The Light company
Houston Lighting & Power South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

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

South Texas Project Electric Generating Station
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Updated Final Safety Analysis Report
Revision 2 - Errata

Houston Lighting & Power Company submits the attached errata for Revision 2 of the South Texas Project Electric Generating Station (STPEGS) Updated Final Safety Analysis Report (UFSAR). Numeration of some pages has been revised to correct an error in page numbering. There is no change in the content of the UFSAR due to this change. Please replace pages 9.5-57 through 61 with the attached.

If there are any questions, please contact Mr. P. L. Walker at (512) 972-8392 or me at (512) 972-7205.

William J. Jump
Manager,
Nuclear Licensing

PLW/lf

Attachment: UFSAR Pages 9.5-57 through 61

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cc:

* Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

* George Dick, Project Manager
U.S. Nuclear Regulatory Commission
Washington, DC 20555

* J. I. Tapia
Senior Resident Inspector
c/o U. S. Nuclear Regulatory
Commission
P. O. Box 910
Bay City, TX 77414

J. R. Newman, Esquire
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Washington, DC 20036

D. E. Ward/T. M. Puckett
Central Power and Light Company
P. O. Box 2121
Corpus Christi, TX 78403

J. C. Lanier/M. B. Lee
City of Austin
Electric Utility Department
P.O. Box 1088
Austin, TX 78767

K. J. Fiedler/M. T. Hardt
City Public Service Board
P. O. Box 1771
San Antonio, TX 78296

Rufus S. Scott
Associate General Counsel
Houston Lighting & Power Company
P. O. Box 61867
Houston, TX 77208

INPO
Records Center
1100 Circle 75 Parkway
Atlanta, GA 30339-3064

Dr. Joseph M. Hendrie
50 Bellport Lane
Bellport, NY 11713

D. K. Lacker
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

NOTE: The above copies distributed without the attachment, except as noted by asterisk (*).

Revised 10/11/91

During normal operation, steam is provided to the AS System from the main steam header, either from Unit 1 or Unit 2. If a unit is shut down while the other unit is operating, steam supply to the AS System in the shutdown unit is normally from the operating unit. The AS System does not supply steam to safety-related equipment.

The ABs are designed and manufactured in accordance with Section I of the ASME B&PV Code and the State of Texas Boiler Inspection Law Rules and Regulations published by the State of Texas Bureau of Labor Statistics. The AS System piping is designed in accordance with ANSI B31.1 and Section I of the ASME B&PV Code. The AB blowdown flash tank is designed, manufactured, and stamped in accordance with Section VIII, Division 1, of the ASME B&PV Code. The deaerator is designed and stamped in accordance with ASME B&PV Code, Section VIII, Division 1 and the deaerator standards of the Heat Exchanger Institute. The AB condensate pumps, AB feedwater (FW) pumps, and AB burner pumps are designed in accordance with the intent of the guidelines established by the Hydraulic Institute.

9.5.9.2 System Description. The AS System consists of three AB condensate pumps, an AB deaerator, three AB feed pumps, three AB burner pumps, one AB blowdown flash tank, two ABs, one grab sample cooler, two attemporators and desuperheating water metering pumps (normally isolated), two instant hot water heating tanks, two BRS steam condensate packages, and two LWPS condensate packages, along with associated piping, valves, instrumentation, controls, and flue gas monitors.

The AB instrumentation and controls are designed to afford local or remote-manual and remote-automatic boiler operation, with the exception of the combustion controls, which are remotely controlled only.

Auxiliary steam from the boilers is distributed in the power station by means of an AS header. The AB feedwater is polished condensate from the condensate system and demineralized makeup from the demineralized water system. Condensate from the turbine plant deaerator pegging steam, LWPS, and the BRS evaporators is returned to the AB deaerator during startup and shutdown.

9.5.9.3 System Safety Evaluation. The AS System is NNS and nonseismic. Loss of the functional capability of the AS System will not preclude safe shutdown of the Nuclear Steam Supply System. However, part of the AS System is provided with Class 1E room temperature sensors and two Class 1E high pressure differential switches across a flow element in the AS line. ASME Section III, Class 3 valves and a seismic Category I portion of Section III piping are also provided. The temperature sensors and high pressure differential switches are used to detect auxiliary steam line breaks in the MAB, and transmit signals to the safety class valves for isolation. This equipment is provided to limit the magnitude and duration of the harsh temperature environment in areas of the MAB which contain safety-related equipment due to AS System line breaks.

9.5.9.4 Inspection and Testing Requirements. Inspections of the boilers by representatives of authorities having jurisdiction will be made to ensure that no code violation exists.

9.5.9.5 Instrumentation Application. The AS System has instrumentation and controls for remote and local operation. The AB control panel contains recorders, indicators, control switches, control stations, and flue gas monitors.

The single deaerator serving both ABs is provided with level, pressure, vent, and overflow controls. Condensate and feedwater pump start-stop circuits are interlocked with deaerator level. Level control valves are provided to regulate FW flow to the boilers. Figure 9.5.9-1 shows the instrumentation for the AB condensate and FW system.

Each AB is provided with a conventional three-element FW control system to regulate flow of FW to maintain boiler drum level. Open-closed valves with control switches on the AB control panel are provided for superheater vents, drains, and boiler blowdown. Each unit AS header is provided with main steam through pressure reducing valves. Pressures, flows, levels, and temperatures are measured and recorded and/or indicated on the AB control panel. Designated measurements are sent to the plant computer. Figure 9.5.9-2 shows instrumentation for the AS system.

