

# The Light company

Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

December 10, 1981  
ST-HL-AE-767  
SFN: V-0100

Mr. Robert L. Tedesco  
Assistant Director for Licensing  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Tedesco:

South Texas Project  
Units 1 & 2  
Docket Nos. STN 50-498, STN 50-499  
Bechtel Qualifications  
Summary



Attached is a summary of Bechtel Power Corporation's nuclear power plant experience which includes a listing of Bechtel's major engineering, construction and startup projects. The attached qualifications summary is being submitted in response to commitments made in the October 6, 1981 meeting between the Nuclear Regulatory Commission, Houston Lighting & Power Company and Bechtel Power Corporation concerning the transfer of architect engineer and construction management responsibilities for the South Texas Project and your requests of October 20, 1981 and November 18, 1981.

Very truly yours,

A handwritten signature in dark ink, appearing to read "J. H. Goldberg". The signature is written in a cursive style with some loops and flourishes.

J. H. Goldberg  
Vice President  
Nuclear Engineering & Construction

MEP/blt  
Attachment

Boo!  
3/1

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PDR ADDCK 05000498  
A PDR

Houston Lighting & Power Company

cc: G. W. Oprea, Jr.  
J. H. Goldberg  
J. G. Dewease  
D. G. Barker  
C. G. Robertson  
H. Pyle, III  
R. A. Frazar  
D. R. Beeth  
J. W. Williams  
J. W. Briskin  
J. E. Geiger  
D. E. Sells  
H. S. Phillips  
J. O. Read  
M. D. Schwarz  
R. Gordon Gooch  
J. R. Newman  
STP RMS

(NRC)  
(NRC)  
(Read-Poland, Inc.)  
(Baker & Botts)  
(Baker & Botts)  
(Lowenstein, Newman, Reis, & Axelrad)

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Nuclear Regulatory Commission  
Washington, D. C. 20555

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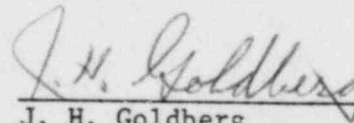
Revision Date 10-29-81

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter	S	
	S	
Houston Lighting & Power Company, et al.,	S	Docket Nos. 50-498
	S	50-499
	S	
South Texas Project	S	
Units 1 and 2	S	

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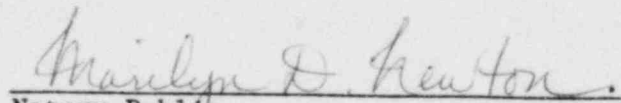
J. H. Goldberg being duly sworn, hereby deposes and says that he is Vice President Nuclear Engineering & Construction of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached Bechtel Qualifications Summary; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge and belief.



\_\_\_\_\_  
J. H. Goldberg  
Vice President  
Nuclear Engineering & Construction

District of Columbia § SS.

SWORN to and subscribed before me this 10<sup>th</sup> day of  
December, 1981.

  
\_\_\_\_\_  
Notary Public

My commission expires:

8/31/85 \_\_\_\_\_

## SUMMARY OF BECHTEL'S NUCLEAR POWER PLANT EXPERIENCE

Bechtel has more than 30 years of experience in the nuclear industry and has participated in the design, engineering, and/or construction of 91 nuclear plants in the United States and worldwide. The total capacity of these projects is in excess of 78,000 megawatts and includes nearly all types of reactor design and power concepts. Bechtel is not associated permanently with any manufacturer or agency, but works with all major worldwide suppliers of nuclear steam supply systems and turbine generators. Bechtel has also been selected to provide engineering, procurement, construction, and construction management for the decontamination recovery, reconstruction, and recommissioning of Three Mile Island Unit 2.

### ENGINEERING

Bechtel's major engineering experience within the past eight years includes 50 nuclear power units with a total capacity of 51,000 MW. Additionally, Bechtel has been responsible for the engineering of more than 64 fossil fueled units and numerous smaller industrial and cogeneration power units. The nuclear plants included in Bechtel's engineering experience during the past eight years are listed in Tables 1 and 2.

Bechtel participates extensively in licensing and safety programs for the nuclear industry through the commitment of experienced engineers on National Codes and Standards committees. A recent review showed 105 Bechtel Power Corporation engineers serving on 234 committees. An additional 50 engineers from other Bechtel organizations also participate in the Standards Program.

In addition to the strong support of the National Standards Program, Bechtel's engineering experience has resulted in corporate development and NRC approval of twelve topical reports. These reports establish methods for the design of safe nuclear power plants. Bechtel also maintains a corporate engineering staff (Bechtel Power Management) to coordinate solutions to and provide experience from within the corporation to focus on difficult or generic engineering problems.

Bechtel has developed a nuclear licensing group that provides licensing support to all projects and coordinates the licensing efforts among the various projects and each of the Division Offices. This results in a systematic review of all available information on safety and licensing issues, evaluation and dissemination of licensing information to individual projects, development of company positions on issues, and coordination with the regulatory agencies on generic matters.

Bechtel engineers are also extensively engaged in technology advancement and in resolving design issues, modifications and improvements following the Three Mile Island accident.

#### CONSTRUCTION

Major power plant construction, construction supervision and construction management experience within the past eight years includes 41 nuclear power units with a total capacity of 43,000 MW. Additionally, Bechtel has been responsible for construction of more than 60 fossil-fueled units and numerous smaller industrial and cogeneration power plants. The nuclear plants included in Bechtel's power plant construction experience during the past eight years are listed in Table

2. Recently, Bechtel assumed construction management of Washington Public Power Supply System Units 1, 2, and 4.

On many projects where Bechtel has provided construction or construction management services, the company has also provided startup services. Current and recently completed power plant startup work is listed in Table 3.

