

# The Light company

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

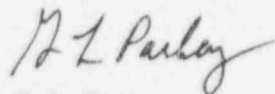
June 10, 1997  
ST-HL-AE-5660  
File No.: G26  
10CFR50.73

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

South Texas Project  
Unit 1  
Docket No. STN 50-498  
Licensee Event Report 97-06  
Inappropriate Surveillance Procedure Monitoring Parameters

Pursuant to 10CFR50.73(a)(2)(i)(B), the South Texas Project submits the attached Unit 1 Licensee Event Report 97-06 regarding failure to comply with Technical Specification surveillance requirements due to inappropriate surveillance procedure monitoring parameters. There was no adverse effect on the health and safety of the public as a result of this condition.

If you should have any questions on this matter, please contact Mr. P. L. Walker at (512) 972-8392 or me at (512) 972-7800.



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Plant Manager,  
Unit 1

PLW/

Attachment: LER 97-06 (South Texas, Units 1 and 2)

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Houston Lighting & Power Company  
South Texas Project Electric Generating Station

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U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

EXPIRES 04/30/98

## LICENSEE EVENT REPORT (LER)

(See reverse for required number of  
digits/characters for each block)ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS  
MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS.  
REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE  
LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD  
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION  
AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR  
REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO  
THE PAPERWORK REDUCTION PROJECT

FACILITY NAME (1)

South Texas, Unit 1

DOCKET NUMBER (2)

05000 498

PAGE (3)

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TITLE (4)

Inappropriate Surveillance Procedure Monitoring Parameters

| MONTH              |  |  | DAY |  |  | YEAR  |  |  | LER NUMBER (6)    |                   |                 | REPORT DATE (7) |     |      | OTHER FACILITIES INVOLVED (8) |               |                     |   |  |  |
|--------------------|--|--|-----|--|--|---|--|--|-------------------|-------------------|-----------------|-----------------|-----|------|-------------------------------|---------------|---------------------|---|--|--|
|                    |  |  |     |  |  |   |  |  | YEAR              | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH           | DAY | YEAR | FACILITY NAME                 | DOCKET NUMBER |                     |   |  |  |
| 05                 |  |  | 08  |  |  | 97  |  |  | 97                | --                | 06              | --              | 00  | 06   | 10                            | 97            | South Texas, Unit 2 | 50-499  |  |  |
| OPERATING MODE (9) |  |  | 1   |  |  | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) |  |  |                   |                   |                 |                 |     |      |                               |               |                     |   |  |  |
| POWER LEVEL (10)   |  |  | 100 |  |  | 20.2201(b)  |  |  | 20.2203(a)(2)(v)  |                   |                 | X               |     |      | 50.73(a)(2)(i)                |               |                     | 50.73(a)(2)(viii)                             |  |  |
|                    |  |  |     |  |  | 20.2203(a)(1)   |  |  | 20.2203(a)(3)(i)  |                   |                 |                 |     |      | 50.73(a)(2)(ii)               |               |                     | 50.73(a)(2)(x)                                |  |  |
|                    |  |  |     |  |  | 20.2203(a)(2)(i)  |  |  | 20.2203(a)(3)(ii) |                   |                 |                 |     |      | 50.73(a)(2)(iii)              |               |                     | 73.71   |  |  |
|                    |  |  |     |  |  | 20.2203(a)(2)(ii)   |  |  | 20.2203(a)(4)     |                   |                 |                 |     |      | 50.73(a)(2)(iv)               |               |                     | OTHER   |  |  |
|                    |  |  |     |  |  | 20.2203(a)(3)(iii)  |  |  | 50.36(c)(1)       |                   |                 |                 |     |      | 50.73(a)(2)(v)                |               |                     | Specify in Abstract below or in NRC Form 366A |  |  |
|                    |  |  |     |  |  | 20.2203(a)(2)(iv)   |  |  | 50.36(c)(2)       |                   |                 |                 |     |      | 50.73(a)(2)(vii)              |               |                     |   |  |  |

## LICENSEE CONTACT FOR THIS LER (12)

NAME

Scott M. Head - Licensing Supervisor

TELEPHONE NUMBER (Include Area Code)

(512) 972-7136

## COMPLETE ONE LINE FOR EACH INCIDENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS |
|-------|--------|-----------|--------------|---------------------|-------|--------|-----------|--------------|---------------------|
| A, D  | AB     |           |              | No                  |       |        |           |              |                     |

## SUPPLEMENTAL REPORT EXPECTED (14)

| YES<br>(If yes, complete EXPECTED SUBMISSION DATE). |  |  |  | X NO |  | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|---|--|--|--|------|--|-------------------------------|-------|-----|------|
|   |  |  |  |      |  |                               |       |     |      |

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On May 7, 1997, Units 1 and 2 were operating at 100% power. During a review of requirements for controlling Reactor Coolant System average temperature at full power, a surveillance procedure was found to be inconsistent with Technical Specification surveillance requirements. The Operator Log surveillance procedure for average temperature and pressurizer pressure limits for protection against departure from nucleate boiling, which are required to be verified per Technical Specification surveillance requirement 4.2.5.1, did not take into account measurement instrument uncertainties. The concern is that these parameters were not being accurately monitored as required by Technical Specification surveillance requirements. This error in the Operator Log surveillance procedure resulted from less than adequate review of the Technical Specification Bases. The Operator Log surveillance procedure has been revised to include instrument uncertainty. Further reviews will be performed to determine if there are any generic concerns.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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| South Texas, Unit 1 | 05000 498 | 97             | -- 06             | -- 00           | 2 OF 4   |

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

**DESCRIPTION OF EVENT:**

On May 7, 1997, Units 1 and 2 were operating at 100% power. During review of the requirements for controlling Reactor Coolant System average temperature at full power, a surveillance procedure was found to be inconsistent with Technical Specification surveillance requirements. Technical Specification 3.2.5 states that reactor coolant system temperature is to be maintained less than or equal to 598°F and pressurizer pressure is to be maintained greater than 2189 psig. These values were developed as part of the VANTAGE 5H fuel upgrade submitted in a license amendment application dated May 23, 1993 (ST-HL-AE-4364). The Technical Specification Bases in that amendment included annotations that these temperature and pressure limits are analytical, and that the measured values are adjusted to account for measurement uncertainties before making a comparison with the required limit. However, the values used in the associated surveillance procedure for making the comparison were not adjusted.

