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

December 6, 1993
ST-HL-AE-4646
File No.: G20.02
10CFR50.90
10CFR50.36

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 3.7.1.2
for One-Time-Only

Houston Lighting & Power Company (HL&P) proposes to amend Facility License NPF-76 for South Texas Project Electric Generating Station (STPEGS) Unit 1 by incorporating the attached proposed one-time-only amendment to Technical Specification 3.7.1.2, Auxiliary Feedwater System. The purpose of the amendment is to extend the Allowed Outage Time for the Turbine Driven Auxiliary Feedwater Pump from 72 hours to 168 hours to facilitate an augmented test program. This one-time-only Technical Specification amendment will allow HL&P adequate time to complete testing and evaluation of the Turbine Driven Auxiliary Feedwater Pump in Unit 1 of STPEGS. The one-time-only Technical Specification amendment will allow testing, evaluation, and corrective maintenance, if required, of the pump at a secondary steam supply pressure greater than 1000 psig in Mode 3, as specified by Surveillance Requirement 4.7.1.2.1.a.2.

Technical Specification 3.7.1.2 requires that the turbine Driven Auxiliary Feedwater Pump be operable. If the pump is inoperable, a 72 hour Allowed Outage Time (AOT) is applicable or the Unit is required to be in Mode 3 within the next 6 hours and in Mode 4 within the following 6 hours. This proposed one-time-only amendment would extend the time allowed in Mode 3 by 96 hours.

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Project Manager on Behalf of the Participants in the South Texas Project

MISC-93\93-340.001

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HL&P has reviewed the proposed amendment pursuant to 10 CFR 50.92 and determined that it does not involve a significant hazards consideration. In addition, HL&P has determined that the proposed one-time-only amendment satisfies the criteria of 10 CFR 51.22(c)(9) for categorical exclusion from the requirement for an environmental assessment. The STPEGS Nuclear Safety Review Board has reviewed and approved the proposed one-time-only change.

The required affidavit, along with a Safety Evaluation and No Significant Hazards Consideration Determination associated with the proposed change, and marked-up effected pages of the Technical Specification is included as an attachment to this letter.

In accordance with 10 CFR 50.91(b), HL&P is providing the State of Texas with a copy of this proposed amendment.

Should you have any questions, please contact Mr. A.W. Harrison at (512) 972-7298 or me at (512) 972-7921.

J. F. Groth
Vice President,
Nuclear Generation

HRP/eg

Attachment: 1.) Affidavit
2.) Safety Evaluation and No Significant Hazards Consideration Determination
3.) Proposed Change to Technical Specification 3.7.1.2

C:

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ATTACHMENT 1

AFFIDAVIT

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Houston Lighting & Power Company, et al.,	)	Docket Nos. 50-498
	)	50-499
	)	
South Texas Project Units 1 and 2	)	

AFFIDAVIT

I, J. F. Groth, being duly sworn, hereby depose and say that I am Vice President, Nuclear Generation, of Houston Lighting & Power Company; that I am duly authorized to sign and file with the Nuclear Regulatory Commission the attached Proposed Amendment to the Technical Specification 3.7.1.2; that I am familiar with the content thereof; and that the matters set forth therein are true and correct to the best of my knowledge and belief.

J. F. Groth
Vice President,
Nuclear Generation

STATE OF TEXAS)
)
)

Subscribed and sworn to before me, a Notary Public in and for the State of Texas, this 6 day of December, 1993.

CONNIE MONTGOMERY
Notary Public, State of Texas
My Commission Expires 08-20-95

Connie Montgomery
Notary Public in and for the
State of Texas

MISC-93\93-340.001

ATTACHMENT 2

SAFETY EVALUATION
AND
NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION

SAFETY EVALUATION AND NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION FOR EXTENDING THE TURBINE DRIVEN AUXILIARY FEEDWATER PUMP ALLOWED OUTAGE TIME

