

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

Task Group Notes - Discussion with Ian Barnes on 7/31/00

Attendees: Scott Newberry, Louise Lund, Alan Rubin, Rick Ennis, Jack Goldberg

Background

Ian is a part-time NRC employee and was formerly an inspector, Section Chief, and Technical Assistant in Region IV.

Results

Ian had the following observations/comments:

- 1) He thinks that an NRC inspector that does not have knowledge of eddy current testing would not be able to pick up on issues such as the noise problem at IP2. He believes that only a few inspectors at the NRC presently have the required knowledge.
- 2) He believes that the revised oversight process (ROP) compounds the problem of inspectors being able to find steam generator (SG) testing problems, since the ROP is driven by performance indicators and would not (absent an IP2 type problem) result in inspection resources being assigned to steam generator examination activities. Also, the ROP provides no incentive for inspectors to get trained in this area.
- 3) The only way to become an expert in SG's is to work in that field every day for many years. He believes it's impossible in the NRC environment to become truly an expert.
- 4) With respect to the phone calls we hold each outage with licensees to discuss the SG inspections, the NRC uses ad hoc practices and this leads to variability in the actions we encourage the licensees to take. There are minimal regulatory requirements and they are totally inadequate. The IP2 event can be attributed to the longstanding absence of appropriate regulatory requirements.
- 5) He was shocked at the lack of knowledge with respect to SG issues at Con Ed. Con Ed appeared to be uninformed about SG tube inspections and heavily dependent on its eddy current examination contractor.
- 6) He believes that it is unrealistic to expect there was anything the NRC could have done to prevent the IP2 event with respect to the 1997 inspection and the related noise issues. The data reviewed by the inspectors is a minuscule sample of all the data.
- 7) There are no industry criteria for noise. He thinks the only way to sensitize the industry with respect to noise issues is for the NRC to issue a generic communication.
- 8) He believes Westinghouse now handles about 65-70% of all eddy current testing performed on U.S. steam generators. The NRC needs to do the right thing and address any Westinghouse specific performance issues head-on.

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- 9) He believes that the prevalent mentality that Alloy 690 tubing is not susceptible to degradation is wrong, and may well lead, in the absence of NRC field inspections, to future deterioration of steam generator programs.
- 10) Ian drafted inspection procedure IP 50002. Region IV used it and Region II used parts of it. He doesn't think Regions I and III used it. The intent of the procedure is that it could be used in its totality, or the inspector could just use parts of it. The inspector wouldn't necessarily need to use all parts of the procedure - only those parts relevant to staff concerns at that plant.
- 11) The IP2 issue is big from a political standpoint but is not as big an issue from a risk/safety perspective.
- 12) With respect to the 1997 inspection and PWSCC being found in the row 2 u-bend for the first time, the contractor shouldn't have needed to make the call, concern should have been raised by the licensee. The licensee had a contractor report (Dominion) that said PWSCC shouldn't occur for years. Ian isn't surprised that the licensee didn't raise a concern due to their lack of SG knowledge.
- 13) He believes that if the analyst did his job correctly, he should have flagged the tube that failed even though the data quality was poor. The primary and secondary analysts were both from Westinghouse. It would be more independent if different contractors were used.
- 14) Most of the Westinghouse analysts didn't know much about the +Point probe in 1997 since it was a Zetec product (i.e., not Westinghouse product).
- 15) Westinghouse has a lot to lose depending on how the IP2 issues are resolved.
- 16) When the NRC focuses on a specific area, utilities take action in that area to put meaningful programs and sufficient resources in place. He thinks that the NRC has to put out an appropriate generic communication and perform some SG inspections to send a message to industry.
- 17) A SG rule can't be justified, but are licensees really buying into NEI 97-06? Does the NRC know what is the implementation status?
- 19) The NRC has never communicated an acceptable methodology for eddy current testing.