

From: Alan Rubin *RAS*
To: Rick Ennis *NRE*
Date: Thu, Oct 5, 2000 2:18 PM
Subject: Re: Revised Recommendations Table

Rick,

This revised regrouping and consolidation of the recommendations is a great improvement. It turns out that there are now 9 major areas for the recommendations (listed below). This is much clearer than having the 21 separate recommendations that we had before (although the recommendations themselves did not change, except for deleting old number 19).

1. Con Ed must fix their SG.
2. Industry should improve EPRI guidelines (w/specific recommendations on how to do this).
3. Industry should improve TSs (w/specific recommendations on how to do this).
4. Industry should improve NEI 97-06 (w/specific recommendations on how to do this).
5. NRC should improve its SG oversight and inspection process (w/specific recommendations on how to do this).
6. NRC should improve its licensing process (w/specific recommendations on how to do this).
7. NRC should review the revised NEI initiative and EPRI guidelines.
8. NRC should issue a generic communication describing the guidance and steps industry should use to provide reasonable assurance of SG tube integrity.
9. NRC should improve risk communication to the public.

Scott,

I recommend that the Conclusions and Recommendations section of the Executive Summary add a discussion characterizing the 9 major areas of recommendations similar to the above list.

Alan

>>> Rick Ennis 10/05 1:13 PM >>>

I've revised the Recommendations Table (see attached file) to group and consolidate related issues. Please review and let me know if you have any comments by 10/16.

Jimi/Louise - item "2f" says "The licensee and NRC staff should agree on a measurable definition of "significant" for hour-glassing." I know this applies specifically to the Con Ed TSs, but do other plant TSs have the same wording? If not, this item will need to be pulled out of the Group 2 recommendations since they apply generically to industry. If it applies generically, "licensee" will need to be changed to "licensees" or "industry."

Thanks,

Rick

X/15

No.	Recommendation	Action For	Report Reference	
			Section	No.
1	Con Ed must correct the deficiencies in its SG tube integrity program that led to the degraded SG condition during IP2 cycle 14. Otherwise, the long-term risk of SGTR at IP2 could be affected.	Con Ed	5.4	1
2	The EPRI guidelines and the licensees implementation of the guidelines should be improved based on lessons-learned from the IP2 experience. Specific recommendations are listed below as items 2(a) through 2(o).			
2a	Industry should update the EPRI SG Examination Guidelines to incorporate data quality criteria. Guidelines should explicitly discuss how to identify excessive noise in the data, how to identify the source of the noise, and what to do about the noise after the source is identified.	Industry EPRI	6.1.4 6.4.4	1 1
2b	Industry should consider the issue of noise in newer tubes in the revision to the EPRI SG examination guidelines.	Industry EPRI	6.4.4	4
2c	The EPRI guidelines should address the use of noise minimization techniques such as filtering algorithms.	Industry EPRI	6.4.4	5
2d	Licensees should review generic industry guidelines carefully to ensure that the conditions/assumptions supporting the guidelines apply to their plant-specific situation (for example, site-specific performance demonstrations for examination techniques).	Industry EPRI	6.1.4	2
2e	Industry should update the EPRI SG Examination Guidelines to incorporate guidance on how to evaluate flow slots for hour-glassing and the impact of hour-glassing on PWSCC in low row U-bends.	Industry EPRI	6.1.4	3
2f	The licensee and NRC staff should agree on a measurable definition of "significant" for hour-glassing.	Industry NRC	6.3.4	2
2g	Site validation of techniques should be used for each detection technique, focusing on the most challenging areas of degradation.	Industry EPRI	6.2.4	1
2h	Licensees should use a conservative approach to screening tubes for in-situ testing, and should include tubes with new forms of degradation even if the screening threshold is not met. Industry should modify guidelines on the screening criteria to include new forms of degradation.	Industry EPRI	6.2.4	2

