

May 2, 2002

NOTE TO: Gary Holahan, Director, DSSA/NRR  
THRU: John Hannon, Chief, SPLB/DSSA/NRR/RA/  
FROM: Eric Weiss, Chief, Fire Protection Section, SPLB/DSSA/NRR/RA/  
SUBJECT: STATUS OF REACTOR FIRE PROTECTION PROJECTS - APRIL 2002

The attached report provides the status of the significant reactor fire protection projects that are assigned to the Fire Protection Engineering and Special Projects Section. The report does not contain allegation-related material, but may contain predecisional information.

The internal reactor fire protection web page, which provides ready access information for all of our significant reactor fire protection activities, is available at:  
<http://nrr10.nrc.gov/adt/dssa/splb/fireprot/index.html>

This status report is issued on a quarterly basis.

Attachment: As stated

CONTACT: Eric Weiss, SPLB/DSSA/NRR  
301-415-3264

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W/17

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DATE	04/30/02	04/30/02	05/02/02	/ /02	/ /02	

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# **STATUS REPORT SIGNIFICANT REACTOR FIRE PROTECTION PROJECTS**



Fire Protection Engineering and Special Projects Section  
Plant Systems Branch  
Division of Systems Safety And Analysis  
Office of Nuclear Reactor Regulation

April 2002

PREDECISIONAL INFORMATION - NOT FOR PUBLIC DISCLOSURE

**ISSUE: POST-FIRE SAFE-SHUTDOWN CIRCUIT ANALYSIS**

**DESCRIPTION:** On June 3, 1999, the NRC issued Information Notice 99-17 "Problems Associated with Post-Fire Safe-Shutdown Circuit Analysis." The staff deferred issuance of a generic letter based on an industry voluntary initiative led by NEI. The initiative consists of performing fire tests and developing criteria (based on the test results) for post-fire safe-shutdown circuit analysis. By memorandum dated November 29, 2000, the NRC temporarily halted certain associated circuit inspection activities pending completion of the industry initiative. In February 2001, NEI formed an expert panel with the task of interpreting the results of the cable fire tests.

**CURRENT STATUS:**

NEI has completed its preliminary work and issued, late October 2001, a draft copy of its methodology, NEI 00-01 Draft Rev. C, to address associated circuits (Appendix R). The staff has received a copy of the draft, reviewed it, and provided the comments back to NEI in March 2002. The expert panel has completed its work and provided it to EPRI.

**MILESTONES:**

- The staff provided its comments to NEI on March 6, 2002.
- NEI anticipates that it will provide a formal submittal of NEI 00-01 to the staff in fiscal year 2002. This formal submittal will incorporate the staff's comments on the draft and the expert panel input.
- The staff is meeting with NEI and the ACRS fire protection subcommittee on June 4, 2002.

**REFERENCES:** Information Notice 99 -17 "Problems Associated with Post-Fire Safe-Shutdown Circuit Analyses" dated 6/3/99 (NUDOCS Accession No.9905260031). Memo to Gary Holahan from John Hannon, dated 11/29/00 (ADAMS ML 003773142). Summary of August 8, 2001, with NEI on Risk-Informed, Post-Fire, Safe-Sutdowm circuit analysis methodology dated August 20, 2001, (ADAMS ML012320352). NRC comments to NEI dated March 6, 2002 (ADAMS ML020660025). NEI 00-01 Draft Rev. C (ADAMS ML012950385).

**CONTACT:** Mark Henry Salley, 415-2840, MXS3

**ISSUE: RISK-INFORMED, PERFORMANCE-BASED FIRE PROTECTION  
RULEMAKING**

**DESCRIPTION:** Rulemaking to endorse National Fire Protection Association (NFPA) Standard 805 as a voluntary alternative to NRC's existing fire protection regulations.

**CURRENT STATUS:** NFPA 805 has been published by the NFPA Standards Council in April 2001. In a letter dated January 18, 2001, NEI stated its opposition to the rulemaking due to industry concerns related to NFPA 805. On August 30, 2001, NRC and NEI senior management representatives reached an agreement for the resolution of the substantive issues. NEI confirmed its agreement in a letter dated September 13, 2001. Accordingly, the staff proceeded with the rulemaking.

