should expect to recover those costs that could reasonably be related to handling such an incident, including all charges billed to DOE or ORISE by hospitals and physicians. Information concerning the REAC/TS facilities, staff, services available, and procedures for seeking REAC/TS assistance can be obtained by direct contact with the REAC/TS Director, Dr. Albert Wiley, ORISE, Post Office Box 117, Oak Ridge, Tennessee 37831, or at telephone number (865) 576-3131.

Sincerely,

M. G. Branton

Michele G. Branton
Contracting Officer's Representative

National Nuclear Security Administration
Savannah River Site Office
P.O. Box A
Aiken, South Carolina 29802

March 22, 2011

Mr. Dhiaa M. Jamil
Group Executive, Chief Generating Officer and
Chief Nuclear Officer
Duke Energy
P. O. Box 1006, Mail Code EC03XM
Charlotte, NC 28201-1006

Dear Mr. Jamil:

Subject: Department of Energy, National Nuclear Security Administration (DOE/NNSA) Letter of Agreement for Emergency Support

Assurance is hereby given that DOE/NNSA will respond to requests for radiological assistance from licensees and Federal and State agencies involved in or cognizant of an incident believed to involve source, by-product, or other special nuclear material as defined by the Atomic Energy Act of 1954, as amended, or other ionizing radiation sources. Assistance as indicated above would be made available to Duke Energy with respect to incidents occurring at its Catawba, McGuire, and Oconee Nuclear Stations upon request and in consonance with response activities conducted by State, local, and private industry emergency response personnel.

Unless DOE/NNSA or a DOE/NNSA contractor is responsible for the activity, ionizing radiation source, or radioactive material involved in the incident, DOE/NNSA radiological assistance will be limited to advice, detection and identification of radioactive materials, and/or monitoring and assessment actions essential for the control of the immediate hazards to health and safety. DOE/NNSA radiological assistance will be terminated when it is no longer needed or the necessary assistance is available from State, local, or commercial services. Therefore, responsibility for post-accident recovery, including further actions for the protection of individuals and the public health and safety, should be assumed by the appropriate government agency or private authority as soon as emergency conditions are stabilized.

Requests for DOE/NNSA radiological assistance may be directed to the Savannah River Site Operations Center at the 24-hour emergency assistance telephone number, (803) 725-3333. Questions regarding the DOE/NNSA Radiological Assistance Program may be directed to me at (803) 952-6613.

Sincerely,

Christina T. Edwards

Christina T. Edwards
Regional Response Coordinator
DOE Region 3

COR-SRSOMO-3.21.2011-332011

cc: Tina Kuhr, Duke Energy

Agreement Letter #21

Duke Energy

Mike Glover
General Manager, Nuclear Support
Nuclear Generation

Duke Energy Corporation
526 South Church Street
Charlotte, NC 28202

Mailing Address:
P. O. Box 1006
EC07H
Charlotte, NC 28201-1006

704-382-6108

Mike.Glover@duke-energy.com

June 7, 2011

Mr. W. Lee Cox, III, Section Chief
Division of Environmental Health, Radiation Protection Section
North Carolina Department of Environment and Natural Resources
1645 Mail Service Center
Raleigh, NC 27699-1645

Mr. Chris Stanton, Director
Division of Waste Assessment and Emergency Response
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Mr. James Hardeman, Program Manager
Environmental Radiation
Environmental Protection Division
Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive
Suite 1152, East Tower
Atlanta, GA 30334

Subject: Letter documenting Duke Energy Corporation (Duke) Assumptions for Offsite Dose Calculation Methodology

On March 17, 1994, a letter from Carolina Power & Light Company, Duke Power Company, US Department of Energy – Savannah River Operation Office, and South Carolina Electric and Gas Company was sent to your agency. This letter discussed implementation of EPA-400-R-92-001, *Manual of Protective Action Guides and Protective Actions for Nuclear Incidents*, and the assumptions that would be used in dose calculations supporting Protective Action Recommendations. Duke amended this letter on December 6, 1996, in conjunction with implementing the RADDOSE-V dose assessment code, and renewed it on October 6, 1999; October 11, 2002; August 25, 2005, and August 6, 2008.

