

The Light company

Houston Lighting & Power

South Texas Project Electric Generating Station P. O. Box 285 Wadsworth, Texas 77483

June 2, 1992
ST-HL-AE-4049
File No.: G9.06
10CFR50.90, 10CFR50.92
10CFR51

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, CTN 50-499
Proposed Revised Amendment to the
Unit 1 and Unit 2 Technical Specification 3.3.3.7

Pursuant to 10CFR50.90, Houston Lighting & Power Company (HL&P) hereby proposes to amend its Operating License NPF-76 and NPF-80 by incorporating the attached proposed revised change to Technical Specification 3.3.3.7, concerning Chemical Detection Systems, for South Texas Project (STP) Units 1 and 2. This proposed change supercedes the proposed change described in ST-HL-AE-3842. The proposed change would replace the two original toxic gas monitoring channels in each Unit with three state-of-the-art toxic gas monitoring channels. The actuation logic would also be revised to provide a two-out-of-three (2/3) logic for a High Toxic Gas actuation signal and Monitor Failure actuation logic, as opposed to the current one-out-of-two (1/2) and two-out-of-two (2/2) logic, respectively.

HL&P requests the Staff approve the proposed interim Technical Specification 3.3.3.7 and the proposed final Technical Specification 3.3.3.7 by September 11, 1992, and February 19, 1993, respectively. This will allow adequate time for hardware and procedural changes to support installation of the third toxic gas monitoring channel in the upcoming Unit 1 and Unit 2 refueling outage.

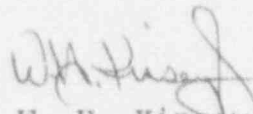
HL&P has reviewed the attached proposed amendment pursuant to 10CFR50.92 and determined that it does not involve a significant hazards consideration. Additionally, pursuant to 10CFR51 and based on information contained in this submittal and in the Final Environmental Statement Related to the Operation of South Texas Project, Units 1 and 2, HL&P has concluded that the proposed amendment poses no significant radiological or non-radiological impacts, and will not have a significant effect on environmental

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quality. The STPEGS Nuclear Safety Review Board has reviewed and approved the proposed changes. In accordance with 10CFR50.91(b), HL&P is providing the State of Texas with a copy of this proposed amendment.

If you should have any questions concerning this matter, please contact Mr. W. J. Jump at (512) 972-7205.



W. H. Kinsey
Vice President,
Nuclear Generation

MAB/lf

- Attachment:
1. No Significant Hazards Consideration Determination
 2. Proposed Interim Technical Specification Change 3.3.3.7
 3. Proposed Final Technical Specification Change 3.3.3.7

Houston Lighting & Power Company
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Revised 10/11/91

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter)

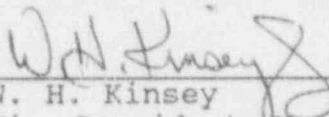
Houston Lighting & Power)
Company, et al.,)

Docket Nos. 50-498
50-499

South Texas Project)
Units 1 and 2)

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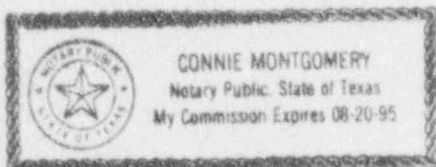
W. H. Kinsey being duly sworn, hereby deposes and says that he is Vice President, Nuclear Generation, of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached proposed addition to the South Texas Project Electric Generating Station Technical Specification 3.3.3.7; 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.

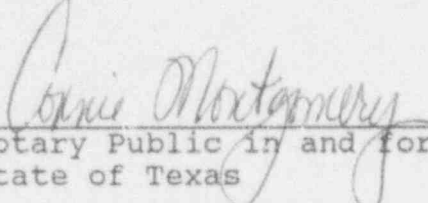


W. H. Kinsey
Vice President, Nuclear Generation

STATE OF TEXAS)
COUNTY OF MATAGORDA)

Subscribed and sworn to before me, a Notary Public in and for The State of Texas this 2nd day of June, 1992.





