

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION  
Thomas E. Murley, Director

In the Matter of

HOUSTON LIGHTING & POWER  
COMPANY

(South Texas Project, Unit 1)

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Docket No. 50-498 OL

(10 C.F.R. §2.206)

DIRECTOR'S DECISION UNDER 10 C.F.R. §2.206

INTRODUCTION

On March 17, 1988, Earth First!, Gray Panthers of Austin, Lone Star Green, Public Citizen, South Texas Cancellation Campaign, and Travis County Democratic Women's Committee (the Petitioners) filed a Petition pursuant to 10 CFR §2.206 requesting a delay in the Commission's vote on a full power operating license for the South Texas Nuclear Project (STNP), Unit 1 because of alleged deficiencies in NRC's review of allegations relative to STNP that had previously been provided to NRC by the Government Accountability Project (GAP). The Petitioners requested that the Commission vote be delayed until there had been a complete investigation of all allegations regarding STNP and until a report disposing of each allegation was released to the public.<sup>1/</sup> The Petition was referred to the staff on April 20, 1988.

<sup>1/</sup> While the Petition did not arrive in time to enable the NRC staff to prepare a full response prior to the Commission's scheduled vote on full power, the Commission had been fully briefed on the results of the SSAT review at the time of the March 21, 1988 meeting, at which it unanimously authorized issuance of a full-power license. Prior to the Commission's action, the staff had published NUREG-1306 which addressed all safety issues raised in the allegations made with respect to STNP.

The deficiencies alleged by the Petitioners in their Petition are related to the efforts of the NPC Safety Significance Assessment Team (SSAT) constituted in November 1987 to determine the licensing impact of all STNP allegations that GAP made available to NRC. In the March 17 submittal, the Petitioners assert the following as bases for their Petition:

- (1) Many allegations are not yet resolved and are to be the subject of future reports or future corrective action (see 5.1.4.4, 5.1.6.3, 5.3.2.2(4), 5.3.2.3, 5.4.2.2, 5.6.1.4 and 5.6.4.3, and Part 4, SSAT Report).
- (2) Approximately 240 allegations were classified by the SSAT as harassment/intimidation or wrongdoing and referred by the SSAT to NRC's Office of Investigation (OI) for review. Until OI completes its investigation of the 240 allegations, the basis for the SSAT report is suspect, and no decision on the safety of the plant can be made.
- (3) The SSAT investigation of several allegations relied on a mere sampling of items.
- (4) Some items, such as the essential cooling water system (5.1.6), are expressly left unresolved by the SSAT Report.
- (5) The attitude of the SSAT is deficient because it requires the public to prove that the plant is unsafe as opposed to requiring the licensee to prove that the plant is safe.

In considering a request under 10 CFR §2.206 or, for that matter, any allegation of substandard workmanship or improper practices involving a nuclear power reactor, the NRC staff is mindful of the Commission's overriding regulatory responsibilities to ensure adequate protection of the public health and safety

in the use of radioactive material and the operation of nuclear power facilities. (See Power Reactor Development Co. v. International Union of Electrical Radio and Machine Workers, 367 U.S. 396, 406 (1961).) Consistent with these responsibilities, a reactor operating license will be issued by the Commission only if it can be found that there is reasonable assurance that power operation presents no undue risk to the health and safety of the public (See 10 CFR §50.57). When assessing the significance of allegations, the staff makes an initial determination whether an allegation, if true, is relevant to the safe operation of the facility. Allegations deemed not relevant to safe operation of the facility, and allegations determined to be frivolous, or too vague or general in nature to provide sufficient information for the staff to investigate, may not receive further consideration. Nevertheless, at STNP, the SSAT, in fact, did review many allegations that would normally have been considered too vague or general, in order to confirm that the types of deficiencies alleged either did not exist or would not undermine safety.

The results of the SSAT's examination of the allegations received through GAP are contained in NUREG-1306, "NPC Safety Significance Assessment Team Report on allegations related to the South Texas Project, Units 1 and 2," March 1988. On the basis of this review, the results of previous inspections, and evaluations that have been documented previously in Safety Evaluation Reports, the staff has determined that the STP Unit 1 has been built in conformance with applicable regulatory requirements and that the systems in the facility would, if called upon, perform their intended safety function. Thus, for the reasons in this Decision, we find no basis to support the Petitioners' request. Accordingly, the Petition is denied.