Duke hereby renews the August 6, 2008, agreement letter. At the Utility/State Dose Assessor meeting held November 13-14, 2001, in Charlotte, a decision

was made that there was no longer a need for a formal agreement letter. However, the States requested documentation of the assumptions for the utilities' offsite dose calculation methodology. Attachment 1 documents these assumptions. Changes to Duke's assumptions for offsite dose calculation methodology from those in the August 6, 2008, letter are highlighted by change bars on Attachment 1. Currently, the August 6, 2008, agreement letter is listed in Duke's Emergency Plans, and our plans require agreement letters be renewed every three years. Since the agreement letter is in the Emergency Plans, Duke will continue to renew it on the frequency required for agreement letters. If you have any questions, contact Tina Kuhr at 704-382-3151.

Sincerely,

R. Michael Glover

R. Michael Glover
General Manager, Nuclear Support

Attachment 1: Duke Energy Corporation Assumptions for Offsite Dose Calculation Methodology

Attachment 1

Duke Energy Corporation Assumptions for Offsite Dose Calculation Methodology

ATMOSPHERIC DISPERSION

1. The atmospheric stability class will be identified by Pasquill class A through G.

2. The wind speed will be given in miles per hour.

3. RADDOSE-V uses a variable trajectory, puff advection dispersion model to simulate atmospheric transport and diffusion of radionuclides released from Duke Energy's nuclear stations. Plume trajectories are calculated using meteorological data obtained at each nuclear site. The diffusion (or spread) of each puff is based on a Gaussian distribution model. The dimensions of individual puffs, which compose the plume, are determined as a function of travel distance and atmospheric stability.

4. Mixing heights are based on seasonal afternoon mean at each of the Duke Nuclear Sites. During morning hours under stable conditions, however, mixing heights are set to a minimum level of 30.2 meters for Catawba and McGuire and 57.9 meters for Oconee at sunrise and interpolated up to the mean afternoon seasonal height at 2 P.M. Thus, a lid height is assumed in these cases, with the plume always restricted below the lid height (at ground level). For all other cases and hours, the mean seasonal value is used.

5. The release height will be assumed to be at ground level unless specified otherwise.

6. There will be no allowances made for atmospheric inversion.

DEPOSITION

1. The transport of iodine and particulate radionuclides from the plume to the ground by turbulence and gravitational settling (dry deposition) and precipitation (wet deposition) are accounted for based on the methodologies outlined in NUREG/CR-3344, *MESOI Version 2.0: An Interactive Mesoscale Lagrangian Puff Dispersion Model with Deposition and Decay,* November 1983, U.S. Regulatory Commission, and NUREG/CR-4000, *The MESORAD Dose Assessment Computer Model, Volume 1: Technical Basis*, March 1986, U. S. Nuclear Regulatory Commission, models.

2. RADDOSE-V accounts for both dry and wet deposition of radioiodines and particulates. For dry deposition calculations, 1 cm/second is used as the deposition rate. For wet deposition, the washout rate is dependent on the precipitation rate. Deposition calculations are not applied to noble gases.

3. The duration of exposure to deposition in calculating the TEDE dose will be four days.

RADIOLOGICAL

1. The adult thyroid dose will be calculated using Dose Conversion Factors (DCFs) from EPA-400-R-92-001, *Manual of Protective Action Guides and Protective Actions for Nuclear Incidents*, May 1992, U.S. Environmental Protection Agency, using an assumed breathing rate of 1.2×10^6 cm^3 per hour.

2. The adult thyroid dose will be reported as a Thyroid Committed Dose Equivalent (Thyroid CDE). The Thyroid Effective Dose Equivalent (Thyroid EDE) will not be added to the Thyroid CDE.

3. The Total Effective Dose Equivalent (TEDE) will be calculated as the sum of:
   - The external exposure from the plume (EDE plume)
   - The internal exposure from inhalation of the plume (CEDE plume)
   - The external exposure from the plume radionuclides deposited on the ground (EDE ground).