Background

Houston Lighting & Power requested per Reference 1, an enforcement discretion from the requirements of Technical Specification 3.7.1.2 Action b as it applies to the Turbine Driven Auxiliary Feedwater Pump. The enforcement discretion, granted by the NRC on August 13, 1993 increased the Allowed Outage Time in Mode 3 for the Train D, Turbine Driven Auxiliary Feedwater Pump from 72 hours to 144 hours. The increased Allowed Outage Time was on a one-time basis for Unit 1 to facilitate an augmented test program. The enforcement discretion permitted testing, evaluation and corrective maintenance of the Turbine Driven Auxiliary Feedwater pump, as required, at a secondary steam supply pressure greater than 1000 psig in Mode 3. These requirements are specified by Surveillance Requirement 4.7.1.2.1.a.2. Houston Lighting & Power was unable to complete the testing as planned in August 1993 and anticipate that an extended Allowed Outage Time will be required to complete the Turbine Driven Auxiliary Feedwater Pump testing during the Unit 1 restart.

Houston Lighting & Power has performed a risk assessment study to determine the effect on core damage frequency of extending the Turbine Driven Auxiliary Feedwater pump Allowed Outage Time permanently. The purpose of the study was to determine an extended Allowed Outage Time for the Turbine Driven Auxiliary Feedwater pump which would permit future augmented testing of the Turbine Driven Auxiliary Feedwater pump, if necessary, and not affect the core damage frequency significantly. This study has been completed and determined that an extension of 96 hours to the existing Turbine Driven Auxiliary Feedwater pump Allowed Outage Time of 72 hours would have an insignificant effect on the core damage frequency. This study bounds the proposed one-time-only Technical Specification change being requested by this submittal. Houston Lighting and Power plans to submit a permanent change at a later date.

SAFETY EVALUATION AND NO SIGNIFICANT
HAZARDS CONSIDERATION DETERMINATION
FOR
EXTENDING THE TURBINE DRIVEN AUXILIARY FEEDWATER PUMP
ALLOWED OUTAGE TIME

Technical Specification 3.7.1.2 requires that the Turbine Driven Auxiliary Feedwater pump be operable. If the Turbine Driven Auxiliary Feedwater pump is inoperable, a 72 hour Allowed Outage Time is applicable or the Unit is required to be in Mode 3 within the next 6 hours and in Mode 4 within the following 6 hours. This proposed one-time-only Technical Specification change would extend the Allowed Outage Time by 96 hours.

The change is requested to permit testing of the Unit 1 Turbine Driven Auxiliary Feedwater pumps' ability to perform at the design basis and verify adequacy of surveillance testing procedures. Without the change the potential scope of augmented testing, which is scheduled at Mode 3 conditions, may result in the need for an additional heat-up and cool-down cycle on the Unit. These actions could not be performed within the existing 72 hour Allowed Outage Time unless an amendment is approved for Technical Specification 3.7.1.2, Action Statement b.

Safety Evaluation

The function of the Auxiliary Feedwater System is to provide a source of feedwater to the Steam Generators when the Main Feedwater system or the Residual Heat Removal system is not available. Major components of the Auxiliary Feedwater system include a storage tank, three motor-driven pumps, one Turbine Driven pump, piping, valves, instruments and controls. Water is drawn from the Auxiliary Feedwater Storage Tank through underground piping to the Auxiliary Feedwater pumps. The Auxiliary Feedwater pumps discharge supplies the Steam Generators with feedwater. Separate Engineered Safety Features buses power the 800 hp motors of the three motor-driven pumps, while steam from Steam Generator "D" provides motive power to the Turbine Driven Auxiliary Feedwater pump. During plant heatup and startup the Auxiliary Feedwater system may be used in manual control to maintain Steam Generator water level until the Main Feedwater system is available.

SAFETY EVALUATION AND NO SIGNIFICANT
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To mitigate the consequences of a trip or most accidents, only one of the four Auxiliary Feedwater pumps is required. Therefore, three operable motor-driven Auxiliary Feedwater pumps provide substantial margin in the Auxiliary Feedwater system without the automatic start capability of the Turbine Driven Auxiliary Feedwater pump.