## DISCUSSION

The SSAT, formed in November 1987, reviewed each allegation provided to it by GAP to determine whether further examination of the allegation was appropriate or necessary based on whether it duplicated another allegation or lacked the requisite specificity or safety significance. After several weeks of preparatory efforts, including direct telephone contact with allegeders, the SSAT conducted a site inspection during the week of January 18, 1988. On the basis of the information from the inspection, the SSAT evaluated all allegations that appeared to be technically oriented and were considered to have potential safety significance. The results of the SSAT review are documented in NUREG-1306, a copy of which has been enclosed herewith. Since the SSAT's conclusions are fully explained in NUREG-1306, a detailed examination of each allegation is not warranted here. The following discussion summarizes some of the issues addressed in NUREG-1306 and provides a response to the matters raised in the Petition.

### (1) Allegation That Many Issues Are Not Yet Resolved

The Petition asserts that many GAP allegations are not yet resolved and are to be the subject of future reports or future corrective action. Eight specific sections of NUREG-1306 are cited as examples.

a. Section 5.1.4.4.

Section 5.1.4 of NUREG-1306 deals with the allegation that steam generator (SG) 1-D was installed out of plumb so that the steam outlet nozzle is 11 to 13 inches from its required position. This would require piping and support modifications that could affect the original load and stress analysis for those components. The SSAT determined that this allegation was substantiated to the extent that SG 1-D was out of plumb, but that the condition was analyzed and evaluated to be acceptable. The SSAT and NRC technical staff reviewed the site documentation that discussed the analysis and based the conclusions stated in Section 5.1.4.3, that the concerns have been satisfactorily resolved, on that analysis. The allegation has been resolved, and future corrective action is not contemplated.

In Section 5.1.4.4 of the report, the SSAT imposes the requirement that HL&P must submit a formal report on steam generator verticality prior to accension from 5 percent power. This is a requirement that HL&P formally document the analysis that it used to show that the steam generators were acceptable as installed. The final statement in Section 5.1.4.4 is a caveat that if the documented analysis differs in any way from the analysis that was reviewed by the staff, the NRC staff would review any changes and issue another Safety Evaluation Report, as appropriate.

b. Section 5.1.6.3

Section 5.1.6 of NUREG-1306 deals with the allegation that the design of the essential cooling water system (ECW) is inadequate because the aluminum-bronze piping in the ECW does not have adequate wall thickness to compensate for metal loss due to microbiologically induced corrosion (MIC) over the life of the plant. The SSAT determined that this allegation was not substantiated.

In Section 5.1.6.3 of the report, the staff concludes that MIC would not be a problem in the aluminum-bronze ECW piping at STNP. The staff position is based on its findings that the measures taken to inhibit bacteriological fouling are adequate and that HL&P has adequate procedures and inspection capability to ensure early detection of MIC which would allow corrective actions to be implemented before significant damage is done. As stated in Section 5.1.6.3, the NRC staff is continuing to evaluate the resistance of aluminum-bronze piping to MIC, as part of its ongoing generic study of MIC. There is some evidence that this piping is less susceptible to MIC than carbon steel or stainless steel piping. If it can be shown that aluminum-bronze piping in fact is less susceptible to MIC than carbon steel or stainless steel piping, the staff conclusion that MIC in the ECW piping at STNP will not be a problem will be reinforced. However, the staff conclusions as stated in the NUREG-1306 are not contingent upon, and would not be changed by, such a finding.

c. Sections 5.3.2.2(4) and 5.3.2.3

The second paragraph of Section 5.3.2.2(4) and the last paragraph of Section 5.3.2.3 of the report address the flammability of TREMCO 440A gasket material, which is used in ductwork at STNP. While evaluating the Heating, Ventilation and Air Conditioning (HVAC) systems onsite, the SSAT was informed by other technical staff that the use of TREMCO 440A had been identified as a problem at Comanche Peak. While the flammability of TREMCO 440A was not the subject of an allegation, the SSAT included it as a generic issue in the report because the material is used extensively at STNP. Before the issuance of NUREG-1306, the NRC staff conducted an inspection of TREMCO 550A material at STNP and concluded that its use is acceptable because the design of the HVAC systems at STNP does not rely on the material to prevent the spread of fires,



and because TREMCO 440A does not represent a significant increase in the total combustible loading in areas where it is used. This conclusion is detailed in Inspection Report 88-02, which is available in the Public Document Room. The SSAT considers this issue to be resolved.

d. Section 5.4.2.2

Section 5.4.2 of NUREG-1306 deals with the allegation that threaded fasteners manufactured outside the United States and not conforming to applicable ASTM and ASME requirements were provided by two companies for use at STNP. The concern is that non-conforming fasteners would not meet the design requirements for STNP.

