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January 21, 1986

ST-HL-AE-1579
File No.: G9.17, R16.5

Mr. Vincent S. Noonan, Project Director
PWR Project Directorate #5
U. S. Nuclear Regulatory Commission
Washington, DC 20555

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
DSER Item
Fuel Surveillance Program

Reference: 1) Letter ST-HL-AE-1515 dated 11/8/85; M. R. Wisenburg to G. W. Knighton

2) Letter ST-HL-AE-1452 dated 10/30/85; M. R. Wisenburg to G. W. Knighton

Dear Mr. Noonan:

This letter is provided to address Draft Safety Evaluation Report (DSER) Item #'s 44A, B and C (see Reference 1) regarding the surveillance program for the inspection of post-irradiated fuel assemblies. Based on information provided in the attachment, Houston Lighting & Power requests that the NRC consider this item as "closed". This submittal supersedes information provided in Reference 2.

If you should have any questions on this matter, please contact Mr. M. E. Powell at (713) 993-1328.

Very truly yours,

M. R. Wisenburg
Manager, Nuclear Licensing

JSP/yd

Attachment: Response to DSER Item #'s 44A, B and C

A001
1/1

L1/NRC/ld

cc:

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Revised 12/3/85

Item No.	
44A	Provide a post-irradiation fuel surveillance program to perform additional surveillance if unusual behavior is noted in the visual examination or if plant instrumentation indicates gross fuel failure. (4.2.3)
44B	Include a post-irradiation surveillance program in the FSAR. (4.2.4.3)
44C	A statement in the post-irradiation fuel surveillance program that addresses the disposition of failed fuel. (4.2.4.3)

Revised Response to Draft SER Items

44A, 44B and 44C

A surveillance program for the inspection of post-irradiated fuel assemblies will be established. This program will consist of a qualitative visual examination of a representative sample of discharged fuel assemblies during each refueling. This examination will include items such as crud deposition, rod and assembly bow, structural integrity, rod to nozzle mechanical interference, and evidence of fuel rod failure. The surveillance program will provide for additional inspection of other fuel assemblies if unusual characteristics are observed during the initial visual inspection for each cycle. The post-irradiated fuel surveillance program will address disposition of any fuel assemblies receiving an unsatisfactory visual examination. These assemblies will not be reinserted into the core until a more detailed inspection or evaluation can be performed, and if required, corrective action will be taken.

3. All rods are checked for integrity by the methods described in Subsection 4.2.4.2.3.

4. To assure proper fitup with the fuel assembly, the rod cluster control, burnable poison and source assemblies are installed in the fuel assembly without restriction or binding in the dry condition. Also a straightness of 0.01 in/ft is required on the entire inserted length of each rod assembly.

   The RCCAs are functionally tested, following core loading but prior to criticality to demonstrate reliable operation of the assemblies. Each assembly is operated (and tripped) one time at no flow/cold conditions, one time at full flow/cold conditions and one time at full flow/hot conditions. Control rods whose trip times exceed the two-sigma limit of the trip times for all control rods will be retested a minimum of three times. Thus each assembly is tested a minimum of 3 times or up to a maximum of 12 times to ensure the assemblies are properly functioning. | 30 | 52

In order to demonstrate continuous free movement of the RCCAs and to ensure acceptable core power distributions during operations, partial movement checks are performed on every RCCA every two weeks during reactor critical operation. In addition, periodic drop tests of the RCCAs are performed at each refueling shutdown to demonstrate continued ability to meet trip time requirements, to ensure core subcriticality after reactor trip, and to limit potential reactivity insertions from a hypothetical RCCA ejection. | 30 | 30

If a RCCA cannot be moved by its mechanism, adjustments in the boron concentration ensure that adequate shutdown margin would be achieved following a trip. Thus inability to move one RCCA can be tolerated. More than one inoperable RCCA could be tolerated, but would impose additional demands on the plant operator. Therefore, the number of inoperable RCCA has been limited to one.

4.2.4.4 Tests and Inspections by Others. If any tests and inspections are to be performed on behalf of Westinghouse, Westinghouse will review and approve the quality control procedures, inspection plans, etc., to be utilized to ensure that they are equivalent to the description provided above and are performed properly to meet all Westinghouse requirements.

4.2.4.5 In-Service Surveillance. Westinghouse is conducting a program to examine detailed aspects of the 17 x 17 fuel assembly. This program is described in Section 23 of Ref. 4.2-8. Ref. 4.2-1 is periodically updated in order to provide recent results of operating experience with Westinghouse fuel and incore control components.

A surveillance program for the inspection of post-irradiated fuel assemblies will be established. This program will consist of a qualitative visual examination of a representative sample of discharged fuel assemblies during each refueling. This examination will include items such as crud deposition, rod and assembly bow, structural integrity, rod to nozzle mechanical interference, and evidence of fuel rod failure. The surveillance program will provide for additional inspection of other fuel assemblies if unusual characteristics are observed during the initial visual inspection for each cycle. The post-irradiated fuel surveillance program will address disposition of any fuel assemblies receiving an unsatisfactory visual examination. These assemblies will not be reinserted into the core until a more detailed inspection or evaluation can be performed, and if required, corrective action will be taken.