Notary Public in and for the
State of Texas

ATTACHMENT 1

NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Background

HL&P has determined that replacement and upgrade of the toxic gas monitoring system is desirable to meet reliability and operational goals at STPEGS. This upgrade will improve operational reliability and reduce spurious ESF Control Room Envelope HVAC recirculation actuations. Replacement of the current system with state-of-the-art equipment will ensure longevity of installed equipment and ensure an adequate spare parts supply. Also, the addition of a third channel of toxic gas monitoring will provide increased sensitivity and enhance overall reliability of the monitoring of toxic gas releases.

As a consequence of the proposed change, the high toxic gas actuation signal logic will be changed from (1/2) logic to (2/3) logic. This will help to eliminate spurious ESF control room envelope HVAC actuations caused by the malfunction of a single channel. In the (2/3) logic, maintenance activities on a single bypassed channel will be allowed without placing the system in a less conservative configuration than currently exists (i.e. 1/2). The loss of power/malfunction actuation signal logic will also be revised to (2/3) logic as opposed to the current (2/2) logic. This will allow a channel to be bypassed for maintenance and calibration while maintaining actuation of control room HVAC on loss of two channels. Therefore, if a toxic gas release occurs with one analyzer out-of-service, the remaining two monitors will be fully functional and available for actuation.

Proposed Change

It is proposed that Technical Specification 3.3.3.7, Chemical Detection Systems, be amended to provide for three independent channels of toxic gas monitoring as opposed to the current two channel configuration. The requirement in action (a) to "restore the inoperable system to OPERABLE status within 7 days or within the next 6 hours initiate and maintain operation of the Control Room Emergency Ventilation System in the recirculation mode of operation" would be amended to require placing the affected channel in its tripped position if not restored to OPERABLE status within 7 days. A footnote is added to allow bypassing the inoperable system for up to 4 hours to avoid initiating an HVAC actuation while surveillance testing the operable systems. The current action (b) would be revised to be applicable if two or more Chemical Detection Systems are inoperable. Also, the surveillance requirement for Technical Specification 3.3.3.7 would be amended to allow a DIGITAL CHANNEL OPERATIONAL TEST to be performed as well as the currently allowed ANALOG CHANNEL OPERATIONAL TEST. There would be no change required to the BASES for this Specification.

Safety Evaluation

Currently, the Toxic Gas Monitoring System has two independent channels per Unit. The proposed change would provide a third independent channel powered by a separate non-class 1E uninterruptable power supply. Based on statistical analyses which assume that the probability of spurious actuation of one channel is 0.01, the probability of actuation when required and probability of spurious actuation of the toxic gas monitoring system are as follows:

Logic	Probability of Actuation When Required	Probability of Spurious Actuation
1/2	0.9999	2×10^{-2}
2/3	0.9997	2.98×10^{-4}
2/2	0.980	1×10^{-4}

Revising the high toxic gas actuation signal logic to (2/3) logic from (1/2) logic slightly reduces the probability of actuation when required and significantly decreases the probability of spurious actuation. Changing the loss of power/malfunction actuation signal logic to (2/3) logic from (2/2) logic would slightly increase the probability of actuation when required but also slightly increase the probability of spurious actuation. The reduction in probability of actuation when required for the high toxic gas actuation signal logic and the increase in probability of spurious actuation for the loss of power/malfunction actuation logic are both very slight - roughly two or three hundredths of a percent. However, the proposed change would provide an opportunity to decrease the probability of spurious actuations by two orders of magnitude for the high toxic gas actuation signal logic and slightly increase the probability of actuation for the power/malfunction actuation logic.

With one channel of toxic gas monitoring inoperable, the opportunity to reduce spurious actuations with the proposed logic would still be evident. Presently, the toxic gas monitoring system is in a (1/2) logic; considering the proposed (2/3) logic and assuming a worst case scenario in which an inoperable toxic gas channel is completely failed but not in the trip position, the toxic gas monitoring system would effectively be in a (2/2) logic for up to 7 days. Considering the previous statistical analysis, with the proposed logic and one toxic gas channel inoperable, the probability of spurious actuation when compared to the current two channel configuration would still be decreased by two orders of magnitude with only a slight decrease in probability of actuation when required.