A fully automatic combustion control system is provided for each boiler for automatic or remote manual control from the AB control panel. Each boiler also has a burner control system. Provision is made for the operation of the burner control system either remotely from the panel or locally at the burners. Figure 9.5.9-3 shows the combustion and burner control system instrumentation.

The AS System provides steam through a pressure control valve to the LWPS and the BRS. Condensate from the LWPS and BRS evaporators is returned to the AB deaerator. Local controls only are provided. Figure 9.5.9-4 shows the instrumentation associated with the AS and Condensate Return System.

9.5.10 Auxiliary Fuel Oil Storage and Transfer System

9.5.10.1 Design Bases. The Auxiliary Fuel Oil Storage and Transfer System is designed to supply fuel oil to the following:

1. Standby DG Storage Tanks via the Auxiliary Fuel Oil Filtration Skids
2. AB Burner Pumps
3. Non-Class 1E Emergency DG Day Tanks
4. Fire Pump Diesel Driver FOST
5. Lighting System DG Day Tank

9.5.10.1.1 Performance Requirements: The Auxiliary Fuel Oil Storage and Transfer System stores adequate fuel oil for operating both ABs for 21 days. The transfer pumps, in conjunction with the Auxiliary Fuel Oil Filtration Skid pump, are capable of filling one standby DG storage tank in 8 hours. These capacities are more than adequate to fill other system fuel oil needs.

9.5.10.1.2 Code Design Requirements: The Auxiliary Fuel Oil Storage and Transfer System is a NNS Class system and therefore is not designed to seismic Category I requirements. The piping is designed in accordance with ANSI B31.1. The AFOST is designed in accordance with API 650 and API 2000.

9.5.10.1.3 Environmental Design Bases: The system conforms to the requirements of Environmental Protection Agency Guidelines Title 33.

9.5.10.2 System Description. Figure 9.5.10-1 shows the Auxiliary Fuel Oil Storage and Transfer System. The system is common to both Units 1 and 2.

The system consists of one storage tank, two transfer pumps, one fill pump, one truck fill connection oil sump and strainers, valves, piping, and instrumentation required in order to supply fuel oil to various plant systems and components.

The system is designed to fill a single standby DGFOST in 8 hours and to fill all three fire pump diesel oil storage tanks in 2 hours.

9.5.10.3 Safety Evaluation. The Auxiliary Fuel Oil Storage and Transfer System is not required for operation of safety-related equipment.

The connections to all DGFOST and fire pump diesel driver FOSTS are provided to make up fuel used during testing of their engines and following operation. The AFOST is a 240,000-gallon, floating, roof-type tank. It is located inside a dike designed to contain the full volume of fuel in the event of a tank rupture. Fire protection provisions for the tank are described in Section 9.5.1.

The AFOST will be physically separated from other Unit 1 structures as follows.

Structure	Distance (Approximate)
Reactor Containment Building	600 ft
Mechanical Auxiliary Building	300 ft
Diesel Generator Building	600 ft
Electrical Auxiliary Building	500 ft
Fuel Handling Building	500 ft
Nearest CR air intake	600 ft

Distances to Unit 2 structures exceed those indicated above.

Makeup to the FOST is supplied by a truck via a fill pump.

9.5.10.4 Test and Inspections. The Auxiliary Fuel Oil Storage and Transfer System will be initially tested to ensure operability.

9.5.10.5 Instrumentation Application. Local controls are provided for the transfer and fill pumps to manually operate the system during testing, startup, and fill operations. Remote control is provided at the AB panel for operating the transfer pumps in the manual or automatic mode.

Instrumentation is shown on Figure 9.5.10-1. Local instrumentation is provided to monitor system parameters such as pressure, level, flow, and differential pressure. Selected remote instrumentation and alarms are provided at the AB panel.

REFERENCES

Section 9.5

9.5.8-1 Halitsky, J., "Gas Diffusion Near Buildup", ASHRAE Transcript, 69:464-484 (1963).

TABLE 9.5-1

FIRE PROTECTION SYSTEM
FAILURE MODES AND EFFECTS ANALYSIS

Description of Component	Safety Function	Plant Operating Mode*	Failure Mode(s)	Method of Failure Detection	Failure Effect on System Safety Function Capability	General Remarks
Fire Water Storage Tanks (typical)	None, provides water for fire protection service	1-6	Tank rupture, leakage	Low water level alarm in control room	None - 100% redundant storage tank available	
			Insufficient water supply	Low water level alarm in control room	None - 100% redundant storage tank available	
Fire Pump (FP) Gate Valve, Normally Open (typical)	None, provides isolation of line	1-6	Gate valve closed	Audible and visual alarm provided in control room	None - 100% redundancy with other lines	
FP Gate Valve, Normally Open (typical)	None, provides isolation of fire pump or line segment	1-6	Gate valve closed	Audible and visual alarm provided in control room	None - 100% redundancy provided by 2-100% pumps. Alternate routing of water	
FP Gate Valve Locked Open FP0580 or FP0581	None, provides isolation in the event of line rupture of supply header on tank	1-6	Gate valve closed	Periodic visual inspection	None - Worst case condition 2-100% pumps will receive 100% water supply from the other tank	

* Plant Modes

1. Power Operation
2. Startup
3. Hot Standby
4. Hot Shutdown
5. Cold Shutdown
6. Refueling