

May 24, 2000

MEMORANDUM TO: William D. Travers  
Executive Director for Operations

FROM: Samuel J. Collins, Director /ra/  
Office of Nuclear Reactor Regulation

SUBJECT: INDIAN POINT UNIT 2 STEAM GENERATOR TUBE FAILURE  
LESSONS-LEARNED TASK GROUP AND CHARTER

This memorandum provides our recommended approach and task group charter for an inter-office task group to assess the lessons-learned from the Indian Point Unit 2 steam generator tube failure. The objective of this effort is to conduct an evaluation of the staff's technical and regulatory processes related to assuring steam generator tube integrity in order to identify and recommend areas for improvements applicable to the NRC and/or the industry.

In a memorandum to F. Miraglia dated March 20, 2000, I stated that the NRC staff would perform an assessment of the lessons learned, from both the technical and process perspectives, as part of its overall evaluation of the steam generator tube failure at Indian Point Unit 2 (IP-2) on February 15, 2000. At NRR's request, the Office of Research (RES) conducted an independent technical review of 2 NRR safety evaluations regarding the IP-2 steam generators. One of these involved approval of an alternate repair criteria and the other an extension of the tube inspection interval beyond that required by the plant technical specifications. The results of this technical review were documented in an RES memorandum dated March 16, 2000. During its review of the safety evaluations, RES reviewed the applicable technical issues but was not requested to address associated regulatory process considerations. This information, the licensee's results of the IP-2 inspections and root cause evaluation, and the IP-2 restart safety evaluation, need to be considered in an integrated fashion in order to accurately assess the lessons learned as they apply to both the industry and the NRC. The results of this lessons-learned assessment will be used to identify any generic technical or process elements that could be improved in the NRC's review and oversight of steam generator issues.

The attached Indian Point Unit 2 Lessons Learned Charter and Review Areas (Attachments 1 and 2) were developed to focus attention on the NRC and licensee's actions related to the operation of the current steam generators. This memorandum has been coordinated with RES and Region I. With your approval, NRR, RES and the Regions will work in concert to identify the task group members and initiate the effort consistent with the attached charter and schedule. The task group activities will be managed by the NRR Associate Director for Project Licensing and Technical Analysis. The task group will provide its recommendation and other suggestions regarding the areas of consideration in Attachment 2 to you in the form

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of a final written report with conclusions and recommendations. The task group will conduct periodic briefings for senior management (EDO, Office Directors, Regional Administrator, or their designees) to keep them informed of the status of the effort and to provide early identification of significant findings (both generic and IP-2 specific). If you agree with the conclusions and recommendations in the final report, the staff will take appropriate follow-up action.

In the March 20, 2000, memorandum, I also stated that this lessons-learned assessment would be completed within two months of receiving the licensee's inspection results and root cause failure analysis, which were expected by early April. However, the staff now recognizes that the lessons-learned evaluation is dependent, in part, on the findings of the IP-2 restart safety evaluation. Because of the inherent relationship of the two evaluations and the value of completing a robust plant restart evaluation before considering the information in the broader context of a lessons learned, I am requesting that the target completion date for the lessons-learned assessment be changed to two months following the date of issuance of the IP-2 plant restart safety evaluation, rather than the current commitment based on date of receipt of inspection and root cause analysis data from the licensee. The task group will also consider implications of the event to industry programs and guidelines. The lessons-learned review is expected to begin shortly after your approval. The lessons-learned evaluation will draw on some of the same information as the plant restart evaluation, and will be conducted by the task group concurrently with the plant restart safety evaluation. The primary intent is to identify any generic technical or process elements that may be improved in the NRC's review of steam generator issues. Should the task group identify concerns or issues that may need to be addressed by Indian Point 2 prior to restart, the group will forward them to the staff for appropriate action. Also, the staff's safety evaluation with regard to the restart of IP-2 will be provided to the task group before it is issued.

Docket No.: 50-247

Attachments: As stated

Approved:           /RA by Carl J. Paperiello for/            
                  W. D. Travers, EDO

CHARTER

INDIAN POINT UNIT 2 STEAM GENERATOR TUBE FAILURE

LESSONS LEARNED

Objective

To conduct, based on the February 15, 2000, steam generator tube failure at Indian Point Unit 2 (IP-2), an evaluation of the technical and regulatory processes related to assuring steam generator tube integrity in order to identify lessons learned and recommend any areas for improvement.

