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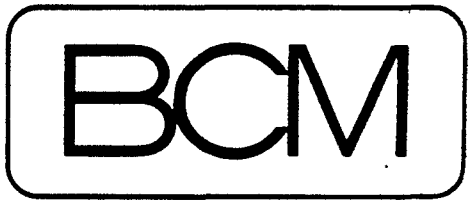
Occidental Chemical Corporation
Vinyls Division
Pottstown, Pennsylvania

Surface Impoundments Part B Permit Application for Concrete Settling Basins and Lined Lagoons

Volume 2

September 1991



Engineers, Planners, Scientists
and Laboratory Services

REPORT

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11.0 CONTINGENCY PLAN

This Contingency Plan provides details on equipment and management procedures designed to control hazards at the Occidental Chemical Corporation (OxyChem), Vinyls Division facility in Pottstown, Pennsylvania. Most of this Contingency Plan was taken from the facilities existing Preparedness, Prevention, and Contingency Plan (PPC Plan) which is provided in Appendix 11-A.

11.1 GENERAL INFORMATION

PVC polymer and copolymer synthetic resins are manufactured at the facility. A small amount of dry and liquid color blends are mixed using polymers and pigments for use in other Occidental polymer processing facilities.

OxyChem's is PVC manufacturing facility is located on a meandering bend of the Schuylkill River in Pottstown, Pennsylvania. The facility address is:

Occidental Chemical Corporation
Vinyls Division
Armand Hammer Blvd.
Pottstown, Pennsylvania 19464

The contact and party responsible for all management activities at the facility is:

Mr. J. W. Lessig
Site Manager
(215) 327-6715

OxyChem manufactures polyvinyl chloride (PVC) resin from vinyl chloride monomer (VCM) using dispersion and suspension processes at its Pottstown facility.

11.1.1 Manufacturing Processes

Vinyl chloride monomer (VCM) is received in 25,000-gallon tank cars, stored in tanks of about the same capacity, and transferred to polymerization areas by pipeline. Batch polymerizations take place in aqueous media at elevated temperatures in 3,500-gallon reactors. Initiator, comonomers, modifiers, and emulsifiers are added from weigh tanks and solution tanks. One new 7,500-gallon reactor is located in Building 2 and is used in the dispersion resin process. In the Pilot Plant, one 500-gallon reactor and two 2,400-gallon reactors are used to make PVC resins.

At completion of reaction, polyvinyl chloride (PVC) batches are gravity drained to 6,000- to 8,000-gallon batch stripping vessels from which unreacted VCM is stripped and recovered for reuse. The dispersion process also includes a secondary, continuous, steam stripping operation. Vapors from the stripping of vinyl acetate copolymer slurry, in both the dispersion and suspension process, go to a common separation operation where comonomers are removed for eventual reuse prior to the recovery of VCM. The separate recovery systems, dispersion and suspension, utilize rotary vacuum pumps and compressors, condensers, receivers, decanters, etc. At the Pilot Plant, finished suspension resin batches are transferred into a 3,500-gallon stripper from which unreacted monomer vapors are pulled off into the main plant recovery system in the Building 1 suspension resin area. Finished dispersion resin batches are stripped in the reactor.

Stripped PVC slurry is blended in 20,000- to 40,000-gallon tanks prior to drying. In the dispersion process, all water is removed in spray dryers while non-evaporative constituents remain in the product. Suspension PVC is first dewatered by centrifuging; the wet cake is then dried in rotary driers. All dispersion resin is bagged while most of the suspension product is stored and shipped in bulk containers. Pilot Plant suspension resin is dried in the main plant drying system while the dispersion resin is coagulated, vacuum dewatered, and finished in a vacuum tumble dryer.

Wastes generated:

Onsite landfill disposal: process residuals such as general trash, broken pallets, etc.

Onsite recycle: PVC sludge for resale; waste oil as Boiler House fuel.

Offsite landfill disposal: flyash from coal burning; office, locker room, and lunchroom wastes.

Offsite hazardous waste: PVC chunks and scrap which cannot be recycled.

Offsite recycle waste: lab waste solvents to recovery unit and as cement kiln fuel.

Offsite sale: scrap metal and empty steel drums.

Effluent water: processed by POTW.

11.1.2 Boiler House

Boiler House personnel are responsible for all facets of steam generation at the Pottstown facility. Normal duties include boiler operation from feedwater treatment through ash removal. These personnel also supervise fuel unloading and monitor plant air compressor operation and river water effluent condition. River water supply pumps and five water pumps are also the responsibility of the Boiler House.

Wastes generated:

Water-treatment: boiler blowdown; blowdown from the water softening process.

Offsite landfill: flyash.

11.1.3 Incinerator

A vinyl chloride monomer incinerator reduces residual vinyl chloride in exhaust to the atmosphere incineration as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP). A continuous emission monitoring system (CEM) measures emission concentrations of vinyl chloride and records them.

11.1.4 Waste Water Treatment Plant

The waste effluent treatment system is comprised of a series of surface impoundments, a clarifier, an air stripper, and dewatering equipment. The main functions of the treatment system are suspended solids removal and recovery, and air stripping to reduce unpolymerized VCM concentrations prior to waste water discharge to the Pottstown POTW.

Figure 11-1 depicts the process flow scheme for the waste effluent treatment system.

Trench Flow

Waste water from Building 1, Building 2, Bulk Area, Spray Dryers, Blend Tanks, Pilot Plant, and the Boiler House are combined into one trench. Aluminum sulfate (alum) is added to the trench for coagulation and clarification and caustic soda is added to control the pH. Caustic soda is also added to control the pH of the plant water deionizer in a separate trench before it is sent to concrete settling basin B2 (B2).

The trench flows into concrete settling basin B1 South (B1 South) for equalization prior to being fed to the clarifier. (Basin No. 1 is divided into two sections; B1 South and B1 North). Clarifier feed control is based on the water level in B1 South. Polymer is added to increase the settling rate of the PVC solids within the clarifier. Solids settle in the clarifier and clear water flows to B2. If the polymer or aluminum sulfate is underfed or overfed, poor coagulation or separation occurs and the resulting cloudy water is sent to the lined lagoons for settling and storage.

Solids Handling

Settled solids exit the bottom of the clarifier through a control valve into concrete settling basin B1 North (B1 North). The control valve regulates the flow to maintain a solids content of 15 to 20 percent in B1

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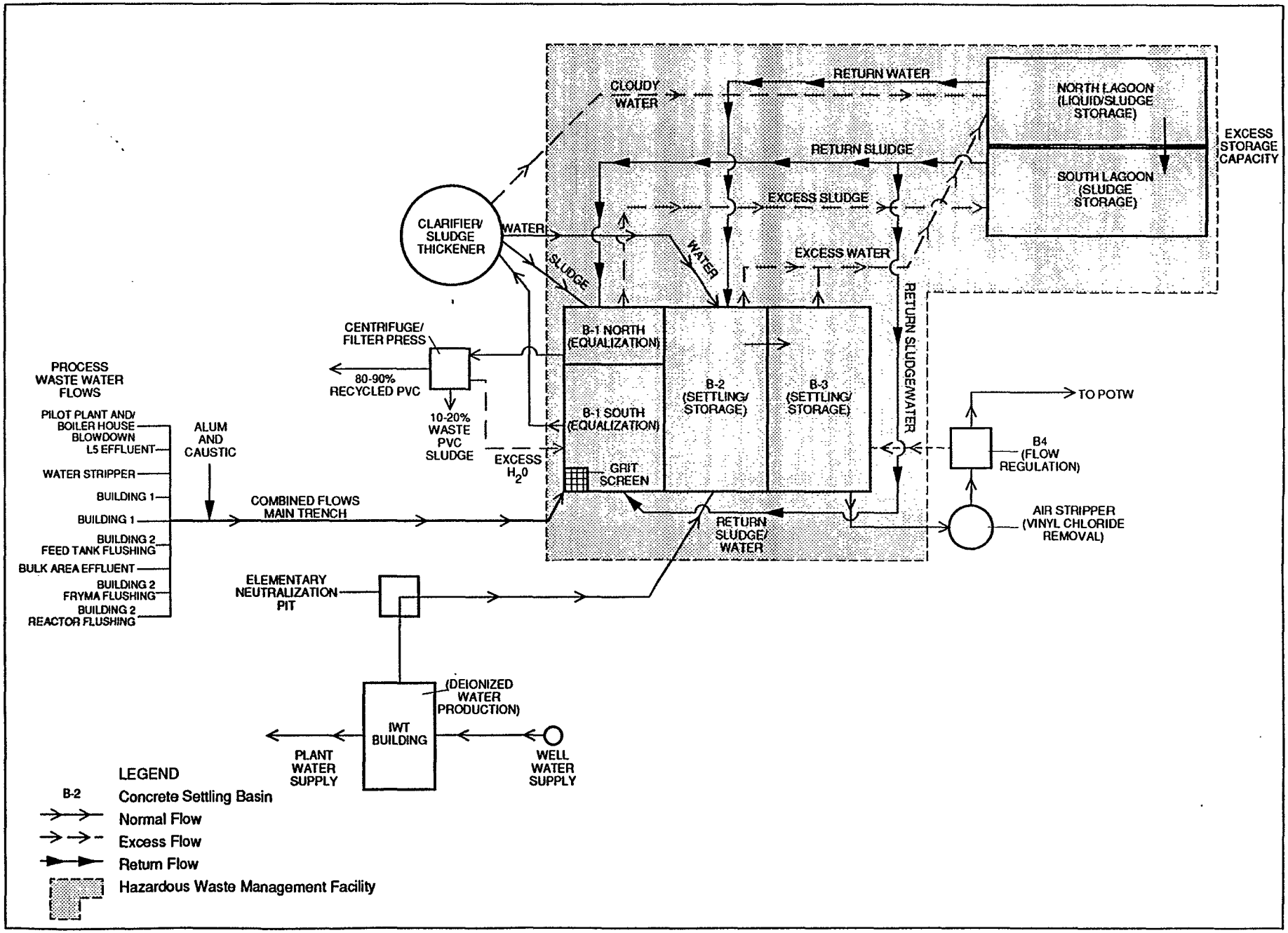

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BCM Project No. 00-4064-16

Figure 11-1

OxyChem Wastewater Treatment Process Flow

north. From this basin, the solids are pumped to the dewatering equipment from which 90 to 95 percent of the waste sludge is recycled. Approximately 5 to 10 percent of the dewatered material is not recoverable and is disposed offsite as hazardous waste.

Dewatering equipment includes a centrifuge and a belt filter press. The centrate is returned to B1 South. The resultant cake is recycled into the plant's production process.

Clarified Water

Clarified water enters B2 from the clarifier and combines with regeneration water from the deionized beds in the IWT building and cooling tower water blowdowns for solids settling. From B2, the water flows into concrete settling basin B3 (B3), where it is pumped to the air stripper to reduce residual VCM concentrations. The waste water is then discharged to Pottstown's POTW. If additional settling is needed after the water is sent through B3, it is sent to the northern lined lagoon. The water is held there until it is suitable for air stripping and discharge to the POTW. This water is also used to reslurry the excess PVC sludge in the North and South lined lagoons for reclamation.

Lined Surface Impoundments

Two lined surface impoundments are used to store excess PVC sludge and cloudy water from treatment plant upsets. These impoundments are used to store PVC sludge for reclamation and reprocessing into the plant's production lines. Waste water is stored until it can be reprocessed at the WWTP.

Reslurried PVC sludge from the lagoons is pumped to B1 South for feeding into the WWTP system and recycling. Return water from the North Lagoon is pumped to B2 and B3 for final settling prior to airstripping and discharge to Pottstown's WWTP.

Wastes generated:

Approximately 10 to 20 percent of the PVC sludge that is dewatered cannot be recycled into the plant process. This material is handled as a RCRA hazardous waste (D043) and disposed of offsite in a secure RCRA landfill within 90 days. All waste water is treated in the WWTP and discharged to the Pottstown POTW. Excess waste water and PVC sludge is stored in the concrete settling basins and lined lagoons.

11.1.5 Research/Development and Technical Service

Extensive research and development is carried out to provide resins that will possess consistent qualities for a multitude of applications. Chemists and assistants work toward finding and developing resins which have the required characteristics. Applied research is carried out by the chemists as they direct their efforts toward making new products commercial.

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Testing and development do not end when the material has been produced by the plant, but continue in the technical service laboratory for customer applications and product improvement. The technical service laboratory also offers assistance in recommending proper equipment and handling and processing for these materials.

11.2 EMERGENCY COORDINATORS

The purpose of this Contingency Plan is to provide a response procedure that can be implemented in an emergency to minimize hazards to human health and/or the environment. Implementation of the plan is primarily the responsibility of the Emergency Coordinator(s). The following Emergency Coordinators are to be contacted in the event of an emergency or spill. They are listed in the order of priority.

EMERGENCY COORDINATORS
HAZMAT CALL LIST

24-HOUR EMERGENCY NUMBER FOR OXYCHEM: (215) 327-6666

ALERT TEAM	BUSINESS	HOME
Engblom, Carl W.	(215) 327-6713	(215) 326-2357 Pager: (215) 469-7658
Hilt, John R.	(215) 327-6692	(215) 326-1819 Pager: (215) 469-7661
Schuster, Robert S.	(215) 327-6505	(215) 873-7820 Pager: (215) 469-7086
Moore, Raymond L.	(215) 327-6636	(215) 323-8623 Pager: (215) 469-7488

ACTION TEAM	BUSINESS	HOME
Foltz, Bruce L.	(215) 327-6670	(215) 323-2513 Pager: (215) 469-7659 Car Phone: (215) 460-4734
Giniewski, Stanley J.	(215) 327-6671	(215) 582-5110 Pager: (215) 469-7660
Loughin, Randolph D.	(215) 327-6658	(215) 327-2130 Pager: (215) 964-7550
Moses, Thomas E.	(215) 327-6631	(215) 489-3252 Pager: (215) 469-7662

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ACTION TEAM	BUSINESS	HOME
Nolte, Karl H.	(215) 327-6610	(215) 756-6562 Pager: (215) 469-7489
Shilrey, Michael E.	(215) 327-6592	(215) 970-2862 Pager: 469-7487
Wunder, Charles F.	(609) 386-9200	(609) 877-2227 Pager: (609) 727-7718

ACTION ROOM	(215) 327-6464, 327-6465, & 327-6466
HAZMAT RESPONSE VAN PHONE NUMBER	(215) 470-4206
HAZMAT RESPONSE VAN FAX NUMBER	(215) 470-4206
CHINA/HAZMAT FAX NUMBER	(215) 327-6526
CHEMICAL PLANT FAX NUMBER	(215) 327-6698
CHEMTEC	1-800-424-9300
GOODWILL FIRE COMPANY	(215) 323-2222
MONTGOMERY COUNTY FIRE DEPARTMENT	(215) 323-2424

In the event that all in-plant prevention and containment measures fail and a spill, fire, or explosion occurs, company personnel will respond immediately to notify other personnel (including the Emergency Coordinators) of the emergency. The person(s) at the scene will also act promptly to take whatever additional actions are available to them, within their abilities and training, to minimize the hazards to humans or to the environment as a result of the emergency. After receiving notification, the Emergency Coordinators will take immediate action to contain the incident and implement the procedures detailed in the following section.

Production and maintenance personnel are trained in hazard prevention and control. A chain of command is established, with Operators reporting to Supervisors, who in turn report to the Emergency Coordinators.

Chain of Command

In the event of an emergency or spill, the chains of command for various areas are listed below. The nature of the incident will determine the appropriate personnel and agencies to be notified.

A. BOILER HOUSE	OFFICE	HOME
Employee	On the job or near incident	
Shift Supervisor	6821	
Security	6666/6667	

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J. M. Mast (Powerhouse Supervisor)	6612	323-0959
H. M. Fugate (Environmental Engineer)	6649	372-8847
T. L. Allen (Maint/Utilities Manager)	6647	
P. O. Should (Asst. Site Manager)	6493	
J. W. Lessig (Site Manager)	6715	458-0859
R. S. Schuster (Environmental Manager)	6505	873-7820

B. CHEMICAL PLANT

Employee	On the job or near incident	
Shift Foreman	6665	
Lead Foreman	6665 or contact by radio	
Security	6666/6667	
H. M. Fugate (Environmental Engineer)	6649	372-8847
R. B. Kitchen (Production Mgr. Bldg. II)	6749	
K. A. Zimpfer (Production Mgr. Bldg. I)	6713	845-3574
P. O. Should (Asst. Site Manager)	6493	
J. W. Lessig (Site Manager)	6715	458-0859
R. S. Schuster (Environmental Manager)	6505	873-7820

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C. COLOR MIX OPERATION	OFFICE	HOME
Employee	On the job or near incident	
B. R. Berkley (Supervisor)	6724/6778	582-8208
Security	6666/6667	
K. A. Zimpfer (Production Mgr. Bldg. I)	6713	845-3574
P. O. Should (Asst. Site Manager)	6493	
J. W. Lessig (Site Manager)	6715	458-0859
R. S. Schuster (Environmental Manager)	6505	873-7820

D. PILOT PLANT		
Employee	On the job or near incident	
R. J. Spacht (Foreman) - days only	6622	323-5890
Security	6666/6667	
R. G. Knerr (Engineer)	6591	630-6344
G. W. Hall (Group Leader)	6621	323-4245
R. S. Miller (Research Manager)	6746	699-7189
R. S. Schuster (Environmental Manager)	6505	873-7820

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE	
Employee	On the job or near incident
Security	6666/6667

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Shift Supervisor (Boiler House)	6821	
R. Richard (Tech Service Group Leader)	6578	754-7935
H. M. Fugate (Environmental Engineer)	6649	372-8847
R. S. Miller (Research Manager)	6746	699-7189
R.S. Schuster (Environmental Manager)	6505	873-7820

F. STORE ROOM

Employee	On the job or near incident	
R. R. Yeager (Supervisor)	6780	929-0137
Security	6666/6667	
Shift Supervisor (Boiler House)	6821	
H. M. Fugate (Environmental Engineer)	6649	372-8847
T. L. Allen (Maint./Utilities Manager)	6647	
P. O. Should (Asst. Site Manager)	6493	
J. W. Lessig (Site Manager)	6715	458-0859
R. S. Schuster (Environmental Manager)	6505	873-7820

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11.3 LIST OF AGENCIES TO BE NOTIFIED

In the event of any discharge, emission, fire, or explosion which could threaten human health or the environment, the following agencies will be notified wherever applicable:

DOWNSTREAM WATER USERS	TELEPHONE
Philadelphia Electric Limerick Station	327-1200
Philadelphia Electric Crombie Station	933-8995
Philadelphia Water Department	228-7087
Citizens Utilities Home Water Company	948-3350
Pennsylvania American Water Company	275-1375
Phoenixville Water Company	933-8801 Ext. 39

GOVERNMENT	
Montgomery County Local Emergency Planning Committee (LEPC)	631-6530
Pennsylvania Emergency Management Agency (PEMA)	1-800-424-7362
National Response Center (NRC)	800-424-8802
Pottstown City Hall	970-6500
Pottstown Sewage Treatment Plant (POTW)	970-6540
PA Fish Commission, Montgomery County	717-626-0228
PA Fish Commission, Chester County	717-626-0228
PA Department of Environmental Resources Region I, Conshohocken, PA	832-6000
Federal EPA Region III, Philadelphia, PA	597-9898
U. S. Coast Guard, Philadelphia, PA/	923-4320

OTHER AGENCIES	
Sanatoga Fire Department	Plant Security
Ringing Hill Fire Department	Plant Security
Goodwill Ambulance	Plant Security
Chief of Police, Lower Pottsgrove	Plant Security
State Police, Limerick	Plant Security
Pottstown Police	Plant Security
North Coventry Township Police	Plant Security
Spring City Police	Plant Security
East Coventry Township Police	Plant Security
Royersford Police	Plant Security
Occidental Chemical Corporation CERP, Response Center Niagara Falls, NY	716-278-7021
Pottstown Memorial Medical Center (Emergency Department)	327-7100
Dr. S. M. Evans	327-7100
CHEMTREC	800-424-9300
Montgomery County Emergency Dispatcher	323-2424

*Plant Security can be contacted by Radio at 6666 or 6667

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11.4 PLAN IMPLEMENTATION

An Emergency Coordinator will be either at the facility or on call at all times. He has the responsibility for the coordination of all emergency measures. To do so, he is familiar with the Contingency Plan, all operations at the facility, the locations and characteristics of wastes handled, and the location of all relevant records. He also has the authority to commit the necessary resources to carry out the Contingency Plan.

In the event of an imminent or actual emergency situation, the Emergency Coordinator must immediately:

1. Activate facility alarms or communication systems where applicable, to notify facility personnel. (See discussion of Chain of Command in Section 11.2)

2. Notify local emergency response agencies (See Section 11.3).

3. Whenever there is an emission or discharge, fire, or explosion, the Emergency Coordinator must immediately identify the character, exact source, amount, and areal extent of emitted or discharged materials. This may be done by observation or review of records and, if necessary, by chemical analysis.

4. Concurrently, the Emergency Coordinator must assess possible hazards to human health or the environment that may result from the emission or discharge, fire, or explosion. This assessment must consider both direct and indirect effects of the emission, discharge, fire, or explosion.

5. If the Emergency Coordinator determines that the installation has had an emission, discharge, fire, or explosion that could threaten human health or the environment, he must immediately notify the authorities as mentioned in 2. above. The following information should be reported:

   a. Name of the person reporting the incident

   b. Name and location of the installation

   c. Phone number where the person reporting the spill can be reached

d. Date, time, and location of the incident

e. A brief description of the incident, nature of the materials or wastes involved, extent of any injuries, and possible hazards to human health or the environment

f. The estimated quantity of the materials or wastes spilled

g. The extent of contamination of land, water, or air, if known

6. During an emergency, the Emergency Coordinator must take all reasonable measures necessary to ensure that fire, explosion, emission, or discharge do not occur, recur, or spread to other materials or wastes at the installation. These measures shall include, where applicable, stopping processes and operations, collecting and containing released materials or wastes, and removing or isolating containers.

7. If the installation stops operations in response to a fire, explosion, emission, or discharge, the Emergency Coordinator must ensure that adequate monitoring is conducted for leaks, pressure build up, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

8. Immediately after an emergency, the Emergency Coordinator with PADER's approval must provide for treating, storing, or disposing of residues, contaminated soil, etc., from an emission, discharge, fire, or explosion at the installation.

9. The Emergency Coordinator must ensure that, in the affected areas of the installation, no material or waste incompatible with the emitted or discharged residues is processed, stored, treated, or disposed of until cleanup procedures are completed; and, all emergency equipment listed in the PPC Plan is cleaned and fit for its intended use before operations are resumed.