**MILESTONES:**

- On October 9, 2001, a memorandum to the Commission updated the rulemaking plan and schedule. According to the updated schedule, the staff will submit a proposed rule for Commission approval within 9 months from the date of the October 9, 2001, memorandum (July 2002), and a final rule for Commission approval within 12 months from the publication of the proposed rule for public comment (November 2003).
- On December 20, 2001, the staff posted a draft rule language on the NRC Rulemaking Forum for early public comment (<http://ruleforum.llnl.gov>). Comments were received by February 3, 2002.
- OGC and NRR management are working to enhance the structure of the rule language in preparation for placing the proposed rule language in the concurrence chain. The proposed rule is scheduled to be provided to the Commission in July 2002.

**REFERENCES:** SECY-00-0009, "Rulemaking Plan, Reactor Fire Protection Risk-informed, Performance-Based Rulemaking," dated 01/13/00 (ADAMS ML003671923). Memo Travers to Commission. "Response to Staff Requirements Memorandum of February 24, 2000, Regarding SECY-00-0009, Rulemaking Plan, Reactor Fire Protection Risk-informed, Performance-Based Rulemaking," dated 12/22/00 (ADAMS ML003775466). Summary of August 30, 2001, meeting with NEI dated September 4, 2001 (ADAMS ML 012470281). Letter from Alex Marion to Gary Holahan dated 9/13/01 (ADAMS ML 012570235). Memorandum to the Commission from William D. Travers, EDO (ADAMS ML 012560401).

**CONTACT:** Leon Whitney, 415-3081, LEW1

PREDECISIONAL INFORMATION - NOT FOR PUBLIC DISCLOSURE

**ISSUE: REVISION OF STANDARD REVIEW PLAN, SECTION 9.5.1**

**DESCRIPTION:** In a Staff Requirements Memorandum (SRM) of May 25, 2000, the Commission requested that the staff reflect in the Standard Review Plan, Section 9.5.1, "Fire Protection Program," the rule that eliminated the requirement for non-combustible fire barrier penetration seal materials and made other minor changes.

According to the Commission directives, the staff is revising Section 9.5.1 of the SRP to reflect the rule changes mentioned above. The staff is also incorporating in its revision of Section 9.5.1 of the SRP some new fire protection guidance contained in Regulatory Guide (RG) 1.189, RG 1.191, SECY-90-016, SECY-93-087, SECY-94-084 and the fire protection guidance that is being developed for license renewal and new reactor designs.

**CURRENT STATUS:** On February 12, 2002, Pacific Northwest Laboratories, the contractor, provided a revised draft of the SRP incorporating staff comments. The document is currently undergoing internal peer review by the SPLB fire protection staff.

**MILESTONES:**

- June 2002                      Complete draft of revised SRP
- December 2002              Issue revised SRP

**REFERENCES:** SECY-90-016, "Evolutionary Light Water Reactor (LWR) Certification Issues and Their Relationship to Current Regulatory Requirements," dated 01/12/90 (NUDOCS Accession No. 9001220035); SECY-93-087, "Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor (ALWR) Designs," dated 02/02/93 (NUDOCS Accession No. 9304130158); SECY-94-084, "Policy and Technical Issues Associated with the Regulatory Treatment of Non-Safety Systems in Passive Plant Designs," dated 03/28/94 (NUDOCS Accession No. 9404010213); SECY-00-0080 from William D. Travers to the Commission, Final Rule: "Elimination of the Requirement for Noncombustible Fire Barrier Penetration Seal Materials and Other Minor Changes," dated 04/10/00 (ADAMS ML003693452); Memo from Annette Vietti-Cook to William D. Travers, Staff Requirements - Affirmation Session, dated 05/25/00 (ADAMS ML003718465); RG 1.189, Fire Protection For Nuclear Power Plants, dated 04/01 (ADAMS ML010920084); RG 1.191, "Fire Protection Program for Nuclear Power Plants During Decommissioning and Permanent Shutdown," dated 05/01 (ADAMS ML 011500010).

