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# The Light company

Houston Lighting &amp; Power

South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

May 26, 1992

ST-HL-AE-4050

File No.: G09.06

10CFR50.90

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

South Texas Project  
Unit 1  
Docket No. STN 50-498  
Proposed Amendment to  
Technical Specification 4.3.4.2

Houston Lighting & Power Company (HL&P) proposes a one-time amendment to Technical Specification 4.3.4.2 for the South Texas Project (STP) Unit 1. This one-time Technical Specification change will extend the 40-month inspection interval for the Unit 1 turbine valves to approximately 52 months. HL&P requests that the proposed change be approved by the NRC by August 15, 1992, to support upcoming refueling activities during 1RE04. HL&P requests five days for implementation following the effective date of this amendment.

HL&P has reviewed the attached proposed amendment in accordance with 10CFR50.92 and determined that it does not involve a significant hazards consideration. The basis for this determination is provided in the attachments. In addition, HL&P has concluded that, pursuant to 10CFR51, there are no significant radiological or non-radiological impacts associated with the proposed action, and the proposed license amendment will not have a significant effect on the quality of the environment.

The STP Nuclear Safety Review Board has reviewed and approved the proposed change.

In accordance with 10CFR50.91(b), HL&P is providing the State of Texas with a copy of this proposed amendment.

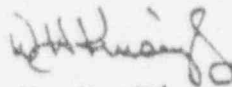
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If you should have any questions on this matter, please contact either Mr. P. L. Walker at (512) 972-6392 or me at (512) 972-7921.



W. H. Kinsey, Jr.  
Vice President,  
Nuclear Generation

PLW/ag

Attachment: 1. Significant Hazards Evaluation for a Proposed  
Change in Inspection Interval  
2. Proposed Technical Specification 4.3.4.2

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Revised 10/11/91

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter )

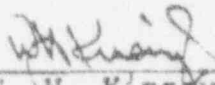
Houston Lighting & Power )  
Company, et al., )

Docket Nos. 50-498  
50-499

South Texas Project )  
Units 1 and 2 )

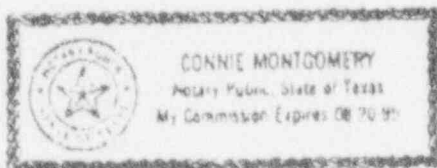
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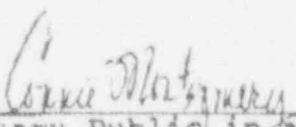
W. H. Kinsey being duly sworn, hereby deposes and says that he is Vice President, Nuclear Generation, of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached proposed revision of the South Texas Project Electric Generating Station Technical Specification 4.3.4.2; 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.

  
\_\_\_\_\_  
W. H. Kinsey  
Vice President,  
Nuclear Generation

STATE OF TEXAS )  
COUNTY OF MATAGORDA )

Subscribed and sworn to before me, a Notary Public in and  
for The State of Texas this 26th day of May, 1992.



  
\_\_\_\_\_  
Notary Public in and for the  
State of Texas

ATTACHMENT 1  
SIGNIFICANT HAZARDS EVALUATION  
FOR A PROPOSED CHANGE IN  
INSPECTION INTERVAL

Attachment 1  
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SIGNIFICANT HAZARDS EVALUATION  
FOR A PROPOSED CHANGE IN  
INSPECTION INTERVAL

Background

Technical Specification 4.3.4.2 currently states that the Turbine Overspeed Protection System shall be demonstrated operable:

At least once per 40 months by disassembling at least one of each of the [specified] valves and performing a visual and surface inspection of valve seats, disks, and stems and verifying no unacceptable flaws or excessive corrosion. If unacceptable flaws or excessive corrosion are found, all other valves of that type shall be inspected.

Specified valves are:

- High pressure turbine stop valves
- High pressure turbine governor valves
- Low pressure turbine reheat stop valves
- Low pressure turbine reheat intercept valves

This inspection was last performed during the refueling outage which ended on October 19, 1989 (1RE01). Two throttle and two governor valves were disassembled during that outage. The valve seats, discs, and stems of the throttle valves were replaced as part of a plant modification upgrade. The governor valve seats were inspected and reused. Two reheat stop and two reheat intercept valves were replaced with spare valves during 1RE01. The Technical Specification-required inspections were subsequently completed on the removed parts; no unacceptable flaws or excessive corrosion was found.

Two turbine stop and two governor turbine valves were disassembled during 1RE02 and parts were replaced as part of a plant modification upgrade. However, valve seat inspections were not performed on these valves.

