

The Light company

Houston Lighting & Power

South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 7. 83

October 12, 1993
ST-HL-AE-4589
File No.:G03.08
10.CFR50.54(f)

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Response To Generic Letter 93-04 - Rod Control System
Failure and Withdrawal of Rod Control Cluster Assemblies

- Reference: 1. Letter ST-HL-AE-4533 dated August 5, 1993;
T. H. Cloninger (HL&P) to U. S. NRC Document
Control Desk
2. Letter ST-HL-AE-4578 dated September 20, 1993;
T. H. Cloninger (HL&P) to U. S. NRC Document
Control Desk

Pursuant to the requirements of 10CFR50.54 (f), the NRC issued Generic Letter 93-04, "Rod Control System Failure and Withdrawal of Rod Control Cluster Assemblies," on June 21, 1993. The generic letter required that, within 45 days from the date of the generic letter, each addressee was to provide an assessment of whether the licensing basis for each facility was satisfied with regard to the requirements for system response to a single failure in the Rod Control System (GDC 25 or equivalent). If the assessment (Required Response 1.(a)) indicated that the licensing basis was not satisfied, then the licensee was to describe compensatory short-term actions consistent with the guidelines contained in the generic letter, and within 90 days, provide a plan and schedule for long-term resolution (Required Response 1.(b) and 2). Subsequent correspondence between the Westinghouse Owners Group (WOG) and the NRC resulted in schedular relief for Required Response 1.(a) (NRC Letter to Mr. Roger Newton dated July 26, 1993).

By Reference 1, Houston Lighting and Power (HL&P) provided the 45 day response to the Generic Letter as it applies to South Texas Project (STP) Units 1 and 2. The response summarized the compensatory actions taken in response to the Salem rod control system failure event (the second part of Required Response 1.(b)).

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

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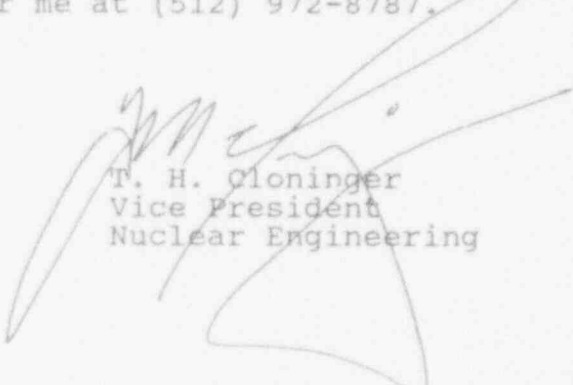
Reference 1 also provided a summary of the results of the generic safety analysis program conducted by the WOG and its applicability to STP Units 1 and 2.

By Reference 2, HL&P provided justification for delaying the South Texas Project 90-day response to Generic Letter 93-04 from September 20, 1993 to October 10, 1993. Reference 2 presented HL&P's position that there was no safety significance associated with this delay.

HL&P hereby submits its 90-day response to the Generic Letter. The attached response concludes that the licensing basis is not satisfied because a single failure can result in a single rod control cluster assembly (RCCA) withdrawal event. However, even though a single RCCA withdrawal could occur, there is no threat to the health and safety of the public because the results of the three-dimensional safety analysis, presented in WCAP-13803, "Generic Assessment of Asymmetric Rod Cluster Control Assembly Withdrawal", Revision 1, show that there is no safety significance for any asymmetric RCCA withdrawal.

HL&P is continuing to follow the WOG's development of long-term corrective actions for this issue. HL&P currently expects to implement a two part solution proposed by the WOG consisting of a hardware modification and testing. If required prior to entering Modes 1 or 2, a Justification for Continued Operation (JCO) will be initiated (or an existing JCO revised) reflecting the analysis discussed in WCAP - 13803, Revision 1, to allow operation in these modes prior to the installation of the WOG long term solution.

Should you have any questions on this matter, please contact Mr. S. M. Head at (512) 972-7136 or me at (512) 972-8787.