10. Within 15 days after the incident, the installation must submit a written report on the incident to PADER. The report must include the following:

a. Name, address, and telephone number of the individual filing the report

b. Name, address, and telephone number of the installation

c. Date, time, and location of the incident

d. A brief description of the circumstances causing the incident

e. Description and estimated quantity by weight or volume of materials or wastes involved

f. An assessment of any contamination of land, water, or air that has occurred due to the incident

g. A description of what actions the installation intends to take to prevent a similar occurrence in the future

h. A description of the extent of any injuries or a statement that no injuries or human health effects are expected

11.5 EMERGENCY EQUIPMENT AND MATERIALS

The Hazmat emergency response equipment are as follows:

I. VAN

1	Two-way Mobile Radio - Plant (two frequencies - Maintenance and Security
1	Two-way Mobile Radio - Fire (four channel)
1	Mobile Scanner
1	Federal Signal Radio, PA, and Siren
1	Emergency Light Bar with Alley Lights
1	Traffic Diverter Controller
1	Fax Machine
1	Fax Telephone
30	Rolls of Fax Paper
1	Cellular Phone
1	Polaroid Camera
3	Pairs of Safety Glasses
1	One-Gallon Gas Can
1	2100W Generator
4	Two-way Hand-held Radios, Chargers, and Carrying Cases
4	Headsets and Throat Microphones
1	First Aid Kit
1	Oxygen Unit (6 L/min) with Simple Face Mask
1	Oralpharyngeal Airway Kit
1	Stethoscope

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2	CPR Pocket Masks
1	Sphygmomanometer (Blood Pressure Cuff)
1	Clip Board
4	Hand Lights and Chargers
4	One-hour Air Bottles
4	Complete Scott Air Packs with one-hour Air Bottles
1	ABC Ansul Fire Extinguisher
1	Portable Gas and Oxygen Meter
1	Canvas Tool Bucket
1	Stop Watch
12	Power Pegs (Tent Pegs)
1	Bag Tie Wraps and tickers
1	Pair High Voltage Gloves
1	7 x 35 Binoculars
3	White Hard Hats
4	30-Minute Highway Flares
1	Set of Jumper Cables
1	10-lb. Sledge Hammer
1	Pike Pole
1	Fireman Axe
1	Bolt Cutter
1	Holligan Bar
2	50-ft. Garden Hoses
1	Box of Assorted Wooden Wedges
1	Box of Assorted Wooden Pegs and Wedges
1	Wooden Mallet
2	Spark-Proof Ampco Screwdrivers
1	Spark-Proof Ampco Screw Crescent Wrench
1	Ballpin Hammer
2	Firemen Clamps
1	Box of Assorted Screwdrivers and Channel Locks
1	3inch 90mm Strap Wrench
1	7-inch 175mm Strap Wrench
2	25-ft. Nylon Ropes
2	Rolls of Duct Tape
1	Rain Suit and White Suit
1	Dozen Latex Gloves
2	Packs of Paper Towels
1	Dozen Pairs Leather Gloves
2	Boxes Spill Stoppers
1	Bag Emergency Spill Kit
1	Box Pig Putty
2	Full Face Shields
1	Emergency Generator Charge Cables
1	Box Medical Gloves and Safety Glasses
1	Box Nylon Webbing
1	Roll "Caution" Barrier Tape
10	2300 Respirators
6	White Suits

1	Box Heavy Cotton Gloves
2	Safety Belts
2	100-ft. Ropes
1	50-ft. Washline Rope
1	Nylon Tarp
1	Box Assorted Metal Washers
1	Box Assorted Hexagon Nuts
1	Box Assorted Cap Screws
1	Box Assorted Lock Washers
1	Box Assorted Steel Washers
1	Box Assorted Bolts and Nuts
1	30-ft. Extension Cord
1	Spare Courtesy Light Bulb
3	Pal III Alarms
2	Acid Suits
1	Wheel Clock

II. TRAILER

3	Midland Kit Tool Boxes (on cart)
1	Canvas Carrying Bag
1	4-Wheel Cart
1	Tool Box
1	Vetter Systems Air Bag
1	Vetter System Air Regulator
1	Blue Vetter Air System Hose and Valve
1	Clear Vetter Air System Pressure Hose
4	Folding Chairs
2	Plastic Shovels
3	Compressed Air Sprayer Bottles
2	Safety Belts
1	Pressurized Eye Wash Bottle
1	Spill Kit Salvage Drum
1	Waste Can
1	Water Container for Drinking
2	Portable Hand Pumps
2	One-Hour Air Bottles
1	Bag Portable Shower Washers
2	50-ft. Garden Hose
1	Water Tree Manifold
2	Plastic Tarps
1	Plastic Bucket
7	Bristle Brushes
1	Gallon of Chlorox
1	Broom
1	4-ft. Expansion Bar
6	Black Hard Hats
21	Bags "Stop It" Tape

12	Pairs Silver Shield Gloves
1	Pair Full Length Rubber Gloves
200	Respirator Refresher Wipe Pads
6	Female-Male Garden Hose Adapters
2	Rolls Duct Tape
8	Plastic Bags - Hazardous Material
2	Spare Tires
6	Responder Life Guard Level "A" Suits
16	White Tyvex Suits
2	Complete White Fire Fighting Suits
6	Complete Yellow Fire Fighting Suits
4	Pair Bunker Boots
9	Rain Suits
2	Rubber Hazmat Training Suits
1	Pipe Plugger Kit
1	Hazmat Response Kit
1	Portable Floodlights on Tripod
2	50-ft. Extension Cord
2	Orange "Safety Officer" Vests
1	Orange "Operations Officer" Vest
2	Blue Hazmat Equipment Duffle Bags
1	Traffic Diverter Light Bar
4	Orange Traffic Cones
10	12-hour Red Chemical Light Sticks
5	8-hour Blue Chemical Light Sticks
4	12-hour Green Chemical Light Sticks
3	12-hour Yellow Chemical Light Sticks

11.6 EVACUATION PLAN

Evacuation of personnel onsite is handled in accordance with the "Occidental Chemical Corporation Pottstown Plan Emergency Pre-Plan." This plan is included by reference and should be implemented when necessary for spills covered by the PPC Plan.

Evacuation of persons offsite of the plant is accomplished using the "Community Response Plan for Occidental Chemical Corporation." This plan was prepared with the approval of and in conjunction with the Montgomery County Local Emergency Planning Committee (LEPC). This plan is included by reference and should be implemented when necessary for spills covered by the PPC Plan.

11.7 AGREEMENTS WITH LOCAL AUTHORITIES

On June 30, 1989, the Community Response Plan for Occidental Chemical Corporation was approved by the Local Emergency Planning Committee of Montgomery County. The plan describes procedures and establishes responsibilities for the response to a hazardous material emergency at

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Occidental Chemical Corporation. The plan identifies the community resources which will respond in the event of an emergency as follows:

UNIT	PHONE NO.	SERVICE
Sanatoga Fire Company	Plant Security	Primary Fire
Ringing Hill Fire Department	Plant Security	Company
	Plant Security	
Goodwill Ambulance Service	Plant Security	First Aid and Ambulance
Lower Pottsgrove Police	Plant Security	Traffic Control Law Enforcement
Pottstown Memorial Medical Center	327-7100	Emergency Care

On a periodic basis, the local fire departments have been invited to the plant for familiarization tours and planning sessions. The Delaware Valley PVC Producers, of which Occidental Chemical Corporation is a member, sponsors a 2-day course on emergency response to VCM-related railcar emergencies. The training is held at the Burlington County Fire Academy in Mt. Holly, New Jersey. Local plant foremen, supervisors, HAZMAT team members, and local firefighters (Sanatoga Fire Company) have attended the session. Plans are to have all plant foremen and HAZMAT team members receive the training.

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APPENDIX 11-A

PREPAREDNESS, PREVENTION, AND CONTINGENCY PLAN

OCCIDENTAL CHEMICAL CORPORATION

POTTSTOWN PLANT

PREPAREDNESS, PREVENTION, AND CONTINGENCY PLAN

REVISED JANUARY 1991

CONTENTS OF THE PLAN

GENERAL DESCRIPTION OF THE INDUSTRIAL ACTIVITY

Products manufactured:

PVC homopolymer and copolymer synthetic resins using suspension and dispersion polymerization technologies. A small amount of dry and liquid color blends are mixed using polymers and pigments for use in other Occidental polymer processing operations.

Manufacturing processes:

Vinyl chloride monomer (VCM) is received in 25,000 gallon tank cars, stored in tanks of about the same capacity and transferred to polymerization areas by pipeline. Batch polymerizations take place in aqueous media at elevated temperature in 3,500 gallon reactors to which are also added: initiator, comonomers, modifiers, and emulsifiers, directly or from weigh tanks and solution tanks. One new 7,500 gallon reactor is located in Building 2 and is used in the dispersion resin process. In the Pilot Plant, one 500 gallon reactor and two 2400 gallon reactors are used to make PVC resins.

At completion of reaction to polyvinyl chloride (PVC), batches are gravity drained to 6,000-8,000 gallon batch stripping vessels from which unreacted VCM is stripped and recovered for reuse. The dispersion process also includes a secondary, continuous, steam stripping operation. Vapors from the stripping of vinyl acetate copolymer slurry, in both the dispersion and suspension process, go to a common separation operation where comonomers are removed for eventual reuse prior to the recovery of VCM. The separate recovery systems, dispersion and suspension, utilize rotary vacuum pumps and compressors, condensers, receivers, decanters, etc. At the Pilot Plant, finished suspension resin batches are transferred into a 3,500 gallon stripper from which unreacted monomer vapors are pulled off into the main plant recovery system in the Building 1 suspension resin area. Finished dispersion resin batches are stripped in the reactor.

Stripped PVC slurry is blended in 20,000-40,000 gallon tanks prior to drying. In the dispersion process, all water is removed in spray dryers while non-evaporative constituents remain in the product. Suspension PVC is first dewatered by centrifuging; the wet cake is then dried in rotary driers. All dispersion resin is bagged while most of the suspension product is stored and shipped in bulk containers. Pilot Plant suspension resin is dried in the main plant drying system while the dispersion resin is coagulated, vacuum dewatered, and finished in a vacuum tumble dryer.

Wastes generated:

On-site landfill disposal: process residuals such as general trash, broken pallets, etc.
On-site recycle: PVC sludge for resale; waste oil as boiler house fuel.
Off-site landfill disposal: flyash from coal burning; office, lockerroom, and lunchroom wastes.
Off-site hazardous waste: PVC chunks and scrap which cannot be recycled.
Off-site recycle/waste: lab waste solvents to recovery unit and as cement kiln fuel.
Off-site sale: scrap metal and empty steel drums.
Effluent water: processed by POTW.

Boiler House:

Boiler House personnel are responsible for all facets of steam generation at the Pottstown facility. Normal duties include boiler operation from feedwater treatment through ash removal. These personnel also supervise fuel unloading and monitor plant air compressor operation and river water effluent condition. River water supply pumps and five water pumps are also the responsibility of the Boiler House.

Wastes generated:

Water-treatment: boiler blowdown; blowdown from the water softening process.

Off-site landfill: flyash.

Other operations:

A vinyl chloride monomer incinerator in order to reduce residual vinyl chloride in exhaust to the atmosphere to levels required by the National Emission Standards for Hazardous Air Pollutants (NESHAP). A continuous emission monitoring system (CEM) measures emission concentrations of vinyl chloride and records them.

All process water which comes into contact with vinyl chloride must be stripped to below 10 ppm before it can be discharged to the effluent treatment system. A stripper operation using a recirculating batch stripper is utilized to accomplish this.

The effluent treatment system combines most wastewater streams in a main trench to the #1-S basin with the exception of process water treatment wastes (sandfilter flushings and ion-exchange units regeneration rinses) which flow to basin #2 through a separate trench.

Chemicals are added to the trench upstream of the basin for coagulation, clarification, and pH adjustment of product spills. The solids of the effluent are increased via a thickener concurrently with a chemical and subsequent centrifuging. The solids are dried and sold as a product.

Finally effluent is pumped from basin #3 to Pottstown's treatment plant (POTW) or recirculated to basin #2 for extra residence time or basin level control. Emergency storage lagoons are available in the event of a breakdown in the effluent treating system or a request from the POTW to stop pumping.

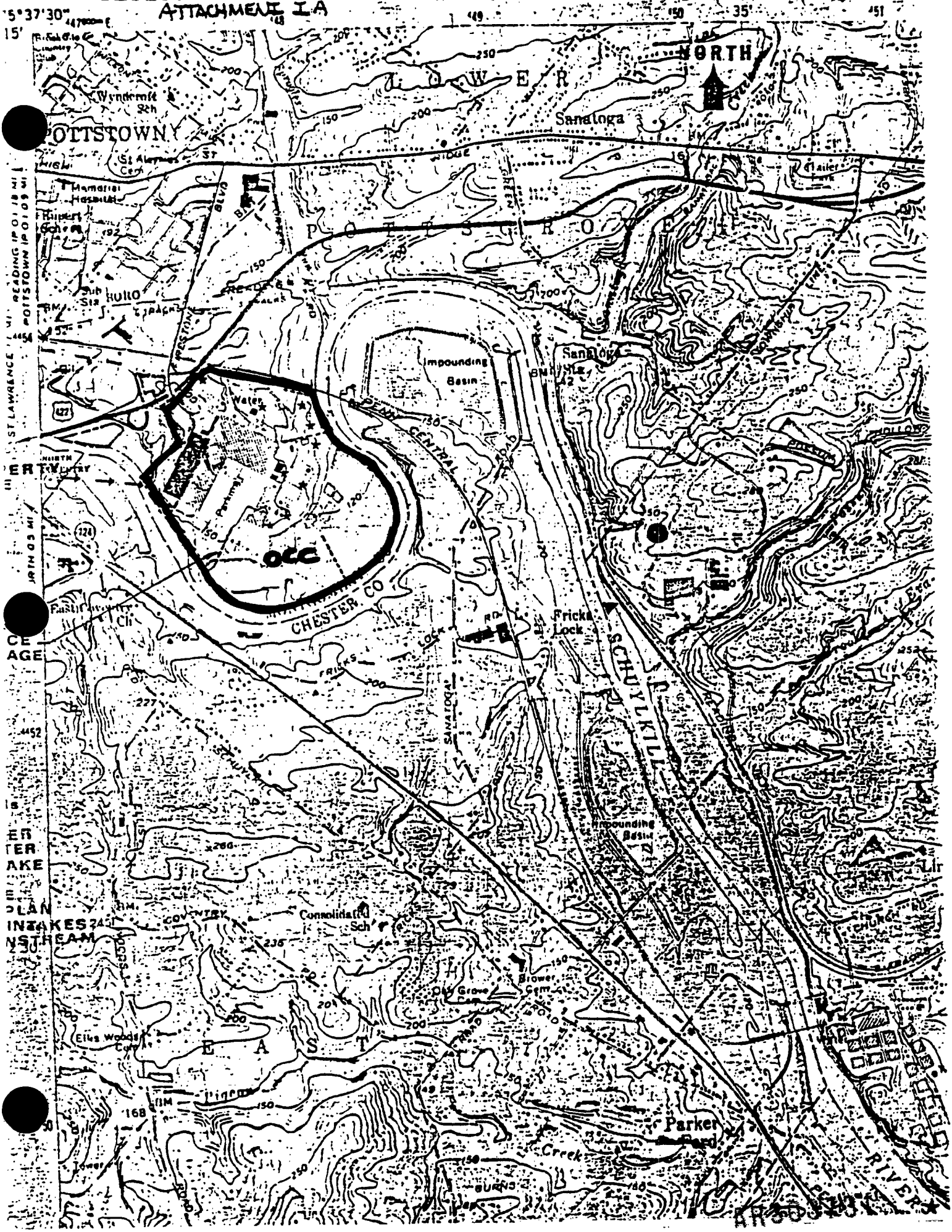
Research/Development & Technical Service:

Extensive research and development is carried out to provide resins that will possess consistent qualities for the multitude of applications. Chemists and assistants work toward finding and developing resins with the required characteristics. Applied research is carried out by the chemists in directing their efforts toward making new products commercial.

Testing and development do not end when the material has been produced by the plant, but continue by the technical service laboratory in customer applications and in development toward product improvement. The technical service laboratory also offers assistance in recommending proper equipment and handling and processing these materials.

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
ATTACHMENT 1A

PHOENIXVILLE, PA., QUADRANGLE



DESCRIPTION OF EXISTING EMERGENCY RESPONSE PLANS

The following are existing or previously implemented plans for pollution prevention and emergency response.

SPCC Plan:

An oil spill prevention and response plan required by the DER and EPA, was first implemented in July, 1974. The plan was updated in July, 1989; no written record of approval from government agencies was required. The plan elements were included in the original PPC Plan instituted in 1989.

PIP Plan:

This was a DER-required plan for prevention of and response to spills and discharges other than oil to the land, groundwater, and surface water. It was included along with an application for an NPDES permit in 1975. Issuance of the permit in 1977 constituted approval of the PIP Plan. The plan elements were included in the original PPC Plan instituted in 1982.

Emergency Plan:

This plan was first instituted in 1981 to satisfy OSHA and corporate requirements for protection of employees during fire and massive vinyl chloride release emergencies. It was revised in March, 1897. No written record of OSHA approval was required. The plan elements were included in the original PPC Plan instituted in 1982.

PPC Plan:

This was a DER-mandated preparedness, prevention, and contingency plan implemented in 1981 under the Pennsylvania Hazardous Waste Regulations. Its purpose was pollution prevention and emergency response for protection of the environment and public health and safety. Written approval was given by DER on June 18, 1892 and the Plan was made part of the existing NPDES Permit # 0010944. Part B is but one of several parts making up the current revision of the original plan.

CERP:

This is a chemical emergency response plan for transportation incidents, on-site and off-site events. This plan is a Chemical Manufacturers Association (CMA) recommended plan. It was adopted and mandated by Occidental Corporate Environmental for all plants in 1981. The plan creates an emergency response team which is based out of the Pottstown site. Those parts relating to on-site incidents have been or will be incorporated into the original or revised PIP Plans.

Community Response Plan:

This plan is a requirement of SARA Title III, Section 302, Emergency Planning and Community Right to Know. It was developed jointly by the Montgomery County Local Emergency Planning Committee and Occidental on July 13, 1989. The plan is designed to prepare for and respond to emergencies arising from episodic chemical releases at the site which may create hazards to the environment and to human health and safety in the surrounding community. Certain parts will be incorporated into the currently revised PPC Plan.

ORGANIZATIONAL STRUCTURE FOR IMPLEMENTATION OF THE PPC PLAN

The development, implementation, and maintenance of the PPC Plan will be the responsibilities of a committee composed of the following personnel:

Plant Engineer	J. R. Hilt	EXT. 6692
Environmental Manager	R. S. Schuster	EXT. 6505
Responsible Care Manager	T. E. Moses	EXT. 6631
Safety Manager	R. V. Lewis	EXT. 6597
Pilot Plant Grp. Ldr.	G. W. Hall	EXT. 6621

The duties and responsibilities of the committee will include all activities toward fulfilling the goals of the PPC Plan.

The committee will be responsibile for the establishment of appropriate procedures, training personnel, identification of specifics relative to materials and wastes handled and of spills and potential resources, etc., within the facility. The committee will critically review and evaluate the PPC Plan periodically toward instituting better ways toward achieving the goals of the Plan. New construction and processing methods will be studied relative to the Plan.

The committee will be responsible for the coordination needed to implement the goals of the PPC Plan, coordination of the activities for spill clean-up, notification to authorities, and establishment of training and educational programs for installation personnel.

Responses to emergency incidents will also involve one of the Occidental Chemical Corporation's CERP teams (Chemical Emergency Response Plan). This system will provide an effictive response to emergency incidents involving the Company's products, raw materials, or waste residues, on or off the plant property.

The NEVCERT (Northeast Vinyl Chemical Emergency Response Team) roster for our area follows:

CALL LIST

24 HR. EMERGENCY NUMBER: (215) 327-6666

ALERT TEAM	BUSINESS	HOME
Engblom, Carl W.	(215) 327-6713	(215) 326-2357 Pager: (215) 469-7658
Hilt, John R.	(215) 327-6692	(215) 326-1819 Pager: (215) 469-7661
Schuster, Robert S.	(215) 327-6505	(215) 873-7820

C. ORGANIZATIONAL STRUCTURE FOR IMPLEMENTATION OF THE PPC PLAN CONT.

ALERT TEAM	BUSINESS	HOME
Moses, Thomas E.	(215) 327-6631	(215) 489-3252 Pager: (215) 469-7662

ACTION TEAM	BUSINESS	HOME
Allen, William, W.	(215) 327-6633	(215) 970-0172 Pager: (215) 469-7650
Engblom, Carl W.	(215) 327-6713	(215) 326-2357 Pager: (215) 469-7658
Moses, Thomas E.	(215) 327-6631	(215) 489-3252 Pager: (215) 469-7662
Foltz, Bruce L.	(215) 327-6670	(215) 323-2513 Pager: (215) 469-7659 Car Phone: (215) 460-4734
Giniewski, Stanley J.	(215) 327-6671	(215) 582-5110 Pager: (215) 469-7660
Loughin, Randolph D.	(215) 327-6658	(215) 327-2130 Pager: (215) 964-7550
Palm, Albert W.	(215) 251-1007	(215) 933-9093 Pager: (215) 469-7663
Wunder, Charles F.	(609) 386-9200	(609) 877-2227 Pager: (609) 727-7718

CHEMTREC	1-800-424-9300
HAZMAT RESPONSE VAN PHONE NUMBER	(215) 470-4206
HAZMAT RESPONSE VAN FAX NUMBER	(215) 470-4206
MAIN OFFICE FAX NUMBER	(215) 327-6526
CHEMICAL PLANT FAX NUMBER	(215) 327-6698
ACTION ROOM	(215) 327-6464, 327-6465 and 327-6466

MATERIAL AND WASTE INVENTORY

On the pages that follow, materials are listed by areas of storage and handling on the Site, giving chemical names, trade names, and the locations of Material Safety Data Sheets in each area.

In the following Section, Spill and Leak Prevention and Response, sources and quantities of materials are shown corresponding to the areas outlined here.

AREA & MATERIAL STORED	TRADE NAME	LOCATION
AREA 1, CATALYST COOLERS:		
OUTSIDE -		
Liquid Nitrogen	Same	Shipping/Receiving Office PVC Plant
IN COOLERS -		
Di Potassium Peroxy Disulfate	Potassium Persulfate	"
Benzoyl Peroxide	Benzoyl Peroxide	"
Di (Dodecanoyl) Peroxide	Lauryl Peroxide	"
Ethyl Hexyl Peroxydicarbonate	Lupersol 223M75	"
Cupric Sulfate	Cupric Sulfate	"
Butyl Hydroperoxide	Trigonox AW70	"
Sodium Formaldehyde Sulfoxylate	SFS	"
Secondary Butyl Peroxydicarbonate	Lupersol 225M30	"
Butylcyclohexyl Peroxydicarbonate	Percadox 16W40	"
Butyl Peroxyneodecanoate	Lupersol 10M75	"
Dimethylvaleronitrile	Vazo 52	"
Methyl Hydroxybutyl Peroxyneohepanoate	Lupersol 688M50	"
Cumyl Peroxyneodecanoate	Esperox 939M	"
Butylcyclohexyl Peroxydicarbonate	Percadox 16W25	"
Tertiary Butyl Hydroperoxide	TBHP	"
AREA 2, PVC BULK RESIN DRYING:		
INSIDE -		
Resin Silos	Polyvinyl Chloride	Shipping/Receiving Office PVC Plant
AREA 3, PVC PLANT WAREHOUSE:		
INSIDE -		
Dodecanoic Acid	Lauric Acid	Shipping/Receiving Office PVC Plant
Hexadecanol/Octadecanol	Alfol 1618	"
Dried Resin	Polyvinyl Chloride	"
Sodium Bicarbonate	Same	"
Ammonium Acetate	Same	"

AREA & MATERIAL STORED	TRADE NAME	LOCATION OF S
AREA 3, Continued:		
INSIDE -		
Cetyl Alcohol	Adol 52	Shipping/Receiving Office PVC Plant
Hydroxypropyl Methyl Cellulose	Methocel	"
Sodium Dihexyl Sulfosuccinate	Aerosol MA	"
Stearyl Alcohol	Adol 62	"
Dodecanoic Acid	Lauric Acid	"
Gelatin	Same	"
Triethylene Glycol	Irganox 1010	"
Benzenediol	Hydroquinone	"
Sodium Carbonate	Soda Ash	"
Organo Barium-Cadmium	Metallic Stabilizers	"
Methyl Vinyl Ethermaleic Anhydride	Gantrez AN 179	"
Hydroxypropyl Ether Cellulose	Klucel J	"
Ammonium Sulfate	Alum	"
Stearic Acid	Same	"
Chromium-Alumina Incinerator Catalyst	Same	"
Methylene Phenothiazine	PF Wet Crumb	"
AREA 4, BETWEEN BUILDING 2 AND WAREHOUSE:		
OUTSIDE -		
Hydrogen Butyl Maleate	HBM	Shipping/Receiving Office PVC Plant
Hydrogen Peroxide	Same	"
Ammonium Hydroxide	Same	"
Hydrochloric Acid	Same	"
Acrylamide-Sodium Acrylate	Betz Polymer 1125L	"
Methyl Ethyl Ketone	MEK	"
Acetone	Same	"
Stoddard Solvent	Petroleum Oil	"
Cyclohexanone	Same	"
Tetrahydrofuran	THF	"
Methyl Alcohol	Methanol	"
Di Octyl Adipate	Same	"
Di Octyl Phthalate	DOP	"

AREA & MATERIAL STORED	TRADE NAME	LOCATION
AREA 4, Continued:		
OUTSIDE -		
Glycerine	Same	Shipping/Receiving Office
		PVC Plant
Diethanolamine	Ninol 1281	"
Sorbitan Monolaurate	Span 20	"
Diallyl Maleate	DAM	"
Vinyl Pyrrolidone - Vinyl Acetate	PVP/VA	"
Hexadecanol/Octadecanol	Alfol 1618	"
Polyethylene Glycol Monolaurate	Emerest 2620	"
Polyvic (Proprietary)	Same	"
Defoamer (Proprietary)	Same	"
Foamaster (Proprietary)	Same	"
Defoamer 12 (Proprietary)	Same	"
Petroleum Base Amorphous Silica	Same	"
Petroleum Oil	Same	"
Dodecanoic Acid	Lauric Acid	"
AREA 5, BUILDING 2:		
INSIDE -		
Ammonium Laurate	Same	Reactor Safe Room, Stripper Safe Room, Relief Safe Room, Foremen's Office
Vinyl Acetate	Same	"
Sodium Hydroxide	Same	"
Vinyl Chloride	Same	"
Defoamer 12 (Proprietary)	Same	"
Nonyl Phenoxy Polyethoxy Ethanol	Triton	"
Sodium Lauryl Sulfate	Polystep B5	"
Sodium Dodecyl-Benzene Sulfonate	Polystep A16	"
Hexadecanol/Octadecanol	Alfol 1618	"
Sodium Formaldehyde Sulfonate	SFS	"
Stearic Acid	Same	"
Diallyl Maleate	DAM	"
Butylcyclohexyl Peroxydicarbonate	Percadox 16W40	"
Polyethylene Glycol Monolaurate	Emerest 2620	"