4. Radioactive decay during plume passage will be calculated.

5. The radioiodine source term will be reported as Total Iodine. The units will be Curies/second.

6. The noble gas source term will be reported as Total Noble Gases. The units will be Curies/second.

7. The particulate source term will be reported as Total Particulates. The units will be Curies/second.

8. Derived Response Levels (DRLs), if used, will be taken from EPA 400-R-92-001.

9. Protective Action Recommendations (PARs) for evacuation will be made for projected doses equaling or exceeding 1 rem TEDE or 5 rem Thyroid CDE.

10. Skin doses will be calculated from the TSC/EOF during the Intermediate Phase as needed.

11. The estimate of projected offsite dose will be reported as TEDE and CDE Thyroid for the forecast period only.

EMERGENCY NOTIFICATION FORM

1. The time of reactor shutdown, the time the release began, projection time, and an estimated duration of release will be given. The estimated duration will begin at the time of the release start.

2. The release will be quantified in units of Curies per second.

3. There will be no PARs for sheltering for doses below the 1 rem TEDE or 5 rem Thyroid CDE PAGs.

ACCOUNTING FOR INTERNAL DOSE TO EMERGENCY WORKERS

1. During a General Emergency, while an evacuation is in progress, the Self Reading Dosimeter (SRD) reading will be taken as the TEDE for controlling off site emergency worker exposure. After the evacuation is completed, the Duke EOF will provide an adjustment to the SRD reading using the SRD correction factor calculated by RADDOSE-V.

Duke Energy

Agreement Letter #22

OCONEE NUCLEAR STATION
JOINT INFORMATION CENTER
MEMORANDUM OF UNDERSTANDING

Regulatory Background

Joint Information Centers or JICs were established in the 1980s using the guidance in NUREG-0654/FEMA-REP-1, *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.* The guidance states that:

- Each licensee shall provide space that may be used for a limited number of the news media at the near-site emergency operations facility.
- Each principal organization shall designate the points of contact and physical locations for use by news media during an emergency.

Based on these requirements, public information was controlled from a single, predetermined location with news/press releases, rumor control and media briefings emanating from that location. With technology improvements and the arrival of social media, public information is no longer controlled but managed. In the 24x7 news world, it is not unusual for multiple media briefings to occur at the same time at different locations or at the same location. Social media has also had a profound impact on the response to and release of public information. Therefore, adoption of a **Joint Information System or JIS** concept allows better use of technological advancements. It also allows personnel to work from multiple locations, while linking the functions of media briefings, rumor control, news releases and social media, thereby continuing to provide a "one voice" approach to public communication.

In recognition of these changes, in early 2011, the NRC issued two risk communications NUREG/CRs:

- NUREG/CR-7032, *Developing an Emergency Risk Communication (ERC)/Joint Information Center (JIC) Plan for a Radiological Emergency*
- NUREG/CR-7033, *Guidance on Developing Effective Radiological Risk Communication Messages: Effective Message Mapping and Risk Communication with the Public in Nuclear Plant Emergency Planning Zones*

FEMA also issued a revision to the Radiological Emergency Preparedness (REP) Program Manual in 2011, and both the REP Manual and NUREG/CR-7033 reference a JIS. To differentiate between the JIC and JIS, the following definitions are provided:

- A **JIS** provides the necessary structure and mechanisms for:
  - organizing developing, integrating and delivering coordinated agency messages;
  - developing, recommending and executing public information plans/procedures and strategies on behalf of emergency response officials;
  - advising emergency response officials concerning public affairs issues that could affect a response effort; and

- sharing rumors and inaccurate information and controlling rumor response that could undermine public confidence in the incident response effort.

- The JIC is a physical facility that supports the implementation of the JIS. There may be more than one JIC supporting a JIS.

Purpose

This document establishes an agreement regarding, and provides reference to, the operating guidelines, procedures and processes governing the use of Joint Information Systems (JIS) and Joint Information Centers (JIC) by providing a holistic approach for a communications response to a declared emergency or significant event. It provides guidance on various communications vehicles and methods of establishing and applying the JIS concept, along with guidance for the activation, staffing, operation, and deactivation of a JIC facility.

Basic operating processes and guidelines for the JIS and JIC are included. Detailed position descriptions, the scope of responsibilities and detailed operating procedures should be provided in each agency's or entity's operating procedures.

