

Indian Point 2 (IP2) Steam Generator (SG) Tube Failure  
Lessons-Learned Task Group  
(TAC No. MA9163)

Task Group Notes - Discussion with Andrea Keim on 6/27/00

Task Group Attendees: Louise Lund, Alan Rubin, Rick Ennis

Background

Andrea wrote the Safety Evaluation (SE) approving the IP2 one-time extension of the SG inspection interval (IP2 Amendment No. 201, dated 6/9/99, TAC No. MA4526). Andrea has been with EMCB about 3 years. This SE was the 1<sup>st</sup> SE she had done related to extension of SG inspection intervals.

Focus of Discussion

The focus of this discussion was to look at the licensing review process that was used for Amendment 201 and determine if there are any lessons-learned.

Results

- 1) What guidance do technical reviewers use when reviewing a request to extend the SG inspection interval (e.g., NRC Regulations, SRP, industry standards)?

Only guidance Andrea mentioned was GL 91-04. This GL deals generically with items that should be considered when licensees plan to modify surveillance intervals to be compatible with 24 month fuel cycles. It includes some specific considerations related to SG inservice inspections. Andrea noted that the 1997 SG inspection put IP2 in a "C3" category. GL 91-04 would not allow plants in this category to have a permanent Technical Specification (TS) change. (Note that the IP2 request was for a one-time change to the TSs to skip the mid-cycle SG inspection.)

- 2) Is the guidance (see question 1) adequate? Any recommended improvements?

Andrea doesn't necessarily think a new SRP section or other specific guidance is needed. She feels that there are some senior people in EMCB with the knowledge required to perform these reviews. However, there needs to be a way for the senior reviewers to train the rest of the group.

- 3) Was there any precedent for a one-time SG inspection interval extension and if so, was it reviewed by the staff in performing the IP2 review?

Andrea used NUDOCs to obtain several SEs that provided precedence related to extending the inspection interval. She said the same review considerations would have been taken into account regardless of whether the licensee had only requested an extension to cover the wet lay-up period (versus asking for 48 day extension in addition to wet lay-up period).

4) If there was any precedent, was it provided by the PM?

PM did not provide.

5) Were adequate resources used in the review (i.e., enough time spent, enough people, right people)?

She felt that she spent enough time on the review and had support from Emmett Murphy. She didn't feel that any other staff members needed to be involved.

6) Did schedule impact the depth of the review?

No.

7) What are the technical considerations that must be evaluated for this type of license change?

- previous inspection results and test methods used
- chemistry assessment
- degradation projected for current operating cycle
- leakage monitoring program
- SG full power service time

8) During the review process, did the staff have any concerns about IP2 still having Model 44 SGs?

EMCB was aware that IP2 still had Model 44 SGs that had not been replaced, however, this by itself is not a concern. They are more concerned with the tube material (alloy 600) and the heat treatment (mill-annealed). They also look at the plugging history and the type of degradation that has been experienced. Andrea did not expect the SG to go from "no indications" at the 1997 inspection (with 100% inspection of the SG tubes) to a through-wall crack before the next inspection.

9) Was the licensee's submittal (original application and RAI response) considered complete and acceptable?

The EMCB staff thought the application was complete and acceptable with the exception of the RAI questions that were asked. The RAI response was considered adequate. The RAIs were prepared by Andrea and Emmett.

10) Do you feel that licensee's need better guidance on what information needs to be provided for the staff to make a finding with respect to an extension in the inspection interval?

No.

- 11) Do you have any views with respect to the findings in the RES review of the SE for this amendment (i.e., licensee's assessment of degradation found in the SGs was inadequate)?

She doesn't have any difference in opinion with the RES findings. She thinks there is a difference in the experience of the reviewers such that only a more experienced reviewer would find problems with the information provided by the licensee.

- 12) Do you have any suggested improvements with respect to the IP2 TSs?

She said the TSs only require 3% of the tubes to be inspected and there are no action statements that causes the licensee to use a shorter inspection cycle. She suggested we talk to Emmett for further details on TS issues.

- 13) Do the iSTS provide any useful guidance in performing inspection interval extension reviews?

Current iSTS don't. There is work being done on standard TSs in this area. She suggested we talk to Emmett for further details.

- 14) Are there any other lessons-learned (i.e., would technical review be done any differently now than was done then)?

Andrea had the following observations:

- a) There needs to be more interaction within EMCB to share information.
- b) EMCB is very segregated by technical area.
- c) There should be periodic EMCB meetings.
- d) There are approximately 6 people in the SG group within EMCB. Emmett Murphy has the bulk of the knowledge, and there would be a large void if he leaves the NRC. There needs to be a way to train the whole group.
- e) She doesn't feel that she has a mentor within EMCB.
- f) Since the IP2 event, there is heightened awareness within the NRC and industry with respect to SG tube integrity, in particular, row 2 cracks.
- g) She doesn't think there is anything that could have been done with respect to the licensing review process that would have changed the outcome.