AREA & MATERIAL STORED	TRADE NAME	LOCATION OF . .S
AREA 5, Continued:		
BACK DOCK, OUTSIDE -		
Methyl Alcohol	Methanol	Reactor Safe Room, Stripper Safe Room, Relief Safe Room, Foremen's Office
Acetone	Same	"
Toluene	Same	"
Methyl Isobutyl Ketone	MIBK	"
Tetrahydrofuran	THF	"
Methyl Ethyl Ketone	MEK	"
Cyclohexanone	Same	"
Stoddard Solvent	Petroleum Oil	"
AREA 6, BLEND TANKS, SLURRY:		
PVC/Water	Polyvinyl Chloride - Water	Relief Safe Rooms, Buildings 1 & 2
AREA 7, CHEMICAL TANK FARM:		
1 AST Anhydrous Ammonia	Same	Tank Farm Building
2 ASTS Nonylphenoxy Polyethoxyethanol	Triton	"
1 AST Tetrasodium Ethylenediamine Tetra-acetic Acid	Versene	"
1 AST Sodium Lauryl Sulfate	Polystep B5	"
1 AST Sodium Dodecyl Benzene Sulfonate	Polystep A16	"
Dodecanoic Acid	Lauric Acid	"
AREA 8, BUILDING 1:		
INSIDE -		
Mercaptoethanol	2ME	Reactor Safe Rooms, Stripper Safe Rooms, Relief Safe Rooms Foremen's Office
Vinyl Chloride	Same	"
Polyvinyl Methyl Ether Maleic Anhydride	PVMMA	"
Hydroxy Propyl Methyl Cellulose	Methocel	"

AREA & MATERIAL STORED	TRADE NAME	LOCATION
AREA 8, Continued:		
INSIDE -		
Mono & Dibutyl Maleate	HBM-DBM	Reactor Safe Rooms, Stripper Safe Rooms, Relief Safe Rooms, Foremen's Office
Ammonia	Same	"
Hydroxy Propyl Ether Cellulose	Klucel J	"
Defoamer (Proprietary)	Same	"
Soybean Oil	Same	"
Sorbitan Monolaurate	Span 20	"
Sodium Dihexyl Sulfosuccinate	Aerosol MA	"
AREA 9, BETWEEN BUILDING 1 & PILOT PLANT:		
Vinyl Chloride	Same	Shipping/Receiving Office PVC Plant & Tank Farm Building
Vinyl Acetate	Same	"
Sodium Hydroxide	Same	"
PVC/Water Slurry	Polyvinyl Chloride	"
Di Butyl Maleate	DBM	"
AREA 10, PILOT PLANT:		
INSIDE -		
Dimethyl Formamide-Toluene	DMF-Toluene	Office and 2nd Floor Conferenc Room
Sodium Lauryl Sulfate	Polystep B5	"
Trifluorchloroethylene	TFCE	"
Vinyl Chloride	Same	"
Vinyl Acetate	Same	"
Sodium Alkyl Sulfonate	Alkanol 189S	"
Methyl Alcohol	Methanol	"
Glycerine	Same	"
Sorbitan Monolaurate	Span 20	"
Foamaster (Proprietary)	Same	"
Ammonium Laurate	Same	"
PVC/Water Slurry	Polyvinyl Chloride	

AREA & MATERIAL STORED	TRADE NAME	LOCATION OF S
AREA 10, Continued:		
INSIDE -		
Sodium Dihexyl Sulfosuccinate	Aerosol MA	Office and 2nd Floor Conference Room
Sodium Alpha Olefin Sulfonate	Same	"
Sodium Dodecyl Benzene Sulfonate	Polystep A16	"
Nonyl Phenoxy Polyethoxy Ethanol	Triton	"
Polyvic (Proprietary)	Same	"
Calcium Chloride	Same	"
Polyvinyl Alcohol	Same	"
Cetyl Alcohol	Adol 52	"
Stearyl Alcohol	Adol 62	"
Sodium Carbonate	Soda Ash	"
Sodium Bicarbonate	Same	"
Isopropylidene Diphenol	Bisphenol A	"
Hydroxypropyl Ether Cellulose	Klucel J	"
Sodium Acetate	Same	"
Fatty Alcohol	Tallow Alcohol	"
Sodium Bisulfite	Same	"
Dodecanoic Acid	Lauric Acid	"
Triethylene Glycol	Irganox 1010	"
Sodium Tetraborate	Borax	"
Gelatin	Same	"
Methylene Phenothiazine	PF Wet Crumb	"
Tributyl Phosphate	TBP	"
Hydroxypropyl Methyl Cellulose	Methocel	"
Acetone	Same	"
Hydroxypropylacrylate	HPA	"
Hydrochloric Acid	Same	"
Di Octyl Adipate	Same	"
Ammonium Hydroxide	Same	"
Petroleum Oil	Same	"
BACK DOCK -		
Dimethyl Formamide	DMF	Office and 2nd Floor conferenc Room
Toluene	Same	"

AREA & MATERIAL STORED	TRADE NAME	LOCATION OF MSDS
AREA 11, BUDA SHOP:		
Petroleum Oils	Same	Safety Office
AREA 12, GARAGE #7:		
Petroleum Oils	Same	Safety Office
AREA 13, GROUNDS DEPT. BUILDING:		
INSIDE -		
Calcium Chloride	Same	Safety Office
Fertilizer	Same	Grounds Dept. Building
Glyphosphate Isopropylamine Salt	Same	Safety Office
OUTSIDE -		
Diesel Oil	Same	Safety Office
AREA 14, MONOMER TANK FARM:		
Vinyl Acetate	Same	Tank Farm Building
Vinyl Chloride	Same	"
AREA 15, EFFLUENT TREATING:		
Polyelectrolyte (Proprietary)	Same	Tank Farm Building
Sodium Lauryl Sulfate	Polystep B5	"
Nonyl Phenoxy Polyethoxy Ethanol	Triton	"
AREA 16, INCINERATOR:		
Propane Liquid	Same	Shipping/Receiving Office
AREA 17, ROAD TO BASINS:		
Aluminum Sulfate	Alum	Tank Farm Building
Sodium Hydroxide	Same	"

AREA & MATERIAL STORED	TRADE NAME	LOCATION OF MSDS
AREA 18, WELL WATER TREATING/COOLING:		
INSIDE -		
Sulfuric Acid	Same	Tank Farm Building
Sodium Hydroxide	Same	"
(Proprietary)	Same	"
Sodium Hypochlorite	Same	"
OUTSIDE -		
Sulfuric Acid	Same	Tank Farm Building
AREA 20, STORES DEPT.:		
OUTSIDE -		
Petroleum Oils	Same	None
Janitor Cleaners	Same	None
Sulfuric Acid	Same	None
Hydrogen	Same	None
Acetylene	Same	None
Propane	Same	None
Chlorofluormethanes	Freon	None
INSIDE -		
Hand Soap	Same	None
Ajax Cleaner	Same	None
Abrasive Powder	Same	None
Dessicant	Same	None
Fire Fighting Chemical	Same	None
Oil Absorbent	Same	None
AREA 21, RR FROM MONOMER UNLOADING STATION TO NORTH SIDE RR ENTRY TO PLANT:		
RR Cars, Vinyl Chloride	Same	Tank Farm Building
RR Car, Vinyl Acetate	Same	"

AREA & MATERIAL STORED	TRADE NAME	LOCATION OF USE
AREA 22, RIVER WATER TREATING/STORAGE AREA:		
INSIDE -		
Aluminum Sulfate	Alum	Boiler House Office
Polyelectrolyte	Same	"
Diesel Oil	Same	"
OUTSIDE -		
Gasoline	Same	Boiler House Office
Benzyl Ammonium Chloride	Same	"
Fuel Oil	Same	"
AREA 23, RIVER WATER PUMP HOUSE:		
Propane	Same	Shipping/Receiving Office, PVC Plant
AREA 24, BOILER HOUSE:		
INSIDE -		
Octyldecylamine Acetate/Morpholine	Neutrafilm 463	Boiler House Office
Butoxy Ethanol Naphtha & Imidazoline	Betz FS20	"
Lube Oil	Same	"
Magnesium Oxide	Remosil	"
OUTSIDE -		
Petroleum Oils	Same	Boiler House Office
AREA 25, TIRE PLANT:		
PVC Resins	Polyvinyl Chloride	Shipping/Receiving Office, Tire Plant
Petroleum Oils	Same	"
Benzyl Ammonium Chloride	Same	"
Octyldecylamine Acetate/Morpholine	Neutrafilm 463	"
Diesel Oil	Same	"
Calcium Oxide	Lime	"
Sodium Carbonate	Soda Ash	"

AREA & MATERIAL STORED	TRADE NAME	LOCATION OF MSDS
AREA 25, Continued:		
Aluminum Sulfate	Alum	Shipping/Receiving Office, Tire Plant
Sodium Sulfate	Corregem	"
Sodium Hypochlorite	Same	"
AREA 26, COLOR MIX OPERATION:		
Kerosene	Same	At Work Stations
Metal Pigment Dispersions	Same	"
AREA 28, TECH SERVICE BUILDING:		
INSIDE -		
Octyl Trimellitate	Same	Office (2nd Floor Main Office Building; None in Tech Service Area)
Soybean Oil	Same	"
Octyl Decyl Phthalate	Same	"
Butyl Benzyl Phthalate	Same	"
Tri Decyl Phthalate	Same	"
Di Octyl Phthalate	Same	"
C9-C11 Phthalates	Same	"
C7-C9 Phthalates	Same	"
Ethyl Hexyl Phthalate	Same	"
Di Isodecyl Phthalate	Same	"
PVC Resin	Polyvinyl Chloride	"
PVC Blend	Polyvinyl Chloride + Additives	"
Fillers (Clay, Carbon, Carbonates, etc.)	Same	"
Resin Modifiers	Same	"
Resin Lubricants	Same	"
Stabilizers, Metallic	Same	"
SIDE DOCK, OUTSIDE -		
Methyl Ethyl Ketone	MEK	Office (2nd Floor Main Office Building; None in Tech Service Area)

AREA & MATERIAL STORED	TRADE NAME	LOCATION OF USE
AREA 28, Continued:		
SIDE DOCK, OUTSIDE -		
Acetone	Same	Office (2nd Floor Main Office Building; None in Tech Service Area
Toluene	Same	"
Mineral Spirits	Same	"

AREA & MATERIAL UNLOADED		
AREA 3, PVC PLANT WAREHOUSE:		
Dodecanoic Acid	Lauric Acid	Shipping/Receiving Office, PVC Plant
Hexadecanol/Octadecanol	Alfol 1618	"
AREA 7, CHEMICAL TANK FARM:		
Ammonia	Same	Tank Farm Building
Nonylphenoxy Polyethoxyethanol	Triton	"
Tetrasodium Ethylenediamine Tetraacetic Acid	Versene	"
Sodium Lauryl Sulfate	Polystep B5	"
AREA 8, BUILDING 1:		
Mercaptoethanol	2ME	Relief Safe Room, Foremen's Office
AREA 9, BETWEEN BUILDING 1 AND PILOT PLANT:		
Sodium Hydroxide	Same	Tank Farm Building
Di Butyl Maleate	DBM	"
AREA 14, MONOMER TANK FARM:		
Vinyl Acetate	Same	Tank Farm Building
Vinyl Chloride	Same	"
AREA 17, ROAD TO BASINS:		
Aluminum Sulfate	Alum	Tank Farm Building
AREA 18, WELL WATER TREATING/COOLING AREA:		
Sodium Hypochlorite	Same	Tank Farm Building
Enerlink (Proprietary)	Same	"
Enerlink (Proprietary)	Same	"
Sulfuric Acid	Same	"

AREA & MATERIAL UNLOADED	TRADE NAME	LOCATION
AREA 3, PVC PLANT WAREHOUSE:		
Miscellaneous	Same	Shipping/Receiving Office, PVC Plant
PVC Resins	Polyvinyl Chloride	"
AREA 5, BETWEEN BUILDING 2 & WAREHOUSE:		
Miscellaneous	Same	Shipping/Receiving Office, PVC Plant
AREA 8, BUILDING 1:		
Miscellaneous	Same	Foremen's Office
AREA 10, PILOT PLANT:		
Miscellaneous	Same	Office
AREA 20, STORES:		
Miscellaneous	Same	Safety Dept.
AREA 24, BOILER HOUSE:		
Coal	Same	Office
Miscellaneous	Same	Office
AREA 25, TIRE PLANT:		
PVC Resins	Polyvinyl Chloride	Shipping/Receiving Office, Tire Plant
Miscellaneous	Same	"

Area & Material Loaded	Trade Name	Location of MSDS
AREA 2, PVC BULK DRYING/STORAGE:		
PVC Resins	Polyvinyl Chloride	Shipping/Receiving Office, PVC Plant
AREA 24, BOILER HOUSE:		
Flyash	Same	MSDS to be developed
AREA 3, PVC WAREHOUSE:		
PVC Resins	Polyvinyl Chloride	Shipping/Receiving Office, PVC Plant
Miscellaneous	Same	"
AREA 10, PILOT PLANT:		
Waste Solvents	Numerous Lab Waste Solvents	Labs, Offices
Miscellaneous	Same	Labs, Offices
AREA 20, STORES:		
PVC Resins	Polyvinyl Chloride	Safety Dept.
Miscellaneous	Same	Safety Dept.
AREA 25, TIRE PLANT:		
PVC Resins	Polyvinyl Chloride	Shipping/Receiving Office, Tire Plant
Miscellaneous	Same	"

AREA & TRANSFORMER FLUIDS	E NAME	LOCATION OF
AREA 8, BUILDING 1:		
OUTSIDE - Polychlorinated Bi Phenyl Above 500 PPM in the Fluid	PCB Fluid	Maintenance Office
AREA 18, WELL WATER TREATING/COOLING: Polychlorinated Bi Phenyl Above 500 PPM in the Fluid	PCB Fluid	Maintenance Office
AREA 22, RIVER WATER TREATING/STORAGE: Polychlorinated Bi Phenyl Above 500 PPM in the Fluid	PCB Fluid	Maintenance Office
AREA 24, BOILER HOUSE:		
INSIDE - Polychlorinated Bi Phenyl Above 500 PPM in the Fluid	PCB Fluid	Maintenance Office
AREA 5, BUILDING 2:		
INSIDE - Polychlorinated Bi Phenyl Between 50-500 PPM in Mineral Oil	PCB Contaminated Fluid	Maintenance Office
AREA 18, WELL WATER TREATING/COOLING: Polychlorinated Bi Phenyl Between 50-500 PPM in Mineral Oil	PCB Contaminated Fluid	Maintenance Office
AREA 24, BOILER HOUSE: Polychlorinated Bi Phenyl Between 50-500 PPM in Mineral Oil	PCB Contaminated Fluid	Maintenance Office

AREA & TRANSFORMER FLUIDS	T. E NAME	LOCATION OF MSDS
AREA 25, TIRE PLANT:		
Polychlorinated Bi Phenyl Between 50-500 PPM in Mineral Oil	PCB Contaminated Fluid	Maintenance Office
AREA 28, TECH SERVICE:		
Polychlorinated Bi Phenyl Between 50-500 PPM in Mineral Oil	PCB Contaminated Fluid	Maintenance Office
AREA 29, MAIN OFFICE:		
Polychlorinated Bi Phenyl Between 50-500 PPM in Mineral Oil	PCB Contaminated Fluid	Maintenance Office
AREA 30, ROTO BUILDING:		
Polychlorinated Bi Phenyl Between 50-500 PPM in Mineral Oil	PCB Contaminated Fluid	Maintenance Office
AREA 19, EMERGENCY GENERATOR:		
Mineral Oil	Same	Maintenance Office
AREA 24, BOILER HOUSE:		
Mineral Oil	Same	Maintenance Office
AREA 25, TIRE PLANT:		
Mineral Oil	Same	Maintenance Office
AREA 28, TECH SERVICE:		
Mineral Oil	Same	Maintenance Office
AREA 29, MAIN OFFICE		
Mineral Oil	Same	Maintenance Office

[redacted] TRANSFORMER FLUIDS	[redacted] NAME	LOCATION OF [redacted]
AREA 31, MAIN SUBSTATION:		
Mineral Oil	Same	Maintenance Office
AREA 18, WELL WATER TREATING/COOLING:		
Silicone Fluid	Silicone Fluid	Maintenance Office

AR [illegible] HAZARDOUS WASTES — TRADE NAME

TOXIC CHARACTERISTIC HAZARDOUS WASTE: PVC SLUDGE & SCRAP & WASTEWATER CONTAINING VINYL CHLORIDE -

A) TRANSPORT SYSTEM:		
AREA 5, TRENCH BEHIND BUILDING 2	Wastes & Wastewater Having Over 200 PPB Vinyl Chloride	Shipping/Receiving Office, PVC Plant
AREA 6, BLEND TANK AREA	"	"
AREA 8, TRENCH BEHIND BUILDING 1	"	"
AREA 9, TRENCH BETWEEN BUILDING 1 & PILOT PLANT	"	"
AREA 17, TRENCH ALONG ROAD TO BASINS	"	"
B) STORAGE FACILITY:		
AREA 6, BLEND TANK AREA, SCRAP DUMPSTER	Wastes & Wastewater Having Over 200 PPB Vinyl Chloride	Shipping/Receiving Office, PVC Plant
AREA 15, EFFLUENT TREATING SYSTEM -	"	"
SURFACE IMPOUNDMENT, 3 BASINS	"	"
CLARIFIER - THICKENER	"	"
SURFACE IMPOUNDMENT, 2 LINED LAGOONS	"	"

CORROSIVE HAZARDOUS WASTE: LOW PH -

A) TRANSPORT SYSTEM:		
AREA 17, TRENCH ACROSS ROAD TO BASINS	PH of Wastewater Below 2.0	To Be Developed
AREA 18, TRENCH FROM WELL WATER TREATING/ COOLING	"	"
B) TREATMENT FACILITY; ELEM. PH NEUTRALIZATION:		
AREA 18, ALONG ROAD TO BASINS	PH of Wastewater Below 2.0	To Be Developed

NON-SPECIFIC SOURCE HAZARDOUS WASTE:

A) TEMP. STORAGE, LAB WASTE SOLVENTS:		
AREA 4, BETWEEN BUILDING 2 & PVC WAREHOUSE	Numerous Lab Waste Solvents and Kerosene	Labs, Offices, Color Mix Work Station, Pilot Plant
AREA 10, PILOT PLANT REAR OUTSIDE	"	"
AREA 28, TECH SERVICE SIDE DOCK	"	"

AREA & HAZARDOUS WASTES	TRADE NAME	LOCATION
NON-SPECIFIC SOURCE HAZARDOUS WASTE - Continued:		
B) TEMP. STORAGE, WASTE KEROSENE:		
AREA 26, COLOR MIX OPERATION	Numerous Lab Waste Solvents and Kerosene	Labs, Offices, Color Mix Work Station, Pilot Plant

EMERGENCY PLAN FOR SPILLS AND RELEASES

OCCIDENTAL CHEMICAL CORPORATION

POTTSTOWN, PENNSYLVANIA

The on-site plan for emergency response to spills and releases of hazardous substances is outlined in the "Occidental Chemical Corporation Pottstown Plant Emergency Preplan". This plan is included by reference and should be implemented when necessary for spills covered by the PPC Plan. The plan was developed in coordination with local emergency responders and with the Montgomery County Local Emergency Planning Committee.

The plan for evacuation of persons off-site of the plant is accomplished using the "Community Response Plan for Occidental Chemical Corporation". This plan was prepared with the approval of and in conjunction with the Montgomery County Local Emergency Planning Committee. This plan is included by reference and should be implemented when necessary for spills covered by the PPC Plan.

The following table outlines spill prevention and response measures which may be taken in the event of a spill in specific areas of the plant listed.

SPILL PREVENTION AND RESPONSE

The lists that follow explain spill prevention and response for 33 specific areas for the site:

AREAS:

1 Catalyst Coolers
2 PVC Bulk Resin Storage
3 PVC Warehouse
4 Area Between Bldg. II & PVC Warehouse
5 Building II
6 Blend Tanks - Slurry
7 Chemical Tank Farm
8 Building I
9 Between Bldg. I and Pilot Plant
10 Pilot Plant
11 Buda Shop
12 Garage #7
13 Grounds Dept. Bldg.
14 Monomer Tank Farm
15 Effluent Treating System
16 Incinerator
17 Road to Basins
18 Well Water Treatment and Cooling System
19 Emergency
20 Stores Department
21 Railroad Tracks
22 River Water Treating and Storage
23 River Water Pumphouse
24 Boiler House
25 Tire Plant
26 Color Mix Operation
27 Garage #6
28 Technical Services Bldg.
29 Main Office Building
30 Transformer House #1
31 Main Power Substation
32 Lined Lagoons
33 PVC Office Bldg. & Labs

Areas are shown on attached Plot Plan at the end of this section.

AREA & MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 1, CATALYST COOLERS:				
OUTSIDE -				
AST, Liquid Nitrogen-Liq.	500 Gal.	500 Gal.	Ground	Would Evaporate
INSIDE -				
APPROXIMATELY 300 SMALL CONTAINERS -				
Peroxide Type Sulfate Type Nitrile Type	31,000# Liq. & 8,000# & 2,000# Solid	Gal. Jug Up To 5 Gal. Pail	Floor of Coolers	Contained in Coolers
AREA 2, PVC BULK RESIN DRYING:				
INSIDE -				
ASTS, 16 RESIN SILOS-Solid	2,000,000#	120,000#	Floor Inside Building	Contained in Building
AREA 3, PVC PLANT WAREHOUSE:				
INSIDE -				
1 AST, Lauric Acid-Liq.	10,500 Gal.	10,500 Gal.	Floor of Containment	Curbed Containment
2 ASTS, Hexadecanol/ Octadecanol-Liq.	21,000 Gal.	10,500 Gal.	Floor of Containment	Curbed Containment
Dried Resin-Solid	2,600,000#	2,000#	Floor of Warehouse	Contained in Building
Sodium Bicarbonate-Solid	1,500#	100#	"	"
Ammonium Acetate-Solid	700#	225#	"	"
Cetyl Alcohol-Solid	1,900#	50#	"	"
Hydroxypropyl Methyl Cellulose-Solid	32,000#	50#	"	"
Sodium Dihexyl Sulfo-succinate-Solid	400#	475#	"	"
Stearyl Alcohol-Solid	3,800#	50#	"	"

AREA & MATERIAL STORED	QUANTITY NORMAL PEAK	COST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 3, Continued -				
INSIDE -				
Lauric Acid-Solid	3,600#	50#	Floor of Warehouse	Contained in Building
Gelatin-Solid	15,800#	50#	"	"
Triethylene Glycol-Solid	2,200#	110#	"	"
Butyl Cresol-Solid	400#	50#	"	"
Benzenediol-Solid	100#	100#	"	"
Sodium Carbonate-Solid	1,400#	50#	"	"
Organo Barium-Cadmium-Solid	200#	200#	"	"
Methyl Vinyl Ether-Maleic Anhydride-Solid	1,400#	110#	"	"
Hydroxypropyl Ether Cellulose-Solid	800#	100#	"	"
Ammonium Sulfate-Solid	3,500#	100#	"	"
Stearic Acid-Solid	13,500#	50#	"	"
Chromium-Alumina (Incinerator Catalyst)-Solid	1,000#	250#	"	"
Methylene Phenothiazine-Solid	300#	50#	"	"
AREA 4, BETWEEN BUILDING 2 & WAREHOUSE:				
OUTSIDE - ALL LIQUIDS -				
Hydrogen Butyl Maleate	45,000#	450#	Off Dock to Storm Drain	Block Flow With Sandbags or Equivalent and Recover by Pumping or Other Means
Hydrogen Peroxide	2,000#	500#	"	"
Ammonium Hydroxide	1,500#	500#	"	"
Hydrochloric Acid	3,500#	440#	"	"
Acrylamide-Sodium Acrylate	1,000#	500#	"	"
Methyl Ethyl Ketone	700#	350#	"	"
Acetone	3,200#	450#	"	"
Stoddard Solvent	500#	500#	"	"
Cyclohexanone	400#	400#	"	"

AREA & MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 4, Continued -				
Tetrahydrofuran	400#	400#	Off Dock to Storm Drain	Block Flow With Sandbags or Equivalent and Recover By Pumping or Other Means
Methyl Alcohol	700#	350#	"	"
Di Octyl Adipate	2,600#	430#	"	"
Di Octyl Phthalate	2,700#	450#	"	"
Glycerine	15,000#	450#	"	"
Diethanolamine	5,400#	450#	"	"
Sorbitan Monolaurate	13,000#	450#	"	"
Diallyl Maleate	3,400#	450#	"	"
Vinyl Pyrrolidone-Vinyl Acetate	1,200#	400#	"	"
Hexadecanol/Octadecanol	3,300#	450#	"	"
Polyethylene Glycol Monolaurate	16,200#	450#	"	"
Polyvic (Proprietary)	2,100#	500#	"	"
Defoamer (Proprietary)	10,100#	450#	"	"
Foamaster (Proprietary)	3,300#	450#	"	"
Defoamer 12 (Proprietary)	16,000#	450#	"	"
Petroleum Base Amorphous Silica	2,000#	400#	"	"
Petroleum Oil	2,000#	400#	"	"
Lauric Acid	32,600#	450#	"	"
AREA 5, BUILDING 2 -				
INSIDE -				
4 Charge Vessels-Liq.	12,000 Gal.	3,000 Gal.	Effluent Trench or To Floor of Building	Contained in Effluent Treating System or in Building
3 ASTS Ammonium Laurate-Liq.	9,000 Gal.	3,000 Gal.	"	"
8 Stripping Vessels-Liq.	48,000 Gal.	6,000 Gal.	"	"
2 ASTS, Vinyl Acetate-Liq.	20,000 Gal.	10,000 Gal.	"	"
1 AST Sodium Hydroxide-Liq.	100 Gal.	100 Gal.	"	"
5 ASTS Vinyl Chloride/ Water-Liq.	5,000 Gal.	1,000 Gal.	"	"