While this Memorandum of Understanding (MOU) provides guidance with respect to response to a declared emergency at the Oconee Nuclear Station, the guidance is equally appropriate for any condition requiring the coordination of information among the various parties.

The use of a JIS and JICs provides an important framework for gathering and sharing the information needed to protect the public while maintaining trust and credibility. The framework incorporates a wide spectrum of approaches and media vehicles to provide an effective communications response.

Gathering Information, Information Dissemination, Operational Support

The need to provide the public with accurate, timely and clear information is crucial in emergency conditions. In a declared emergency, a number of affected agencies and entities must coordinate the response effort. Each party has separate responsibilities that, together, create a unified, coordinated and comprehensive emergency response. The JIS provides the framework for exchanging information in a timely, coordinated manner. JICs provide locations where affected agencies can gather to share information and conduct news conferences and briefings in a coordinated manner.

Scope of Responsibility and Comment

Each participating agency/entity has unique responsibilities and accountability. Duke Energy's scope of responsibility and public comment are limited to plant activities; state and county responsibility and comments are limited to the emergency response activities they undertake to protect the people and places within their jurisdiction. Individuals representing one party should not comment on the emergency response activities undertaken by another participating agency or entity, unless express permission has been given for such comment. Duke Energy, for example, will not comment on public protective actions; state and county representatives will not comment on plant activities/operation.

The Joint Information System (JIS)

During an emergency/significant event, information will be shared between affected agencies in a variety of ways including, but not limited to: phone calls, bridge/conference lines, e-mails, video conferencing, shared web sites, social media (Facebook, Twitter, YouTube, YouStream, etc.), establishment of JICs, and/or other methods agreed upon by the agencies involved.

Prior to activation of the JICs, public information regarding the emergency response will be released separately from Duke Energy and state and county emergency management agencies. During this time and throughout the event, Duke Energy, the state and the counties will share information, news releases and messages via the JIS, using agreed upon communications vehicles such as e-mail, information sharing sites, phones calls, etc.

The Joint Information Center (JIC) and Media Center

JICs would be established to facilitate the receipt and processing of information for distribution to the media and the public. A Media Center can be activated to hold live news conferences and media briefings in a consistent venue. Media monitoring should be established as part of the JIC to record and review information being released to the media and public via radio, TV, social media sites and the web to determine reporting accuracy.

- Location of JICs

A near-site JIC and media center supporting Oconee Nuclear Station is located on Issaqueena Trail, Central, S.C. The JIC is located next to the Duke Energy Power Delivery Operations Center, and the media center is located in the Operations Center. Media monitoring is performed in Oconee JIC. A Duke Energy JIC and media center, located in Duke Energy's Energy Center (first floor, Room 0172), will be utilized to distribute news releases and to respond to media inquiries and escalated utility rumor calls forwarded from the Customer Contact Center. A state JIC and media center will be established at the SC Emergency Operations Center located at 2779 Fish Hatchery Road, West Columbia, S.C., to provide information, direction and guidance for state and county agencies before, during and after near-site JIC activation. Other JICs may become operational and be included in the JIS as deemed appropriate by affected agencies.

- Access to JICs

Security checkpoints will be established at the JICs and the Media Centers. A security checkpoint will also be established at the station's designated media center, if needed. South Carolina state emergency response team badges, county emergency management IDs or Duke Energy IDs are required for prompt clearance to enter the JIC. Media representatives will be registered at each Media Center and given identification badges as appropriate.

- Facility Operations

Duke Energy is responsible for maintaining the near-site JIC in a state of readiness.

In the event of telephone problems, back-up radio communication through the state (S.C.) radio system will be provided.

Administrative support staff is available in the JIC to process documents for participating agencies who do not have administrative support.

Additional equipment and information charts needed at the JICs are the responsibility of the participating agencies/entities. This may include state maps, fax machines, special computer equipment or cellular telephones. Duke Energy and SC EMD should be informed of any equipment that will be used in the JIC that requires special assistance for set-up or operation.