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2i	Industry guidelines should caution licensees not to rely heavily on assessments based on sizing techniques that are not qualified.	Industry EPRI	6.2.4	3
2j	Licensees should consider the effect of the threshold of detection on the growth rate assumptions.	Industry EPRI	6.2.4	4
2k	Industry should update the EPRI SG Examination Guidelines to incorporate guidelines on prudent measures to be followed when evaluating the first occurrence of a new type of degradation for SG tubes.	Industry EPRI	6.4.4	2
2l	Licensees should recognize the potential for new forms of degradation and use robust techniques to look for problems that may exist, and not focus solely on degradation that has been found in the past. When a new type of SG tube degradation occurs for the first time, licensees should determine the implications on SG condition monitoring and operational assessment (e.g., potential for the tube to rupture before leaking, such as at the apex of a small radius U-bend).	Industry EPRI	6.2.4 7.4	5 1
2m	The EPRI Steam Generator Integrity Assessment Guidelines should be revised to address that care should be taken in relying on predictive models for PWSCC, and that licensees should maintain an aggressive approach in evaluating inconsistencies with predicted and observed SG degradation behavior.	Industry EPRI	6.4.4	3
2n	In addition to using two human analysts for the primary and secondary analysts, industry should consider developing guidelines for using computers to screen the test data.	Industry EPRI	6.4.4	6
2o	The Task Group notes that its recommendations on eddy current testing and tube inspection guidelines were focused on a particular situation that existed at IP2 (i.e., a specific type of degradation and location within the SG). While incorporation of the IP2 lessons into industry guidelines is important, further development of industry guidelines should also address all SG tube degradation modes and degradation locations in order to be generally applicable.	Industry EPRI	6.5.4	3
3	The PWR TSs should be improved based on lessons-learned from the IP2 experience. Specific recommendations are listed below as items 3(a) and 3(b).			

No.	Recommendation	Action For	Report Reference	
			Section	No.
3a	PWR TSs should be revised and strengthened to reflect the current knowledge of the SG degradation mechanisms, examination techniques, and methodology.	Industry NEI	6.3.4	1
3b	The industry should assess the adequacy of the TS regarding operational leakage limits.	Industry NEI	6.3.4	4
4	The NEI 97-06 initiative should be improved based on lessons-learned from the IP2 experience. Specific recommendations are listed below as items 4(a) through 4(c).			
4a	The licensees should ensure that contractors supporting the SG examination perform in an acceptable manner. The industry initiative should provide reasonable assurance of contractor oversight by licensees.	Industry NEI	6.3.4	5
4b	In the near term, industry should ensure that lessons-learned from the IP2 experience are being used to ensure that effective SG tube integrity programs are being implemented by licensees. NEI should provide feedback to the NRC on the status of licensee implementation of IP2 lessons-learned.	Industry NEI	6.5.4	1
4c	In the longer term, industry should also use lessons-learned from the IP2 experience to strengthen the NEI initiative. NEI should provide feedback to the NRC on the specific changes planned to the 97-06 initiative based on the IP2 experience, including a schedule for implementation of the changes.	Industry NEI	6.5.4	2
5	Over the long-term, the NRC should improve the oversight of licensee SG tube integrity programs based on the generic character of some of the lessons-learned from the IP2 experience. In addition, improvements should be made to the inspection process. Specific recommendations are listed below as items 5(a) through 5(g).	NRC	5.4	2
5a	The staff should develop additional guidance on when and how much of its inspection of licensees' SG tube examination should be completed in the NRC baseline inspection program.	NRC	8.2.4	1
5b	The staff should review the training requirements for NRC inspectors for the SG baseline inspection program. The review should include the guidance contained in the SG inspection procedure to determine the required training for NRC inspectors to successfully complete the objectives of the NRC inspection program.	NRC	8.2.4	2