AREA & MATERIAL STORED	Quantity NORMAL PEAK	Quantity LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 5, Continued -				
INSIDE -				
1 AST Vinyl Chloride-Liq.	2,000 Gal.	2,000 Gal.	Effluent Trench or To Floor of Building	Contained in Effluent Treating System or in Building
1 AST Ammonium Laurate-Liq.	750 Gal.	750 Gal.	"	"
1 AST Defoamer 12-Liq.	440 Gal.	440 Gal.	"	"
1 AST Nonyl Phenoxy Polyethoxy Ethanol-Liq.	280 Gal.	280 Gal.	"	"
1 AST Sodium Lauryl Sulfate-Liq.	440 Gal.	440 Gal.	"	"
1 AST Sodium Dodecyl-Benzene Sulfonate-Liq.	440 Gal.	440 Gal.	"	"
32 Reactors-Liq.	96,000 Gal.	7,500 Gal.	"	"
1 AST Hexadecanol-Octadecanol-Liq.	240 Gal.	240 Gal.	"	"
1 AST Nonyl Phenoxy Poly-ethoxy Ethanol-Liq.	280 Gal.	280 Gal.	"	"
2 ASTS Sulfonate-Alcohol Mixture-Liq.	3,400 Gal.	1,700 Gal.	"	"
1 AST Ammonium Laurate-Liq.	500 Gal.	500 Gal.	"	"
1 AST Nonyl Phenoxy Poly-ethoxy Ethanol-Liq.	750 Gal.	750 Gal.	"	"
1 AST Sodium Lauryl Sulfate-Liq.	5,000 Gal.	5,000 Gal.	"	"
Sodium Formaldehyde Sulfoxy-late-Solid	2,500#	250#	"	"
Stearic Acid-Solid	2,000#	50#	"	"
Defoamer (Proprietary-Liq.	100 Gal.	50 Gal.	"	"
Diallyl Maleate-Liq.	100 Gal.	50 Gal.	"	"
Butyl Cyclohexyl Peroxy-dicarbonate-Liq.	880#	220#	"	"
Polyethylene Glycol Mono-laurate-Liq.	450#	450#	"	"

AREA MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 5, Continued -				
BACK DOCK -				
OUTSIDE - ALL LIQUIDS -				
Methyl Alcohol	50 Gal.	50 Gal.	Floor of Containment	Curbed Containment
Acetone	50 Gal.	50 Gal.	"	"
Toluene	50 Gal.	50 Gal.	"	"
Methyl Isobutyl Ketone	50 Gal.	50 Gal.	"	"
Tetrahydrofuran	50 Gal.	50 Gal.	"	"
Methyl Ethyl Ketone	50 Gal.	50 Gal.	"	"
Cyclohexanone	50 Gal.	50 Gal.	"	"
Stoddard Solvent	50 Gal.	50 Gal.	"	"
AREA 6, BLEND TANKS, SLURRY:				
OUTSIDE - ALL LIQUIDS -				
6 ASTS PVC/Water	139,200 Gal.	23,200 Gal.	Effluent Trench	Contained in Effluent Treating System
1 AST PVC/Water	25,700 Gal.	25,700 Gal.	"	"
2 ASTS PVC/Water	48,400 Gal.	24,200 Gal.	"	"
4 ASTS PVC/Water	118,400 Gal.	29,600 Gal.	"	"
1 AST PVC/Water	46,100 Gal.	46,100 Gal.	"	"
1 AST PVC/Water	39,900 Gal.	39,900 Gal.	"	"
1 AST PVC/Water	26,500 Gal.	26,500 Gal.	"	"
1 UST PVC/Water	23,500 Gal.	23,500 Gal.	"	"
5 USTS PVC/Water	183,000 Gal.	36,600 Gal.	"	"
AREA 7, CHEMICAL TANK FARM:				
OUTSIDE -				
1 AST Anhydrous Ammonia-Liq.	4,000 Gal.	4,000 Gal.	Floor of Dike	Contained in Dike
2 ASTS Nonylphenoxy Poly-Ethoxyethanol-Liq.	10,000 Gal.	5,000 Gal.	"	"
1 AST Tetrasodium Ethylene-diamine Tetraacetic Acid-Liq.	5,000 Gal.	5,000 Gal.	"	"

AREA & MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 7, Continued:				
OUTSIDE -				
1 AST Sodium Lauryl Sulfate-Liq.	7,500 Gal.	7,500 Gal.	Floor of Dike	Contained in Dike
1 AST Sodium Dodecyl Benzene Sulfonate-Liq.	15,000 Gal.	15,000 Gal.	"	"
Lauric Acid-Solid	2,500 Gal.	50 Gal.	Road	Not Flowable
AREA 8, BUILDING 1:				
INSIDE -				
2 ASTS Mercaptoethanol-Liq.	7,000 Gal.	3,500 Gal.	Effluent Trench or Floor of Building	Contained in Effluent Treating System or in Building
22 Reactors-Liq.	66,000 Gal.	3,000 Gal.	"	"
5 Stripping Vessels-Liq.	30,000 Gal.	6,000 Gal.	"	"
3 ASTS Vinyl Chloride-Liq.	3,500 Gal.	1,500 Gal.	"	"
1 AST Polyvinyl Methyl Ether Maleic Anhydride-Liq.	300 Gal.	300 Gal.	"	"
3 ASTS Hydroxy Propyl Methyl Cellulose-Liq.	900 Gal.	300	"	"
1 AST Mono & Dibutyl Maleate-Liq.	2,500 Gal	2,500 Gal.	"	"
2 ASTS Hydroxy Propyl Methyl Cellulose-Liq.	1,800 Gal.	900 Gal.	"	"
2 ASTS Hydroxy Propyl Methyl Cellulose-Liq.	1,250 Gal.	630 Gal.	"	"
9 Cylinders Ammonia-Liq.	1,350#	150#	"	"
Hydroxy Propyl Ether Cellulose-Solid	2,000#	50#	"	"
Hydroxy Propyl Methyl Cellulose-Solid	6,000#	50#	"	"
Defoamer (Proprietary)-Liq.	2,000 Gal.	50 Gal.	"	"
Soybean Oil-Liq.	600 Gal.	600 Gal.	"	"

AREA & MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 8, Continued:				
INSIDE -				
Hydrogen Butylmaleate-Liq.	100 Gal.	50 Gal.	Effluent Trench or Floor of Building	Contained in Effluent Treating System or in Building
Sorbitan Monolaurate-Liq.	150 Gal.	50 Gal.	"	"
Sodium Dihexyl Sulfo-succinate-Liq.	600 Gal.	50 Gal.	"	"
AREA 9, BETWEEN BUILDING 1 & PILOT PLANT:				
OUTSIDE - ALL LIQUIDS -				
1 AST Vinyl Chloride/Water	26,000 Gal.	26,000 Gal.	Ground, Effluent Trench or Storm Drain	Block With Sandbags or Equivalent and Recover by Pumping or Other Means
2 ASTS Vinyl Acetate	40,000 Gal.	20,000 Gal.	"	"
2 ASTS Sodium Hydroxide	25,000 Gal.	20,000 Gal.	"	"
2 ASTS Seed latex; PVC - Water	30,000 Gal.	20,000 Gal.	"	"
3 ASTS PVC/Water Slurry	58,000 Gal.	28,000 Gal.	"	"
1 AST Dibutyl Maleate	20,000 Gal.	20,000 Gal.	"	"
AREA 10, PILOT PLANT:				
INSIDE -				
1 AST Dimethyl Formamide-Toluene-Liq.	800 Gal.	800 Gal.	Floor of Building or Effluent Trench	Contained in Building or Effluent Treating System
2 ASTS Sodium Lauryl Sulfate-Liq.	5,200 Gal.	2,600 Gal.	"	"
1 AST Trifluorochloro-Ethylene-Liq.	1,200#	1,200#	"	"
3 ASTS Vinyl Chloride-Liq.	23,000#	16,500#	"	"
1 AST Vinyl Acetate-Liq.	1,200#	1,200#	"	"
Sodium Alkyl Sulfonate-Liq.	2,100#	400#	"	"
Methyl Alcohol-Liq.	1,600#	500#	"	"

AREA & MATERIAL STORED	QUANTITY NORMAL PEAK	QUANTITY COST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 10, Continued:				
INSIDE -				
Glycerine-Liq.	100 Gal.	50 Gal.	Floor of Building or Effluent Trench	Contained in Building or Effluent Treating System
Sorbitan Monolaurate-Liq.	50 Gal.	50 Gal.	"	"
Foamaster (Proprietary)-Liq.	100 Gal.	50 Gal.	"	"
Ammonium Laurate-Liq.	1,600#	500#	"	"
PVC/Water Slurry-Liq.	1,100 Gal.	50 Gal.	"	"
Sodium Dihexyl Sulfosuccinate-Liq.	100 Gal.	50 Gal.	"	"
Sodium Alpha Olefin Sulfonate-Liq.	500 Gal.	50 Gal.	"	"
Sodium Dodecyl Benzene Sulfonate-Liq.	50 Gal.	50 Gal.	"	"
Nonyl Phenoxy Poly-Ethoxy Ethanol-Liq.	100 Gal.	50 Gal.	"	"
Polyvic (Proprietary)-Liq.	50 Gal.	50 Gal.	"	"
2 CYL. Trifluorchloro Ethylene-Liq.	3,600#	1,800#	"	"
13 Reactors-Liq.	6,100 Gal.	2,400# Gal.	"	"
1 Stripping Vessel-Liq.	2,400 Gal.	2,400 Gal.	"	"
Calcium Chloride-Solid	1,200#	50#	"	"
Polyvinyl Alcohol-Solid	1,100#	50#	"	"
Cetyl Alcohol-Solid	690#	50#	"	"
Stearyl Alcohol-Solid	660#	50#	"	"
Catalysts-Solid	1,100#	250#	"	"
Sodium Carbonate-Solid	250#	50#	"	"
Sodium Bicarbonate-Solid	300#	100#	"	"
Isopropylidene Diphenol-Solid	50#	50#	"	"
Hydroxypropyl Cellulose-Solid	50#	50#	"	"
Sodium Acetate-Solid	50#	50#	"	"
Fatty Alcohol-Solid	50#	50#	"	"
Sodium Bisulfite-Solid	50#	50#	"	"
Lauric Acid-Solid	50#	50#	"	"
Triethylene Glycol-Solid	50#	50#	"	"
Sodium Tetraborate-Solid	300#	100#	"	"

AREA & MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 10, Continued:				
INSIDE -				
Gelatin-Solid	500#	250#	Floor of Building or Effluent Trench	Contained in Building or Effluent Treating System
Phenothiazine-Solid	100#	100#	"	"
Tributylphosphate-Solid	180#	180#	"	"
Hydroxy Propyl Methyl Cellulose-Solid	350#	50#	"	"
BACK DOCK -				
Dimethyl Formamide-Liq.	200 Gal.	50 Gal.	Floor Containment	Curbed Containment
Toluene-Liq.	400 Gal.	50 Gal.	"	"
Acetone-Liq.	250 Gal.	50 Gal.	"	"
Hydroxypropylacrylate-Liq.	1,500 Gal.	50 Gal.	"	"
Hydrochloric Acid-Liq.	300 Gal.	50 Gal.	"	"
Dioctyladipate-Liq.	200 Gal.	50 Gal.	"	"
Ammonium Hydroxide-Liq.	100 Gal.	50 Gal.	"	"
Tributyl Phosphate-Liq.	500 Gal.	50 Gal.	"	"
Petroleum Oil-Liq.	50 Gal.	50 Gal.	"	"
Dimethylformamide-Toluene Mixture-Liq.	500 Gal.	50 Gal.	"	"
Trifluorchloro Ethylene-Liq.	7,200#	1,800#	"	"
AREA 11, BUDA SHOP:				
INSIDE -				
Petroleum Oils-Liq.	200 Gal.	50 Gal.	Floor of Building	Contained in Building
AREA 12, GARAGE #7:				
INSIDE -				
Petroleum Oils-Liq.	300 Gal.	50 Gal.	Floor of Building	Contained in Building

AREA & MATERIAL STORED	QUANTITY NORMAL PEAK	QUANTITY LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 13, GROUNDS DEPARTMENT BUILDING:				
INSIDE -				
Calcium Chloride-Solid	40,000#	40#	Floor of Building	Contained in Building
Fertilizer-Solid	1,000#	40#	"	"
Glyphosphate Isopropylamine Salt-Liq.	60 Gal.	30 Gal.	"	"
OUTSIDE -				
1 AST Diesel Oil-Liq.	250 Gal.	250 Gal.	Floor of Containment	Curbed Containment
AREA 14, MONOMER TANK FARM:				
OUTSIDE - ALL LIQUIDS -				
1 AST Vinyl Acetate	25,000 Gal.	25,000 Gal.	Ground Inside Dikes	Contained in Dikes
15 ASTS Vinyl Chloride	490,000 Gal.	170,000 Gal.	"	"
AREA 15, EFFLUENT TREATING:				
INSIDE - ALL LIQUIDS -				
1 AST Polyelectrolyte	500 Gal.	500 Gal.	Effluent Trench	Contained in Effluent Treating System
1 AST Sodium Lauryl Sulfate	2,500 Gal.	2,500 Gal.	"	"
1 AST Nonylphenoxy Poly-ethoxyethanol	1,300 Gal.	1,300 Gal.	"	"
AREA 16, INCINERATOR:				
OUTSIDE -				
2 ASTS Propane Liquid	2,000 Gal.	1,000 Gal.	Ground	Would Evaporate

AREA & MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 17, ROAD TO BASINS:				
OUTSIDE - ALL LIQUIDS -				
1 AST Aluminum Sulfate	5,900 Gal.	5,900 Gal.	Road, Ground, or Effluent Trench	Block Flow and Recover
2 ASTS Sodium Hydroxide	9,700 Gal.	9,000 Gal.	"	"
AREA 18, WELL WATER TREATMENT/COOLING:				
INSIDE - ALL LIQUIDS -				
1 AST Sulfuric Acid	200 Gal.	200 Gal.	Effluent Trench	Effluent Treating System
1 AST Sodium Hydroxide	200 Gal.	200 Gal.	"	"
2 ASTS (Proprietary)	1,200 Gal.	600 Gal.		
2 ASTS Sodium Hypochlorite	1,200 Gal.	600 Gal.	Floor of Building	Contained in Building
OUTSIDE - ALL LIQUIDS -				
1 AST Sulfuric Acid	9,700 Gal.	9,700 Gal.	Floor of Dike	Diked Containment
AREA 20, STORES DEPARTMENT:				
OUTSIDE -				
Petroleum Oils-Liq.	3,200 Gal.	50 Gal.	Floor of Containment	Curbed Containment
Janitor Cleaners-Liq.	400 Gal.	50 Gal.	"	"
Sulfuric Acid-Liq.	400#	200#	"	"
Hydrogen-Gas	190 Cu. Ft.	190 Cu. Ft.	"	"
Acetylene-Gas	1,100 Cu. Ft.	370 Cu. Ft.	"	"
Propane-Liq.	3,000#	33#	"	"
Chlorofluor-Methanes-Liq.	2,200#	110#	"	"
INSIDE -				
Hand Soap-Solid	300#	300#	Floor of Building	Contained in Building
Ajax Cleaner-Solid	24#	2#	"	"
Abrasive Powder-Solid	380#	380#	"	"
Dessicant-Solid	3,000#	300#	"	"
Fire Fighting Chemical-Solid	1,000#	50#	"	"
Oil Absorbent-Solid	2,000#	50#	"	"

AREA & MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 21, RR FROM MONOMER UNLOADING STATION TO NORTH SIDE RR ENTRY TO PLANT:				
OUTSIDE - ALL LIQUIDS -				
RR Cars, Vinyl Chloride	720,000 Gal.	24,000 Gal.	Ground, Storm Drain, or Effluent Trench	Block Flow and Recover
RR Car, Vinyl Acetate	20,000 Gal.	20,000 Gal.	"	"
AREA 22, RIVER WATER TREATING/STORAGE AREA:				
INSIDE -				
1 AST, Aluminum Sulfate-Liq.	350 Gal.	350 Gal.	Floor of Building	Contained in Building
1 AST, Polyelectrolyte-Liq.	350 Gal.	350 Gal.	"	"
1 AST, Diesel Oil (Fire pump)-Liq.	250 Gal.	250 Gal.	"	"
Polyelectrolyte-Solid	5,000#	500#	"	"
Aluminum Sulfate-Solid	1,000#	50#	"	"
OUTSIDE -				
Gasoline AST-Liq.	1,500 Gal.	1,500 Gal.	Floor of Dike	Diked Containment
Benzyl Ammonium Chloride-Liq.	50 Gal.	50 Gal.	Ground	Block Flow and Recover
1 AST Fuel Oil-Liq.	250 Gal.	250 Gal.	Ground	"
AREA 23, RIVER WATER PUMP HOUSE:				
1 AST Propane-Liq.	1,000 Gal.	1,000 Gal.	Ground	Would Evaporate
AREA 24, BOILER HOUSE:				
INSIDE -				
Octyldecylamine Acetate/ Morpholine-Liq.	100 Gal.	50 Gal.	Floor of Building	Contained in Building

AREA & MATERIAL STORED	QUANTITY NORMAL PEAK	QUANTITY LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 24, Continued:				
INSIDE -				
Butoxy Ethanol Naphtha & Imidazoline-Liq.	200 Gal.	50 Gal.	Floor of Building	Contained in Building
Lube Oil-Liq.	200 Gal.	50 Gal.	"	"
Magnesium Oxide-Solid	400 Gal.	50 Gal.	"	"
	1,500#	50#	"	"
OUTSIDE -				
Petroleum Oils-Liq.	1,250 Gal.	50 Gal.	Floor of Containment	Curbed Containment
Butoxyethanol Naphtha & Imidazoline-Liq.	50 Gal.	50 Gal.	"	"
AREA 25, TIRE PLANT:				
INSIDE -				
PVC Resins-Solid	12,600,000#	2,000#	Floor of Building	Contained in Building
Petroleum Oils-Liq.	1,200 Gal.	50 Gal.	"	"
Benzyl Ammonium Chloride-Liq.	150 Gal.	50 Gal.	"	"
Octyldecylamine Acetate & Morpholine-Liq.	500 Gal.	50 Gal.	"	"
1 AST Diesel Oil (Fire Pump)-Liq.	250 Gal.	250 Gal.	"	"
Calcium Oxide-Solid	25,000#	50#	"	"
Sodium Carbonate-Solid	18,000#	50#	"	"
Aluminum Sulfate-Solid	14,000#	50#	"	"
Sodium Sulfate-Solid	7,000#	400#	"	"
Sodium Hypochlorite-Solid	1,000#	100#	"	"
AREA 26, COLOR MIX OPERATION:				
INSIDE -				
Kerosene-Liq.	50 Gal.	50 Gal.	Floor of Building	Contained in Building
Metal Pigment Dispersions-Solid	23,000#	300#	"	"

AREA & MATERIAL STORED	NORMAL PEAK	LARGEST CONTAINER	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 28, TECH SERVICE BUILDING:				
INSIDE -				
Octyl Trimellitate-Liq.	50 Gal.	50 Gal.	Floor of Containment	Contained in Pans Under Drums
Soybean Oil-Liq.	100 Gal.	50 Gal.	"	"
Octyl Decyl Phthalate-Liq.	50 Gal.	50 Gal.	"	"
Butyl Benzyl Phthalate-Liq.	50 Gal.	50 Gal.	"	"
Tri Decyl Phthalate-Liq.	100 Gal.	50 Gal.	"	"
Di Octyl Phthalate-Liq.	100 Gal.	50 Gal.	"	"
C9-C11 Phthalates-Liq.	50 Gal.	50 Gal.	"	"
C7-C9 Phthalates-Liq.	50 Gal.	50 Gal.	"	"
Ethyl Hexyl Phthalate-Liq.	100 Gal.	50 Gal.	"	"
Di Isodecyl Phthalate-Liq.	150 Gal.	50 Gal.	"	"
PVC Resin-Solid	32,500#	1,000#	Floor of Building	Contained in Building
PVC Blend-Solid	5,600#	400#	"	"
Fillers--Clay, Carbon, Carbonates, Etc.-Solid	5,000#	50#	"	"
Resin Modifiers-Solid	2,200#	50#	"	"
Resin Lubricants-Solid	4,000#	100#	"	"
Stabilizer, Metallic-Solid	200#	100#	"	"
OUTSIDE - SIDE DOCK -				
Methyl Ethyl Ketone-Liq.	50 Gal.	50 Gal.	Floor of Containment	Contained in Pans Under Drums
Acetone-Liq.	50 Gal.	50 Gal.	"	"
Toluene-Liq.	50 Gal.	50 Gal.	"	"
Mineral Spirits-Liq.	50 Gal.	50 Gal.	"	"

AREA	MATERIAL UNLOADED	QUANTITY	VEHICLE	SPILL WOULD FLOW TO	
BULK LIQUIDS -					
AREA 3, PVC PLANT WAREHOUSE:					
	Lauric Acid	6,000 Gal.	Truck	Storm Drain	Block Flow and Recover
	Lauric Acid	8,000 Gal.	Railroad Car	"	"
	Hexadecanol/Octadecanol	6,600 Gal.	Truck	"	"
	Hexadecanol/Octadecanol	23,500 Gal.	Railroad Car	"	"
AREA 7, CHEMICAL TANK FARM:					
	Ammonia	29,000 Gal.	Truck	Road, Effluent Trench or Storm Drain	Block Flow and Recover
	Nonylphenoxy Polyethoxy-ethanol	5,200 Gal.	Truck	"	"
	Tetrasodium Ethylene-Diamine Tetraacetic Acid	3,700 Gal.	Truck	"	"
	Sodium Lauryl Sulfate	5,200 Gal.	Truck	"	"
AREA 8, BUILDING 1:					
	Mercaptoethanol	2,600 Gal.	Truck	Road, Effluent Trench or Storm Drain	Block Flow and Recover
AREA 9, BETWEEN BUILDING 1 & PILOT PLANT:					
	Sodium Hydroxide	3,800 Gal.	Truck	Ground, Effluent, Trench or Storm Drain	Block Flow and Recover
	Dibutyl Maleate	5,400 Gal.	Truck	"	"
AREA 14, MONOMER TANK FARM:					
	Vinyl Acetate	6,100 Gal.	Truck	Ground or Effleunt Trench	Block Flow and Recover
	Vinyl Acetate	20,000 Gal.	Railroad Car	"	"
	Vinyl Chloride	24,000 Gal.	Railroad Car	"	"
AREA 17, ROAD TO BASINS:					
	Aluminum Sulfate	4,000 Gal.	Truck or Storm Drain	Road, Effluent Trench	Block Flow and Recover

AREA & MATERIAL UNLOADED	QUANTITY			
BULK LIQUIDS - CONTINUED -				
AREA 18, WELL WATER TREATING COOLING AREA:				
Sodium Hypochlorite	0 Gal.	Truck	Road or Storm Drain	Block Flow and Recover
Enerlink (Proprietary) 313	500 Gal.	Truck	"	"
Enerlink (Proprietary) 314	400 Gal.	Truck	"	"
Sulfuric Acid	2,900 Gal.	Truck	"	"
BULK RESINS -				
AREA 2, PVC BULK DRY/STORAGE:				
PVC BULK DRY/STORAGE	45,000#	Truck	Floor of Building	Not Flowable
PVC BULK DRY/STORAGE	180,000#	Railroad Car	"	"
AREA 3, PVC PLANT WAREHOUSE:				
Miscellaneous		Truck	N/A	N/A
PVC Resins	45,000#	Truck	Road At Docks	Not Flowable
AREA 5, BETWEEN BUILDING 2 & WAREHOUSE:				
Miscellaneous		Truck	N/A	N/A
AREA 8, BUILDING 1:				
Miscellaneous		Truck	N/A	N/A
AREA 10, PILOT PLANT:				
Miscellaneous		Truck	N/A	N/A
AREA 20, STORES:				
Miscellaneous		Truck	N/A	N/A

AREA - MATERIAL UNLOADED	QUANTITY			
BULK RESINS - CONTINUED -				
AREA 24, BOILER HOUSE:				
Coal	47,000#	Truck	Road & Ground	Not Flowable
Miscellaneous		Truck	N/A	N/A
AREA 25, TIRE PLANT:				
PVC Resins	45,000#	Truck	Road At Docks	Not Flowable
Miscellaneous		Truck	N/A	N/A

A[illegible] MATERIAL LOADED	QUANTITY	[illegible]		
BULK MATERIALS -				
AREA 2, PVC BULK DRY/STORAGE:				
PVC Resins	45,000#	Truck	Floor of Building	Not Flowable
PVC Resins	180,000#	Railroad Car	"	"
AREA 24, BOILER HOUSE:				
Flyash	46,000#	Truck	Ground	Not Flowable
NON-BULK MATERIALS -				
AREA 3, PVC WAREHOUSE:				
PVC Resins	45,000#	Truck	Road at Docks	Not Flowable
Miscellaneous		Truck	"	"
AREA 10, PILOT PLANT:				
Waste Solvents	600 Gal.	Truck	Floor of Containment	Curbed Containment
Miscellaneous		Truck	"	"
AREA 20, STORES DEPARTMENT:				
PVC Resins	45,000#	Truck	Road at Dock	Not Flowable
Miscellaneous		Truck	"	"
AREA 25, TIRE PLANT:				
PVC Resins	45,000#	Truck	Road at Dock	Not Flowable
Miscellaneous		Truck	"	"