- Facility Staffing

All parties supporting the response to an emergency may have representation in the JIC. These groups include, but are not limited to:

- Duke Energy
- State of South Carolina
- Pickens County
- Oconee County
- Anderson County
- Greenville County
- US Nuclear Regulatory Commission
- Department of Homeland Security/Federal Emergency Management Agency

The JICs shall prepare accommodations for representatives from each agency/entity.

- Initial Activation of the JIC

In the event of an Unusual Event or higher emergency classification at the Oconee Nuclear Station, Duke Energy shall notify affected county, state and federal officials. The near-site JIC shall be activated at an Alert or higher classification and the state JIC shall be activated at the discretion of state public information officer. The JICs may also be activated in the event of heavy media attention or public interest.

- Declaration of Activation

At such time as the state, counties and utility concur that adequate equipment and staffing are in place, the lead JIC manager will declare the JIC activated. Lead public information officers (PIOs) will be responsible for notifying their respective emergency operation centers (EOCs) that the JIC has been activated.

- Approved Sources of Information for the JICs

The primary information interfaces in the JICs remain between the lead PIOs and their counterparts in the state, counties and Duke Energy's Emergency Operations Facility (EOF). For example, the primary interface for the lead PIO from South Carolina is with his/her staff at the state EOC; Duke Energy's lead for gathering information is the Regional Communications Coordinator who interfaces with Duke Energy counterparts in the EOF, education center, and Customer Contact Center; the county PIOs remain in contact with their counterparts at the county EOCs.

Only confirmed information received through the established information interfaces should be shared within the JICs or with the public. It is imperative that no information (written or verbal) be provided to the JICs until the EOF or location providing the information can confirm that state and county EOCs have received this information. Once confirmation has been received, all parties will update the others on key activities or changes in the emergency response.

Courtesy "advance" notice will be given to the lead state/county/Duke Energy PIOs prior to major announcements regarding changes in the emergency response, and copies of news releases will be shared, as agreed upon, with all lead state/county/Duke Energy PIOs prior to release.

"Emergency Notification Form" transmittals, which are the official updates from the Duke Energy emergency response facilities to the states and counties, will be collected and maintained in the JICs. Unless requested, these transmittals will not be distributed to lead PIOs to minimize any confusion resulting from information coming from state and county EOCs

- Interfaces/Functions

To facilitate communications within the JIC, the lead PIOs for each agency will be located in close proximity to one another.

Each agency shall share information with one another to provide public rumor control as needed. Duke Energy will respond to plant technical issues, and questions about public response will be directed to state and county PIOs.

Monitoring of the Emergency Alert System (EAS) and major radio and television broadcasts will take place in the media monitoring area of the JICs. Social media monitoring shall be maintained by each entity as designated in their emergency response plan. Equipment should be available in the JICs for review of media briefings/conferences and/or recorded newscasts.

Status logs of updated information shall be maintained in the JICs. If additional status boards are needed, the agency/entity that needs the status board should obtain it. Duke Energy's administration and logistics manager will be responsible for ensuring distribution of all news information to Duke Energy personnel and to other agency personnel as requested. The state administrative staff (if available) will be responsible for distribution of news information to state and county PIOs and staff.

- Media Briefings/News Conferences

Timing for media briefings/news conferences will be coordinated with all participating agencies at all activated JICs. Once the timing has been determined, lead state/county/Duke Energy PIOs will meet briefly to review and verify the information to be released. This group will then proceed to the Media Center to conduct the media briefing/conference. A news conference moderator shall be identified to conduct the media briefing/conference. In the event that the plant status changes during a media briefing/news conference, the news conference moderator will be notified to interrupt the briefing/conference to announce that a change in plant status has occurred. The media briefing/news conference will reconvene after Duke Energy, state and county PIOs receive additional information.

Deactivation of the JIS/JICs

The sharing of information via the JIS and JICs will continue until the lead PIOs determine there is no longer a need for coordinated release of information. Upon concurrence, the state/county/ Duke PIOs will announce deactivation of the JIS/JICs and notify their respective EOCs that the JIS/JIC has been deactivated.

Control and Update

This document has been agreed to by all of the undersigned. To maintain the usefulness of the document as controlled guidance on JIC operations, all proposed changes will require review and signed written concurrence of the undersigned. Once the parties reach agreement as to changes, an updated, signed copy of this memorandum of understanding will be issued.