**CONTACT:** Ed Connell, 415-2838, EAC

**ISSUE: HEMYC, and MT FIRE BARRIERS**

**DESCRIPTION:** In November 1999, during a fire protection inspection at Shearon Harris, Region II inspectors raised a concern about the Hemyc and MT fire barriers manufactured by Promatec Technologies Inc. In response to TIA 99-028 from Region II regarding Shearon Harris' fire barriers, the staff performed a technical review of the qualifying fire tests results for the one-hour Hemyc and the three-hour MT Electrical Raceway Fire Barrier Systems. Based on further review, the staff concluded that the results of these fire tests were indeterminate. NEI indicated that there are 11 plants (15 units) that credit Hemyc and/or MT fire barriers.

**CURRENT STATUS:** The staff made a presentation at the October 2001 NEI Fire Protection Information Forum addressing the concerns with the Hemyc and MT materials and included a short discussion of its proposed testing. NEI provided information about installed Hemyc and MT configurations a letter dated December 28, 2001. NEI also reported that there was some installed air drop configurations which had failed the initial testing and there were some installed cable trays configurations which were not tested during the initial testing. If the results of the testing uncover technical concerns, a backfit per 10 CFR 50.109 may have to be performed. The first phase of the testing has been funded and is being performed by Sandia National Laboratories (SNL).

**MILESTONES:**

- Phase 1 - SNL is developing a test plan.
- Phase 2 - Primary testing to be performed in FY 2003, contingent on funding.
- Phase 3 - Follow up testing to be performed in FY 2004, contingent on funding.
- Stakeholders will be given an opportunity to comment on the testing.

**REFERENCES:** TIA 99-028, "Shearon Harris, Unit 1-TIA 99-028, Resolution of Pilot Fire Protection Inspection," dated 01/01/00 (ADAMS ML003736721). SECY 99-204, "Kaowool and FP-60 Fire Barriers," dated 08/04/99 (ADAMS ML992810028). Example NRC letter to a licensee (Robinson) announcing that a meeting is being scheduled (ADAMS ML010850396). Letter from Alex Marion to John Hannon, "Promatec Hemyc 1-Hour and MT 3-Hour Fire Barrier Systems," dated 04/25/01 (ADAMS ML011220179). Letter from CP&L, "Shearon Harris Nuclear Power Plant Unit No.1 - Docket No. 50400: Licensing Basis of Promatec Hemyc Fire Barrier Systems," dated 04/17/01 (ADAMS ML011150030). Example NRC letter to a licensee (Robinson) announcing that the meeting has been canceled (ADAMS ML011430357). Letter from John Hannon to Alex Marion, "Promatec Hemyc and MT Electrical Raceway Fire Barrier Systems," dated June 20, 2001 (ADAMS ML011710426). Letter from Fred Emerson (NEI) to Daniel Frumkin, "Promatec Hemyc and MT 3-Hour Fire Barrier Systems," dated December 28, 2001 (ADAMS ML020160123).

**CONTACT:** Dan Frumkin, 415-2280, DXF1  
Lead PM, Richard Laufer, 415-1373, RJL

**ISSUE: FIRE PROTECTION FOCUS GROUP SIGNIFICANCE DETERMINATION  
PROCESS AND FIRE PROTECTION INSPECTION ACTIVITIES**

**DESCRIPTION:** On January 17, 2001, the chief of the NRC Inspection Program Branch issued a memorandum to begin preparation for an Internal Lessons Learned Workshop. As a part of this effort, a Fire Protection Focus Group (FPFG) was formed to address issues in the fire protection Significance Determination Process (SDP) area. It is expected that between 2.5 to 3.5 FTE from SPLB will be supporting this effort including the many new initiatives that are encompassed by this endeavor. The FPFG decided it would be in the best interest of the NRC to have quarterly regional fire protection inspector workshops performed by NRR fire protection engineers. The purpose of these workshops is to provide specialized training in fire protection and SDP developments. The workshops also act as a forum for the regions to discuss their recent inspection experiences and to standardize fire protection inspection across all four regions.

