

January 24, 1997

MEMORANDUM TO: William H. Bateman, Director
Project Directorate IV-2
Division of Reactor Projects III/IV

ORIGINAL SIGNED BY

FROM: Mel B. Fields, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV

SUBJECT: FORTHCOMING MEETING WITH SOUTHERN CALIFORNIA EDISON TO
DISCUSS STEAM GENERATOR INSPECTION RESULTS

DATE & TIME: Thursday January 30, 1997
1:00 pm - 4:00 pm

LOCATION: U.S. NRC
One White Flint North
11555 Rockville Pike
Rockville, MD 20852
Room 0-13B9

PURPOSE: To provide the NRC with an update on the steam generator
inspection results for the San Onofre Nuclear Generating
Station, Unit 2. A meeting agenda is attached.

PARTICIPANTS*: NRC Southern California Edison
Jack Strosnider Mike Short, et. al.
Ted Sullivan
Phillip Rush
Mel Fields

Docket Nos. 50-361
and 50-362

Attachment: Agenda

cc w/att: See next page

CONTACT: M. Fields
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*Meetings between NRC technical staff and applicants or licensees are open for
interested members of the public, petitioners, intervenors, or other parties
to attend as observers pursuant to "Commission Policy Statement on Staff
Meetings Open to the Public" 59 Federal Register 48340, 9/20/94.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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**MEETING WITH SOUTHERN CALIFORNIA EDISON
TO DISCUSS STEAM GENERATOR INSPECTION RESULTS FOR
SAN ONOFRE NUCLEAR GENERATING STATION UNIT 2
MEETING AGENDA**

The following list of issues is included to facilitate the discussions of the steam generator tube inspection results for San Onofre Unit 2. The issues will be addressed to the extent possible during the meeting.

1. For each mode of degradation (e.g., TTS circumferential, axial freespan) discuss how the completed or planned inspection scope is sufficient to ensure that tubes with significant or potentially significant (at the end of the next cycle) indications are identified and removed from service. Specifically address the extent to which the nondestructive evaluation (NDE) techniques used for the detection of axial freespan and eggcrate indications satisfy the guidance in Section C.1.2 of the draft regulatory guide (RG) on steam generator tube integrity. The NRC staff recognizes that the RG is not yet finalized; nevertheless, the ideas incorporated into the draft RG reflect the most current and comprehensive means of evaluating NDE techniques.
2. Discuss how the most significant indications detected to date will be assessed with respect to the margins specified in Regulatory Guide 1.121. Explain how these indications bound the other detected indications for each mode of degradation.
3. Summarize the scope of the in-situ pressure testing and tube pulls planned for the current refueling outage. Specifically address how the tube pulls will be used to support a cycle length assessment of the axial freespan degradation. Provide the basis for assuming that the pull candidates are representative (or bounding) of similar indications identified at other locations within the steam generators and that the scope of the tube pull program is sufficient to obtain a range of degradation depths from below the detection limits of the inspection technique to the bounding indications.
4. Discuss the relative quality of the eddy current inspection data (i.e., noise/interfering signals) for the tube pull and in-situ pressure test candidates to both the population of tubes identified with similar indications and to all the remaining of tubes in the bundle. Also compare the overall quality of the eddy current data obtained in the current refueling outage to previous outages and to other CE units that have identified similar modes of degradation. Only consider corrosion-induced tube damage mechanisms.

5. The overall objective for addressing tube denting should be to understand the initiation and growth of cracking due to the influence of denting so that unacceptable crack lengths and depths will not be present at any point during the next operating cycle. Discuss the efforts taken to date to address this issue. Also, explain the criteria for identifying dents in the current and prior operating cycles from the bobbin coil probe data. Include in the presentation a discussion describing the dented locations within the steam generators identified both in the current and in previous inspections.
6. Discuss the scope, possible methodologies, and schedule for completing a runtime assessment.
7. Please submit to the NRC, the raw eddy current inspection data from both the Plus Point and bobbin coil inspections for those tubes that have or will be in-situ pressure tested or pulled during the current refueling outage. Also, include the data for at least two crack indications detected at dented locations. If in-situ test or tube pull candidates have not been finalized, provide the data for the most likely choices. Along with the eddy current data, provide the drawings of the standards that were used to calibrate the inspection probes. The data should be compatible with Eddynet95.
8. Based on our understanding of the inspection results completed to date, the axial freespan indications do not appear to be located in areas of the tube bundle that might be identified from a thermal-hydraulic analysis (i.e., ATHOS). This finding is not entirely consistent with conclusions from other licensees that have indicated that the general areas affected by this mode of tube degradation may be identified through analytical models. To the extent practical, discuss the models that are used to predict the location of susceptible regions for CE designed steam generators at all plants that have inspected for this mode of degradation to date. Compare and contrast analysis results and inspection findings for similar steam generators. Provide evidence supporting the conclusion that computational modeling can or cannot be used to predict these areas. Discuss the following to support your conclusion: (1) the inspection scope, (2) model results, and (3) inspection findings (i.e., deposits and indications).

DISTRIBUTION - January 30, 1997, Meeting with Southern California Edison

Docket File*

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