Dating from the end of 1RE01 (October 19, 1989), a 40-month inspection interval results in the next inspection occurring in February 1993. The refueling outage subsequent to that is 1RE05 which is scheduled to begin on February 26, 1994. Use of a 25% grace period is allowed with respect to this Technical Specification so that up to 50 months (40 months plus 25% or 10 months) can elapse between inspections. However, the 50-month maximum period lapses on December 19, 1993, approximately two months before the planned start of 1RE05.

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SIGNIFICANT HAZARDS EVALUATION  
FOR A PROPOSED CHANGE IN  
INSPECTION INTERVAL

Background (Cont'd)

HL&P requests that a one-time Technical Specification change be granted extending the inspection interval to approximately 52 months (including the grace period). This will allow for the required inspection to be performed during 1RE05. Deferral will result in cost and potential schedule savings from 1RE04 activities.

Proposed Change

This is a one-time Technical Specification change to Technical Specification 4.3.4.2.d for STP Unit 1 extending the inspection interval from 50 months (with grace period) to approximately 52 months.

Safety Evaluation

HL&P developed the schedule under which STP turbine components are inspected for functional integrity. The required inspection intervals have been calculated to ensure the total probability of missile generation for the entire turbine is less than  $10^{-4}$  per reactor year after a scheduled outage, and less than  $10^{-3}$  per reactor year before the next scheduled outage. For STP Unit 1, the probability for missile generation at 1RE04 and 1RE05 are about  $5 \times 10^{-6}$  per year and  $2 \times 10^{-6}$  per year, respectively. As stated in the NRC Safety Evaluation dated January 14, 1991, of the STP turbine system maintenance program, for a favorably-oriented turbine such as those at South Texas, the probability for missile generation should be less than  $10^{-4}$  per year. This is the general, minimum reliability requirement for loading the turbine and bringing it online. If the probability falls between  $10^{-4}$  and  $10^{-3}$  per year, the turbine may be kept in service until the next scheduled outage, at which time action is to be taken to reduce the probability to meet the  $10^{-4}$  per year limit before returning the turbine to service.



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SIGNIFICANT HAZARDS EVALUATION  
FOR A PROPOSED CHANGE IN  
INSPECTION INTERVAL

Safety Evaluation (Cont'd)

The turbine supplier has provided the probability of missile generation for each disc of each rotor for inspection intervals of 1, 2, 3, 4, 5, and 10 years. Separate probabilities are provided for missile generation at rated speed, in which the failure occurs during normal operation, and design overspeed, where the disc rupture occurs as a combination of stress corrosion cracking, electrical system separation, and overspeed protection failures. For STP Unit 1 in the time frame of interest, the probability of missile generation at design overspeed is only about 10% of the total probability for missile generation. Therefore, even a significant change in the probability of design overspeed would not have a significant affect on the probability for missile generation. Thus, the additional extension in the inspection interval is not significant as a contributor to the probability of missile generation.

Previous inspections of this type have identified findings that needed corrective measures to restore a valve to its original configuration. However, none of the findings had resulted in inoperability of the valve.

More rugged parts were installed in the high pressure valves during 1RE02. Technical Specification-required inspections require one of each type of valve to be so inspected. Although the valve seats were not inspected, the turbine stop valve seats were replaced. 1RE02 ended June 21, 1990, resulting in an interval of 44 months to the beginning of 1RE05. The work on the subject valves at this intermediate point represents significant compensation for extending the inspection interval, both in enhancing the valve components and in inspecting the valve. This further decreases the significance of extending the inspection interval.

In addition to the above, operability of the subject valves is also ensured by the testing performed at 31-day intervals as described in Technical Specification 4.3.4.2.a and b.



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SIGNIFICANT HAZARDS EVALUATION  
FOR A PROPOSED CHANGE IN  
INSPECTION INTERVAL

Determination of Significant Hazards

Pursuant to 10CFR50.91, this analysis provides a determination that the proposed change to the Technical Specifications does not involve any significant hazards consideration as defined in 10CFR50.92.

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. This one-time extension of the inspection interval is not significant because of the relatively small increase in the inspection interval, and due to the inspection and enhancement of selected valve components accomplished during 1RE02. The change has no effect on the consequences of such an event.
2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated. The effects of turbine missiles are addressed in Section 3.5.1.3 of the Updated Final Safety Analysis Report.
3. The proposed change does not involve a significant reduction in the margin of safety. The increase in the inspection interval is relatively small, and selected valves were inspected with enhancement of valve components during 1RE02.