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MEMORANDUM FOR: L. J. Callan, Director
 Division of Reactor Projects
 Region IV

THRU: Jose A. Calvo, Director
 Project Directorate - IV
 Division of Reactor Projects - III,
 IV, V and Special Projects
 Office of Nuclear Reactor Regulation

FROM: George F. Dick, Jr., Project Manager
 Project Directorate - IV
 Division of Reactor Projects - III,
 IV, V and Special Projects
 Office of Nuclear Reactor Regulation

SUBJECT: NRR SALP REPORT - SOUTH TEXAS PROJECT,
 UNITS 1 AND 2

Enclosed is NRR's input for the SALP Board meeting regarding the South Texas Project, currently scheduled for February 10, 1988. Our evaluation was conducted according to the June 6, 1988 revision of NRC Manual Chapter 0516, Systematic Assessment of Licensee Performance.

/s/

George F. Dick, Jr., Project Manager
 Project Directorate - IV
 Division of Reactor Projects - III,
 IV, V and Special Projects
 Office of Nuclear Reactor Regulation

Enclosure:
 As stated

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

February 9, 1989

MEMORANDUM FOR: L. J. Callan, Director
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OFFICE OF NUCLEAR REACTOR REGULATION

INPUT FOR SALP REPORT

FOR THE PERIOD JANUARY 1, 1988 TO DECEMBER 31, 1988

HOUSTON LIGHTING & POWER COMPANY

SOUTH TEXAS PROJECT

Operations

During the rating period, Unit 1 received its full power license, completed the startup test program, and was declared commercial on August 25, 1988. Unit 2 completed construction, was issued a low power license on December 16, 1988, and began fuel load before the end of the SALP period.

For Unit 1, the startup experience has been good, particularly since Unit 1 is the first nuclear plant for the utility. The scram rate is one of the lowest in comparison to other new plants. Although the ESF actuation rate is higher than average, almost 70% of those were control room ventilation actuations due primarily to false signals from the toxic gas monitors. The licensee has taken steps to correct the problems. The overall assessment of operations by the Special Performance Assessment Team was that operations were good, with strong programs in place to ensure safe operations of the plant. During the review of the Emergency Operating Procedures (EOPs), it was concluded that although the EOPs were acceptable, improvements were needed, particularly in the areas of labeling of equipment and validation of procedures through walkdowns.

There were two enforcement conferences during the SALP period. The first conference addressed two issues; the first one was the licensee's discovery that while in Mode 3, prior to initial criticality, seven of the twelve feed-water flow transmitters were isolated and out of service. This was a violation of the technical specifications (TS). The second issue dealt with voluntary entry into TS 3.0.3. It appeared that while in an action statement with two steam generator PORVs inoperable, the licensee voluntarily entered TS 3.0.3 in order to test one of the other PORVs, a TS violation. It was subsequently determined that the third PORV was not inoperable. However, the result of the enforcement conference was to carefully define the framework for entry into and out of TS 3.0.3. A letter documenting the discussion was sent to the licensee.

A second enforcement conference (held by telephone) dealt with the falsification of logs by fire watches. The incidents occurred prior to completion of Unit 1 construction. There were no escalated enforcement actions resulting from the conference.

Radiological Controls

There are no contributions from NRR in this area.

Security

There was an inspection of the complete Unit 2 security system prior to lockdown and merging of the Unit 1/Unit 2 security functions. The inspection concluded that there were no deficiencies in the Unit 2 system to prevent proceeding with the implementation and merger with Unit 1 system.

Emergency Preparedness

An emergency exercise was conducted in June. There were no violations noted. However, there were three deficiencies noted, one of which was a repeat. It resulted from a delay in the OSC due to the inability of the HP technicians to obtain personal exposure history required for higher dose authorization.

Engineering/Technical Support

During the assessment period, Unit 1 received its full power license, completed its power ascension tests and declared commercial operation in August. Unit 2 completed construction and received its low power license in December. Consequently, a large number of technical issues were resolved and reported in NUREG-0781, Supplements 5 and 6. Major technical issues included the spent fuel pool rerack, the ATWS rule, non-conforming materials (Bulletin 88-05) and pressurizer surge line thermal stratification. Two ongoing issues are the BMI thimble tube degradation, and dealumination of aluminum-bronze valves and fittings in the essential cooling water system.