In Mode 3 (above 1000 psia), sufficient steam pressure is available to operate the Turbine Driven Auxiliary Feedwater pump at the required surveillance conditions. In Mode 4, insufficient steam pressure is available to operate the Turbine Driven Auxiliary Feedwater pump. In Mode 4, both Residual Heat Removal and the motor driven Auxiliary Feedwater pumps are available for decay heat removal. However, in Mode 4, the Turbine Driven Auxiliary Feedwater pump is unavailable due to low steam pressure. In Mode 3, above 1000 psia and in Modes 1 and 2, the Turbine Driven Auxiliary Feedwater pump provides an additional source of decay heat removal.

The Auxiliary Feedwater system is modeled in the South Texas Project Probabilistic Safety Assessment (STP PSA). Included in the model are maintenance unavailabilities due to preventative maintenance, corrective maintenance, and test induced maintenance based on the current Technical Specifications and human error.

The South Texas Project Level 2 Probabilistic Safety Assessment and Individual Plant Examination (L2 PSA/IPE) was submitted in August of 1992, and used for the previously mentioned enforcement discretion for the Turbine Driven Auxiliary Feedwater pump.

SAFETY EVALUATION AND NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION FOR EXTENDING THE TURBINE DRIVEN AUXILIARY FEEDWATER PUMP ALLOWED OUTAGE TIME

Based on the anticipated need for the extended Allowed Outage Time, the Auxiliary Feedwater system was revaluated using the L2 PSA/IPE model for a permanent change to a 7 day Allowed Outage Time for only Train D of the Auxiliary Feedwater system. The maintenance unavailability for the model is based on the current Technical Specifications. The corrective maintenance duration distribution was changed to reflect a 7 day Allowed Outage Time. The increase in core damage frequency using the 7 day corrective maintenance distribution was found to be 5.6×10^{-7}/yr over a baseline core damage frequency of 4.44×10^{-5}/yr which represents the current Technical Specifications.

A second evaluation was performed due to the fact that South Texas Project Electric Generating Station (STPEGS) currently has a licensing submittal before the NRC which includes changes to several Allowed Outage Times and Surveillance Test Intervals based on the submittals dated February 1990, August 1993, and November 1993. This evaluation included the 7 day Allowed Outage Time for Train D of Auxiliary Feedwater along with the proposed Technical Specifications based on these proposed changes. This evaluation found an increase in core damage frequency of 1.6×10^{-6}/yr, over a baseline core damage frequency of 3.51×10^{-5}/yr which includes the proposed Technical Specifications currently being evaluated by the NRC.

Based on the insignificant effect of permanently extending the Turbine Driven Auxiliary Feedwater pump on the core damage frequency and the operational desirability of avoiding an additional heatup and cooldown cycle, the one-time-only extension to the Turbine Driven Auxiliary Feedwater pump Allowed Outage Time is justified.

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No Significant Hazards Consideration Determination

a. The proposed change does not involve a significant increase in the probability of a previously evaluated accident.

   Based on the change in core damage frequency, both with and without the proposed Technical Specifications currently being evaluated by the NRC, the change to a 7 day Allowed Outage Time for train D of the Auxiliary Feedwater System has an insignificant effect on core damage frequency.

b. The proposed change does not create the possibility of a new or different accident from any previously evaluated since there is no new design or operation of the Auxiliary Feedwater system and consequently there are no new accident initiators.

c. The proposed change does not involve a significant reduction in the margin of safety. The margin of safety does not significantly change since the change in core damage frequency due to extending the Turbine Driven Auxiliary Feedwater pump Allowed Outage Time is negligible.

Irreversible Environmental Consequences

Houston Lighting & Power has reviewed the proposed change and the NRC Final Environmental Assessment for STPEGS Units 1 and 2 and has concluded that pursuant to 10CFR51, there are no significant radiological or non-radiological impacts associated with the proposed change.

SAFETY EVALUATION AND NO SIGNIFICANT
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Implementation Plan

Houston Lighting & Power requests an implementation time of 10 days from the effective date to complete procedures and make appropriate document distribution.

References:

1. ST-HL-AE-4383, 8/4/93, Unit 1 Request for Enforcement Discretion.