The proposed revision to Technical Specification Bases section 3/4.2.5 was included in the review performed prior to submittal to the Nuclear Regulatory Commission for approval. However, reviewers did not identify that the Bases change required revision of these parameters in the Operator Log surveillance procedure to account for measurement uncertainty.

Technical Specification surveillance requirement 4.2.5.1 requires that these parameters be verified to be within these limits at least once per 12 hours. The Operator Log surveillance procedure includes these parameters for monitoring from the control room. However, the limits used for comparison in the surveillance procedures used the analytical values, rather than values which take into account measurement instrument uncertainties, with the result that these parameters were not being properly monitored as required by Technical Specification surveillance requirements.

**CAUSE OF EVENT:**

This error in the Operator Log surveillance procedure resulted from less than adequate review of the Vantage 5H license amendment. Reviewers did not identify that the Bases change required inclusion of instrument uncertainty in the Operator Log surveillance procedure for these parameters. As a result of changes in personnel since review of this Technical Specification change in 1993, the exact cause for this oversight can not be determined. Corrective Action #4 is designed to ensure that the Technical Specification change process is sufficiently rigorous to prevent this type of error in the future.

**ANALYSIS OF EVENT:**

Failure to adequately perform a surveillance requirement is reportable pursuant to 10CFR50.73 (a)(2)(i)(B). The surveillance requirement was not met because the surveillance procedure did not account for instrument uncertainty.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Westinghouse previously calculated adjusted control room indication limits for Reactor Coolant System average temperature of 596°F and pressurizer average pressure of 2219 psig. A limited review of Operator Log surveillance records and discussion with operations personnel indicates that Reactor Coolant System average temperature and average pressurizer pressure have complied with these limits. The plant typically operated at an average temperature of no more than 594°F and an average pressure not less than 2234 psig. Due to a design change in 1995 that reduced the hot-leg temperature, the units currently operate at an average temperature around 589°F and a pressurizer average pressure above 2235 psig. To ensure continued compliance, parameter limits of 593°F and 2235 psig have been established effective until current values can be re-calculated to confirm those previously provided by Westinghouse.

Compliance with Technical Specification 3.2.5 ensures that the initial conditions of the reactor are consistent with the safety analysis. The safety analysis assumes the average reactor coolant system temperature is 598°F and the pressurizer pressure is 2189 psig for the limiting accidents. Measurement uncertainty for these parameters due to instrument error is calculated to be 2°F and 25 psi, respectively. Actual operating conditions could have been 600°F and 2164 psig under the worst-case combination of instrument error. A sensitivity study was performed to assess the impact of these worst-case operating conditions on the minimum departure from nucleate boiling ratio safety analysis. The results of the sensitivity study show that the reduction in the departure from nucleate boiling ratio was within the available safety margin. Therefore, the condition did not impact the results of the safety analysis.

### CORRECTIVE ACTIONS:

The following corrective actions have been taken as a result of this condition:

1. Limits have been temporarily established in the Operator Log surveillance procedure for reactor coolant system temperature and pressurizer pressure to ensure appropriate monitoring against the analytical limits in Technical Specification 3.2.5. Average temperature is not to exceed 593°F, and the pressurizer pressure is not to decrease below 2235 psig. The added margin is conservative with respect to guidance provided by Westinghouse.
2. Westinghouse has been requested to confirm the parameter limits corrected for uncertainty used for Reactor Coolant System temperature and pressurizer pressure. Completion of this effort is expected by July 24, 1997.
3. The South Texas Project Technical Specification Bases have been reviewed to determine if any other Technical Specification parameters are identified specifically as being analytical as in the case of Technical Specification 3.2.5. No other parameters were identified.
4. Review processes for Technical Specification changes will be evaluated with focus on changes to the Bases. This evaluation is expected to be completed by August 31, 1997. Actions identified will be processed in accordance with the South Texas Project Corrective Action Program.



**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

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**TEXT** (If more space is required, use additional copies of NRC Form 366A) (17)

**ADDITIONAL INFORMATION:**

The South Texas Project Technical Specifications Engineered Safety Feature setpoints and Reactor Trip setpoints have been reviewed to identify other parameters where instrument error could have significant impact. The limits given in the Technical Specifications for these parameters already include uncertainties. Consequently, there is no identified impact on the South Texas Project from improper use of other analytically-derived limits.

An additional action is also underway to confirm that Technical Specification surveillance procedure acceptance criteria values include appropriate uncertainties. This review is expected to be complete by November 1997. No safety concerns have been identified associated with plant operation during the course of the review. Westinghouse has provided the bases for the Reactor Protection System and Engineered Safeguards Actuation System values contained in the Technical Specifications. The bases include allowance for instrument uncertainty.

There has been one Licensee Event Report on a similar topic submitted in the last three years to the Nuclear Regulatory Commission by the South Texas Project. Unit 1 Licensee Event Report 94-017, "Gaseous Effluent Monitor Setpoints Not Calculated in Accordance with the Offsite Dose Calculation Manual," identified the cause as a failure to revise related change documents.