ARE FLUID, & NUMBER Or TRANSFORMERS	QUANTITY TOTAL	QUANTITY LARGEST	SPILL WOULD FLOW TO	POLLUTION PRE TION
AREA 5, BUILDING 2:				
INSIDE -				
Vault #10, PCB-CONTAM, 2	740 Gal.	370 Gal.	Floor of Vault	Contained in Vault
AREA 8, BUILDING 1:				
OUTSIDE -				
Outside Line 3, PCB, 2	440 Gal.	220 Gal.	Floor of Containment	Curbed Containment
AREA 18, WELL WATER TREATING/COOLING:				
INSIDE -				
N. Refrig.) PCB CONTAM, 1	370 Gal.	370 Gal.	Floor of Building	Contained in Building
WatrPmpHse) PCB, 1	2,162 Gal.	2,162 Gal.	"	"
OUTSIDE -				
S. Refrig/Water Pump House, Silicone, 1	178 Gal.	178 Gal.	Floor of Containment	Curbed Containment
AREA 19, EMERGENCY GENERATOR:				
OUTSIDE -				
Sub #5, Oil, Mineral, 1	2,060 Gal.	2,060 Gal.	Ground and Storm Drain	Block Flow and Recover
Sub #3, Oil, Mineral, 1	1,730 Gal.	1,730 Gal.	"	"
AREA 22, RIVER WATER TREATING/STORAGE:				
INSIDE -				
Fire Pump, PCB, 1	105 Gal.	105 Gal.	Floor of Building	Contained in Building

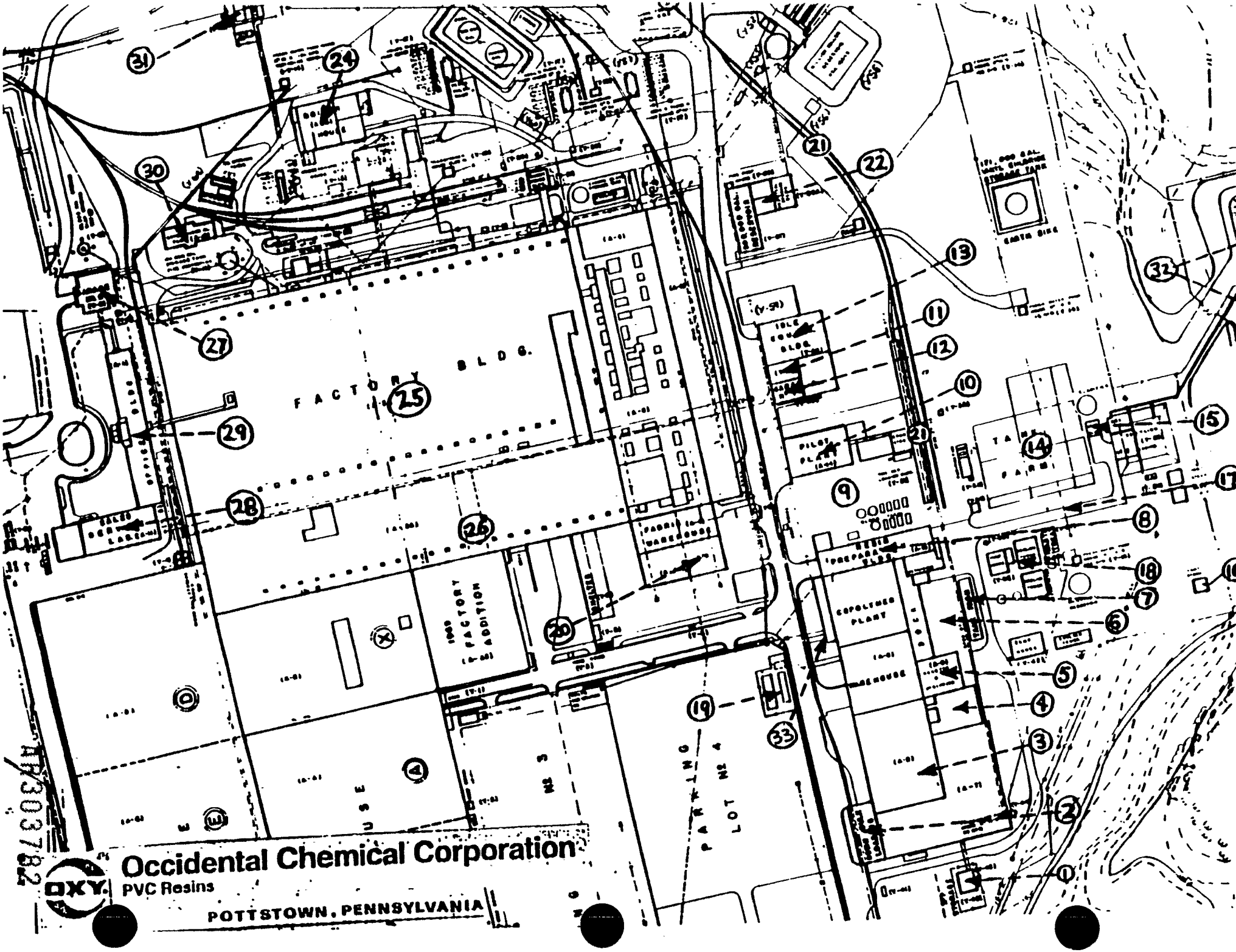
AR[illegible] FLUID, & NUMBER TRANSFORMERS	QUANTITY TOTAL	[illegible] GEST	SPILL WOULD FLOW TO	POLLUTION PR[illegible]TION
AREA 24, BOILER HOUSE:				
INSIDE -				
PCB, 1	375 Gal.	375 Gal.	Floor of Building	Contained in Building
PCB CONTAM., 7	329 Gal.	120 Gal.	"	"
Mineral Oil, 14	231 Gal.	52 Gal.	"	"
AREA 25, TIRE PLANT:				
INSIDE -				
Vault #1, PCB CONTAM., 1	52 Gal.	52 Gal.	Floor of Vault or Sub Station	Contained in Vault or Sub Station
" Mineral Oil, 4	1,480 Gal.	370 Gal.	"	"
Vault #2, PCB CONTAM, 9	929 Gal.	342 Gal.	"	"
Mineral Oil, 2	740 Gal.	370 Gal.	"	"
Vault #3, PCB CONTAM, 6	225 Gal.	52 Gal.	"	"
Mineral Oil, 2	740 Gal.	370 Gal.	"	"
Vault #4, PCB CONTAM, 7	304 Gal.	52 Gal.	"	"
Mineral Oil, 2	740 Gal.	370 Gal.	"	"
Vault #5, Mineral Oil, 5	366 Gal.	120 Gal.	"	"
Vault #6, PCB CONTAM, 5	170 Gal.	52 Gal.	"	"
Mineral Oil, 4	1,480 Gal.	370 Gal.	"	"
Vault #7, PCB CONTAM, 5	170 Gal.	52 Gal.	"	"
Mineral Oil, 3	792 Gal.	370 Gal.	"	"
Vault #8, PCB CONTAM, 2	74 Gal.	52 Gal.	"	"
Mineral Oil, 2	240 Gal.	120 Gal.	"	"
Vault #9, PCB CONTAM, 3	1,110 Gal.	370 Gal.	"	"
DC SUB, Mineral Oil, 1	52 Gal.	52 Gal.	"	"
FAB SUB, PCB CONTAM, 1	356 Gal.	356 Gal.	"	"
AREA 28, TECH SERVICE:				
INSIDE -				
PCB CONTAM, 2	50 Gal.	25 Gal.	Floor of Building	Contained in Building
Mineral Oil, 3	50 Gal.	25 Gal.	"	"

ARE FLUID, & NUMBER OF TRANSFORMERS	QUANTITY TOTAL	QUANTITY LARGEST	SPILL WOULD FLOW TO	POLLUTION PREVENTION
AREA 29, MAIN OFFICE:				
INSIDE -				
PCB CONTAM, 6	252 Gal.	52 Gal.	Floor of Building	Contained in Building
Mineral Oil, 2	104 Gal.	52 Gal.	"	"

AREA, [redacted] D, & NUMBER OF TRANSFORMERS & CIRCUIT BREAKERS	QUANTITY TOTAL	[redacted] GEST	SPILL WOULD FLOW TO	POLLUTION [redacted] NTION
AREA 30, ROTO BUILDING:				
INSIDE -				
Transformers, PCB CONTAM, 3	156 Gal.	52 Gal.	Floor of Building	Contained in Building
AREA 31, MAIN SUBSTATION:				
OUTSIDE -				
Transformers--Mineral Oil, 4	6,027 Gal.	2,270 Gal.	Ground	Block Flow and Recover
Circuit Breakers--Mineral Oil, 16	2,000 Gal.	265 Gal.	Ground	Block Flow and Recover

WASTE I & AREA; HAZARDOUS WASTES	QUANTITY	SPILL WOULD FLOW TO	FLOWABLE?
TOXIC CHARACTERISTIC HAZARDOUS WASTE: PVC SLUDGE, PVC SCRAP, AND WASTEWATER, TOXIC FOR VINYL CHLORIDE -			
A. TRANSPORT SYSTEM:			
Area 5, Trench Behind Building 2		Storm Drain or Ground	Block Flow with Sandbags or Equivalent and Recover by Pumping or Other Means
Area 6, Blend Tank Area		"	"
Area 8, Trench Behind Building 1		"	"
Area 9, Trench between Building 1 & Pilot Plant		"	"
Area 17, Trench Along Road to Basins		"	"
B. STORAGE FACILITY:			
Area 6, Blend Tank Area, Scrap Dumpster	20,000#	Floor of Containment	Not Flowable
Area 15, Effluent Treating System:			
Surface Impoundment, 3 Basins	300,000 Gal.	Ground or Storm Drain	Block Flow with Sandbags or Equivalent and Recover by Pumping or Other Means
Clarifier-Thickener	110,000 Gal.	"	"
Surface Impoundment, 2 Lined Lagoons	6,000,000 Gal.	"	"
CORROSIVE HAZARDOUS WASTE:			
A. TRANSPORT SYSTEM:			
Area 17, Trench Across Road to Basins		Road or Storm Drain	Block Flow and Recover by Pumping or Other Means
Area 18, Trench From Well Water Treating/Cooling		"	"
B. TREATMENT FACILITY, ELEM. PH NEUTRALIZATION:			
Area 18, Along Road to Basins	2,000 Gal.	Road or Storm Drain	Block Flow and Recover
NON-SPECIFIC SOURCE HAZARDOUS WASTE:			
Temp. Storage, Lab Waste Solvents:			
Area 4, Between Building 2 and PVC Warehouse	200 Gal.	Storm Drain	Block Flow and Recover

WASTE & AREA; HAZARDOUS WASTES	QUANTITY	STATE MODE	
NON-SPECIFIC SOURCE HAZARDOUS WASTE - Continued:			
Temp. Storage, Lab Waste Solvents:			
Area 10, Pilot Plant Rear Outside	50 Gal.	Floor of Containment	Curbed Containment
Area 28, Tech Service Side Dock	50 Gal.	Road and Storm Drain	Block Flow and Recover
Temp. Storage, Waste Kerosene:			
Area 26, Color Mix Operation	50 Gal.	Floor of Building	Contained in Building


FACTORY BLDG.
1980 FACTORY ADDITION
COPOLYMER PLANT
PARKING LOT #4
PILOT PLANT
TANK FARM
WAREHOUSE
Occidental Chemical Corporation
PVC Resins
POTTSTOWN, PENNSYLVANIA
OXY.

PROCEDURE FOR LIQUID DISCHARGE CONTROL FOR ALL DIKED AND CURBED AREAS
(Action Plan 8925, Implement by 2/28/90)

This procedure covers the 25 diked areas and 6 curbed areas of the Site listed on Attachment A and marked on Attachment B.

Discharges from these areas will be either storm water (and snow melt), leaked or spilled chemical or oil, or mixtures of both from the tanks, drums, or piping inside the containment structures.

Where UNCONTAMINATED storm water does not readily seep into the ground, it is to be drained, pumped, bailed, or otherwise removed discharging to the ground or to the storm water drainage system. IF THERE IS ANY QUESTION THAT STORM WATER IS CONTAMINATED INSIDE THE CONTAINMENT STRUCTURE, A SAMPLE MUST BE TAKEN FOR LAB ANALYSIS TO SUPPORT A DECISION ON DISPOSAL OF THE LIQUID. THIS DECISION WILL BE MADE BY A SUPERVISOR, ENGINEER, OR UPPER MANAGEMENT IN CONSULTATION WITH THE ENVIRONMENTAL MANAGER OR ENVIRONMENTAL ENGINEER.

For empty, idle tanks, there is no need to remove rainwater because of environmental pollution hazards, but this may be desirable for other reasons: Algae growth, mosquito breeding, etc.

Removal of leaked or spilled chemicals, or storm water contaminated with them, will be handled by various methods which will be specific to the nature of the material being removed.

For Vinyl Chloride, Dikes in I, A and B on the attached list: NO ATTEMPT WILL BE MADE TO REMOVE THE MONOMER. The effort will be to contain a spill and reduce the vaporization rate with foam. Deluge water will be turned off to avoid filling and overflowing the dike. Fog nozzle sprays will be used to attempt to reduce the vapor hazards.

For Ammonia, Dike I, C, 1: NO ATTEMPT WILL BE MADE TO REMOVE THE LIQUID CHEMICAL IN PURE FORM. The primary effort, once the vapor hazard is overcome, will be to dilute the pure spilled material as much as possible with water and pump the mixture into the effluent trench.

For PVC Slurry, Dikes II, 1 and 2: Any PVC slurry that would be captured and drained from the stack line knockout pots will be removed by pumping or other means and discharged into Basin I South of the effluent treating unit.

For Solvents and Chemicals, Pilot Plant, Dike III: Spills into this dike are to be removed into steel drums for later approved disposal.

For Sulfuric Acid, Dike I, D: Spills into this dike are to be removed into the tank in the Illco Building, into the parent storage tank, or into steel drums for later approved disposal.

For Vinyl Acetate, Dike I, A, 4: Spills into this dike are to be removed into steel drums for later approved disposal.

For PCB, Curbed Containment IV: PCB SPILLS ARE TO BE HANDLED BY AN APPROVED OUTSIDE CONTRACTOR DESIGNATED BY THE SITE ELECTRICAL ENGINEER, ENVIRONMENTAL MANAGER, OR ENVIRONMENTAL ENGINEER. Where the danger of overflowing the curb exists, before the outside contractor arrives, spilled material will be removed into steel drums by plant personnel under the direction of any of the three persons above.

For All Other Chemicals and Oils, Dikes I, C, 4, 5, 8, 9 and Curbed Containments V, VI, VII, and VIII, 1 and 2: Spills are to be removed into drums for later approved disposal.

ATTACHMENT A

DIKES - POTTSTOWN SITE

I. PVC Plant

A. Monomer Tank Farm: Earthen dikes

1. Hortonsphere
2. 3 VC tanks
3. 3 VC tanks
4. 2 VC tanks + 1 ViAc Tank
5. 2 empty tanks)
6. 2 empty tanks) --(Sty., Tol., TCE ?)
7. 1 recycle VC tank + 2 low pressure tanks
8. 3 recycle VC tanks

B. Monomer Tank Farm: Concrete Dikes

1. 2 refrigerated VC tanks
2. 3 empty tanks (BD)

C. Chemical Tank Farm: Concrete dikes

1. NH_3 tank
2. Empty tank
3. Triton tank
4. Triton tank
5. Versene tank
6. Empty tank
7. Empty tank
8. Sod. Laur. Sulf. tank
9. Emulsifier tank

D. H_2SO_4 tank - "gunite" dike

E. 1. Stack line K/O pot - Bldg. 1)
2. Stack line K/O pot - Bldg. 2) --Earthen dikes

II. Common Services: Earthen dikes

1. Aboveground #6 FO tank
2. Aboveground #6 FO tank

III. Pilot Plant: Concrete dike

1. Outside 2400 gallon tank

Total Number of Dikes - 25

CURBED CONTAINMENT - CONCRETE

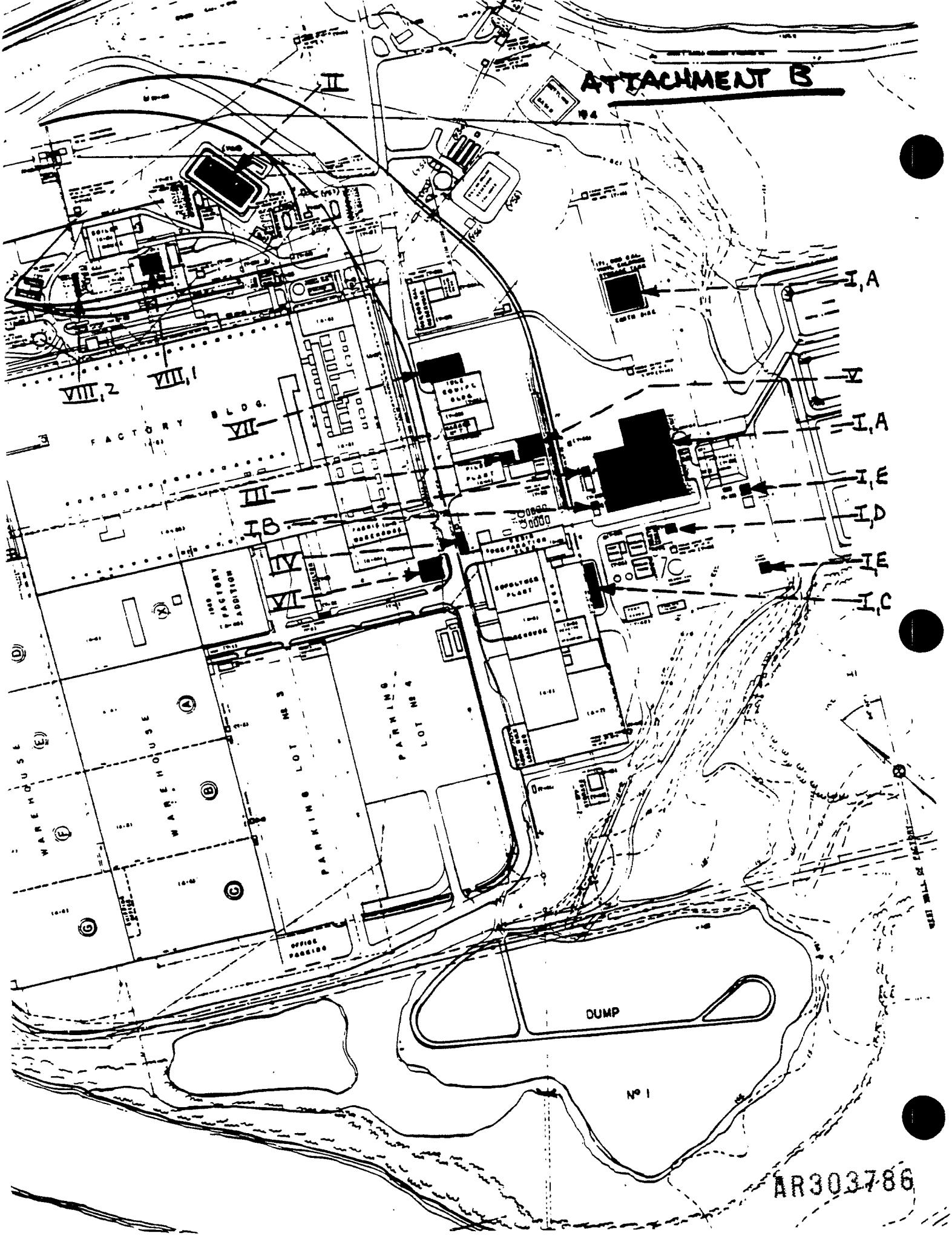
IV. PVC PLANT: Transformers in front of Line 3.

V. PILOT PLANT: Truck pad at rear.

VI. STORES: Outside drum storage pad.

VII. GROUNDS DEPT.: Empty drum storage pad.

VIII. BOILER HOUSE: 1. #6 Fuel oil unloading pad.
2. Diesel oil unloading pad.


ATTACHMENT B
II
I,A
V
I,A
I,E
I,D
I,E
I,C
VIII,2
VIII,1
VII
III
IB
IV
VI
FACTORY BLDG.
WAREHOUSE
PARKING LOT No 5
PARKING LOT No 4
DUMP
No 1

OxyChem

Environment & Safety

MEMO

To Plant Environmental Contacts Date April 20, 1987

From H. Dubec

Subject PCB Spill Cleanup Policy

cc: E&S Department
D. Stamp
R. Luss
T. Sawyer
C. Shaw

On April 2, 1987 USEPA promulgated a PCB Spill Cleanup Policy with an effective date of May 4, 1987. This policy sets reporting requirements and cleanup standards based on the concentration and amount of PCB material reaching the environment. It applies to spills, leaks and other uncontrolled discharges of materials containing PCBs at concentrations of 50 ppm and above.

The standards for various types of spills are:

1. Spills involving less than 1 lb. of low concentration PCBs by weight (i.e., less than 270 gal. of untested mineral oil containing less than 500 ppm PCBs).

   a. Solid surfaces must be double washed/rinsed, and all indoor, residential surfaces other than vault areas must be cleaned to 10 micrograms per 100 square centimeters (10 ug/100 cm^2), and verified by commercial wipe tests.

   b. Visible traces on soil and a buffer zone of one lateral foot around the visible traces must be excavated and the ground restored to its original configuration by back-filling with clean soil (i.e., containing less than 1 ppm PCBs).

   c. These standards must be met within 48 hours after the responsible party becomes aware of the spill. Delays in cleanup are allowed because of emergencies or adverse weather.

2. Spills involving 1 lb. or more of low concentration PCBs, and of high concentration PCBs (those that contain 500 ppm or more PCBs and those the EPA requires to be assumed to contain 500 ppm or more PCBs in the absence of testing).

a. Within 24 hours (48 hours for transformer spills) the responsible party must:

   i. notify the federal government (EPA Regional office),

   ii. restrict an area encompassing any visible traces, including a three foot buffer, and post warning signs,

   iii. record and document the area of visible contamination, and

   iv. initiate cleanup of all visible traces of the fluid on hard surfaces and initiate removal or all visible traces on soil and other media.

b. In outdoor electrical substations,

   i. solid surfaces must be cleaned to a PCB concentration of 100 ug/100 cm^2, and

   ii. soil must be cleaned either to 25 ppm PCBs by weight, or to 50 ppm PCBs by weight if a label or notice is visibly placed in the area.

c. In other restricted access areas,

   i. high contact solid surfaces must be cleaned to 10 ug/100 cm^2,

   ii. low contact, indoor, impervious solid surfaces must be decontaminated to 10 ug/100 cm^2,

   iii. low contact, indoor, non-impervious surfaces must be cleaned either to 10 ug/100 cm^2, or to 100 ug/100 cm^2 and be encapsulated,

   iv. low contact, outdoor surfaces (both impervious and non-impervious) must be cleaned to 100 ug/100 cm^2, and

   v. soil contaminated by the spill must be cleaned to 25 ppm PCBs by weight.

d. In non-restricted areas,

   i. easily replaceable household items must be disposed of,

   ii. indoor solid surfaces and high contact, outdoor solid surfaces must be cleaned to 10 ug/100 cm^2,

   iii. indoor vault areas and low contact, outdoor, impervious solid surfaces must be decontaminated to 10 ug/100 cm^2,

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6108F-2

iv. low contact, outdoor, non-impervious solid surfaces must be cleaned either to 10 ug/100 cm^2, or to 100 ug/100 cm^2 and be encapsulated, and

v. soil is to be decontaminated to 10 ppm PCBs by weight, provided the soil is excavated to a minimum depth of 10 inches and replaced with soil containing less than 1 ppm PCBs, and the spill site is restored (i.e., replacement of turf).

All materials used in, or collected during cleanup activities should be disposed of as PCB materials in approved PCB landfills, or by incineration in approved PCB incinerators.

Full copies of the policy are available from my office.

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61085-3

MATERIAL COMPATIBILITY

A. BOILER HOUSE & CHEMICAL PLANT

Engineering practices are in line with, either the vendor's recommendations or a superior material regarding the compatibility of construction materials with their contents and environment. Corrosion, reactivity, pressure, etc., are among the bases for selecting the proper materials. Inadvertent mixing of incompatible materials is avoided by having separate containers and discharge lines. Proper procedures are practiced.

All equipment, piping, valves, etc., are replaced with the same materials of construction as the original. If any doubt exists, the plant engineering department is consulted and specifications are reviewed toward a final decision.

B. PILOT PLANT

Selection of the proper materials of construction is based on the recommendation of the supplier from whom the material is purchased, consulting tables on corrosion, metal reactivity, and vapor pressure generated by the material to allow the proper material of construction. Raw materials are stored in separate tanks with their own discharge lines making mixing of two incompatible materials unlikely.

C. ENGINEERING PROJECTS

As part of any expansion project, modernization project, or replacement project, Occidental Chemical is committed to the practice of a formal hazards review at various milestones of a project. Engineers and managers at the Pottstown facility have received formal training in hazards review.

INSPECTION & MONITORING PROGRAM

A. BOILER HOUSE

All areas under the responsibility of the boiler house personnel are visually monitored at a minimum interval of once per shift. Tank levels, process pressures, effluent quality, etc., are checked to assure operating parameters are within acceptable limits.

Effluent to the river is sampled and tested weekly and is monitored at intervals specified by EPA and state regulations.

B. CHEMICAL PLANT

The inspection frequencies of the different areas vary from 2/shift to 1/year. The check list forms demonstrate the different areas and the type of inspection data recorded. See attachments VIa through VIf.