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5c	The NRC should take steps to ensure that SG expertise is available to support the objective of the NRC's licensing and inspection programs. This could be done through formal training and/or transferring knowledge from in-house SG experts to other staff through written guidance documents or a mentoring program.	NRC	7.4	2
5d	The technical interaction between the licensees and NRR (outage phone calls) during the licensees' SG tube examinations can be effective and should be factored into the inspection program. The phone calls should involve the regional inspectors and should be used as part of the preparation for NRC inspections. This will afford NRR the opportunity to help focus the inspections on the appropriate issues.	NRC	8.2.4	3
5e	The staff should ensure that the baseline inspection program and/or performance indicators (PIs) adequately identify adverse trends in primary-to-secondary leakage during power operation, which could indicate a degradation of the SG tube integrity. Risk-informed thresholds should be established to identify when increased NRC interaction is warranted in response to an adverse trend. The staff should ensure that any PI reporting requirements for primary-to-secondary leakage take into account potential differences in license requirements to ensure that all licensees would be required to report primary-to-secondary leakage for both normal and failed SG conditions.	NRC	8.2.4	5
5f	The staff should establish risk-informed thresholds, either through the PIs or the significance determination process (SDP), that can be applied to the results of the periodic SG inspections to identify SG tube degradation that warrants increased NRC attention.	NRC	8.2.4	6
5g	The staff should develop, revise, and implement, as appropriate, the process for timely dissemination of technical information to the inspectors to ensure that relevant technical information is reviewed and considered for inclusion in the inspection program.	NRC	8.2.4	4
6	The NRC should make improvements in the licensing review process. Specific recommendations are listed below as items 6(a) through 6(e).			
6a	The NRC staff should develop formal written guidance for technical reviewers to utilize in performing license amendment reviews related to SG tube integrity. The guidance should provide specific criteria to identify when the staff should review previous licensee SG inspection reports.	NRC	8.1.4	3

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6b	The NRC staff SE's should be specific as to what information is relied on to form the basis for it's conclusions (i.e., basis for approving the amendment). In addition, if the NRC staff is aware of significant information in the licensee's application that is incorrect, these issues should be discussed in the staff's SE even if the information was not relied upon to form a staff conclusion. This will help to identify those issues not otherwise addressed in the SE that later could be misinterpreted to imply that the staff concurred with the licensee's analysis/conclusions. OL No. 803 should be revised accordingly.	NRC	8.1.4	1
6c	The staff should assess the need for, and the process for the staff review of, the TS required reports that document the results of licensee's SG tube examinations. If the staff determines that such reports should be required, then the staff should also determine the information to be included in such reports, and the timing for submittal of the reports to the NRC. The staff should also develop a well-defined process to review such reports, and the specific purposes and objectives of such reviews. The revised reactor oversight process, including the SDP and the telephone calls with the licensee during an outage, should be considered in the process.	NRC	6.3.4	3
6d	The NRC staff should revise OL No. 803 to add a discussion regarding interface between Headquarters and Regional staff during SE development. The discussion should state that in some cases it may be of value to get input from the Region (e.g., if the NRR SE relies heavily on a statement from the licensee on a risk-significant issue, NRR should request that the Region perform an inspection to verify the statement).	NRC	8.1.4	2
6e	When NRR requests that RES perform an independent technical review of a staff's SE, NRR and RES should develop a process for handling the request and response.	NRC	7.4	3
7	The NRC should assign a high priority to its review of the NEI SG initiative and the associated EPRI guidelines. The NRC should use the SECY 00-0116 process, once approved, to expedite the review of the NEI 97-06 initiative.	NRC	8.3.4	1
8	In the interim, the NRC should issue a generic communication clearly delineating the current state of SG tube integrity program guidance, sources of guidance for licensee use, and what steps licensees need to take in addition to using guidelines, to provide reasonable assurance of SG tube integrity. Attention should be directed to use of appropriate tube performance measures, whether they are current TS limits or some other acceptable measures.	NRC	8.3.4	2

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			Section	No.
9	The NRC should incorporate experience gained from the IP2 event and the SDP process into planned initiatives on risk communication and outreach to the public.	NRC	5.4	3