

Plan for Closing the Fire-Induced Circuit Failure Issue

PURPOSE:

The purpose of this enclosure is to describe the NRC staff's (staff's) efforts leading up to this paper and the staff's proposed steps for providing a method of compliance to resolve fire-induced circuit failures for licensees who choose not to utilize the risk-informed approach contained in Title 10 of the *Code of Federal Regulations* Part 50, Section 48(c) (10 CFR 50.48(c)) – National Fire Protection Association Standard (NFPA) 805. This enclosure includes a general timeline and description of the activities following Commission action on this paper.

BACKGROUND:

In Staff Requirements Memorandum (SRM) SECY-06-0196, "Issuance of Generic Letter 2006-XX, 'Post-Fire Safe-Shutdown Circuits Analysis Spurious Actuations,'" dated December 15, 2006, the Commission directed the staff to provide a clearly defined method of compliance to resolve the issue of fire-induced circuit failures including multiple spurious actuations. The staff has been working with industry stakeholders since the issuance of the SRM on the resolution of this issue. A summary of those activities is included in a December 31, 2007, memorandum to the Commission entitled, *Status of Actions to Resolve Potential Safety Concerns from Multiple Fire-Induced Spurious Equipment Operations* (Agencywide Document Management and Access System (ADAMS) Accession No. ML073470750). Since December 31, 2007, the Fire Protection Steering Committee, staff, and industry stakeholders have held three additional public meetings (ADAMS Accession No. ML081720057).

During these public meetings, the staff has shared the approach provided in this paper with industry stakeholders and has received feedback. Industry stakeholders have also provided input to this process, which the staff is considering (see May 28, 2008, letter from J. Grobe to A. Marion (ADAMS Accession No. ML080850044)).

DISCUSSION:

When the staff shares this clarification with the industry (see item C. below), following Commission action on this paper, the licensees will have adequate information to identify which structures, systems, and components (SSCs) in the plant are part of the train of systems necessary to achieve and maintain hot shutdown conditions. Licensees will then be able to bring these into compliance using the requirement in 10 CFR Part 50, Appendix R, Section III.G. For the fire protection features for SSCs important to safe shutdown, licensees have adequate information to begin dispositioning these SSCs. Item E. below discusses additional guidance that the staff plans to make available to licensees to resolve issues for SSCs important to safe shutdown.

CLOSURE PATH ACTIVITIES:

A. NRC Inspects Fire-Induced Circuit Failures

EXPECTED TIMING - Currently in place and will continue

Staff inspection of fire-induced circuit failures is ongoing and will continue through this entire process, with or without approval of this paper. Inspections will continue regardless of any changes to the enforcement discretion guidance. Inspections will not change based on this enforcement guidance changing; the enforcement guidance will only affect enforcement relating to identified violations. The enforcement discretion guidance will affect licensee-identified findings found during the period of enforcement discretion where enforcement discretion applies to newly identified noncompliances.

B. Commission Takes Action on the Commission Paper

EXPECTED TIMING - At the Commission's discretion

Action on this paper involves both the staff's approach for the compliance aspects of the fire-induced circuit failures including multiple spurious actuations and the changes to the enforcement discretion guidance. If the Commission approves this paper, the activities described below in this paper would occur. If the Commission does not approve this paper or directs other action, then staff inspection of fire-induced circuit failures will continue with enforcement discretion as described in the current Enforcement Guidance Memorandum (EGM) 98-002, Revision 2, "Disposition of Violations of [10 CFR Part 50,] Appendix R, Sections III.G and III.L Regarding Circuit Failures."

C. Staff to Share Clarification with Industry Stakeholders

EXPECTED TIMING - Will begin upon approval of this paper and should be completed approximately 3 to 6 months following Commission action on this paper

Under the direction of the NRC Fire Protection Steering Committee, the staff plans to hold public meetings with stakeholders and to issue a regulatory issue summary or similar appropriate generic communication to document the information provided in Enclosure 1 of this paper.