Duke Energy Corporation date: 5/10/12

State of South Carolina date: 5/24/12

Oconee County date: 5/17/12

Pickens County date: 5/17/12

Effective Date: 5/29/12

Agreement Letter #23

T. PRESTON GILLESPIE, JR.
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP - 7800 Rochester Hwy
Seneca, SC 29672

864-873-4478
864-873-4208 fax
T.Gillespie@duke-energy.com

April 19, 2012

Mr. Jerry W. Hiatt
VP, Technical Services
Bartlett Nuclear, Inc.
60 Industrial Park Rd.
Plymouth, MA 02360

Subject: Oconee Nuclear Station

Dear Mr. Hiatt:

On April 16, 2009, Bartlett Nuclear, Incorporated ("Bartlett") acknowledged an Agreement with Oconee Nuclear Station ("Oconee") for support of Oconee's Emergency Plan ("EP"). It is Company policy to confirm such Agreements every three years.

This letter is to confirm Bartlett's continued acknowledgement of its Agreement for support, in the event of contamination of any public facility (school or hospital where the public has been sheltered and/or medically treated), within the ten-mile EP zone.

Should any public facility, as defined above, become contaminated because of a release from Oconee, Duke Energy will authorize Bartlett to decontaminate the facility under the direction of the South Carolina Department of Health and Environmental Control.

Bartlett will be notified of the need for their services through the Emergency Operations Facility Site Services Manager. Personnel to be used for these services would be determined by Bartlett.

Payment for services would be through the normal Bartlett billing process.

This Agreement shall be reviewed by the parties three years from the date of acceptance. This Agreement may be terminated by either party upon at least 30 days written notice to the other party, setting forth such termination and the date it shall become effective.

Please acknowledge this Agreement by signing below and returning the letter to us at your earliest convenience.

Thank you for your cooperation.

Sincerely,

TP Gillespie

T. Preston Gillespie, Jr.
Vice President
Oconee Nuclear Station

AGREEMENT ACKNOWLEDGEMENT

On behalf of Bartlett Nuclear, Inc., I acknowledge agreement for the support of Oconee Nuclear Station's Emergency Plan as stated above.

Jerry W. Hiatt
Signature

Chief Technical Officer
Title

April 24, 2012
Date

Agreement Letter #24

KEOWEE FIRE DEPARTMENT

115 Maintenance Road
Salem, SC 29676
Phone: (864) 944-8666
Fax: (864) 944-8420
www.KeoweeFire.com

Mr. Preston Gillespie
Site Vice-President
Oconee Nuclear Station
7800 Rochester Hwy
Seneca, SC 29672

July 15, 2011

Mr. Gillespie,

The Keowee Fire Department has immensely enjoyed our relationship with the Oconee Nuclear Station and look forward to more opportunities to work and train together in the future. Our goal is to provide you with quick and professional service utilizing the resources available to us, all while maintaining a seamless command structure with the Operations Shift Manager.

In the time since the last "Agreement for Firefighting Services" was signed, the Keowee Fire Department has made several improvements. Some of these include the addition of personnel, a ladder truck, heavy rescue, and new frontline engine. We also constructed a new headquarters station to house the additional equipment and personnel. It is also listed with the American Red Cross as an emergency shelter for the area surrounding the Oconee Nuclear Station. In addition to the headquarters station, we also constructed a sub-station on Doug Hollow Rd. This station located less than 2 miles from the main entrance to the Nuclear Station, houses 2 engines and is supported with part-time and volunteer personnel.

The Oconee Nuclear Station makes a great neighbor to our department. Continuing to strengthen our relationship is vitally important to both our missions and for the protection of the public we serve. If you would like to further discuss the enclosed agreement, please do not hesitate to contact us.