**CURRENT STATUS:** A regional workshop in each of the four regions was completed this past year 2001. The Fire Dynamic Spread Sheets that have been developed to date, are in use by the regional fire protection inspectors. The SPLB staff is continuing to develop additional spread sheets. Four additional regional workshops have been scheduled for 2002. During the period March 5-7, 2002, the first workshop of CY02 was completed. SPSB has the lead for developing a revision to the fire protection SDP. SPLB will support SPSB in this effort. SPSB has scheduled a kickoff meeting for May 7, 2002, at NIST.

**MILESTONES:**

- |                         |                                   |
|-------------------------|-----------------------------------|
| • March 5-7, 2002       | FP workshop in Region II-Complete |
| • June 11-13, 2002      | FP workshop in Region I           |
| • September 17-19, 2002 | FP workshop in Region III         |
| • December 10-12, 2002  | FP workshop in Region IV          |

**REFERENCES:** Memorandum to: "Those on Attached List" from William M. Dean, dated January 17, 2001. (ADAMS ML010160480)

**CONTACT:** Mark Henry Salley, 415-2840, MXS3

**ISSUE:           MANUAL ACTIONS USED TO PERFORM FIRE SAFE SHUTDOWN**

**DESCRIPTION:** On November 14, 2001, as a part of corrective actions for the Reactor Oversight Process, the NRR, Fire Protection Engineering staff, conducted a quarterly training seminar to improve the training level of regional fire protection inspectors. As a part of that training, a session was conducted addressing manual actions licensees can take credit for in accordance to Appendix R, Section III.G.2, Fire Protection Safe Shutdown. NEI requested a copy of the lesson plan. The lesson plan was subsequently provided in a letter to NEI dated November 29, 2001. On January 11, 2002, NEI sent a letter to the NRC with comments on the training lesson plan. NEI considers that the training lesson plan constituted new NRC guidance.

**CURRENT STATUS:** The staff has prepared a response to the NEI letter. The staff does not believe that the training or its response letter contain new industry guidance or would result in a backfit to the industry. The CRGR has been informed of the issue. NEI has requested a meeting with the staff on this subject.

A related issue is a pending enforcement at ANO-1 concerning a failure to implement Appendix R, Section III.G.2, and the use of manual actions to operate equipment in lieu of passive fire protection. The licensee wrote a letter to the NRC claiming a backfit. The backfit was reviewed by a Region IV backfit panel and the region has sent to the licensee a response letter denying the backfit claim and identifying the failure to implement Section II.G.2. as an apparent violation.

The NEI response letter was concurred on by SPLB Branch Chief and reviewed by CRGR on February 26, 2002. CRGR requested that an additional paragraph concerning backfit guidelines be added on the cover letter. The revision has been sent to CRGR on March 27, 2002, and the next CRGR meeting is scheduled for May 6, 2002.

**MILESTONES:**

- November 14, 2001   Training conducted concerning manual actions
- November 29, 2001   Copy of lesson plan provided to NEI
- January 11, 2002     NEI letter commenting on lesson plan
- January 29, 2002     NRC draft response letter prepared
- February 26, 2002    CRGR review
- March 27, 2002      Revised draft letter sent to CRGR

**REFERENCES:** Letter from NRC to NEI dated 11/29/01, "Fire Protection Training Materials", (ADAMS ML013370302). Included in this letter is an attachment with the lesson plan for the training provided. Letter from NEI to NRC dated 1/11/02, "Use of Manual Actions to Achieve Safe Shutdown for Fire Events" (ADAMS ML020300069).

**CONTACT:** Phil Qualls, 415-1849, PMQ

**ISSUE: PRESENTATION FOR FIRE PROTECTION STUDENTS FROM  
CALEDONIAN UNIVERSITY, SCOTLAND**

**DESCRIPTION:** On Saturday, March 9, 2002, NRR/SPLB hosted a group of fire protection students from Caledonian University, Glasgow, Scotland. The group was on a two-week visit in conjunction with the University of Maryland, Department of Fire Protection Engineering, to view how fire protection is applied in the USA. SPLB discussed the current trend to move to a more risk-informed performance-based from of regulation in commercial nuclear power plants and discussed also information learned in the recent NEI/EPRI cable fire testing.

**CURRENT STATUS:** Complete

**CONTACT:** Mark Henry Salley, 415-2840, MXS3