Once per year and upon special requests, a state inspector checks the pressure vessels relative to the insurance coding specifications.

The vinyl chloride monitoring detection systems consists of a master panel board, a series of warning lights and multi-level alarm horns and whistles. The Bacharach, a continuous sensing instrument for the detection of combustible gases and the Miran II infra-red continuous vinyl chloride monomer analyzer, are used in this monitoring system. A complete write-up with descriptions and locations is attached. If the Bacharach and/or Miran II are malfunctioning, the HNU Systems, Inc. portable photo-ionizer are put into service. These systems function as part of a DER approved leak detection program under NESHAP and OSHA regulations.

Personnel are monitored periodically for exposure to vinyl chloride vapor. The personnel are divided into groups varying in monitoring frequency dependent upon the work area.

Relative to EPA, state, and OSHA requirements, the exhaust from the incinerator is monitored continuously; the steam purge in opening a reactor is tested once per week; a sample of breathable air from the compressors is tested once per week.

C. PILOT PLANT

The Miran and Bacharach systems also continuously monitor the Pilot Plant on a 7-day 24-hour basis. Also, a complete bi-monthly check by the maintenance coordinator of all in-service equipment, with a portable organic analyzer, is conducted with any leak properly noted and repaired.

All drums are stored on a protective pad and routinely checked by Pilot Plant personnel and the environmental engineer for rust and possible leaks. There are no underground lines that, if ruptured, would result in significant environmental damage.

D. OTHER

In each plant, an annual check of 200 valves (or 90% of all valves) in vinyl chloride service is conducted to look for leaks. Less than 2% of valves have been found to be leaking in past checks. Any valve found leaking is repaired or replaced as per applicable standards.

Chemical Plant

BLEND TANK REPORT - BLDG. 1 - Each Shift

TIME OPERATOR

TYPE	START	FINISH	REMARKS
Act. Recovery			
- 095			
063			
- 2063			

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BLEND TANK REPORT - BLDG. 2 - Each Shift

TIME   OPERATOR

TYPE	START	TYPE	FINISH	REMARKS

--2,500--ds

RE: Inspection & Monitoring
Chemical Plant

Attachment VIc

TANK FARM REPORT- Each Shift

_____ SHIFT _____ TIME _____ NAME _____

— TANK TRUCKS — UNLOADED

	____	____	____	____
OADED	____	____	____	____
TART	____	____	____	____
INAL	____	____	____	____
START	____	____	____	____
FINAL	____	____	____	____
AL	____	____	____	____

1	____	____	____	____
2	____	____	____	____
3	____	____	____	____
4	____	____	____	____
5	____	____	____	____
6	____	____	____	____
7	____	____	____	____
8	____	____	____	____
9	____	____	____	____
10	____	____	____	____
11	____	____	____	____
12	____	____	____	____
13	____	____	____	____
14	____	____	____	____
15	____	____	____	____
16	____	____	____	____
17	____	____	____	____
18	____	____	____	____
19	____	____	____	____

ARS ON TRACK START SHIFT

TANK CARS ON TRACK END SHIFT

	(13)	(12)	(13)
) ____	VC ( ) ____	VC ( ) ____	VC ( ) ____
) ____	VC ( ) ____	BD ( ) ____	VC ( ) ____
) ____	REC ( ) ____	VA ( ) ____	REC ( ) ____
) ____	STY ( ) ____	TCE ( ) ____	STY ( ) ____

E	____ ____ ____ ____	#	BASINS
F. STG.	____ ____		____% PUMPING ____ CIRCULATING
F. STG.	____ ____		RECYCLE FROM ____ S. T.
PYRIDINE	____ ____ ____		SPHERE R/Ds #1 ____ #2 ____ #3 ____
RIFIED	____ ____		I.W.T. UNITS - A. ____ B. ____
AUSTIC TK.	____ ____		BACKWASHED #____ SAND FILTER
TANK	____ ____		TOWER WATER P.H. ____
	____ ____		
SLURRY TK.	____ ____		

AR303795

7:ds-1,500#

RE: Inspection & Monitoring Attachment VId
Chemical Plant

TANK FARM REPORT
TWICE PER SHIFT

DATE
SHIFT

	TIME	TIME
mpressor, R. D.		
l Temperature		
nt Gas		
ow Meter, GPM		
mp Discharge, PSIG		
lumn Oil Level		
cycle Stg. Tk.Press.		
e Separator 1		
essure		
t		
pture Discs		
rculating Pump		
nding From Tank		
nt Condition		
Trench		
dg. 1		
dg. 2		
2 Flow		
(Lime Pit)		
me Flow		
reen End Of Trench		
ickener Torque		
E.Pump Setting		
E.Tank Level		
erflow Clarity & PH		
sin 3 Level		
fluent Meter Rdg.		
mping(GPM Or No)		
goon Pump (On-Off)		
w To Basin		
d To Basin		
goon Level		
N		
N		
d Lagoon Level		
ouse		
mpressor Rupture		
scs		
ire Pump,& Flow		
lastic Temp.		
Pure Tank		
vel		
essure		

Sidestream Filters, ΔP	TIME	TIME
E- Well Water		
a. Pumps.No. On		
b. Pressure		
c. Reservoir Level		
F- Cooling Towers (#1) & (#2)		
a. Level		
b. Fans.No.On&Direction		
c. Acid Feeder(Level)		
d. PH		
e. Drop Across Screens		
f. Press.ToPlt.,PSIG		
g. T.W. Temp.		
G- Refrigerated H_2O		
a. Level In Stg. Tks.		
b. Pressure To Plant		
c. Makeup Water		
d. #6 Carrier Temp. Refrigerated H_2O		
e. #7 York Temp. Refrigerated H_2O		
H- South Cooling Tower (#3)		
a. Level		
b. Fans.No.On&Direction		
c. Drop Across Screens		
d. Press.OfPlt.,PSIG		
e. T.W. Temp.		
I- Bldg. 2 Refrigerated H_2O		
a. Press. To Plant		
b. #8 Carrier Temp. Refrigerated H_2O		
c. #9 Carrier Temp. Refrigerated H_2O		
d. #11 Carrier Temp. Refrigerated H_2O		
J- New South Tower (#4)		
a. Level		
b. Fans.No.On&Direction		

28- K- COMMENTS.

RE: Inspection & Monitoring
Chemical Plant

Attachment VIe

BULK STORAGE AREA REPORT - Each Shift

TIME _____ OPERATOR _____

TYPE	START	FINISH	LOT & COMMENTS

DRYING LINE 11 REPORT

IN 1 _____
IN 2 _____
IN 3 _____
MK 11 _____
SYSTEM 2 _____
SYSTEM 3 _____

IN NO.	TIME FULL	SILO AFTER TRANSFER	SILO NO.	AMOUNT TRANSFERRED

K SCREEN OVERFLOW _____ TOTAL _____
SCREEN FINES _____
SCREEN OVERFLOW _____ HOURS RUN _____

AR303797

RE: Inspection & Monitoring
Chemical Plant

ATTACHMENT VII

DRYING LINE 12 REPORT - **Each Shift**

_____ TIME _____ OPERATOR _____

	TYPE	START	FINISH	LOT & COMMENTS
in 4				
in 5				
in 6				
nk 12				

IN NO.	TIME FULL	SILO AFTER TRANSFER	SILO NO.	AMOUNT TRANSFERRED

: Screen Overflow _____ Total _____

Screen Fines _____

Screen Overflow _____ Hours Run _____

ank Number _____

DRYING LINE 13 REPORT

	TYPE	START	FINISH	LOT & COMMENTS
Bin 7				
Bin 8				
Bin 9				
ank 13				

BIN NO.	TIME FULL	SILO AFTER TRANSFER	SILO NO.	AMOUNT TRANSFERRED

k Screen Overflow _____ Total _____

Screen Fines _____

Screen Overflow _____ Hours Run _____

Ta Number _____

73/bjs

AR303798

VII PREVENTIVE MAINTENANCE

A. BOILER HOUSE

Major equipment in the boiler house is generally serviced and inspected on an annual basis to insure personnel safety and to maintain the maximum on-line equipment availability demanded in boiler house service. In critical applications, installed spares are available in the event of equipment malfunction or failure.

Boilers and non-fired pressure vessels receive their required state inspections on an annual basis.

B. CHEMICAL PLANT

Operation facilities and equipment are kept in operating condition by scheduled periodic inspections and minor maintenance on all equipment. An explanation of the preventive maintenance system is attached. (Attachment VII)

C. COLOR MIX OPERATION

All equipment is inspected periodically and scheduled for minor maintenance. In addition, operating personnel continually monitor the equipment under their jurisdiction and alert the maintenance department to potential problem areas. This is accomplished with the assistance of the maintenance work order form. Equipment lubrication is performed according to a daily schedule. (Also see Attachment VII).

D. PILOT PLANT

In the Pilot Plant our maintenance coordinator has the responsibility of conducting the Preventive Maintenance Program. This is partially related to the OSHA Leak Detection Program which consists of bi-monthly examination of all equipment in service using a portable gas analyzer. Second, a continuous monitoring organic analyzer patrols the entire plant every twelve minutes and should any organic vapor be detected, a horn alerts the Pilot Plant personnel of a potential problem. Thirdly, every year at our annual shutdown, our vessels are pressure tested and certified by a qualified state inspector along with a thorough in-house inspection.

Prevention of possible future incidents will, however, be accomplished primarily by increased emphasis and training in the prevention of accidental spills and discharges. Since the most likely source of spills in

VII PREVENTIVE MAINTENANCE (CONT'D.)

D. PILOT PLANT (Cont'd.)

the Pilot Plant are drums, along with several small storage tanks, emphasis will be placed on proper handling, storage and valve settings of these containers.

Corrective actions include the shutting down of any defective equipment, the writing of the appropriate work order to have the equipment repaired and entering the corrective actions into a continuing maintenance file. Our sensing device is calibrated on a routine basis; the continuous monitoring instrument on a daily work day basis and the portable gas analyzer on a monthly basis.

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE

Does not apply.

F. STORE ROOM

Does not apply.

RE: PREVENTIVE MAINTENANCE
CHEMICAL PLANT &
FABRICATED PRODUCTS

ATTACHMENT VII

INTRODUCTION

The purpose of the Preventive Maintenance Program is to insure that the plant operation facilities and equipment are kept in top operating condition at all times. This is achieved by scheduling periodic inspection and minor maintenance on all equipment.

The system employs the use of three basic forms:

1. a preventive maintenance work order
2. a machine data card
3. a machine repair card

The manner in which these cards are used is explained in this report.

RESPONSIBILITIES OF PREVENTIVE MAINTENANCE SECRETARY

The machine data cards are used to record pertinent data on equipment. Except for filling out new cards for new equipment and removing cards for equipment no longer in use, these require no other follow-up work.

For each major piece of equipment there is a preventive maintenance work order form. This card is used for all scheduling regardless of the nature or frequency. They are filed in a manner so that a minimum amount of clerical work is necessary to scan them in the filer and then copy them for distribution to maintenance.

Groups of such cards are separated by main and intermediate dividers in such a way that any card can be immediately located. The main dividers on the left hand side of the file control the main file divisions. Each file tab contains the department number and the name of the department starting with the lowest department number.

Immediately following each divider will be found the Speedex inner guide. The guide contains the names and numbers of the major pieces of equipment in the department. If the numbers of major pieces of equipment in a department exceeds 13, the Continuation Speedex Inner Guide is used.

The Preventive Maintenance Work Order form is filed as the front card. It has a time scale on the upper face of the card indicating the months and weeks of the year. An "X" is placed in the appropriate area to indicate the month and week of the year when inspections are to be made. A moveable metal signal of the appropriate color and number is attached to the margin and marks the next week of the

year in which any preventive maintenance operation or inspection is scheduled for that machine, equipment of any of its components. On the right hand side of the card is an area in which the plan for maintenance or inspection is recorded by frequency code (number of times a year to be performed by craft).

In the body of the form are typed the preventive maintenance operation instructions listed by crafts.

Each week, all the signals are scanned, the Preventive Maintenance Work Orders having a signal on the current week are pulled. The pulled forms are then used to reproduce work orders needed as per schedule, i.e., one for each craft scheduled to perform an inspection or service in that week on that machine. Work to be done by a given craft is encircled.

As the Preventive Maintenance Work Order is refiled after copying, the signal in the visible margin is moved to the next week that preventive maintenance operations are scheduled for that particular machine or any of its components, and a notation of work ordered done is entered; requiring a date and a number on the machine repair record form. After a work order is issued, and the notation made on the repair record form, it is refiled behind the Preventive Maintenance Work Order with red side front. This causes a red spot to appear thru the signal hole in the Work Order forms signifying an open work order.

As completed work orders are received, notation of work ordered is checked off on the summary form and any significant notes or remarks are likewise entered. When the last open job covered by a given card is checked off, the card is refiled with the green side front. The file can be scanned quickly, whenever desired, for selection of red dot items requiring follow-up.

If the issued work orders have not been returned within 14 days they are reissued and so noted. If after an additional 14 days the work has not been done, a memo is written to the Master Mechanic with a copy to the Plant Engineer listing the work not done and handwritten comments on why the work was not done.

The machine repair record or summary card serves a dual purpose. As noted avove, a record is kept of the preventive maintenance work done. In addition, on the reverse side (the green side) is recorded work done other than preventive maintenance. This information is taken from work orders issued by plant supervisors for maintenance work. Each day the Master Mechanic checks all the work

orders completed and selects those to be recorded on the machine repair card. This information is very helpful in analyzing the effectiveness of the preventive maintenance program and for adjusting the frequency of preventive maintenance inspections.

RESPONSIBILITIES OF MAINTENANCE SUPERVISION AND ENGINEERING

Once the preventive maintenance work orders get to the maintenance department, the foreman routes the copies to the appropriate craftsman. All attempts should be made to get the work done within the week it is issued. After the craftsman performs the work, he puts his "O.K." in the remarks column. If other work is required he puts that information on the work order with the date.

The foreman reviews the work orders at the end of his shift. If more work is required and it can be done without a major shutdown, a work order is written. If a major shutdown is involved then a memo is written (after a careful look at the work involved) by the Master Mechanic to the Factory Manager.

The Master Mechanic is responsible for the supervision of the entire preventive maintenance program. In addition to seeing that the PM work orders get done, all other work orders must be reviewed daily for inclusion on the machine repair card and the files must be kept up-to-date. By periodically reviewing the machine repair cards the frequency of preventive maintenance inspections should be altered to lessen maintenance costs or to provide better protection of critical equipment.

Correct completion of work orders must be required from all maintenance foremen.

Engineering should provide the Master Mechanic all the data on new equipment that is installed. The Master Mechanic will have a machine data card completed with this data. If possible, any stores item numbers for spare parts should be included on the machine data card. If equipment is removed from the plant or is permanently obsolete, the Master Mechanic should be notified so he can have the appropriate data cards removed from the files.

VIII HOUSEKEEPING

A. BOILER HOUSE

All raw materials are stored neatly in designated areas to prevent safety and spill hazards. Refuse is deposited in dumpsters for removal to landfill. Empty drums are stored on curbed spill pads to prevent any accidental run-off contamination. Maintenance items are kept in designated areas and the equipment removed from service is scrapped or put into storage in a timely manner.

Minor spills are treated with absorbent material immediately and swept up to maintain a clean safe workplace. Sweeping of floors and other general housekeeping measures are performed on an "as needed" basis.

B. CHEMICAL PLANT

Janitorial coverage is assigned to all areas of the plant - production, offices, laboratories, warehouse, locker rooms, stairways, aisleways, etc. Areas are maintained clean by the use of brooms, machine scrubbers, etc. Stairways and aisleways are kept clear - refuse is picked up and disposed of on a regular basis.

Resin and latex products in bags and drums are stacked in the warehouse in an orderly manner. Production foremen maintain prompt handling of spills in their areas to prevent the spills from entering floor drains or any other type of drainage system. Minor spills are cleaned up, using absorbent material when necessary, by placing in a drum or a dumpster for proper disposal.

In the case of major spills beyond our capability, outside contractors would be called in to handle the clean up.

C. COLOR MIX & WAREHOUSE

Raw material and finished goods warehouses are organized in such a manner to provide adequate and safe aisleways. Racks are provided for those items not easily stacked. There is janitorial coverage on each shift so as to assure that the work areas are kept clean. Brooms and cleaning machines are used for this purpose. Refuse is removed daily. The production foreman are responsible for assuring that spills and other housekeeping problems are corrected promptly.

VIII HOUSEKEEPING (CONT'D.)

D. PILOT PLANT

Equipment and areas are cleaned up after each job - supplies, tools, etc. are returned to their proper place.

Spills are contained with hi-dri, rags or sandbags as required. After the spill is contained, the plant engineer or plant foreman is contacted to determine the nature of the spill. If the spill is a hazardous waste, the absorbent medium used will be disposed of in the drum marked as "Hazardous Waste" for proper disposal, otherwise, the absorbent medium is placed in a dumpster for disposal to landfill. The area is cleaned by using water, squeegees, mops, push broom, dust pan, etc. as may be appropriate depending upon the nature of the spill - liquid or dry material. Janitorial coverage for various areas is also part of the housekeeping program.

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE

Chemicals and equipment are kept in an orderly fashion. Areas are kept neat and clean by the personnel. Janitorial coverage is maintained for some areas.

Spills are of a minor nature and are handled promptly by the laboratory personnel. If the spill is a hazardous waste, it is contained by using rags or other absorbent material which are subsequently placed in an appropriate hazardous waste container for future off-site disposal. The non-hazardous waste materials are disposed of ultimately to the landfill.

F. STORE ROOM

Items are stocked and maintained in an organized fashion in binds, on shelves, etc. Areas are kept neat and clean. Aisles are kept clear. Refuse is picked up and disposed of on a regular basis. Janitorial coverage is also provided.

IX SECURITY

A. BOILER HOUSE

B. CHEMICAL PLANT

C. FABRICATED PRODUCTS

D. PILOT PLANT

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE

F. STORE ROOM

The security procedures employed at the installation to prevent accidental or intentional entry that could result in a violation of departmental regulations are considered satisfactory.

The perimeter of this facility is surrounded by a nine foot chain link fence, topped by three strands of barbed wire. All perimeter gates not normally in use are chained, padlocked and sealed. The gates used on a daily basis are controlled by a plant guard. We have made arrangements to have repair work on the perimeter fence where needed.

In addition to the Plant Protection surveillance by car and on foot, closed circuit television is also utilized for the facility's security. We have contracted having all new CCTV equipment installed at this site with an additional four cameras in areas felt needed.

Everyone now wears I.D. badges on site. All non-employees must have a pass to enter the facility.

The watchman patrols have a combined total of twenty-seven stations. The patrol through the Main Office, vacant Tire Plant and Plastics area consists of fifteen locations and requires forty-five minutes for completion. We are currently doing an abbreviated round consisting of twelve stations at the Chemical Plant. This also requires forty-five minutes for completion and it starts at Idle Equipment and continues through the Tank Farm and the critical areas of both Building #1 and #2 of the Chemical Plant. A twenty station round which can be completed in one and one-half hours is run when the Chemical Plant is shut down.

EXTERNAL FACTORS

Floods:

These would occur only from flooding of the Schuylkill River which forms the boundary on three sides of the plant and, historically, this has inundated only the flood plain which comprises about one-half of the area of the site. The operating plants are not affected directly, since they are above and out of the flood plain.

However, the river water supplied to the Fire Water System and to the Boiler House would be cut off, if the Pumphouse at the river edge were flooded. This has occurred only once during a 100-year storm in 1972. Loss of this supply would be made up by diverting water from the nine deep wells into the river water reservoirs.

River flooding could inundate the two, active, lined lagoons in the flood plain holding PVC sludge and wastewater, both of which are now RCRA and State Hazardous Wastes. The plant has filed for Interim Status to continue use of these until an approved closure plan is implemented and completed as required by September, 1995.

Four, inactive earthen lagoons in the flood plain are full of dry, PVC waste solids, non-hazardous waste in place. The surfaces of these have been stabilized by an abundance of vegetative growth and would not be affected by inundation from river flooding.

Although the closed landfill is technically in the flood plain, its final closed elevation is above and out of the flood plain. The sloped banks are covered with abundant vegetative cover and are therefore not vulnerable to river flooding. Also, the path of the river is such that the full flow velocity during river flooding is away from the landfill.

The active landfill elevation has not reached a level such that flooding would not inundate the working face and, of course, the lower level sedimentation pond. New State residual waste landfill regulations will force closure of the landfill within the next 2-3 years.

Hurricane, Tornado, Earthquake:

This site has never experienced these and the future probabilities of occurance are considered nil. High winds have been experienced, sometimes as the fringe effects of hurricanes, but no adverse impacts occurred other than minor structural damage.

Vandalism, Strikes:

Vulnerability of equipment and operations from the actions of vandals and union members, outside on strike, is considered nil, because of the protections of the boundary fences, the river and the activities of the Site Security Force conducting surveillance in vehicles and on foot.

Walkouts by striking union members have no adverse impacts, since there are always supervisorary personnel on hand to safely control operations in standby or shutdown.

owstorm:

The worst effect of heavy storms is preventing the following shift workers from reaching the plant. In these events, the shift on duty is held over until they can be relieved later safely.

Drought:

The plant is subject to curtailment of use of surface and ground water after declaration by the Governor of Pennsylvania, that a drought emergency exists. Under an approved plan, a phased shut down of operations would be required up 50% reduction of water use.

The only impacts of such curtailment would be economic losses to workers, the company and the community.

Air Pollution Episode:

In the event of significant degradation of the ambient air quality in the Southeastern Penna. air basin, the plant would be required to shut down various air emitting processes in phased sequence up to a total shutdown.

As for the drought emergency curtailment, the impacts would be economic losses to workers, the company and the community.

Power Outage:

Power failures can have serious impacts at this site, primarily because of the nature of the major raw material, vinyl chloride monomer. The basic process of manufacturing is the high temperature, high pressure polymerization of this chemical, a highly flammable, highly explosive gas kept as a liquid under pressure, to the finished product, a solid particle polymer, PVC. In polymerization, controlled cooling to remove heat given off in reaction is critical. With a loss of flow of the cooling water circulating thru the jackets of the reactors, such as during a power failure, batch temperatures and the corresponding vapor pressures rise rapidly and safety relief valves would open to protect against rupture of the vessels. Discharge of vinyl chloride vapor can cause hazards to humans, equipment and the environment.

To prevent such occurrences, an emergency, electrical power, diesel oil driven generator is activated at the time of a power failure of the outside supply and used in conjunction with the attached Emergency Power Plant (EP Plan) to keep the main PVC Plant and Pilot Plant in safe condition in prevent releases of vinyl chloride.

While other areas and operations on the site are adversely affected by power failures, none pose a threat of spills, discharges, fires or explosions.

EMERGENCY POWER PLAN (E P PLAN)

The emergency electrical power generator in the PVC Plant parking lot has capacity for only certain lighting, pumps, fans, agitators, etc., so that specific areas are held in safe standby until normal power is restored.

When power is lost from the outside supply, a 2-3 minute time lapse will occur before partial power is available from the emergency generator.

If the emergency generator is overloaded beyond it's 2300 KW capacity, it will shut down automatically and a 12-15 minute delay will occur before it can be re-started.

Either emergency power or normal power will activate all lighting and some exhaust fans automatically. Return of plant lighting must not be assumed to be restoration of normal power. Such an assumption followed by activation of too many power users can overlaod and shut down the emergency generator.

Control of emergency power is by telephone or radio from electricians at the emergency generator to the PVC Lead Foreman, Shift Foreman and the Pilot Plant person in charge there.

On return to normal power, a power shutdown of 2-3 seconds will occur during the switchover.

Phase I, Immediate action at power failure:

a. Shift electricians go to the emergency generator and start it up. They will notify the Lead Foreman and others when emergency power is available for Phase II of the E P Plan.

b. All personnel will close all open valves; monomer; solution; product; air but not instrument air; water, but not those for cooling reactor jackets, steam & dryers, strippers, reactors, etc.

c. The refrigerated water valve to the sump in the North Refrigerated Water Pumphouse must be closed **IMMEDIATELY** to prevent a massive overflow from the sump.

d. Put all reactors on tower water and set temperature control pointers to 50°F.

Phase II, Action when emergency power is available:

a. Turn on one air compressor to supply instrument air throughout the plant. All outer air use must be stopped.

b. Turn off all lights not needed; plant lighting is about 20% of the capacity of the emergency generator and this must be reduced to the minimum necessary.

c. Turn on agitators in copolymer blend tanks and strippers.

d. Turn off refrigerated water pumps in the North Refrigerated Water Bldg.; these start automatically and will take 300 KW of the 2300 KW capacity of the emergency generator; this is urgent in order to prevent overloading the emergency unit.

e. Turn on 2 tower water pumps in each of the Refrigerated Water Pumphouses, North and South.

f. Turn on #6 Deep Well pump, 2 well water pumps, and one deionized water pump.

g. Turn on all fans in all four cooling towers.

h. Pilot Plant will turn on certain pre-selected power users.

i. Fire water can be used, but only after prior notice to the Control Room.

j. Constant communication between the electricians at the emergency generator and all areas, so that changing power demands are controlled and an overload at the generator is avoided.

Phase III, Action when normal power is available:

a. Personnel at the emergency generator will notify all areas when the changeover to normal power is to be made.

