

**POLICY ISSUE
NEGATIVE CONSENT**

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FOR: The Commissioners
FROM: William D. Travers /RA/
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SUBJECT: STATUS AND PLANS FOR REVISING THE STEAM GENERATOR TUBE INTEGRITY REGULATORY FRAMEWORK

- **PURPOSE:**
- **BACKGROUND:**
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PURPOSE:

This paper informs the Commission of the staff's progress with the Nuclear Energy Institute (NEI) and the nuclear power industry on the industry's initiative, NEI 97-06, "Steam Generator Program Guidelines." The paper describes plans for related NRC activities that will be implemented unless directed otherwise. Implementation of the guidelines through the restructured regulatory framework will provide reasonable assurance that licensees will maintain steam generator tube integrity, while providing added flexibility to licensees to achieve this objective in a cost-effective manner. On the basis of the progress made as of February 2000 and assuming the staff does not have any significant issues with the final submitted version of the industry initiative (submitted February 4, 2000), it is the staff's intent to cancel work on draft Generic Letter (GL) 98-XX, "Steam Generator Tube Integrity." NRC interactions with NEI and the industry on this effort have been conducted in a public forum and opportunity for other stakeholder input will also be provided during the staff's review of this effort.

BACKGROUND:

In SECY-95-131, "Continuance of Proposed Rulemaking on Steam Generator Maintenance and Surveillance," dated May 22, 1995, the staff informed the Commission that it intended to continue with the development of a rule addressing steam generator tube integrity. The rule would have required development and implementation of a risk-informed, performance-based program to maintain steam generator tube integrity. Existing programs were thought to be prescriptive, out of date, and not fully effective for purposes of ensuring steam generator tube integrity. However, following a regulatory analysis, the staff concluded that existing regulations provided an adequate regulatory basis for dealing with steam generator issues, but that steam generator tube surveillance technical specification (TS) requirements should be upgraded to maintain steam generator tube integrity.

In COMSECY-97-013, "Steam Generator Rulemaking," dated May 23, 1997, the staff informed the Commission of its conclusion that a steam generator rule was not necessary, and that it would (1) develop a generic letter containing model technical specifications (TSs) for SG tube surveillance and maintenance that requests licensees to address problems with current TSs; (2) develop guidance to support implementation of the generic letter model TSs; and (3) give licensees the option to pursue alternate SG tube repair criteria supported by an appropriate risk assessment. The staff also stated that it would evaluate, as part of the individual plant examination followup program, plants that appear to have a higher potential for core damage sequences that can challenge steam generator tubes. In a staff requirements memorandum (SRM) dated June 30, 1997, the Commission approved the revised regulatory approach.

By letter dated December 16, 1997, the NRC staff was informed that the industry, through the NEI Nuclear Strategic Issues Advisory Committee, had voted to adopt NEI 97-06 as a formal industry initiative. NEI explained that when an initiative is approved by 80% of its membership, it is then adopted by all of the industry as a formal initiative which means all of the industry adopts and implements it. The purpose of the NEI 97-06 initiative is to provide a consistent industry approach for managing steam generator programs and for maintaining steam generator tube integrity. The NEI 97-06 guidelines were intended to improve both the quality and the consistency of steam generator programs throughout the industry.

In SECY-98-248, "Proposed Generic Letter 98-XX 'Steam Generator Tube Integrity,'" dated October 28, 1998, the staff informed the Commission of its intent to delay the issuance of GL 98-XX while the staff worked with the industry to resolve NRC concerns about the industry initiative. The staff stated that its objective was to avoid duplication by endorsing the industry initiative as an acceptable approach to resolving current problems associated with ensuring steam generator tube integrity. The staff concluded that this approach makes the best use of available staff resources, gives appropriate credit to the industry initiative, and is consistent with DSI-13, "The Role of Industry." The staff also stated that it intended to release for public comment a draft regulatory guide (DG-1074, "Steam Generator Tube Integrity"), a differing professional opinion (DPO) consideration document dealing with issues about steam generator tube integrity, and a memorandum from the DPO author to the Commission dated September 25, 1998. In an SRM dated December 21, 1998, the Commission approved the revised approach.

In January 1999, the staff issued for public comment the draft regulatory guide, the draft DPO consideration document, and the memorandum from the DPO author. The comment period expired on June 30, 1999, and no public comments were received on the DPO consideration document or the DPO author's memorandum; however, numerous comments were received on the draft regulatory guide. On September 22, 1999, the staff transmitted the DPO consideration document to the EDO. In a memorandum to the DPO author dated November 1, 1999, the EDO transmitted the DPO consideration document and stated that existing steam generator programs related to steam generator tube integrity are adequate to ensure public health and safety, and, for this reason, resolution of the DPO concerns does not depend on reaching agreement with the industry on NEI 97-06 issues and the accompanying revised regulatory framework. Resolution of the DPO is proceeding separately.

DISCUSSION:

Throughout the development of the proposed generic letter and its predecessor, the draft steam generator rule, as well as during plant-specific reviews, the staff and the industry have had extensive public interactions on the development of steam generator guidance. The focus of these interactions has been on what actions are necessary to ensure steam generator tube integrity and what regulatory framework is needed to ensure that these actions are implemented. During this process, the staff assembled DG-1074, which proposed one acceptable means for complying with the governing regulations and plant licensing bases to maintain tube integrity. At the same time, and in response to the staff's ongoing regulatory development effort, the industry focused its efforts on improving existing steam generator inspection guidance and developing additional guidelines on other programmatic elements related to steam generator tube integrity. The industry's efforts to improve industry guidance culminated in the NEI 97-06 initiative.