D. NRC Staff Revises Enforcement Discretion Guidance

EXPECTED TIMING – Timed to occur with publication of clarification (C above)

Currently EGM 98-002, Revision 2, provides enforcement discretion for violations related to fire-induced circuit failures. To receive this discretion, a licensee must implement compensatory measures for the violation. The new enforcement discretion guidance will provide six months for licensees to identify noncompliances, implement compensatory measures and place the noncompliances into the licensee's corrective action program (CAP). This would be followed by 30 months for the licensees to resolve the fire-induced circuit failure related noncompliances without being cited with a violation. For both of these time periods, compensatory measures must be in place in order to receive enforcement discretion. At the end of the 30 months, the enforcement discretion will end for all related unresolved noncompliances.

Licenseses that submit a high quality and complete exemption request or license amendment before the end of the 30 months will receive enforcement discretion until the staff dispositions the exemption request or amendment.

E. Develop Additional Evaluation Methods

EXPECTED TIMING - Will be initiated following Commission action on this paper

Currently, feasible and reliable operator manual actions and modifications in accordance with Section III.G are acceptable approaches to protecting equipment important to safe shutdown that are not part of the train required to be protected to achieve and maintain hot shutdown. The staff plans to pursue fire modeling as an additional evaluation method. Fire modeling is currently an available evaluation method under NFPA 805 to demonstrate safe shutdown capability is assured. The staff plans to pursue using the fire modeling information developed by both the staff and stakeholders as part of NFPA 805 as a model for applying fire modeling as an additional evaluation method.

The industry, through the Nuclear Energy Institute (NEI), developed draft NEI 00-01, Revision 2, "Guidance for Post-Fire Safe-Shutdown Circuit Analysis," to enhance an earlier method to evaluate multiple spurious actuations due to fire. The staff sees value in certain attributes of the NEI approach and expects to interact further with industry stakeholders on the development of the approach discussed in draft NEI 00-01, Revision 2.

F. Licensees Find and Fix Noncompliances

EXPECTED TIMING - Licensees will likely begin to identify and fix noncompliances upon public notice of Commission action on this paper or upon issuance of staff clarification (C.) and should be completed before the end of the period of enforcement discretion

Currently, the NRC is exercising enforcement discretion pursuant to Enforcement Guidance Memorandum 98-002 for all fire-induced circuit failure related noncompliances if the licensee implemented compensatory measures. Revised enforcement guidance regarding circuit failures will be issued. For 6 months following the issuance of the clarification, licensees would receive enforcement discretion for any fire-induced circuit failure related noncompliance where compensatory measures are implemented and the noncompliance is entered into the plant's corrective action program (CAP).

Noncompliances identified following the 6 month period after the clarification would not be eligible for enforcement discretion. Finally, any noncompliance that is not resolved before the end of the 30 month period and does not have an active licensing action pending, will be subject to normal enforcement.

G. NRC Staff to Document Acceptable Methods

EXPECTED TIMING – Will begin upon completion of discussion with industry regarding methods and completed during the period of enforcement discretion.

Following the staff working with industry (Item E.) the staff intends to publish the methods in the appropriate regulatory document. The staff expects that these tools will be included, or included via reference, in Regulatory Guide, 1.189, “Fire Protection.”

H. Revise NRC Inspection Procedures

EXPECTED TIMING - Will begin upon completion of discussion with industry regarding methods and completed during period of enforcement discretion

As the methods become finalized (G.), it will be appropriate to update the NRC inspection procedures and to train the inspection staff to review licensee analyses that are performed using these methods.

I. NRC Inspects Industry Fixes

EXPECTED TIMING - Would begin at the end of enforcement discretion and would continue for 3 years during the triennial fire protection inspection cycle

As part of the reactor oversight process (ROP), the regional inspection staff will inspect fire protection programs and the application of this clarification during the triennial fire protection inspections. The reactor oversight process performs triennial fire protection inspections at each site. The inspection procedure will be revised (see H. above), to assure successful inspections.

J. Staff Consideration of Rulemaking

EXPECTED TIMING – Concurrent with the above activities if needed

The staff may explore rulemaking in the area of fire-induced circuit failure to determine if rulemaking is appropriate. At this time, there is inadequate information regarding the application of this clarification and the related methods to determine if rulemaking would be appropriate.