July 15, 2011

Keowee Fire Tax District
Salem, SC

Subject: **AGREEMENT FOR FIRE FIGHTING SERVICES**

The purpose of this Agreement ("the Agreement") is to confirm the mutual understanding between the Keowee Fire Tax District, operated by the Keowee Fire Commission, and Duke Energy Corporation ("Duke") whereby the Keowee Fire Department will respond to a request by Duke for assistance during a fire emergency, hazardous waste or chemical spill, or any other condition that may require the use of firefighting resources within the portion of Duke's Oconee Nuclear Station property located in Oconee County, South Carolina. This property shall include, but not be limited to the Oconee Nuclear Station structures inside the protected area, including the Oconee Administration Building and Oconee Office Building, all warehouses inside the owner controlled area, lay-down yards, the Oconee Office Complex, Operations Center, World of Energy, and the Operations Training Center.

It is agreed that members of the Keowee Fire Department will participate in annual training, which will include, but not be limited to, topics in Fire Protection, Hazardous Materials, Hazardous Wastes, Radiation Protection, Station Familiarization, and Station Security procedures. Duke personnel will conduct this training under the supervision of the Manager of Emergency Planning at the Oconee Nuclear Station at a mutually agreeable location and date.

It is agreed that members of the Keowee Fire Department will participate upon request in fire/hazmat drills that are conducted at least annually at the Oconee Nuclear Station. The drill(s) will also be conducted under the supervision of the Manager of Emergency Planning at the Oconee Nuclear Station, who will provide written or verbal notice of such drills to the Keowee Fire Department. It is agreed that no one under the age of 18 shall participate in drills or emergency responses at the Oconee Nuclear Station.

It is agreed that the Keowee Fire Department will maintain personnel who have received specialized training in the field of trench rescue and to assist in the event of a trench rescue emergency. The Keowee Fire Department also agrees to participate in trench training and stand-by activities at the Oconee Nuclear Site when requested. It is agreed that Duke Energy will supply the necessary equipment to operate a trench rescue team. The type and amount of equipment to be maintained for use will be determined in a coordinated effort between the Keowee Fire Department and Oconee Nuclear Site. The equipment will be maintained by and housed at the Keowee Fire Department.

It is recognized that the Keowee Fire Department has constructed a second station since the time of the last agreement dated June 2007 to provide better fire protection to the Oconee Nuclear Station and the South end of the Fire District. This station is located within 2 miles of the entrance of the Oconee Nuclear Site and is unencumbered by water or bridges. It is supported with part-time and volunteer personnel and houses two fire engines. Both personnel and equipment from the Headquarters and Substation will respond when requested to the Oconee Nuclear Station.

It is further recognized that the Oconee Nuclear Station utilizes the Incident Command System (ICS) model, as described in the National Incident Management System (NIMS), to respond to emergency events at the Oconee Nuclear Station. The Operations Shift Manager functions as the Incident Commander and maintains command and control during an emergency event. The on-scene contact for events that will require support from the Keowee Fire Department will be the Fire Brigade Leader who functions as the Deputy Incident Commander. Guidance and direction in responding to the event will be through the Oconee Nuclear Station Fire Brigade Leader who will be located at a clearly identifiable Incident Command Post.

As compensation for the Keowee Fire Department's commitment to (1) respond to any Duke request for on-site assistance, and (2) participate in training drills, both as outlined herein, Duke agrees to make annual payments to the Keowee Fire District under the following payment structure:

2012	$40,000
2013	$45,000
2014	$45,000
2015	$50,000
2016	$50,000

Said payments shall be made by the fifteenth (15) day of January each calendar year for that specific calendar year. These sums shall be in lieu of any tax assessment, fee, or cost for the fire protection or emergency response services imposed on the general public and/or other business entities by the Keowee Fire Tax District, the Keowee Fire Commission, the Keowee Fire Department or any other entity affiliated with them.

The term of the Agreement shall be for five (5) years, beginning on January 1, 2012. Unless otherwise agreed to by the parties, the Agreement will extend for additional five (5) year terms with compensation to be agreed to by the parties by May 31 of the fifth and final calendar year of the Agreement. If either party desires to terminate the Agreement before the end of a five (5) year term, the Agreement may be terminated by giving at least thirty (30) days written notice to the other party setting forth the reason for such termination. Under no circumstances may this notice be given later than May 31 of the previous year. This agreement may remain in effect for an additional year beyond the original contract if negotiations are in progress.

IN WITNESS WHERFOR, the parties hereto have executed this Agreement under seal on the date first above written.

