

February 5, 1999

FOR: The Commissioners

FROM: William D. Travers /s/
Executive Director for Operations

SUBJECT: SECOND INTERIM STATUS REPORT -- FIRE PROTECTION FUNCTIONAL INSPECTION PROGRAM (WITS 970021)

PURPOSE:

To inform the Commission of the status of the pilot fire protection functional inspection (FPFI) program and of the staff's plans to complete the program. This paper also explains the basis for extending the FPFI evaluation schedule to accommodate the assessment of recent NEI proposals.

BACKGROUND:

The staff sent the Commission information leading up to the FPFI program in memoranda of August 25, 1992; September 20, 1995; and April 3, 1996; in SECY-93-143, "NRC Staff Actions To Address the Recommendations in the Report on the Reassessment of the NRC Fire Protection Program," dated May 21, 1993; and in SECY-95-034, "Status of Recommendations Resulting From the Reassessment of the NRC Fire Protection Program," dated February 13, 1995. In SECY-96-267, "Fire Protection Functional Inspection Program," dated December 24, 1996, the staff documented the complete background and description of the FPFI program and informed the Commission of its plans for implementing the program. In brief, the FPFI program was based on the following staff commitments to the Commission: (1) to inspect the Thermo-Lag corrective actions at all plants, (2) to assess the NRC reactor fire protection program to determine if it had appropriately addressed all fire safety issues, (3) to determine if licensees are maintaining compliance with NRC fire protection requirements, (4) to identify the strengths and weaknesses of the reactor fire protection program, (5) to reevaluate the scope of the reactor fire protection inspection program, and (6) to develop a coordinated approach for reactor fire protection and systems inspections.

In a staff requirements memorandum (SRM) of February 7, 1997, the Commission informed the staff that it did not object to the staff's plans for the FPFI program and indicated its interest in strategies that would shorten the time for the benefits of the program to become available to all licensees. The Commission requested that the staff send a report to the Commission at the end of the pilot program that discusses the FPFI program and possible plans for accelerating the benefits of the program. In SECY-98-187, "Interim Status Report - Fire Protection Functional Inspection Program," dated August 3, 1998, the staff described the inspection results to that date, its plans to complete the pilot program, and the adjustments it had made to the pilot program since SECY-96-267 was issued. The staff plans to submit its final report to the Commission by April 30, 1999.

DISCUSSION:

Since the staff issued SECY-98-187, it completed the fourth and final FPFI at the Prairie Island facility and conducted a 1-day workshop on reactor fire protection inspections. The staff will summarize the results of the Prairie Island FPFI in its final report to the Commission on the FPFI program.

The staff conducted the FPFI workshop on November 10, 1998. The main purpose of the workshop was to discuss with the stakeholders options for the future direction of NRC reactor fire protection inspections in light of the lessons learned from the FPFI pilot program. NRC staff and managers made presentations on the overall direction of performance assessment and NRC inspections, the results of the four FPFI pilot inspections, the results of FPFI-like inspections at the Quad Cities and Clinton facilities, the types and frequencies of the inspection findings, the risk significance of the findings, and considerations for developing options for the future direction of the NRC reactor fire protection inspection program. The staff informed the workshop attendees that it would consider the input it received during the workshop in developing its final report to the Commission. Staff and industry representatives also discussed the use of risk techniques and insights for fire protection inspections, for example, in planning lines of inspection inquiry and assessing the risk and safety significance of inspection findings. There was general agreement that the tools to measure the risk significance of specific fire protection inspection findings are not mature. As discussed below in additional work item #4, the staff is actively exploring the development of fire protection inspection finding risk significance tools.

To support its final report to the Commission, the staff is completing the following additional work:

1. At the conclusion of the FPFI workshop, the Nuclear Energy Institute (NEI) offered a possible industry initiative that would involve licensee-managed fire protection program self-assessments as an alternative to continued NRC FPFIs. The self-assessments would be managed and conducted by the licensees, would be based on inspection "modules" derived from the existing FPFI procedure, and would be performed over time at all plants. Under this proposal, NRC oversight would consist of limited NRC inspections of selected licensee self-assessments. On December 14, 1998, the staff met with NEI to learn more about its proposal. At this meeting, NEI offered a lesser proposal. Specifically, while NEI would develop the inspection modules, it would only make them available to the licensees for use on a voluntary basis. It would not implement a formal industry initiative to conduct fire protection program self-assessments at all plants. NEI also suggested that the NRC role should be established solely by the new NRC oversight process that is currently being developed. The staff questioned whether the revised NEI proposal was responsive to the lessons learned from the FPFI pilot program. NEI said that it believed that its revised proposal was adequate in light of the new performance assessment process and the results of the pilot FPFIs. Later, in a letter dated January 19, 1999, NEI submitted for staff consideration its proposal of fire protection inspection and assessment. In this letter, NEI addressed the questions the staff raised during the meeting of December 14, 1998, and offered a proposal that would phase out FPFIs in favor of an industry self-assessment program. The staff will consider NEI's proposal and address its potential role in the future reactor fire protection inspection program in its final report on the FPFI program.

2. The staff is working to determine how the reactor fire protection inspection program should be factored into the new NRC oversight process. For example, the staff is assessing the 140 FPFi findings to determine whether the proposed cornerstones of safety (reference [SECY-99-007](#); "Recommendations for Reactor Oversight Process Improvements," January 8, 1999) and associated inspection area that address reactor fire protection should be enhanced, or whether reactor fire protection is a special case that should be treated outside the bounds of the proposed oversight framework. NEI's proposal (Item 1, above) also bears on this effort.
3. The staff and stakeholders briefed the Advisory Committee on Reactor Safeguards (ACRS), Fire Protection Subcommittee, on the inspection finding results of the FPFi pilot program on January 20 and 21, 1999. In the final FPFi report to the Commission, the staff will consider its discussions with the ACRS Subcommittee on the significance of FPFi inspection finding distribution (e.g., between "classical" fire protection topical areas such as transient combustible control, detection system effectiveness, suppression system design, and fire brigade capability, versus inspection findings relating to post-fire reactor safe shutdown capability). Further, for the final FPFi report to the Commission, the staff will consider the various discussions it had with the ACRS Subcommittee on fire protection inspection finding safety significance.
4. In SECY-98-187, the staff stated that its final report on the FPFi program would address the risk significance of the FPFi findings and the use of risk insights for fire protection inspections. The staff has been exploring the development of a method for determining or assessing the risk significance of fire protection inspection findings. To further explore this issue, the Office of Nuclear Reactor Regulation (NRR) is sponsoring a 2-day internal meeting between NRR, the Office of Nuclear Regulatory Research (RES), the Office of Enforcement (OE), and the regions. The purpose of the meeting is to complete and discuss methodology for assessing the risk associated with reactor fire protection and post-fire safe shutdown deficiencies and to assess the risk significance of each of the FPFi findings.

The staff will issue its final report to the Commission by April 30, 1999. In its report, the staff will (1) provide an analysis of the FPFi findings, regional FPFi inspection followup activities, and enforcement actions arising from the pilot FPFis; (2) provide information on the use of risk insights for fire protection inspections; (3) discuss and evaluate the types of NRC fire protection inspections that it has conducted since the fire protection regulation was issued in 1981; (4) address the strategies in which the Commission expressed interest in the SRM of February 7, 1997; and (5) recommend the appropriate types and frequencies of reactor fire protection inspection (e.g., NRC-led and licensee self-assessments).

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