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NEL-99-0003

A0751

January 11, 1999

Docket Nes. 50-348 50-364

U. S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, D. C. 20555-0001

> Joseph M. Farley Nuclear Plant Response to Request for Additional Information Concerning Generic Letter 97-01, "Degradation of CRDM/CEDM Nozzle and Other Vessel Closure Head Penetrations"

Ladies and Gentlemen:

By letter dated August 27, 1998, the NRC requested additional information (RAI) regarding the response to Generic Letter 97-01, "Degradation of CRDM/CEDM Nozzle and Other Vessel Closure Head Penetrations," for Farley Nuclear Plant (FNP) - Units 1 and 2. A response to the RAI was requested by November 25, 1998. By letter dated October 29, 1998, the response date was revised to January 15, 1999.

The EPRI Materials Reliability Project, in cooperation with the PWR Owners Groups, is coordinating a generic industry program for the Ailoy 600 head penetrations. As part of that program, they have developed a comprehensive industry response to the RAIs sent to FNP and other PWRs. On December 11, 1998, NEI submitted the industry response to the RAIs. The Southern Nuclear Operating Company (SNC) response to the RAI is contained as part of the generic industry response. The attachment provides a restatement of the NRC questions and indicates the locations of the SNC responses in the NEI letter.

This letter contains no additional commitments. If you have any guestions, please advise.

Respectfully submitted,

Dave Morey

EWC/maf: raigl97.doc

Attachment

Mr. L. A. Reyes, Region II Administrator CC: Mr. J. I. Zimmerman, NRR Project Manager Mr. T. P. Johnson, FNP Plant Sr. Resident Inspector

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# ATTACHMENT

# FARLEY NUCLEAR PLANT UNITS 1 AND 2 RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION CONCERNING GENERIC LETTER 97-01, "DEGRADATION OF CRDM/CEDM NOZZLE AND OTHER VESSEL CLOSUP 2 HEAD PENETRATIONS"

The following responses are based on NEI letter to the NRC, dated December 11, 1998.

# Question:

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1. In WCAP-14901, WEC did not provide any conclusions as to what the probabilistic failure model would lead the WOG to conclude with respect to the assessment of primary water stress-corrosion cracking (PWSCC) in WEC-designed vessel head penetrations. With respect to the probabilistic susceptibility model (e.g., probabilistic failure model) provided in WCAP-14901:

1a. Provide the susceptibility rankings compiled for the WOG member plants for which WCAP-14901 is applicable. In regard to other WOG member plants to which WCAP-14901 is applicable, include the basis for establishing the ranking of your plant relative to the others.

## Response:

1a. See response to Generic Question 4 in Section I of Enclosure 5.

## **Question**;

1b. Describe how the probabilistic failure model in WCAP-14901 for assessing postulated flaws in the VHP nozzles was tenchmarked, and provide a list and discussion of the standards the model was benchmarked against.

#### Response:

1b. See response to Generic Question 2 in Section I of Enclosure 5. (Westinghouse Model applies.)

# ATTACHMENT

## Question:

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1c. Provide additional information regarding how the probabilistic failure models in WCAP-14901 will be refined to allow the input of plant-specific inspection data into the model's analysis methodology.

#### Response:

Ic. See response to Generic Question 3 in Section I of Enclosure 5. (Westinghouse Model applies.)

### Question:

1d. Describe how the variability in product forms, material specifications, and heat treatments used to fabricate each CRDM penetration nozzle at the WOG member utilities are addressed in the probabilistic crack initiation and growth models described or referenced in Topical Report WCAP-14901.

### Response:

1d. See response to Generic Question 1 in Section I of Enclosure 5. (Westinghouse Model applies.)

### **Question:**

2. Table 1-2 in WCAP-14901 provides a summary of the key tasks in WEC's VHP nozzle assessment program. The table indicates that the Tasks for (1) Evaluation of PWSCC Mitigation Methods, (2) Crack Growth Data and Testing, and (3) Crack Initiation Characterization Studies have not been completed and are still in progress. In light of the fact that the probabilistic susceptibility models appear to be dependent in part on PWSCC crack initiation and growth estimates, provide your best estimate when these tasks will be completed by WEC, and describe how these activities relate to and will be used to update the probabilistic susceptibility assessment of VHP nozzles at your plant.

### Response:

2. See response to Generic Question 5 in Section I of Enclosure 5.

# ATTACHMENT

## Question:

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3. In the NEI letters of January 29, 1998 (Ref. 1), and April 1, 1998 (Ref. 2), NEI indicated that inspection plans have been developed for the VHP nozzles at the Farley Unit 2 plant in the year 2002, and at the Diablo Canyon Unit 2 plant in the year 2001, respectively. The staff has noted that although you have endorsed the probabilistic susceptibility model described in WCAP-14901, Revision 0, other WOG members have endorsed a probabilistic susceptibility model developed by an alternate vendor of choice. The WOG's proposal to inspect the VHP nozzles at the Farley Unit 2 and the Diablo Canyon Unit 2 plants appears to be based upon a composite assessment of the VHP nozzles at all WOG member plants. Verify that such a composite ranking assessment has been applied to the evaluation of VHP nozzles at your plants. If composite rankings of the VHP nozzles at WOG memoer plants have been obtained from the composite results of the two models, justify why application of the probabilistic susceptibility model described in WCAP-14901, Revision 0, would yield the same comparable relative rankings of the VHP nozzles for your plant as would application of the alternate probabilistic susceptibility model used by the WOG member plants not subscribing to WCAP-14901, Revision 0. Comment on the susceptibility rankings of the VHP nozzles at the Farley Unit 1 and Unit 2 plants relative to the susceptibility rankings of the VHP nozzles at other member plants.

### **Response:**

2. See response to WOG Specific Question 1 of Section II of Enclosure 5.