The Keowee Fire Tax District

By: _____
Donald S. Chamberlain
Its: Chairman, Keowee Fire Commission
Date: 12/15/11

Oconee Nuclear Station

By: _____
T. Preston Gillespie
Its: Vice President, Oconee Nuclear Station
Date: 12/24/11

APPENDIX 6

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

Distribution of Emergency Plan And Implementing Procedures
(Distributed by Emergency Planning)

Control Copy Distribution

SITE VOLUME NUMBER	ISSUED TO
10A	Manager, Emergency Planning
17A, 17C	Unit 3 Control Room
18A, 18C	Operations Shift Manager/Technical Support Center
18B	Operational Support Center
34A, 34C	Emergency Planning - Charlotte -Emergency Operations Facility (EOF)
44A	NRC Region - Atlanta, Ga.
45A	NRC Region - Atlanta, Ga.
47A	NRC NRR, Bethesda, Md. (electronic)
59B	Alternate Operational Support Center
60C	Alternate Technical Support Center
30A	Alternate TSC/OSC - Emergency Planning - ONS
	Unstamped Copies
10B, 10C	Manager, Emergency Planning - ONS
34B	Emergency Planning -Charlotte - EOF
44B, 44C	NRC Region - Atlanta, Ga.
45B, 45C	NRC Region - Atlanta, Ga.
47B, 47C	NRC NRR, Bethesda, Md. (electronic)
77A, 77B, 77C	NRC - Rockville, MD - Document Control Desk

APPENDIX 6

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

Distribution of Emergency Plan
Control Copy Distribution

(Distributed by Document Management)

SITE VOLUME NUMBER	ISSUED TO
7A	Security Manager
8A	Work Control Superintendent
14A	Production Training Support
15A	DHEC - Anderson
19A	I&E and Maintenance Support Superintendent
20A	Mechanical/Civil/Equipment Engineering Manager
21A	Document Control - Complex (Hwy 183)
22A	I/T Manager
24A	Radiation Protection Manager
25A	Chemistry Manager
28A	World of Energy Visitor's Center
29A	NRC Resident Inspector
31A	Master File
32A	Bartlett Nuclear Inc.
33A	Oconee Training Center
35A	Emergency Planning - Charlotte - EC05P
37A	McGuire Nuclear Stie/MG01EP/Emergency Planning Section

APPENDIX 6

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

Distribution of Emergency Plan
Control Copy Distribution

(Distributed by Document Management)

SITE VOLUME NUMBER	ISSUED TO
38A	Catawba Nuclear Site/CN01EP/Emergency Planning Section
39A	S.C. Emergency Management Division
40A	Bureau of Radiological Health
41A	Oconee County EMA
42A	Pickens County EMA
46A	Oconee Training Simulator
54A	Site Services Group Manager
75A	Oconee Training Center (NRC #1)
76A	Oconee Training Center (NRC #2)
78A	Briefing Room - Oconee Training Center
79A	Georgia Department of Natural Resources, Environmental Protection Division

APPENDIX 6

DUKE ENERGY COMPANY
OCONEE NUCLEAR STATION

Emergency Plan Implementing Procedures

(Distributed by Document Management)

Unstamped Copies

SITE VOLUME NUMBER	ISSUED TO
2C	Superintendent of Operations
7C	Security Manager
8B, 8C	Work Control Superintendent
14B, 14C	Production Training Support
15C	DHEC - Anderson Office
19C	I&E and Maintenance Support Superintendent
29B, 29C	NRC Resident Inspector
31B, 31C	Master File
33B, 33C	Oconee Training Center
35B, 35C	Emergency Planning - Charlotte - EC05P
37B, 37C	McGuire Nuclear Site/MG01EP/Emergency Planning Section
38B, 38C	Catawba Nuclear Site/CN01EP/Emergency Planning Section
39B, 39C	SC Emergency Preparedness Division
41B, 41C	Oconee County EMD
42B, 42C	Pickens County EMD
46B, 46C	Oconee Training Simulator
75B, 75C	Oconee Training Center (NRC #1)
76B, 76C	Oconee Training Center (NRC #2)

APPENDIX 8

Oconee Nuclear Site

Spill Prevention Control And
Countermeasure Plan