   A power shutdown of a few seconds will occur during the changeover.

b. All areas will then proceed with an orderly return to full operation on normal power.

A guideline tabulation is attached showing individual power user demands and their cumulative draw on the 2300 KW for one scheme of operation in an emergency.

SCHEDULE

FOR POWER ALLOCATION UNDER E P PLAN

KW = HP X 0.746/0.8 = HP X 0.933

		HP	KW	CUMULATIVE KW ALLOCATED	KW BALANCE AVAILABLE
	Emergency Generator				2300
1.	#6 Deep Well Pump	40	37	37	2263
2.	Nine (9) Tower Fans, 20 HP ea. (North, Center & South Towers)	180	168	205	2095
3.	Four (4) Tower Water Pumps, 150 HP ea. (Tower Pumps #4 & #6 in North Bldg.) (South Tower Pumps #7 & #8 in South Bldg.)	600	560	765	1535
4.	One (1) deionized water pump	75	70	835	1465
5.	Two (2) Well Water Pumps, 20 HP ea.	40	37	872	1428
6.	Heater fans (input) and exhaust fans (NORMAL)	124	116	988	1312
7.	One (1) Jay Air Compresser, L. #11	60	56	1044	1256
8.	Half (½) of 1750 lights, 0.2 KW ea.	-	175	1219	1081
9.	COP B.T. #206 & #205, 30 HP ea. x 0.67	40	38	1257	1043
10.	Soln. Res. B.T. #211 & #216, 20 HP ea. x 0.67	27	25	1282	1018
11.	COP Strippers #1, #3, & #4, 30 HP Tk. x 0.67	20	19	1301	999
12.	Soln. Res. Stripper #2, 15 HP x 0.67	10	9	1310	990
13.	Pilot Plant Power, Max. Total	122	114	1424	876
14.	Pilot Plant Lights, Max. Total	-	30	1454	846
15.	Ten (10) Bldg. I reactor agitators (slow speed) and/or jacket pumps, 10 HP ea.	100	93	1547	753
1 .	Twenty (20) Bldg. II reactor agitators	200	187	1734	566

POWER FAILURE TELEPHONE BACK-UP SYSTEM

Each telephone designated as a power failure unit has a special relay which is triggered by the loss of line power causing it to "seize" a specific trunk line. In doing so it becomes, in effect, a private line identified by the number of the trunk, not by its original designated extension number.

During a power failure these phones should continue to have a dial tone. All calls must be made to the EXCHANGE & NUMBER of the desired party without using the '9' access code. For example, the 1st floor of the Pilot Plant may call Security by dialing 327-0657 —— Security could return the call by dialing 326-2018. Your power failure number should be given to the people you call to facilitate any return calls.

Current extension numbers and their respective power failure numbers are listed below:

	Current Extension No.	Power Failure No.
Chemical Plant		
Production Manager, 2nd floor	6713	326-2005
Production Foreman, 1st floor	6665	326-0661
Maintenance Dept. 1st floor	6819	327-0769
Bldg. I - Reactor Room, 3rd floor	6679	326-2015
Bldg. I - Stripper Area, 2nd floor	6678	372-6459
Bldg. II - Reactor Room, 3rd floor	6676	326-2016
Bldg. II - Stripper Area, 2nd floor	6677	372-7544
Tank Farm, Purification Bldg.	6843	326-2017
Pilot Plant		
1st floor	6621	326-2018
2nd floor	6626	327-0379
Substations		
#5	6681	326-2009
Main	6683	326-2008
North Switch Room	6684	326-2007
Power House	6823	247-4606
Calender Area		
Supervisor's Office	6869	326-2004
Maintenance Office	6860	247-4607
Plant Security	6667	327-0657
Dispensary	6583	326-2006

INTERNAL AND EXTERNAL COMMUNICATIONS AND ALARM SYSTEMS

The facility is equipped with fire alarms, gas alarms, telephones, hand held two-way radios, mobile units and a pager system. The CERP van contains a cellular telephone and a portable FAX machine.

The facility has a two-way radio directly to fire and ambulance service, along with normal telephone service.

When an ambulance or any other emergency equipment is coming onto the property, the Plant Protection Control Room operator sounds the tone alert installed in the two-way radio system which is in use by Plant Protection on a twenty-four hour day basis. This advises the Lieutenant on duty that there is an emergency on the property.

After the necessary equipment is on the property, the main gates may be closed to keep out unauthorized personnel. Also, all other traffic may be stopped on the property until the emergency is over. The Lieutenant on duty and the management personnel involved with the particular incident will make the decision relative to the emergency status and resumption of normal operations.

Every emergency is documented and filed by Plant Protection. Copies are sent to the appropriate management personnel.

EMPLOYEE TRAINING PROGRAM

A. BOILER HOUSE

Job training and other programs, such as Fire Training, have been in effect for many years. Because of the sometimes hazardous and demanding nature of the operations, these programs have placed emphasis on the prevention and handling of accidental spills and losses. Because of the greater need for pollution prevention and abatement, now and in the future, specific training will be added to the existing programs.

The Boiler House operators are also required by contract to have a Philadelphia Grade A Steam Boiler, Stationary operating and Refrigeration Engineers License to attest for their operating experience and knowledge of safe boiler and equipment operation.

B. CHEMICAL PLANT

Fire fighting training and specific hazardous materials training have been part of the training program for many years. On an annual basis, all appropriate employees receive fire brigade training from our plant protection personnel - employees are also trained on the hazards of vinyl chloride, our primary and most hazardous raw material.

A CPR course is provided for those individuals on the Medical Evacuation team, CERP team, and other plant personnel who are involved in plant rescue by a certified instructor. Refresher training in CPR is provided on a yearly basis.

On an annual basis, employees are trained in the proper use of respiratory protective devices including the use of self-contained breathing apparatus. On a periodic basis, specific programs have been presented on other materials such as caustic and organic peroxides to advise the employees of the hazardous nature of these materials and proper handling procedures.

Pottstown has been specified as the NorthEast Vinyl Chemical Emergency Response Team (NEVCERT). A total of 7 individuals have been trained to be qualified as Hazardous Materials Technicians at the AAR program in Pueblo, Colorado. The team has secured a HAZMAT VAN, decontamination equipment, along with other equipment to be able to response to an emergency involving VCM. Monthly meetings of the HAZMAT TEAM are used to develop table top discussions, field exercises, refresher use of pieces of equipment, and ultimately a full community emergency drill.

EMPLOYEE TRAINING PROGRAM

B. CHEMICAL PLANT (cont'd)

In addition, in concert with other Vinyl Chloride users in the Northeast and Burlington Fire Academy, a 2 day course dealing with Vinyl Chloride Emergencies is being presented to local fire fighters, plant supervisors, railroad personnel to increase the level of awareness in responding to emergencies involving Vinyl Chloride.

Process training has been developed in 2 phases. the initial phase is given to all employees (Phase A) and is focused on 5 different topic. The intent of phase A training is to provide OXY employees with a broad base of knowledge in the areas of Process flow, Safety, Quality and Environment concerns. The five major topics include:

1. Plant organization and basic chemistry of the process.

2. Process description, flow diagrams, and process equipment.

3. Environmental laws that impact the daily operations of the plant.

4. Environmental compliance programs directed specifically at VCM.

5. The fifth topic is Quality orientated with Statistical analysis at the center of the program.

The second part of the training (Phase B) focuses on job specifics of the critical job responsibilities in the plant. The training is comprised of 14 hours of detailed descriptions of the process, cause and effect issues, safety/environmental concerns all followed by on-the-job training by the instructors and area foreman. Each phase of the training requires a test be taken (and obtain a passing grade in both phases of the training program) and in Phase B training operator certification is required before any person is allowed to perform those duties required in that area of the plant.Delineated below are the job specific areas that are included in phase B training:

1. REACTOR OPERATOR

Building I and II charging and operation
Stopper system operation and use
Emergency operation and safety

EMPLOYEE TRAINING PROGRAM

B. CHEMICAL PLANT (cont'd)

2. RELIEF OPERATOR

Dispersion Stripping
In-process wastewater Stripping
Monomer recovery system operation
Emergency operations and Safety

3. BATCH STRIPPING

Batch Stripping
Stopper system operations and safety
Emergency operations and safety

4. Tank Farm Operator

Tank farm and incinerator operations
Emergency operations and safety

Training records are kept by production supervision, plant protection, safety department, and in the technical department for proper documentation of the conducted training.

Because of the necessity of pollution control, our training coverage will include pollution prevention, handling of hazardous waste, and pollution spill/handling program. Issues such as proper disposal of hazardous materials, spill containment and prevention are some of the topic discussed.

Safety programs that address basic plant operations have been implemented into daily plant life. Such programs include a Accident Investigation Team, Lock, Tag, and Try, Confined Entry Procedure, Hazardous Material Line Breaking, Hand Protection, Contractor Rules, Head Protection, Ladder Safety, Clothing, Safety Glasses, and an Emergency Evacuation Program. The plants emergency evacuation plan and the LEPC emergency plan will be integrated into an community emergency plan, using the HAZMAT team as the interface with the communities first responders.

C. COLOR MATCHING DEPARTMENT

Personnel have been given guidelines and clarification training in the consideration of hazardous materials. Those materials that would interfere with the efficiency of the equipment in handling the accidental spills will also be considered as hazardous materials.

EMPLOYEE TRAINING PROGRAM

C. COLOR MATCHING (CONT.)

The containment of accidental spills, notification of appropriate personnel, disposal procedure of materials used in the clean-up operation and the reporting of incidents were covered with the personnel.

All operating personnel are properly trained by supervisory personnel to understand the proper procedures for performing their job responsibilities. Individual contacts to discuss safety topics are made twice a month. Safety drills to familiarize employees with the use of emergency equipment are conducted twice a month. Fire fighting training is conducted annually for all production employees.

D. PILOT PLANT

The Pilot Plant's training program consists of several phases, namely, the hazards of accidental spills, procedure for notification, technical support and contingency plan for handling accidental spills. Relative to the possible hazardous effects from accidental spills, the pollution aspects of the river and underground water table, the harm to plant and surrounding people are covered in the training program. All spills, except very minor spills, are recorded.

Each engineer has the responsibility to be fully informed of possible health hazards, proper disposal and general handling characteristics of the raw materials being used. This information is forwarded both verbally and through a written work order to the operator who has the responsibility of handling the material.

An accidental spill might occur from human error or equipment malfunction, product or raw material, but would be of such a small volume because of the Pilot Plants operations. The personnel are instructed how to contain and handle accidental spills.

On an annual basis, employees are trained in the proper use of respiratory protective devices including the use of self-contained breathing apparatus used for emergencies - fire brigade training is also done on an annual basis.

EMPLOYEE TRAINING PROGRAM

E. RESEARCH/DEVELOPMENT AND TECHNICAL SERVICE

An accidental spill would be of a very small volume because of the small quantities of materials on hand. Personnel are knowledgeable in handling a spill and in notifying the appropriate personnel.

F. STORE ROOM

A small drum storage area within a curbed containment in the only possible source of any accidental spill regarding the Store Room Activities.

The Store Room supervisor knows the procedure for handling a spill and in notifying the proper personnel.

EMERGENCY OFFICER ROSTER

THE FOLLOWING PERSONNEL HAVE BEEN ASSIGNED THE EMERGENCY OFFICER'S RESPONSIBILITIES AS OUTLIN IN THE EMERGENCY PLAN:

EMPLOYEE and ALTERNATE	SHIFT	EMERGENCY OFFICER ASSIGNMENT	OFFICE EXTENSION	HOME PHONE
DAY SHIFT				
Lead Supervisor or Designate		Evacuation Officer		
Security Lieutenant/B.L. Foltz		Security Officer/Fire Officer		
/A. Oxenford/ /P. Drauschak		Medical Officer		
Lab Supervisor		Call-In Officer	Search Team	
Bldg. I Foreman/Alt. Comp. Foreman		1) Search Team Leader	R. Gingley	
Bldg. II Foreman/Alt. Bulk Area Foreman		2) Search Team	J. Olsen	
		3) Search Team	J. Friday	
		4) Search Team	A. Oxenford	
		5) Search Team	B. O'Connell	
Spray Dryer Foreman/Maint. Foreman		Departmental Officers		
LIST ATTACHED Whse. Foreman		Departmental Officers		
L. Ogden		Public Relations		
3-11 SHIFT				
Lead Supervisor or Designate		Evacuation Officer		
Security Lieutenant or Designate		Security & Fire Officer		
Wolfe		Medical Officer		
Lab Supervisor		Call-In Officer	Search Team	
Bldg. I Foreman/Alt. Comp. Foreman		1) Search Team Leader	J. Bradley	
Bldg. II Foreman/Alt. Bulk Area Foreman		2) Search Team	C. Gruff	
		3) Search Team	D. Blank	
		4) Search Team	R. J. Brightbill	
		5) Search Team		
Spray Dryer Foreman/Whse. Foreman		Departmental Officer		
Maintenance Foreman		Departmental Officer		
L. Ogden		Public Relations		
11-7 SHIFT				
Lead Supervisor or Designate		Evacuation Officer		
Security Lieutenant or Designate		Security & Fire Officer		
C. Boone & C. Bechtel		Medical Officer		
Lab Supervisor		Call-In Officer	Search Team	
Bldg. I Foreman/Alt. Comp. Foreman		1) Search Team Leader	J. Hartman	
Bldg. II Foreman/Alt. Bulk Area Foreman		2) Search Team	E. McMullen	
		3) Search Team	R. Buehler	
		4) Search Team	D. Concad	
		5) Search Team	L. Haas	
Spray Dryer Foreman		Departmental Officer		
Maintenance Foreman		Departmental Officer		
L. Ogden		Public Relations		

TE: THIS ROSTER MUST BE UPDATED WHENEVER THERE ARE PERSONNEL CHANGES AND AT LEAST QUARTER

NOTE: DURING WEEKENDS AND HOLIDAYS WHERE THE OFFICE IS CLOSED, THE OFFICER JOBS WILL BE FILLED IN THE SAME MANNER AS THEY ARE ON THE BACK SHIFT.

24 HOUR EMERGENCY NUMBER FOR OXY: (215) 327-6666

ALERT TEAM	BUSINESS	HOME
Engblom, Carl W.	(215) 327-6713	(215) 326-2357
	Pager:	(215) 469-7658
Hilt, John R.	(215) 327-6692	(215) 326-1819
	Pager:	(215) 469-7661
Schuster, Robert S.	(215) 327-6505	(215) 873-7820
Moore, Raymond L.	(215) 327-6636	(215) 323-8623
	Pager:	(215) 469-7488

ACTION TEAM	BUSINESS	HOME
Allen, William W.	(215) 327-6633	(215) 970-0172
	Pager:	(215) 469-7650
Foltz, Bruce L.	(215) 327-6670	(215) 323-2513
	Pager:	(215) 469-7659
	Car Phone:	(215) 460-4734
Giniewski, Stanley J.	(215) 327-6671	(215) 582-5110
	Pager:	(215) 469-7660
Loughin, Randolph D.	(215) 327-6658	(215) 327-2130
	Pager:	(215) 964-7550
Moses, Thomas E.	(215) 327-6631	(215) 489-3252
	Pager:	(215) 469-7662
Nolte, Karl H.	(215) 327-6610	(215) 756-6562
	Pager:	(215) 469-7489
Palm, Albert W.	(215) 251-1007	(215) 933-9093
	Pager:	(215) 469-7663
Shirey, Michael E.	(215) 327-6592	(215) 970-2862
	Pager:	(215) 469-7487
Wunder, Charles F.	(609) 386-9200	(609) 877-2227
	Pager:	(609) 727-7718

ACTION ROOM	(215) 327-6464, 327-6465 & 327-6466
HAZMAT RESPONSE VAN PHONE NUMBER	(215) 470-4206
HAZMAT RESPONSE VAN FAX NUMBER	(215) 470-4206
CHINA/HAZMAT FAX NUMBER	(215) 327-6526
CHEMICAL PLANT FAX NUMBER	(215) 327-6698
CHEMTREC	1-800-424-9300
GOODWILL FIRE COMPANY	(215) 323-2222
MONTGOMERY COUNTY FIRE	(215) 323-2424

SUPPORT SERVICES - Refer to Vinyls Division Section, Page JA-1.

DUTIES AND RESPONSIBILITIES OF THE EMERGENCY COORDINATOR

Whenever there is an imminent or actual emergency situation, the emergency coordinator must immediately:

1. Activate facility alarms or communication systems where applicable, to notify facility personnel. (See discussion of Chain of Command in Section P)

2. Notify local emergency response agencies including the Montgomery County LEPC, the PEMA, and the NRC. (For chemical releases, refer to the Chemical Release Reporting Procedure.)

Whenever there is an emission or discharge, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of emitted or discharged materials. This may be done by observation or review of records and, if necessary, by chemical analysis.

Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the emission or discharge, fire, or explosion. This assessment must consider both direct and indirect effects of the emission, discharge, fire, or explosion.

If the emergency coordinator determines that the installation has had an emission, discharge, fire, or explosion which could threaten human health or the environment, he must immediately notify the authorities as mentioned in 2. above. The following information should be reported:

1. Name of the person reporting the incident.

2. Name and location of the installation.

3. Phone number where the person reporting the spill can be reached.

4. Date, time, and location if the incident.

5. A brief description of the incident, nature of the materials or wastes involved, extent of any injuries, and possible hazards to human health or the environment.

6. The estimated quantity of the materials or wastes spilled, and;

7. The extent of contamination of land, water, or air, if known.

During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fire, explosion, emission, or discharge do not occur, recur, or spread to other materials or wastes at the installation. These measures shall include, where applicable, stopping processes and operations,

llecting and containing released materials or wastes, and emoving or isolating containers.

If the installation stops operations in response to a fire, explosion, emission, or discharge, the emergency coordinator must ensure that adequate monitoring is conducted for leaks, pressure build-up, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

Immediately after an emergency, the emergency coordinator with DER's approval must provide for treating, storing, or disposing of residues, contaminated soil, etc., from an emission, discharge, fire, or explosion at the installation.

The emergency coordinator must ensure, that in the affected areas of the installation, no material or waste incompatible with the emitted or discharged residues is processed, stored, treated, or disposed of until clean-up procedures are completed; and, all emergency equipment listed in the PPC Plan is cleaned and fit for its intended use before operations are resumed.

Within 15 days after the incident, the installation must submit a written report on the incident to the Department of Environmental Resources. The report must include the following:

1. Name, address, and telephone number of the individual filing the report.

2. Name, address, and telephone number of the installation.

3. Date, time, and location of the incident.

4. A brief description of the circumstances causing the incident.

5. Description and estimated quantity by weight or volume of materials or wastes involved.

6. An assessment of any contamination of land, water, or air that has occurred due to the incident.

7. A descriptions of what actions the installation intends to take to prevent a similar occurrence in the future.

8. A description of the extent of any injuries or a statement that no injuries or human health effects are expected.

CHAIN OF COMMAND

In the event of an emergency or spill, the chain of command for the various areas are listed below. The nature of the incident will determine the appropriate personnel and agencies to be notified.

A.	BOILER HOUSE	OFFICE	HOME
	Employee	On the job or near incident	
	Shift Supervisor	6821	
	Security	6666/6667	
	J. M. Mast (Powerhouse Supervisor)	6612	323-0959
	H. M. Fugate (Environmental Engineer)	6649	372-8847
	T. L. Allen (Maint/Utilities Manager)	6647	
	P. O. Shoup (Asst. Site Manager)	6493	
	J. W. Lessig (Site Manager)	6715	458-0859
	R. S. Schuster (Environmental Manager)	6505	873-7820
B.	CHEMICAL PLANT		
	Employee	On the job or near incident	
	Shift Foreman	6665	
	Lead Foreman	6665 or contact by radio	
	Security	6666/6667	
	H. M. Fugate (Environmental Engineer)	6649	372-8847
	R. B. Kitchen (Production Mgr. Bldg. II)	6749	
	K. A. Zimpfer (Production Mgr. Bldg. I)	6713	845-3574
	P. O. Shoup (Asst. Site Manager)	6493	

J. W. Lessig (Site Manager)	6715	458-0859
R. S. Schuster (Environmental Manager)	6505	873-7820

COLOR MIX OPERATION	OFFICE	HOME
Employee	On the job or near incident	
B. R. Berkley (Supervisor)	6724/6778	582-8208
Security	6666/6667	
K. A. Zimpfer (Production Mgr. Bldg. I)	6713	845-3574
P. O. Shoup (Asst. Site Manager)	6493	
J. W. Lessig (Site Manager)	6715	458-0859
R. S. Schuster (Environmental Manager)	6505	873-7820

D. PILOT PLANT

Employee	On the job or near incident	
R. J. Spacht (Foreman) - days only	6622	323-5890
Security	6666/6667	
R. G. Knerr (Engineer)	6591	630-6344
G. W. Hall (Group Leader)	6621	323-4245
R. S. Miller (Research Manager)	6746	699-7189
R. S. Schuster (Environmental Manager)	6505	873-7820

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE

Employee	On the job or near incident	
Security	6666/6667	
Shift Supervisor (Boiler House)	6821	
R. Reichard (Tech Service Group Leader)	6578	754-7935
H. M. Fugate (Environmental Engineer)	6649	372-8847

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE (cont'd)

	OFFICE	HOME
R. S. Miller (Research Manager)	6746	699-7189
R. S. Schuster (Environmental Manager)	6505	873-7820

STORE ROOM

Employee	On the job or near incident	
R. R. Yeager (Supervisor)	6780	929-0137
Security	6666/6667	
Shift Supervisor (Boiler House)	6821	
H. M. Fugate (Environmental Engineer)	6649	372-8847
T. L. Allen (Maint./Utilities Manager)	6647	
P. O. Shoup (Asst. Site Manager)	6493	
J. W. Lessig (Site Manager)	6715	458-0859
R. S. Schuster (Environmental Manager)	6505	873-7820

LIST OF AGENCIES TO BE NOTIFIED

In the event of any discharge, emission, fire, or explosion which could threaten human health or the environment, the following agencies will be notified wherever applicable:

DOWNSTREAM WATER USERS	TELEPHONE
Philadelphia Electric Limerick Station	327-1200
Philadelphia Electric Crombie Station	933-8995
Philadelphia Water	228-7087
Citizens Utilities Home Water Company	948-3350
Pennsylvania American Water Company	275-1375
Phoenixville Water Company	933-8801 Ext 39

GOVERNMENT	
Montgomery County LEPC	631-6530
Pennsylvania Emergency Management Agency (PEMA)	800-424-7362
National Response Center	800-424-8802
Pottstown City Hall	970-6500
Pottstown Sewage Treatment Plant (POTW)	970-6540
PA Fish Commission, Montgomery County	717-626-0228
PA Fish Commission, Chester County	717-626-0228
PA Department of Environmental Resources Region I, Norristown, PA	270-1900
Federal EPA Region III, Philadelphia, PA	597-9898
U.S. Coast Guard, Philadelphia, PA	923-4320

OTHER AGENCIES	
Sanatoga Fire Department	
Ringing Hill Fire Department	
Goodwill Ambulance	
Chief of Police, Lower Pottsgrove	Plant Security
State Police, Limerick	6666/6667
Pottstown Police	for Radio
North Coventry Township Police	Notification
Spring City Police	
East Coventry Township Police	
Royersford Police	
Occidental Chemical Corporation CERP, Response Center Niagara Falls, NY	716-278-7021
Pottstown Memorial Medical Center (Emergency Department)	327-7100
Dr. S. M. Evans	327-7100
CHEMTREC	800-424-9300

HAZMAT EMERGENCY RESPONSE EQUIPMENT

VAN

1	2-way Mobil Radio - Plant (2 frequencies - Maint. & Security)
1	2-way Mobil Radio - Fire (4 channel)
1	Mobil Scanner
1	Federal Signal Radio, PA and Siren
1	Emergency Light Bar with Alley Lights
1	Traffic Diverter Controller
1	Fax Machine
1	Fax Phone
30	Rolls of Fax Paper
1	Cellular Phone
1	Polaroid Camera
3	Pair Safety Glasses
1	One Gallon Gas Can
1	2100 Watt Generator
4	2-way Handheld Radios, Chargers, and Carrying Cases
4	Headsets & Throat Microphones
1	First Aid Kit
1	Oxygen Unit (6 L/min) with Simple Face Mask
1	Oralpharyngeal Airway Kit
1	Stethoscope
2	CPR Pocket Masks
1	Sphygmomanometer (Blood Pressure Cuff)
1	Clip Board
4	Hand Lights & Chargers
4	1-hour Air Bottles
4	Complete Scott Air Packs with 1-hour Air Bottles
1	ABC Ansul Fire Extinguisher
1	Portable Gas & Oxygen Meter
1	Canvas Tool Bucket
1	Stop Watch
12	Power Pegs (Tent Pegs)
1	Bag Tie Wraps & Stickers
1	Pair High Voltage Gloves
1	7x35 Binoculars
3	White Hard Hats
4	30 Minute Highway Flares
1	Set Jumper Cables
1	10 Lb. Sledge Hammer
1	Pike Pole
1	Fireman Axe
1	Bolt Cutter
1	Hooligan Bar
2	50 Ft. Garden Hoses
1	Box Assorted Wooden Wedges
1	Box Assorted Wooden Pegs
1	Box Mixed Wooden Pegs & Wedges
1	Wooden Mallet
2	Spark-proof Ampco Screw Drivers
1	Spark-proof Ampco Screw Crescent Wrench
1	Ballpin Hammer

VAN CON'T

2 Firemen Clamps
1 Box Assorted Screwdrivers & Channel Locks
1 3½" 90mm Strap Wrench
1 7" 175mm Strap Wrench
2 25 Ft. Nylon Ropes
2 Rolls Duct Tape
1 Rain Suit & White Suit
1 Dozen Latex Gloves
2 Packs Paper Towels
1 Dozen Pairs Leather Gloves
2 Boxes Spill Stopper
1 Bag Emergency Spill Kit
1 Box Pig Putty
2 Full Face Shields
1 Emergency Generator Charge Cables
1 Box Medical Gloves & Safety Glasses
1 Box Tie Wraps, Wooden Plugs, and Hose Clamps
2 Rolls Nylon Webbing
1 Roll Caution Barrier Tape
10 2300 Respirators
6 White Suits
1 Box Heavy Cotton Gloves
2 Safety Belts
2 100 Ft. Ropes
1 50 Ft. Washline Rope
1 Nylon Tarp
1 Box Assorted Metal Washers
1 Box Assorted Hexagon Nuts
1 Box Assorted Cap Screws
1 Box Assorted Lock Washers
1 Box Assorted Steel Washers
1 Box Assorted Bolts & Nuts
1 30 Ft. Extension Cord
1 Spare Courtesy Light Bulb
3 Pal III Alarms
2 Acid Suits
1 Wheel Chock

TRAILER

3 Midland Kit Tool Boxes (on cart)
1 Canvas Carrying Bag
1 4 Wheel Cart
1 Tool Box
1 Vetter Systems Air Bag
1 Vetter System Air Regulator
1 Blue Vetter Air System Hose & Valve
1 Clear Vetter Air System Pressure Hose
4 Folding Chairs

AILER CON'T

[redacted]lastic Shovels
[redacted]mpressed Air Sprayer Bottles
Safety Belts
Pressurized Eye Wash Bottle
Spill Kit Salvage Drum
Waste Can
Water Container for Drinking
Portable Hand Pumps
1-hour Air Bottles
Hazmat Decon Pools
Portable Decon Showers
Bag Portable Shower Washers
50 Ft. Garden Hose
Water Tree Manifold
Plastic Tarps
Plastic Bucket
Bristle Brushes
Gallon of Chlorox
Broom
4 Ft. Expansion Bar
Black Hard Hats
1 Bags Stop-it tape
2 Pair Silver Shield Gloves
Pair Full Length Rubber Gloves
0[redacted] Respirator Refresher Wipe Pads
[redacted]emale-Female Garden Hose Adapters
[redacted]olls Duct Tape
Plastic Bags - Hazardous Material
Spare Tires
Responder Life Guard Level "A" Suits
6 White Tyvex Suits
Complete White Fire Fighting Suits
Complete Yellow Fire Fighting Suits
Pair Bunker Boots
Rain Suits
Rubber Hazmat Training Suits
Pipe Plugger Kit
Hazmat Response Kit
Portable Floodlights on Tripod
50 Ft. Extension Cord
Orange "Safety Officer" Vests
Orange "Operations Officer" Vest
Blue Hazmat Equipment Duffle Bags
Traffic Diverter Light Bar
Orange Traffic Cones
10 12 Hr. Red Chemical Light Sticks
5 8 Hr. Blue Chemical Light Sticks
4 12 Hr. Green Chemical Light Sticks
3 12 Hr. Yellow Chemical Light Sticks

[redacted]

EMERGENCY PLAN

OCCIDENTAL CHEMICAL CORPORATION

POTTSTOWN, PENNSYLVANIA

Evacuation of personnel on-site is handled as per the "Occidental Chemical Corporation Pottstown Plant Emergency Preplan". This plan is included by reference and should be implemented when necessary for spills covered by the PPC Plan.