#### QUALITY ASSURANCE

Bechtel's Quality Assurance Program for nuclear power plants has evolved over our many years of experience in the nuclear industry. The Program has been formalized and documented in a Topical Report, BQ-TOP-1, Rev. 3A, which has been approved by the NRC for incorporation into dockets by reference. The Program is implemented by organization individuals qualified to the requirements of applicable NRC Regulatory Guides, Codes and ANSI Standards. Compliance with the Program requirements is assured through QA Management and project audits. QA personnel performing audits are qualified to the requirements of ANSI N 45.2.23.

Table 1

BECHTEL'S RECENT ENGINEERING ONLY AND  
ENGINEERING/PROCUREMENT ONLY PROJECTS-  
NUCLEAR GENERATING UNITS

PLANT-UNIT

PLANT OWNER

Taiwan 8	Taiwan Power
Taiwan 7	Taiwan Power
Callaway 2	Union Electric
Callaway 1	Union Electric
Vogtle 2	Georgia Power
	Southern Services
Vogtle 1	Georgia Power
	Southern Services
Tsuruga	Mitsubishi
Vandell 11	ENHER
Wolf Creek	Kansas City P&L

Table 2

BECHTEL'S RECENT MAJOR ENGINEERING, CONSTRUCTION SUPERVISION,  
AND CONSTRUCTION MANAGEMENT PROJECTS - NUCLEAR  
GENERATING UNITS

(Completed during the last 8 years or in progress)

PLANT UNIT	PLANT-OWNER
KOREA NUCLEAR 7	Korea Electric
KOREA NUCLEAR 8	Korea Electric
KOREA NUCLEAR 5	Korea Electric
KOREA NUCLEAR 6	Korea Electric
MAANSHAN 1	Taiwan Power
MAANSHAN 2	Taiwan Power
ASCO 1	Fuerzas Elect. Cataluna
ASCO 2	Fuerzas Elect. Cataluna
HOPE CREEK 1	Public Service EL & GA
HOPE CREEK 2	Public Service EL & GA
PALO VERDE 1	Arizona Public Service
PALO VERDE 2	Arizona Public Service
PALO VERDE 3	Arizona Public Service
SKAGIT 1	Puget Sound P&L
SAN ONOFRE 2	Southern Calif. Edison
SAN ONOFRE 3	Southern Calif. Edison
PEBBLE SPRINGS 1	Portland Genl. Electric
KUOSHENG 1	Taiwan Power
KUOSHENG 2	Taiwan Power
GRAND GULF 1	Mississippi Pwr. & Lt.
GRAND GULF 2	Mississippi Pwr. & Lt.
SUSQUEHANNA 1	Pennsylvania Pwr. & Lt.
SUSQUEHANNA 2	Pennsylvania Pwr. & Lt.
PILGRIM 2	Boston Edison
LIMERICK 1	Philadelphia Electric
LIMERICK 2	Philadelphia Electric
DUANE ARNOLD	Iowa Elect. Lt. & Pwr.
DAVIS BESSE 1	Toledo Edison
MILLSTONE 2	Northeast Utilities
MIDLAND 1	Consumers Power
MIDLAND 2	Consumers Power
CALVERT CLIFFS 1	Baltimore Gas & Elect.
CALVERT CLIFFS 2	Baltimore Gas & Elect.
ARK. NUCL. ONE 1	Arkansas Power & Light
ARK. NUCL. ONE 2	Arkansas Power & Light
TROJAN	Portland Genl. Electric
RANCHO SECO	Sacramento Municipal
PEACH BOTTOM 2	Philadelphia Electric
PEACH BOTTOM 3	Philadelphia Electric
POINT BEACH 2	Wisconsin Elect. Power
TURKEY POINT 4	Florida Power & Light



Table 3

## BECHTEL RECENT NUCLEAR POWER PLANT STARTUP PROJECTS

(Completed or in Progress Last 10 Years)

<u>PLANT-UNIT</u>	<u>PLANT-OWNER</u>
Turkey Point Unit 4	Florida Power & Light
Point Beach Unit 2	Wisconsin - Michigan Power Co.
Arkansas Nuclear Units 1 & 2	Arkansas Power & Light
Peach Bottom Units 2 & 3	Philadelphia Electric
Duane Arnold	Iowa Light & Power Co.
E.I. Hatch Unit 1	Georgia Power & Southern Service
Calvert Cliffs Units 1 & 2	Baltimore Gas & Electric
Millstone Nuclear Unit 2	Connecticut Light & Power Co.
Rancho Seco	Sacramento Municipal Utility Dist.
Trojan Unit 1	Portland General Electric
Joseph M. Farley Unit 1	Alabama Power & Southern Service
Davis - Besse Unit 1	Toledo-Edison Cleveland Electric
Midland Units 1 & 2	Consumers Power
Limerick Units 1 & 2	Philadelphia Electric
Susquehanna Units 1 & 2	Pennsylvania Power & Light
San Onofre Units 1, 2 & 3	Southern California Edison
Grand Gulf Units 1 & 2	Mississippi Power & Light
Pebble Springs Unit 1	Portland General Electric
Pilgrim Unit 2	Boston Edison
Lemoniz Units 1 & 2	Iberduero, S.A., Spain
Asco Units 1 & 2	Fuergas Electricas de Catalana, S.A.
	Nuclear Asco II, Spain
Kuosheng Units 1 & 2	Taiwan Power
Maanshan Units 1 & 2	Taiwan Power
Palo Verde Units 1, 2, 3	Arizona Public Service
Vogtle Units 1 & 2	Georgia Power Southern Services