The approaches to resolution of technical problems by HL&P demonstrated clear understanding of the issues. In the spent fuel pool rerack, the applicant addressed the appropriate criteria in their submittals although it was necessary to go back to request additional information. This is not considered unusual for a complex issue such as a rerack. In particular, in its audit of the structural calculations, the staff found that records were complete and well-maintained and that conservatism was routinely exhibited when the potential for safety significance existed.

In instances when it was necessary to go back to the licensee for additional information or clarification, the licensee displayed a good understanding of the issues and provided complete responses to the staff. The quality of the engineering for these and other activities indicates that the applicant has technically competent and adequately staffed engineering capabilities.

Safety Assessment/Quality Verification

The licensee has been very responsive with the staff in working to resolve the technical issues. For example, in the SPDS review, the licensee described in its submittals each open item and proposed acceptable resolutions. The spent fuel reracking effort also demonstrated HL&P's cooperative attitude and conservative approach. Their staff exhibited eagerness to resolve staff concerns related to the safety of the rack installation.

In their handling of the response to NRC Bulletin 88-05, HL&P at first questioned the staff initiatives. However, they performed the requested additional testing and the quality of their submittal showed that significant attention was given to this issue.

The completeness of the technical submittals and the effectiveness of telecons and meetings with the staff, reflect a high level of management attention, involvement, and good recognition of safety.

One of the ongoing issues has been the BMI thimble tube wear. HL&P has conducted three inspections of the thimble tubes on Unit 1. Subsequent to the inspections, they met with the staff to discuss the results and solicit staff concurrence with the proposed actions.

In May, there was a catastrophic failure of one of the Unit 1 main feedwater pump turbines. Although the failure occurred on the secondary side, the licensee voluntarily kept the plant shut down while the failures were thoroughly investigated and appropriate solutions developed.

The licensee has been responsive to generic letters and bulletins; in some cases preliminary responses were submitted while work was ongoing. This is considered to be positive in that the staff is kept abreast of progress. In response to Generic Letter 88-11, the licensee indicated that the pressure-temperature curves used for South Texas are more conservative than Revision 2 of R.G. 1.99. The preliminary response to GL 88-17 stated that no reduced inventory operations will be conducted with irradiated fuel in the reactor until actions stated in the Generic Letter were completed.

The staff, in evaluating the licensee's response to Bulletin 88-05, stated that HL&P was responsive to the action and reporting requirements of the Bulletin and qualified all nonconforming parts as being suitable for the intended service. Bulletin 88-10, which was issued in November, required a response from HL&P before issuance of the license. HL&P requested a scheduler extension for Unit 2 so to be consistent with Unit 1. At the time of the schedule extension request, a description of the circuit breaker in pre-startup test procedures was submitted. The staff reviewed the requirements of the procedures and found them acceptable for verifying the functional capability and performance of the circuit breakers. The staff concluded that the preoperational testing provided assurance that the installed breakers will perform safely and reliably.

Enclosure 2

SPLB SALP INPUT

Plant Name: South Texas Project Electric Generating Station Units 1 and 2

Summary of Review/Inspection Activities

Reviewed proposed TS amendments for fuel handling building HVAC exhaust filter trains.

Narrative Discussion of Licensee Performance - Functional Area Safety Analysis

The submittal was complete and fully detailed, with one exception*. The licensee's safety and regulatory rationale was sound.

The licensee was requested to supply additional detailed information to support their conclusion, based on an analysis they did not submit.

Author: Charles R. Nichols

Date: FEB 17 1989

B/S

Systematic Assessment of Licensee Performance (SALP)
Initial Test Program (ITP)

FACILITY NAME: South Texas Project Unit 2

SUMMARY OF REVIEW/INSPECTION ACTIVITIES

The Performance and Quality Evaluation Branch (PQEB) of the Division of Licensee Performance and Quality Evaluation (DLPQ) has reviewed and evaluated the South Texas Project Unit 2 ITP changes through FSAR Amendment 62. This input to the SALP process is based on the results of our review of the changes made to the STP Unit 2 Initial Test program through FSAR Amendment, licensee submittals dated January 9, 1986, April 3, 1987, July 31, 1987, August 3 and 12, 1987, February 12, 1988 and February 22, 1989, and is for the period October 1988 to date.