Evacuation of persons off-site of the plant is accomplished using the "Community Response Plan for Occidental Chemical Corporation". This plan was prepared with the approval of and in conjunction with the Montgomery County Local Emergency Planning Committee. This plan is included by reference and should be implemented when necessary for spills covered by the PPC Plan.

ARRANGEMENTS WITH EMERGENCY RESPONSE CONTRACTORS

Occidental Chemical Corporation personnel and the Northeast Vinyl Chemical Emergency Response Team (NEVCERT) are available 24 hours a day, 7 days per week, to handle cleaning up of spills. The following contractors would be utilized as necessary in the event of a chemical emergency or spill:

Company	Type of Service
Chemical Waste Management 100 Nassau Park Boulevard Princeton, NJ 08540 609/243-7887	RCRA permitted to transport and dispose of hazardous wastes.
Envirosafe Services, Inc. P.O. Box 833 Valley Forge, PA 19482-0833 215/962-0800	RCRA permitted to transport and dispose of hazardous wastes.
Rollins Environmental Services P.O. Box 221 Bridgeport, NJ 08014 609/467-3100	RCRA permitted to transport and dispose of hazardous wastes.
Marisol Incorporated 125 Factory Lane Middlesex, NJ 08846 201/469-5100	RCRA permitted to transport and reclaim hazardous wastes.
J&J Spill Service & Supplies 855 Cherry Street Norristown, PA 19401 215/277-4511	Clean-up: land and water
Mobile Dredging & Pumping Co. 344 Pottstown Road Exton, PA 19341-0237 215/363-6677	Clean-up: land
Twin County Construction R.D. #3 Pottstown, PA 19464 215/495-7001	Clean-up: land and water containment
Inland Pumping & Dredging Wallace Avenue Downingtown, PA 19335 215/269-3901	Clean-up and waste disposal

Company	Type of Service
PPM, Inc. 4105 Whitaker Avenue Philadelphia, PA 19124 215/425-5144	Removal and disposal of PCB contaminated material
Water Blasting Inc. P.O. Box 682 Skippack, PA 19474 215/256-1111	Clean-up: sludges, land, liquid spills
Pipe Maintenance Service 891 Lancaster Pike Exton, PA 19341 215/647-1108	Pipe ruptures, repair, containment

ARRANGEMENTS WITH LOCAL EMERGENCY RESPONSE AGENCIES AND HOSPITALS

On June 30, 1989, the Community Response Plan for Occidental Chemical Corporation was approved by the Local Emergency Planning Committee of Montgomery County. The plan describes procedures and establishes responsibilities for the response to a hazardous material emergency at Occidental Chemical Corporation. The plan identifies the community resources which will respond in the event of an emergency as follows:

UNIT	PHONE NO.	SERVICE
Sanatoga Fire Company Ringing Hill Fire Dept.		Primary Fire Company
Goodwill Ambulance Service	Plant Security 6666/6667 for Radio Notification	First Aid & Ambulance
Lower Pottsgrove Police		Traffic Control Law Enforcement
Pottstown Memorial Medical Center	327-7100	Emergency Care

On a periodic basis, the local fire departments have been invited to the plant for familiarization tours and planning sessions. The Delaware Valley PVC Producers, of which Occidental Chemical Corporation is a member, sponsers a 2-day course on emergency response to VCM related railcar emergencies. The training is held at the Burlington County Fire Academy in Mt. Holly, N.J. Local plant foremen, supervisors, HAZMAT team members, and local firefighters (Sanatoga Fire Company) have attended the session. Plans are to have all plant foremen and HAZMAT team members receive the training.

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A. BOILER HOUSE

1. In February, 1972, a whitish discharge to the river resulted from a blockage in the diverter of the boiler and softener discharge lines to the lagoons. Liquid overflowed to the storm sewer.

   Action to prevent a recurrence - the boiler and softener discharges are pumped to the Chemical Plant effluent system discharging to the Borough of Pottstown Waste Treatment Plant. This change eliminated the normal usage of the lagoon and has since prevented a recurrence of such an incident.

2. On February 11, 1978, there was an estimated 1,000 gallon oil spill (#6 fuel oil) into the Schuylkill River. A high level control instrument malfunctioned and failed to stop the pump in transferring oil from an above-ground tank to an underground tank. Overflow from the underground storage tank entered the storm sewer and subsequently the in-plant oil collection system was overloaded with oil and the excess was discharged into the river.

   The non-compliance period was estimated to have extended from the afternoon of February 11 to February 15, 1978. Clean up operations in the Schuylkill River were from February 11 until March 16, 1978. Fines were paid to the Pennsylvania Fish Commission Fish Fund, to Pennsylvania Dept. of Environmental Resources Clean Water Fund and to the United States Coast Guard.

   Action to prevent recurrence ---

   Refresher training of all personnel involved in handling and pumping fuel oil, with emphasis on spill prevention, was completed.

   The circuit system to the 4 tank hi-level alarms was revised making it necessary for all 4 switches to malfunction in order for a tank to overflow.

   Updated the in-company and outside surveillance, communication and notification procedures. Outside notification included -

   EPA, Philadelphia
   DER, Norristown
   Coast Guard, Philadelphia
   Home Water Co., Royersford
   Phoenixville Water Co., Phoenixville
   Fish Commission, Montgomery County

A once-per-day composite sampling and oil analysis of the discharge into the river was initiated and continued until the in-plant collection system was back in operation (2/22/78).

B. CHEMICAL PLANT

Accidental discharges over the years have occurred, for the most part, in areas where they were contained in the Chemical Plant's effluent system - the treated effluent is pumped to the Borough of Pottstown Waste Treatment Plant.

Accidental discharges, not contained above, and the action taken to prevent recurrences are listed below:

1. Loss of half of the contents of a storage tank containing recycle vinyl chloride monomer when a bottom valve malfunctioned. Initially the monomer escaped as a liquid inside the dike, but vaporized quickly to the atmosphere. This occurred in 1963.

   Action to prevent recurrence---

   The above type of incident caused by mechanical failure may be circumvented by injecting fire water into the monomer tank bottoms through installed fittings. In this way, time would be gained to deal with the problem.

2. Infrequent overflows of cooling water from a pump house sump during power failures in a period when emergency power was not available. Loss of power allowed gravity draining to the sump with subsequent discharge into the ground outside of the pump house.

   Action to prevent recurrence ---

   This has not occurred since the 1968 installation of a diesel operated emergency power generator. Periodically the appropriate personnel review the

Emergency Power Plan (orginally issued in April, 1969 and updated) regarding the use of the emergency power generator and the control of the equipment during power failures.

3. In 1961, a catalyst solution overflowed when the fire water deluge system over the storage tank malfunctioned overfilling the tank. Discharge was into the emergency retaining area.

Action to prevent a recurrence ---

The above type of malfunction has been neutralized by the replacement of the original deluge system with a standard fire water sprinkler system.

4. In 1960, there was a spillage of caustic solution from the open bottom valve of the storage tank during the unloading from a tank truck. Some of the material was not retained inside the dike and escaped onto the ground before the dike drain valve was closed.

Action to prevent a recurrence ---

Improved training and supervision of workers have been very effective in preventing this human error from recurring.

C. FABRICATED PRODUCTS

1. In February, 1980, during non-operating hours, a plant security guard discovered an epoxidized soybean oil tank overflowing behind #1 calender banbury mill. Within a short period of time, he closed a valve thereby stopping the flow. Although approximately 300 gallons were spilled, none of the material reached a floor drain. The clean-up was routinely handled by the janitorial department. No environmental problem occurred.

2. In July, 1981, during the unloading of epoxidized soybean oil from the carrier's truck into an underground tank, the fill line came out of the storage tank and spilled approximately 200 pounds of the oil. The spill occurred on a curbed unloading pad and was immediately discovered by an employee monitoring the unloading procedure. The cause of the spill was the failure to use the proper connecting fitting by the truck driver. The clean-up was routinely handled by the janitorial department. No environmental problem occurred.

XXI POLLUTION INCIDENT HISTORY (CONT'D.)

D. PILOT PLANT

In 1974, a spill resulted when a technician left the area in which he was filling an acrylonitrile charge tank allowing the material to discharge through the flame arrester onto the Pilot Plant roof. The spill was contained to the Pilot Plant roof and did not result in any environmental harm.

Action to prevent recurrence ---

Training is re-emphasized to monitor any unloading, loading or filling of a tank. If there is a need to leave the area, some other person should continue the monitoring or the unloading, etc. should be discontinued until such monitoring is available.

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE

Does not apply.

F. STORE ROOM

Does not apply.

UPDATED POLLUTION INCIDENT HISTORY

The following incidents occurred in 1990:

1. In February 1990, a flexible hose conveying process wastewater from the effluent treating system to the lined lagoons was blown by the wind over the dike. An estimated 10,000 gal of water was discharged onto the flood plain. This was cleaned up by use of vacuum trucks. The condition was remedied by attaching weights to the hose to prevent wind effects.

2. In February 1990, water from dewatering resin slurry was discharged into a storm drain swale when the flexible hose on a temporarily installed portable pump became disconnected. A vacuum truck was brought on-site and recovered 500-1000 gal of wastewater which was drained into the effluent treatment system. The hose was secured more firmly and surveillance increased while efforts were redoubled to obtain the permanent pump.

3. Before the permanent pump in 2. above was received, the hose broke loose again in March 1990 discharging about 1200 gallons of water to the drain swale. The swale was blocked with sandbags, but a small quantity escaped to the Schuylkill River. A vacuum truck was brought in and recovered most of the spilled water. Shortly after this event, the permanent pump was received and installed with fixed piping connections.

4. In June 1990, a fire water connection was broken in a warehouse and the downward force of the flow onto a pallet of plastic resin ruptured some of the bags. The resin powder was washed onto the warehouse floor and in the subsequent clean-up, some escaped to the Schuylkill River through a stormwater sewer. Procedures have been revised to prevents future similar events.

CHAIN OF COMMAND

In the event of [illegible]
various areas are [illegible]
determine the a[illegible]

A. BOILER HOUSE

Employee

Shift Supe[illegible]

Security

J. M. Mast
(Powerhous[illegible]

H. M. Fuge[illegible]
(Environme[illegible]

T. L. Alle[illegible]
(Maint/Ut[illegible]

P. O. Sho[illegible]
(Asst. Sit[illegible]

J. W. Lesa[illegible]
(Site Mana[illegible]

R. S. Sch[illegible]
(Environme[illegible]

B. CHEMICAL PLANT

Employee

Shift Fore[illegible]

Lead Fore[illegible]

Security

H. M. Fuge[illegible]
(Environme[illegible]

R. B. Kit[illegible]
(Productio[illegible]

K. A. Zi[illegible]
(Productio[illegible]

P. O. Sho[illegible]
(Asst. Sit[illegible]

6715	458-0859
6505	873-7820

OFFICE	HOME
On the job or near incident	
6724/6778	582-8208
6666/6667	
6713	845-3574
6493	
6715	458-0859
6505	873-7820

On the job or near incident	
6622	323-5890
6666/6667	
6591	630-6344
6621	323-4245
6746	699-7189
6505	873-7820

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE

Employee	On the job or near incident	
Security	6666/6667	
Shift Supervisor (Boiler House)	6821	
R. Reichard (Tech Service Group Leader)	6578	754-7935
H. M. Fugate (Environmental Engineer)	6649	372-8847

E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE (cont'd)

	OFFICE	HOME
R. S. Miller (Research Manager)	6746	699-7189
R. S. Schuster (Environmental Manager)	6505	873-7820

F. STORE ROOM

Employee	On the job or near incident	
R. R. Yeager (Supervisor)	6780	929-0137
Security	6666/6667	
Shift Supervisor (Boiler House)	6821	
H. M. Fugate (Environmental Engineer)	6649	372-8847
T. L. Allen (Maint./Utilities Manager)	6647	
P. O. Shoup (Asst. Site Manager)	6493	
J. W. Lessig (Site Manager)	6715	458-0859
R. S. Schuster (Environmental Manager)	6505	873-7820

LIST OF AGENCIES TO BE NOTIFIED

In the event of any discharge, emission, fire, or explosion which could threaten human health or the environment, the following agencies will be notified wherever applicable:

DOWNSTREAM WATER USERS	TELEPHONE
Philadelphia Electric Limerick Station	327-1200
Philadelphia Electric Crombie Station	933-8995
Philadelphia Water	228-7087
Citizens Utilities Home Water Company	948-3350
Pennsylvania American Water Company	275-1375
Phoenixville Water Company	933-8801 Ext 39

GOVERNMENT	
Montgomery County LEPC	631-6530
Pennsylvania Emergency Management Agency (PEMA)	800-424-7362
National Response Center	800-424-8802
Pottstown City Hall	970-6500
Pottstown Sewage Treatment Plant (POTW)	970-6540
PA Fish Commission, Montgomery County	717-626-0228
PA Fish Commission, Chester County	717-626-0228
PA Department of Environmental Resources Region I, Norristown, PA	270-1900
Federal EPA Region III, Philadelphia, PA	597-9898
U.S. Coast Guard, Philadelphia, PA	923-4320

OTHER AGENCIES	
Sanatoga Fire Department	
Ringing Hill Fire Department	
Goodwill Ambulance	
Chief of Police, Lower Pottsgrove	Plant Security
State Police, Limerick	6666/6667
Pottstown Police	for Radio
North Coventry Township Police	Notification
Spring City Police	
East Coventry Township Police	
Royersford Police	
Occidental Chemical Corporation CERP, Response Center Niagara Falls, NY	716-278-7021
Pottstown Memorial Medical Center (Emergency Department)	327-7100
Dr. S. M. Evans	327-7100
CHEMTREC	800-424-9300

HAZMAT EMERGENCY RESPONSE EQUIPMENT

VAN

1	2-way Mobil Radio - Plant (2 frequencies - Maint. & Security)
1	2-way Mobil Radio - Fire (4 channel)
1	Mobil Scanner
1	Federal Signal Radio, PA and Siren
1	Emergency Light Bar with Alley Lights
1	Traffic Diverter Controller
1	Fax Machine
1	Fax Phone
30	Rolls of Fax Paper
1	Cellular Phone
1	Polaroid Camera
3	Pair Safety Glasses
1	One Gallon Gas Can
1	2100 Watt Generator
4	2-way Handheld Radios, Chargers, and Carrying Cases
4	Headsets & Throat Microphones
1	First Aid Kit
1	Oxygen Unit (6 L/min) with Simple Face Mask
1	Oralpharyngeal Airway Kit
1	Stethoscope
2	CPR Pocket Masks
1	Sphygmomanometer (Blood Pressure Cuff)
1	Clip Board
4	Hand Lights & Chargers
4	1-hour Air Bottles
4	Complete Scott Air Packs with 1-hour Air Bottles
1	ABC Ansul Fire Extinguisher
1	Portable Gas & Oxygen Meter
1	Canvas Tool Bucket
1	Stop Watch
12	Power Pegs (Tent Pegs)
1	Bag Tie Wraps & Stickers
1	Pair High Voltage Gloves
1	7x35 Binoculars
3	White Hard Hats
4	30 Minute Highway Flares
1	Set Jumper Cables
1	10 Lb. Sledge Hammer
1	Pike Pole
1	Fireman Axe
1	Bolt Cutter
1	Hooligan Bar
2	50 Ft. Garden Hoses
1	Box Assorted Wooden Wedges
1	Box Assorted Wooden Pegs
1	Box Mixed Wooden Pegs & Wedges
1	Wooden Mallet
2	Spark-proof Ampco Screw Drivers
1	Spark-proof Ampco Screw Crescent Wrench
1	Ballpin Hammer

VAN CON'T

2 Firemen Clamps
1 Box Assorted Screwdrivers & Channel Locks
1 3½" 90mm Strap Wrench
1 7" 175mm Strap Wrench
2 25 Ft. Nylon Ropes
2 Rolls Duct Tape
1 Rain Suit & White Suit
1 Dozen Latex Gloves
2 Packs Paper Towels
1 Dozen Pairs Leather Gloves
2 Boxes Spill Stopper
1 Bag Emergency Spill Kit
1 Box Pig Putty
2 Full Face Shields
1 Emergency Generator Charge Cables
1 Box Medical Gloves & Safety Glasses
1 Box Tie Wraps, Wooden Plugs, and Hose Clamps
2 Rolls Nylon Webbing
1 Roll Caution Barrier Tape
10 2300 Respirators
6 White Suits
1 Box Heavy Cotton Gloves
2 Safety Belts
2 100 Ft. Ropes
1 50 Ft. Washline Rope
1 Nylon Tarp
1 Box Assorted Metal Washers
1 Box Assorted Hexagon Nuts
1 Box Assorted Cap Screws
1 Box Assorted Lock Washers
1 Box Assorted Steel Washers
1 Box Assorted Bolts & Nuts
1 30 Ft. Extension Cord
1 Spare Courtesy Light Bulb
3 Pal III Alarms
2 Acid Suits
1 Wheel Chock

TRAILER

3 Midland Kit Tool Boxes (on cart)
1 Canvas Carrying Bag
1 4 Wheel Cart
1 Tool Box
1 Vetter Systems Air Bag
1 Vetter System Air Regulator
1 Blue Vetter Air System Hose & Valve
1 Clear Vetter Air System Pressure Hose
4 Folding Chairs

TRAILER CON'T

	Plastic Shovels
	Compressed Air Sprayer Bottles
2	Safety Belts
1	Pressurized Eye Wash Bottle
1	Spill Kit Salvage Drum
1	Waste Can
1	Water Container for Drinking
2	Portable Hand Pumps
2	1-hour Air Bottles
4	Hazmat Decon Pools
2	Portable Decon Showers
1	Bag Portable Shower Washers
2	50 Ft. Garden Hose
1	Water Tree Manifold
2	Plastic Tarps
1	Plastic Bucket
7	Bristle Brushes
1	Gallon of Chlorox
1	Broom
1	4 Ft. Expansion Bar
6	Black Hard Hats
21	Bags Stop-it tape
12	Pair Silver Shield Gloves
1	Pair Full Length Rubber Gloves
00	Respirator Refresher Wipe Pads
	Female-Female Garden Hose Adapters
2	Rolls Duct Tape
8	Plastic Bags - Hazardous Material
2	Spare Tires
6	Responder Life Guard Level "A" Suits
16	White Tyvex Suits
2	Complete White Fire Fighting Suits
6	Complete Yellow Fire Fighting Suits
4	Pair Bunker Boots
9	Rain Suits
2	Rubber Hazmat Training Suits
1	Pipe Plugger Kit
1	Hazmat Response Kit
1	Portable Floodlights on Tripod
2	50 Ft. Extension Cord
2	Orange "Safety Officer" Vests
1	Orange "Operations Officer" Vest
2	Blue Hazmat Equipment Duffle Bags
1	Traffic Diverter Light Bar
4	Orange Traffic Cones
10	12 Hr. Red Chemical Light Sticks
5	8 Hr. Blue Chemical Light Sticks
4	12 Hr. Green Chemical Light Sticks
3	12 Hr. Yellow Chemical Light Sticks

EMERGENCY PLAN

OCCIDENTAL CHEMICAL CORPORATION

POTTSTOWN, PENNSYLVANIA

Evacuation of personnel on-site is handled as per the "Occidental Chemical Corporation Pottstown Plant Emergency Preplan". This plan is included by reference and should be implemented when necessary for spills covered by the PPC Plan.

Evacuation of persons off-site of the plant is accomplished using the "Community Response Plan for Occidental Chemical Corporation". This plan was prepared with the approval of and in conjunction with the Montgomery County Local Emergency Planning Committee. This plan is included by reference and should be implemented when necessary for spills covered by the PPC Plan.

ARRANGEMENTS WITH EMERGENCY RESPONSE CONTRACTORS

Occidental Chemical Corporation personnel and the Northeast Vinyl Chemical Emergency Response Team (NEVCERT) are available 24 hours a day, 7 days per week, to handle cleaning up of spills. The following contractors would be utilized as necessary in the event of a chemical emergency or spill:

Company	Type of Service
Chemical Waste Management 100 Nassau Park Boulevard Princeton, NJ 08540 609/243-7887	RCRA permitted to transport and dispose of hazardous wastes.
Envirosafe Services, Inc. P.O. Box 833 Valley Forge, PA 19482-0833 215/962-0800	RCRA permitted to transport and dispose of hazardous wastes.
Rollins Environmental Services P.O. Box 221 Bridgeport, NJ 08014 609/467-3100	RCRA permitted to transport and dispose of hazardous wastes.
Marisol Incorporated 125 Factory Lane Middlesex, NJ 08846 201/469-5100	RCRA permitted to transport and reclaim hazardous wastes.
J&J Spill Service & Supplies 855 Cherry Street Norristown, PA 19401 215/277-4511	Clean-up: land and water
Mobile Dredging & Pumping Co. 344 Pottstown Road Exton, PA 19341-0237 215/363-6677	Clean-up: land
Twin County Construction R.D. #3 Pottstown, PA 19464 215/495-7001	Clean-up: land and water containment
Inland Pumping & Dredging Wallace Avenue Downingtown, PA 19335 215/269-3901	Clean-up and waste disposal

Company	Type of Service
PPM, Inc. 4105 Whitaker Avenue Philadelphia, PA 19124 215/425-5144	Removal and disposal of PCB contaminated material
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Pipe Maintenance Service 891 Lancaster Pike Exton, PA 19341 215/647-1108	Pipe ruptures, repair, containment

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E. RESEARCH/DEVELOPMENT & TECHNICAL SERVICE

Does not apply.

F. STORE ROOM

Does not apply.

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1. In February 1990, a flexible hose conveying process wastewater from the effluent treating system to the lined lagoons was blown by the wind over the dike. An estimated 10,000 gal of water was discharged onto the flood plain. This was cleaned up by use of vacuum trucks. The condition was remedied by attaching weights to the hose to prevent wind effects.

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