The NEI 97-06 initiative commits pressurized-water reactor (PWR) licensees to a programmatic approach conceptually similar to that recommended by DG-1074. NEI 97-06 references two types of lower tiered documents for guidance on the implementation of individual programmatic features: Electric Power Research Institute (EPRI) guidelines that are directive in nature (licensees must meet the intent of the directives) and EPRI guidelines that are nondirective in nature (licensees may use them as general guidance).

In the last year, the staff shared its technical and regulatory concerns about the industry initiative with the industry. On October 5, 1999, the staff and industry representatives reached preliminary resolution on all major issues regarding the NEI 97-06 initiative and on the necessary changes to the regulatory framework to facilitate full implementation of the NEI 97-06 guidelines. NEI then prepared a draft program package, which included a proposed revision to NEI 97-06 and a proposed template for preparing plant-specific license amendments (including generic TS and a generic technical requirements manual section). The draft program package has undergone industry review, and NEI submitted the final package, which is publicly available, to the NRC for review on February 4, 2000. NEI has determined that the changes to NEI 97-06 are not significant enough to require a revote by the applicable licensees; therefore, NEI 97-06 will remain a formal industry initiative.

The proposed generic TSs require that a program be established and implemented to ensure that NRC-approved steam generator tube integrity performance criteria are maintained. The performance criteria would be defined in a licensee-controlled document (e.g., technical requirements manual), subject to the requirements of [10 CFR 50.59](#), and would include structural, accident-induced leakage, and operational leakage criteria. Within the revised regulatory framework, the NRC staff would still approve new steam generator tube repair criteria and methods and changes to the steam generator performance criteria.

The process for reviewing NEI's program package will continue to be conducted in an open forum. After performing its review, the staff will prepare a safety evaluation (SE) documenting its findings. In accordance with [SECY-99-143](#), "Revisions to the Generic Communication Program," dated May 26, 1999, the staff intends to issue a Regulatory Issue Summary (RIS) (with the SE attached) to document NRC endorsement of the agreed-upon changes to NEI 97-06 and to the regulatory framework pertaining to steam generator tube integrity. Before the RIS is issued, the staff intends to submit the appropriate documents to the Advisory Committee on Reactor Safeguards and the Committee To Review Generic Requirements regarding the new regulatory framework and to brief them on the issue, if desired. In addition, the staff plans to publish the draft SE for public comment in the Federal Register. The staff has concluded that this approach makes the best use of available industry and staff resources, gives appropriate credit to the industry initiative, and provides opportunity for participation by all the interested stakeholders. After the RIS is issued, individual licensees would be expected to commit to the revised NEI 97-06 guidelines and to submit an accompanying TS change request adopting the new steam generator regulatory framework.

At the time of writing this paper, resolution of the root cause of the Indian Point Unit 2 steam generator tube failure is not complete. As the staff prepares the SE that documents our review of the industry initiative, it will assess the implications of the Indian Point Unit 2 experience with regard to the new regulatory framework.

In addition to the review process described above, the staff is evaluating whether to revise DG-1074 to incorporate the comments received and to make it consistent with the new steam generator regulatory framework. The staff will make the determination on the basis of its assessment of the lower tiered documents (EPRI guidelines) and its experience with the NEI 97-06 initiative after it is implemented. The NRC's endorsement of NEI 97-06, Revision 1 and the issuance of the RIS do not depend on issuing a final version of the regulatory guide.

In summary, the initiatives discussed herein maintain safety while reducing unnecessary regulatory burden by providing reasonable assurance that licensees will maintain steam generator tube integrity while allowing added flexibility to licensees to achieve this objective in a cost-effective manner. The NRC and industry interactions on this effort have been conducted in a public forum and opportunity for other stakeholder input will also be provided during the implementation phase of this effort.

The framework is an improvement over existing requirements because it improves both the quality and the consistency of steam generator programs throughout the industry. In addition to the opportunity to participate in the development and implementation of this framework, the improvement in the quality and consistency of steam generator tube integrity programs should increase public confidence. It also translates into improved internal efficiencies for the staff because we need not spend as many resources reviewing and inspecting dissimilar tube integrity programs.

If individual plants do not incorporate the new steam generator regulatory framework (including TS changes) following the NRC's endorsement of NEI 97-06, Revision 1 and the issuance of the RIS, the staff will need to determine whether to revisit the generic letter or to take a plant-specific approach to ensure that all plants implement an acceptable program to maintain steam generator tube integrity.

RESOURCES

The resources needed to review the NEI 97-06 initiative and associated generic TS changes total 0.7 FTE and are included in the current NRR budget for Fiscal Year (FY) 2000. This project includes completion of the review, as well as meetings with stakeholders, and can be accomplished with in-house resources. The staff expects all PWR licensees to submit a TS change request adopting the new steam generator regulatory framework after the staff completes its review. It is expected that most of the TS changes will occur in FY 2001. Resources totaling 2.2 FTE are included in the FY 2001 budget for the TS changes. The staff plans to issue a generic safety evaluation for internal use by the NRR Project Managers, which will reduce the resource burden for NRR.

COORDINATION:

The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections to its content. The Office of the General Counsel has no legal objection to this paper.

RECOMMENDATION:

That the Commission note that unless directed otherwise and assuming the NEI initiative is acceptable and all PWR licensees implement it, the staff intends to follow the review process as described in the discussion section, to endorse the NEI 97-06, Revision 1 initiative, and to cancel the proposed GL. If the industry only partially implements the initiative, the staff will either revisit the GL or take some other plant-specific approach. The staff requests action within 10 days of the date of this Commission Paper. Action will not be taken until the SRM is received. We consider this action to be within the delegated authority of the EDO.

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