NARRATIVE DISCUSSION OF LICENSEE PERFORMANCE--ENGINEERING/TECHNICAL SUPPORT

Licensee management showed minimal understanding of issues and of NRC policies relating to the initial startup test programs. The licensee has demonstrated lack of understanding of the purpose and importance of conducting certain preoperational tests on STP Unit 2. In addition, the engineering evaluations for these changes and deletions to the startup test program were sometimes inadequate and records were not complete or well maintained. The licensee's approaches are often viable, but lacking in thoroughness and depth. In addition, the 10 CFR 50.59 reviews are not well documented and reflect a minimal technical analysis. The resolution of certain issues identified in the licensee's submittals required more than two years and several letters and telephone calls because of the level of attention given these issues by the utility management.

Author: R. G. Ramirez
Date: February 27, 1989

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ENCLOSURE 2

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

FACILITY NAME: South Texas Project, Unit 1

SUMMARY OF REVIEW:

This SER involves a review of the effects of the reactor coolant system flow anomaly observed in South Texas Project Unit 1, and the corresponding changes in the STP FSAR. Based on its review, the staff concludes that the RCS flow anomaly would not result in (1) the DNBR limit being violated during steady state and anticipate operational occurrences, or (2) a significant increase in radiological consequence for the Condition IV accidents. The changes to the STP FSAR are found acceptable.

NARRATIVE DISCUSSION OF LICENSEE PERFORMANCE - FUNCTIONAL AREA:

The licensee's submittals are generally very clear and required no further information. The licensee's determination on whether the changes in the critical heat flux correlation and the effect of the RCS flow anomaly result in an unreviewed safety issue indicates its understanding of the regulation. However, the licensee's statement that a peak cladding temperature of less than 2700°F would ensure no fuel failure indicates its misunderstanding of the NRC staff position on fuel failure criteria regarding the locked rotor and RCCA ejection accidents.

AUTHOR: Y. Hs11
DATE: July 14, 1989

B/17

ENCLOSURE 2

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

FACILITY NAME

South Texas Project Electric Generating Station

SUMMARY OF REVIEW

The licensee requested changes to the Startup Program to delete 2 tests. The justification was that these tests are routinely eliminated on Westinghouse plants. This is true but South Texas is the first 14 foot core. We requested data from these tests on foreign plants. We reviewed the data and found it acceptable.

NARRATIVE DISCUSSION OF LICENSEE PERFORMANCE - FUNCTIONAL AREA

The licensee was cooperative in providing the additional information and data requested.

AUTHOR: M. Chatterton
DATE: 9/7/89

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SALP INPUT

FACILITY NAME: South Texas Units 1 and 2

SUMMARY OF REVIEW ACTIVITIES

The staff reviews Houston Light and Power Company's pressure-temperature limits in the South Texas Units 1 and 2 Technical Specifications as a part of Generic Letter 88-11 review. Generic Letter 88-11 requires the licensee to use Regulatory Guide 1.99, Revision 2, to calculate the nil-ductility transition reference temperature, RT_{NDT} , which is a parameter is establishing the pressure-temperature limits. The staff calculates the RT_{NDT} based on RG 1.99, Rev. 2, and compares it to the licensee's RT_{NDT} . If the licensee's RT_{NDT} is the same as the staff's RT_{NDT} , the staff calculates reactor coolant temperatures at 1000 psi and 2000 psi to verify the licensee's pressure-temperature limits. For this calculation, the staff uses the methods described in SRP 5.3.2. The staff also verifies that all of the reactor vessel materials' upper shelf energy comply with the 50 ft-lb requirement specified in Appendix G of 10 CFR 50.

NARRATIVE DISCUSSION OF LICENSEE PERFORMANCE-FUNCTIONAL AREA

ENGINEERING/TECHNICAL SUPPORT

The licensee has demonstrated that it has engineering capability in calculating pressure-temperature limits.

SAFETY ASSESSMENT/QUALITY VERIFICATION

The licensee's calculation of the nil-ductility reference temperature was correct and followed the method in Regulatory Guide 1.99, Rev. 2. The pressure-temperature limits satisfied the requirements of SRP 5.3.2. Significant quality control in preparing the pressure-temperature limits calculations was evident. Implementation of NRC Generic Letter 88-11 was timely and effective.

AUTHOR: John Tsao, EMCB/DET
X20937

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