In Section 5.4.2.3, the SSAT concludes that all questionable fasteners at STNP were identified and corrective actions were taken. Thus, the allegation raised has been resolved by the SSAT. As discussed in the last paragraph of Section 5.4.2.2., HL&P is conducting a fastener testing program in response to generic concerns identified in NPC Bulletin 87-02. This is a parallel effort to the SSAT inspection, and the completion of one is not dependent on the other. The results of the testing program will be evaluated by the NPC as they become available.

e. Section 5.6.1.4

Section 5.6.1 of NUREG-1306 deals with the allegations that Raychem electrical cable splices were improperly installed and improperly inspected by Quality Control personnel, and that incorrect hardware was used to install the splices. The SSAT determined that this allegation was substantiated, but that adequate corrective actions have been taken. The SSAT considers the Raychem

splice allegation to be resolved. During its review of the Raychem splice allegation, however, the SSAT determined that there were problems with the computer data base that had been used. During an inspection subsequent to its January 1988 effort, the SSAT determined that the data base problem was unique to the Raychem splice corrective action program, and that the licensee had taken the necessary steps to eliminate the problem. However, to preclude any potential future similar problems with potential corrective actions on both Units 1 and 2, the SSAT required HL&P to revise its corrective action procedures to include specific verification and reconciliation steps. This is a generic requirement not associated with any specific allegation. The requirement is discussed in Section 5.6.1.4 of the NUREG-1306. Raychem splices in Unit 2 will be reinspected prior to the licensing of Unit 2.

f. 5.6.4.3

Section 5.6.4 of NUREG-1306 deals with the allegation that flexible metallic conduit was bent to form a radius that was below the minimum bend radius (MBR) permitted. The concern was that the insulation on cables inside the conduits would crack due to the too small radius and cause electrical malfunctions. There were seven issues of MBR violations which the allegor brought to the attention of the SAFETEAM, HL&P's onsite organization for investigation of safety concerns. The SSAT verified the acceptability of the SAFETEAM disposition of this issue. The SSAT determined that the allegation was substantiated to the extent that there had been some MBR violations. However, these violations were documented by HL&P's SAFETEAM, and the SSAT determined that all safety-related components identified as having an unacceptable MBR were reworked to provide an acceptable MBR. Some non-safety related components are scheduled to have their MBR problems corrected at a later date.



g. Section 4

Section 4 of the report, also referenced by the Petitioners, contains a statement of the actions required of HL&P as a result of the SSAT review. The details of these required actions are presented in Section 5 of the NUREG-1306. The required action involves the revision of HL&P's corrective action procedures to correct deficiencies discovered during the Raychem splice inspection (see Section 5.6.1.4 of the Report, discussed above at 1.e), and steam generator reliability (see Section 5.1.4.4 of the Report, discussed above at 1.a).

(2) Allegation Regarding Harassment Intimidation and Wrongdoing

The Petitioners assert that the use of SAFETEM reports by the SSAT is not proper because SAFETEM is not required to comply with 10 CFR Part 50, Appendix P. The SSAT reviewed SAFETEM records to determine if there were any SAFETEM investigations which paralleled the SSAT inspection activities. Where such parallels existed, the SSAT audited SAFETEM activities to determine if the SSAT agreed with the results. SAFETEM reports were used to augment SSAT inspections, and no reports were used unless they were audited by the SSAT and their adequacy and accuracy established. Within the above limitations, the use of existing SAFETEM reports is acceptable.

The Petitioners further assert that the investigation of allegations at STNP cannot be completed until all allegations of harassment/intimidation and wrongdoing have been investigated, because the basis for the SSAT Report is suspect.

The SSAT made a deliberate effort to separate the safety-significant aspects from all harassment/intimidation and wrongdoing allegations. The safety-significant aspects of those allegations were then included within the allegations assessed for licensing impact. Accordingly, the SSAT's conclusions concerning the safety of the plant are based on an assessment of the safety-significant aspects of the harassment/intimidation and wrongdoing allegations.

The Petitioners also assert that the NRC cannot know if HL&P has the corporate character and competence to be a license holder until all harassment/intimidation and wrongdoing allegations have been investigated. During its review of allegations pertaining to STNP, the SSAT did not observe any trends or patterns that would be indicative of a management breakdown in ensuring the quality of STNP installations. The SSAT observations are reinforced by the overall licensing and inspection programs performed by NRC staff over several years. In addition, the allegations of harassment/intimidation and wrongdoing are, to a large extent, vague in nature and as yet are not substantiated. Efforts to date by OI to contact alleged through GAP in order to pursue their concerns have not been successful. Based on the information summarized above, the NRC staff has reasonable assurance that HL&P had the requisite corporate character and competence to be a license holder, and has concluded that STNP can be operated with no undue risk to public health and safety.