T. H. Cloninger
Vice President
Nuclear Engineering

JMW/eg

Attachments: 1. Affidavit
 2. Response to Project Generic Letter 93-04

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter)

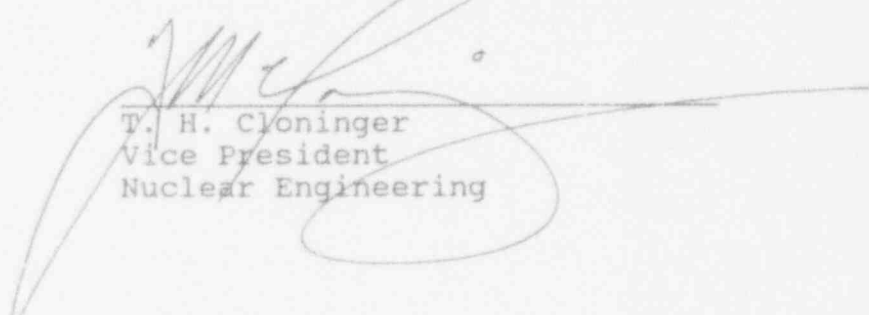
Houston Lighting & Power)
Company, et al.,)

Docket Nos. 50-498
50-499

South Texas Project)
Units 1 and 2)

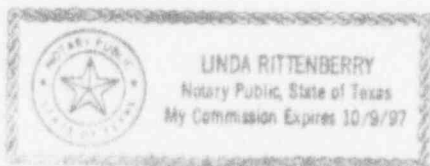
AFFIDAVIT


I, T. H. Cloninger, being duly sworn, hereby depose and say that I am Vice President, Nuclear Engineering, of Houston Lighting & Power Company; that I am duly authorized to sign and file with the Nuclear Regulatory Commission the attached response to Generic Letter 93-04; 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.


T. H. Cloninger
Vice President
Nuclear Engineering

STATE OF TEXAS)
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Subscribed and sworn to before me, a Notary Public in and for the State of Texas, this 12th day of October, 1993.




Linda Rittenberry
Notary Public in and for the
State of Texas

Response to Generic Letter 93-04

Item 1.a.

"Provide an assessment of whether or not the licensing basis for each facility is still satisfied with regard to the requirements for system response to a single failure in the rod control system and provide a supporting discussion for the assessment in light of the information generated as a result of the Salem event."

STP Response to Item 1.a.

An assessment of the Salem event shows that the licensing basis for STP is not satisfied because a single failure can result in a single rod cluster control assembly (RCCA) withdrawal event. In addition, the current analysis methodology approved by the NRC for STP shows that Departure from Nucleate Boiling (DNB) may occur.

Item 1.b.i.

"If the assessment in 1(a) indicates that the licensing basis is not satisfied provide an assessment of the impact of potential single failures in the rod control system on the licensing basis of the facility."

STP Response to Item 1.b.i.

The single RCCA withdrawal event has no safety significance at STP. The results discussed in WCAP-13803, "Generic Assessment of Asymmetric Rod Cluster Control Assembly Withdrawal", Revision 1, show that for the worst case asymmetric RCCA withdrawal, no DNB occurs. These results were developed by Westinghouse using a state of the industry analysis that, while not yet approved by the NRC for licensing purposes in the United States, is used in the United Kingdom, and is acceptable for demonstrating safety significance in this case.

Item 2.

"If the assessment in 1(a) indicates that the licensing basis is not satisfied, within 90 days from the date of the generic letter provide a plan and schedule for the long term resolution of this issue."

STP Response to Item 2

HL&P is continuing to follow the WOG's development of long-term corrective actions for this issue. HL&P currently plans to implement a two part solution proposed by the WOG consisting of a hardware modification and testing, provided the WOG can demonstrate this solution is effective at an operating plant.

1. The first part of the WOG proposed change is to modify the Rod Control System current order timing to prevent any uncontrolled asymmetric rod withdrawal in the event of the failure identified at Salem. If corrupted current orders are present, none of the rods will move (with a high degree of certainty) once the current order timing adjustments are made. This action will restore compliance with the licensing basis.
2. The second part of the WOG proposed solution is to implement new current order testing (such as current order traces from each group once per fuel cycle) to ensure detectability of the failures that affect the current orders to the CRDMs that do not, by themselves, adversely affect rod motion when demanded. This action will reduce the possibility of multiple control rod system failures that could lead to an asymmetric RCCA withdrawal.

The development of a schedule for these actions is dependent on the successful demonstration of these actions at an operating plant and the subsequent issuance of technical bulletins by the WOG. HL&P will continue working with the WOG and submit a supplemental response to the Generic Letter when the schedule is determined.

In HL&P's 45 day response to Generic letter 93-04 (Reference 1) statements were made that HL&P would in its 90 day response provide the NRC with a discussion of any additional compensatory actions required prior to either reducing the Reactor Coolant System (RCS) boron concentration below 2500 ppm, in modes 3 through 6, or to entering Modes 1 or 2. Based on the results of the WOG three dimensional analysis of asymmetric rod withdrawal events presented in WCAP - 13803, Revision 1, HL&P will develop a justification for continued operation (JCO) (or modify an existing JCO) to allow operation in all modes.