Scope

The scope of the task group's effort will be focused on lessons-learned from the February 15 steam generator tube failure at IP-2. Using personnel with knowledge and experience in the related technical areas and an understanding of the overall regulatory process, the task group will evaluate technical issues related to the IP-2 event, NRC's program for steam generators (including safety reviews, inspections, and the oversight process), licensee programs and activities, and industry guidelines.

This evaluation will consider the results of the licensee's IP-2 steam generator inspections and root cause evaluation, the prior review by the Office of Research presented in its memorandum of March 16, 2000, and the observations and findings from the Augmented Inspection Team. As such, the task group's activities may incorporate inter-office reviews and visits to the IP-2 site, as deemed appropriate by the task group. The task group will also review the staff's safety evaluation on the restart of IP-2 before it is issued.

The attachment provides a list of topics that it is expected the task group will address; however, the scope of subjects considered by the task group is not intended to be limited to those on the list. The group may decide to recommend certain issues for consideration by the staff in the longer term.

The task group is not expected to identify the processes for resolving areas of potential weakness. The responsibility for dealing with the task group's recommendations will be with the line organization having the applicable technical or process responsibility.

Product

The Task Group will provide a written report to the Executive Director for Operations (EDO) describing: (a) the scope of its review, (b) any assumptions, constraints, or limitations used or encountered, and (c) its recommendations for further staff evaluation and action. These recommendations will include such aspects as: (1) areas for improvement in the NRC's internal processes for regulating steam generator tube integrity and leakage, and (2) areas for improvement in industry's activities and guidelines related to managing steam generator tube integrity.

#### Time Period to Accomplish the Objective

The results of the lessons-learned review will be documented 2 months after the IP-2 restart safety evaluation has been completed.

#### Task Group Personnel Assignment

Personnel will be selected based on their technical and regulatory experience and their organizational and analytical abilities to perform an assessment within the time constraints necessary.

The task group will be organized as follows:

- Chairman/Team Leader, SES/SLS level
- Representative, NRR/DE
- Representative, RES/DET
- Representative, NRR/DLPM
- Representative, NRR/DSSA
- Representative, Region
- NRR/DRIM/IIPB and others may be consulted on an ad-hoc/part-time basis

#### Senior Management Interface

Task group activities will be managed by the Associate Director for Project Licensing and Technical Analysis (ADPT) in NRR.

The task group will conduct periodic briefings for senior management to keep them informed of the status of the effort and to provide early identification of significant findings if any require the immediate attention from the staff. The ACRS will be offered an opportunity for a briefing when the task group report is complete.

INDIAN POINT UNIT 2 LESSONS LEARNED  
MAJOR ISSUES AND AREAS FOR CONSIDERATION

Technical Issues:

1. Steam Generator Inspection (Nondestructive Examination) Methods
  - A. Prior knowledge of critical areas and other aspects for determining samples
  - B. Efforts to improve signal processing - electronics and physical improvements
  - C. Use of other inspection techniques
  - D. Compensating for problems such as copper and sludge deposits
  - E. Qualification of methods and personnel for the plant-specific situation
  - F. Integration and analysis of available inspection data
2. Condition Monitoring and Operational Assessment
  - A. Evaluation of new types of degradation
  - B. Basis and uncertainties for detection of degradation
  - C. Basis and uncertainties for degradation growth rates
  - D. Use of in-situ pressure tests
  - E. Assessment methodology and decision criteria
3. Determining the Risk Insights from the IP-2 Event and Current and Historical Steam Generator Performance

Regulatory Process Issues:

4. Content of Condition Monitoring and Operational Assessments
  - A. Guidance to reviewers such as the Standard Review Plan (SRP)
  - B. Integration of regional inspections and headquarters technical reviews
  - C. Depth of engineering review
  - D. Documentation of evaluation findings and conclusions
5. NRC Inspection Program
  - A. Scope, frequency and level of effort of the NRC inspection program
  - B. Level of specific technical expertise of NRC inspectors
  - C. Guidance in NRC inspection modules
  - D. Impact on current inspection resources
  - E. Impact on Reactor Oversight Program

Industry Interface

6. Industry Guidelines for Steam Generator Inspection and Assessment
  - A. Implications of the IP-2 event for industry guidelines
  - B. Other generic implications for industry