(3) Allegation That SSAT Investigation Relied On Sampling

The Petitioners assert that the SSAT investigation of several allegations relied on a sampling of items, and that public safety demands a thorough

inspection. The Petitioners cite allegations involving valve installation, valve maintenance and reassembly, weld rod, and electrical cable separation as examples. These allegations are covered in Sections 5.2.1, 5.2.2, 5.5.1, and 5.6.6 of the NUREG-1306, respectively.

All the above allegations provided to the SSAT by GAP had a common shortcoming; i.e., the allegers were unable to provide specifics with respect to location of the alleged unacceptable conditions. Absent any specifics, the SSAT conducted a generic review of the allegations. The SSAT selected systems and components, inspecting them for any indications of the deficiencies alleged. In each case, the SSAT was unable to find any of the alleged deficiencies. The absence of any findings, when viewed in light of the number of items inspected, provided an acceptable basis for concluding that there were no pervasive deficiencies within the systems/components inspected.

With respect to the allegation regarding weld rods, the SSAT pursued the issue well beyond the original allegation, which involved allegedly faulty Type E6013 weld rods. The SSAT determined early on that E6013 weld rods were not used at STNP. This information notwithstanding, the SSAT expanded the scope of its inspection to determine if the allegor might have been mistaken regarding the type of weld rod in question. The expanded inspection found no faulty weld rods, so that the SSAT considered the issue satisfactorily resolved. (See Section 5.5.1 of NUREG-1306 for a full discussion of this issue.)

The absence of any negative finding in the samples inspected by the SSAT, in conjunction with the extra effort they expended in pursuing allegations,

provides adequate assurance that there are no programmatic deficiencies within the systems/components at STNP.

(4) Allegation That the Essential Cooling Water System Issue Was Left Unresolved

The Petitioners assert that the SSAT did not address the issue of the thickness of the essential cooling water (ECW) aluminum-bronze piping and the alleged reduction in piping wall thickness due to corrosion that had occurred prior to STNP Unit 1 operation. In fact, the SSAT determined that the allegation was not substantiated.

The SSAT has determined that the ECW aluminum-bronze piping was adequately inspected prior to operation to determine what, if any, degradation had occurred as a consequence of MIC. By physical inspection, the SSAT determined that there was no degradation of piping wall prior to system operation; consequently, they find no reason for concern over a loss of pipe structural integrity because of reduced pipe wall thickness. The SSAT considers the ECW piping issue closed. The SSAT findings are detailed in Section 5.1.6 of NUREG-1306. (See also the discussion at (1)(b) above.)

(5) Allegation That The SSAT Attitude Is Deficient

The Petitioners assert that NRC requires the public to prove that the plant is unsafe rather than requiring the applicant to prove the plant is safe. The Petitioners cite the SSAT conclusion on p. 3-11 of the NUREG-1306 as the basis for their position.

Section 3 of the report contains an overview of the SSAT's activities associated with reviewing all allegations provided by GAP to NRC. In Section 3.2, the report notes that the SSAT spent in excess of 3300 staff and contractor hours reviewing these allegations. In addition to the SSAT effort, Region IV inspection activities at STNP involved in excess of 29,000 hours. With both the SSAT and Region IV inspection efforts, HL&P was required to provide support for these inspections which at least equaled, and often exceeded, NRC's efforts. The collective NRC inspection efforts, and the associated HL&P support, were all for the purpose of determining whether STNP was constructed in accordance with applicable requirements and could be operated without undue risk to public health and safety. HL&P is responsible for providing adequate evidence of proper plant construction, and the NRC staff is responsible for evaluating the evidence and drawing conclusions relative to safety based on that evidence. The fact that the NRC staff, after extensive expenditure of effort, was unable to substantiate the vast majority of allegations pertaining to safety is indicative that the licensee's programs and capabilities are functioning in a manner that assures that the plant is safely built.

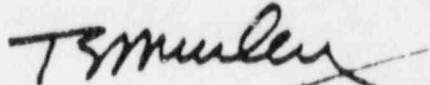
#### CONCLUSION

On the basis of the review by the SSAT, the results of which are contained in NUPEG-1306, and as described in this Decision, I find no basis to support the Petitioners' request and do not recommend any action with respect to the full-power license for STP Unit 1. Accordingly, the Petitioners' request is

denied. A copy of the Decision will be filed with the Secretary for the Commission's review in accordance with 10 CFR §2.205(c).

Dated at Rockville, Maryland this 17th day of June, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in dark ink, appearing to read 'T. Murley', with a stylized flourish at the end.

Thomas E. Murley, Director  
Office of Nuclear Reactor Regulation