Amending the action statement for one inoperable channel of toxic gas monitoring to require placing the affected channel in the tripped condition if not restored to OPERABLE status within 7 days is of no safety significance because the proposed action would maintain the system in an effective (1/2) logic, which is the current configuration. The toxic gas monitoring system would be in a condition for which it is presently analyzed - the (1/2) logic. Bypassing the inoperable system for up to 4 hours allows the operable systems to be surveillance tested without initiating a Control Room Envelope HVAC actuation. This time period is consistent with other ESF system Technical Specification surveillances which allow similar conditions for testing. The proposed change to action (b) is necessary to accommodate the addition of the third channel of monitoring; the action will not change and will be applicable with both two and three inoperable channels. The surveillance requirement is revised to allow both DIGITAL and ANALOG CHANNEL OPERATIONAL TESTS since the new toxic gas monitors have analog and digital components.

No Significant Hazards Consideration Determination

Pursuant to 10CFR50.91 this analysis provides a determination that the proposed change to Technical Specification 3.3.3.7 does not involve a 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.

The addition of a third channel of toxic gas monitoring would not increase the probability of a previously evaluated accident because the toxic gas analyzers have no role in the initiation of an accident. Consequences of a previously evaluated accident would not increase because a third monitor would provide additional redundancy and reliability to the current monitoring system. Therefore, a more credible toxic gas monitoring system would be in place, and the probability or consequences of an accident previously evaluated would not be significantly increased.

2. The proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

The proposed change would not require the toxic gas monitoring system to perform any safety function for which it is not already designed or required to perform. Adding a third analyzer to the monitoring system for each Unit would provide additional redundancy in the detection of toxic gas release. For these reasons, the proposed change would not create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed change does not involve a significant reduction in a margin of safety.

The decrease in probability of actuation when required for the high toxic gas actuation signal and increase in probability of spurious actuation for the loss of power/malfunction actuation signal are slight and do not involve a significant reduction in a margin of safety.

Based on the reasoning stated above and the previous discussion of the amendment request, HL&P has determined that the requested change does not involve a significant hazards consideration.

Implementation Plan

The new Toxic Gas Analyzers will be installed in Unit 1 during its fourth refueling outage (1RE04) and in Unit 2 during its third refueling outage (2RE03). These outages are tentatively scheduled to end November 20, 1992 and April 30, 1993, respectively. The two present Toxic Gas Analyzers will be replaced with two state-of-the-art analyzers. Replacement of the two current analyzers will be made pursuant to 10CFR50.59 based upon a determination that no Unreviewed Safety Question exists. A third analyzer will also be installed and integrated into the toxic gas actuation logic.

Since installation in both Units will not be simultaneous, an interim Technical Specification (Attachment 2) is proposed with Unit specific actions that will allow Unit 1 to make use of the more reliable (2/3) logic until the new analyzers have been installed in Unit 2. After the transition to new analyzers is complete in Unit 2, the final Technical Specification change (Attachment 3) will be implemented to reflect the three train Chemical Detection Systems found in both Units.

HL&P requests that the Staff approve the proposed interim Technical Specification 3.3.3.7 by September 11, 1992 for implementation no later than the Unit 1 generator output breaker closure ending 1RE04. This will allow time for hardware and procedural changes to support the third toxic gas monitor. After 1RE04, the interim Technical Specification 3.3.3.7 (Attachment 2) will be in effect.

HL&P request that the Staff approve the proposed final Technical Specification 3.3.3.7 by February 1993. No later than the end of the Unit 2 third refueling outage (2RE03) and pending approval of the proposed change by the Staff, HL&P will connect the third toxic gas monitor to the Chemical Detection System in Unit 2 and implement the final Technical Specification 3.3.3.7 (Attachment 3).