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From: Cynthia Carpenter, *NRR*
To: Regional RA/DRA/DD/DeputyD
Date: 6/23/04 12:33PM
Subject: information only **but a great read** - NRR/OD & ET Significant Topics - Current and Emergent Issues

This paper is updated frequently, and contains excellent information on the most significant issues that NRR is working on.

V-6

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From: Roy Mathew
To: Brian Sheron; Jim Dyer; Michael Case; Richard Borchardt
Date: 6/23/04 10:06AM
Subject: May 2004 NRR/OD & ET Significant Topics - Current and Emergent Issues

The Divisions have each provided input for the May 2004 NRR OD & ET Significant Topics Report. The report is attached (65 pages total).

Thanks to all who provided input to the report.

Roy Mathew
Acting ADPT Technical Assistant
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CC: Angela Lavretta; Anthony McMurtray; Brett Rini; Bruce Boger; Christopher Grimes; Cynthia Carpenter; Darrell Roberts; David Desaulniers; David Diec; David Matthews; Doug Coe; Eileen McKenna; Eric Leeds; Eric Weiss; Eva Brown; F. Paul Bonnett; Frank Gillespie; James Clifford; James Lazevnick; Jennifer Albright; Jerry Dozier; Joe Birmingham; John Lamb; Joseph Donoghue; Karen Olive; Lauren Quinones; Maitri Banerjee; Margie Kotzalas; Mark Salley; Mary Lynne Sapp; Matthew Mitchell; Michael Johnson; Michael Marshall; Pao-Tsin Kuo; Peter Wen; Ralph Architzel; Rani Franovich; Richard Barrett; Richard Correia; Richard Dudley; Richard Guzman; Robert Elliott; Samuel Lee; Stephen Hoffman; Steve Jones; Sunil Weerakkody; Suzanne Black; Tad Marsh; Terrence Reis; Theodore Tjader; Thomas Boyce; Thomas Scarbrough; Tim McGinty; Timothy Frye; Timothy Reed; W. Schwink

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NRR/OD & ET SIGNIFICANT TOPICS - CURRENT AND EMERGENT

(May 2004)

The contents of this document are intended to be an internal, informal collection of significant topics, current and emergent, identified by ET members for their use as a source document to provide recent data on the topics covered within. It may not contain the most up-to-date data, but should provide status information current within the last month. The date at the beginning of each subject provides the date the subject was last updated.

3. Fire Protection

NFPA 805 Rulemaking (Updated 05/26/04 - Contact: Joe Birmingham)

Background:

The staff is proceeding with rulemaking to provide licensees with the option of voluntarily adopting National Fire Protection Association (NFPA) Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition" in place of the existing deterministic fire protection requirements of 10 CFR 50.48 and 10 CFR 50, Appendix R.

Current Status:

The SRM to SECY-04-0050 directed the staff to issue the final rule. The staff sent the final rule package to ADM requesting publishing of the final rule in the *Federal Register* on May 26, 2004.

The staff is working with NEI on implementation guidance development. NEI sent draft Revision E of the implementation guidance document to the NRC April 5, 2004. The staff met with NEI April 30, 2004 and held conference calls with NEI to discuss staff comments on draft revision E. NEI expects to issue draft Revision F on June 30, 2004. The staff is working on developing a regulatory guide to endorse the NEI document and inspection guidance.

Manual Actions Rulemaking (Updated 6/21/04 - Contact: David Diec)

Background

During triennial fire protection inspections, regional inspectors identified that licensees are using unapproved manual actions to satisfy the fire protection criteria in Section III.G.2 of Appendix R to 10 CFR 50. The inspectors identified these issues as Unresolved Items for review by NRR staff.

The staff determined that a change to 10 CFR Part 50, Appendix R, was required for a licensee to use manual actions instead of meeting the requirements stated in Section III.G.2. The staff developed a rulemaking plan to revise 10 CFR Part 50, Appendix R, Section III.G.2 to allow the use of acceptable manual actions.

On July 2, 2003, the Commission approved the rulemaking plan in its SRM dated September 12, 2003 (ADAMS ML032550222; WITS #200300194).

Current Status:

On November 26, 2003, the staff published the notice of opportunity for public comment on its draft criteria for determining the effectiveness of manual actions to achieve post-fire safe shutdown (68FRN-66501), with a 30-day comment period. Subsequently, the staff granted an additional 30 days extension of opportunity for public comment based on a large number of requests from stakeholders. The notice granting the extension was published in the *Federal Register* Notice on December 15, 2003 (68 FR 69730), with the comment period ending on January 26, 2004.

In addition, the Office of Enforcement is working to issue an Interim Enforcement Policy to address noncompliance by licensees in the interim period until the operator manual actions rule becomes effective. However, as of the close of the comment period, the staff has received a number of substantive public comments, focused primarily on the rulemaking itself, which may require modifications to its draft acceptance criteria.

The staff briefed the Chairman on fire protection issues, including post-fire operator manual actions activities, on February 9, 2004. The staff again briefed the Chairman, and Commissioner Merrifield, on April 12, 2004, to discuss plans for "closure" of fire protection issues.

On May 16, 2004, the NRC responded to Congressman Markey and Dingell's questions regarding the rulemaking effort. The staff is finalizing its draft criteria and associated regulatory guidance addressing the human reliability issue raised by both the public and the ACRS. An additional Category 3 public meeting with stakeholder is also scheduled for June 23rd, 2004 to discuss fire detection and suppression for safe shutdown operator manual actions.

The staff is also finalizing its input to the development of an enforcement discretion SECY. The enforcement discretion SECY is scheduled to be provided to the EDO by July 2004. The proposed rule is scheduled to be provided to the Commission for consideration by December 2004.

Associated Circuits (Updated 03/31/04 - Contact: Eva Brown & Mark Salley)

Background:

The NRR staff and NRC regional inspectors have found a number of plant-specific problems related to potential fire-induced electrical circuit (associated circuit) failures that could prevent operation or cause malfunctioning of equipment needed to achieve and maintain post-fire safe shutdown. The licensees have also raised questions about the adequacy of the existing NRC staff guidance concerning fire-induced circuit failures and the consistency of staff interpretations of both the guidance and the underlying regulatory requirements. During several of the Fire Protection Functional Inspections, compliance issues were found involving the analyses that the licensees had performed to identify the circuits that require fire protection to support post-fire safe-shutdown. These findings confirmed that plant-specific circuit analysis issues may exist because of differing staff and licensee interpretations of the existing guidance and regulatory requirements. The NRC staff and the industry are currently working to resolve these questions.

As a result of the situation, the staff issued Enforcement Guidance Memorandum (EGM), 98-002, Revision 1, "Disposition of Violations of Sections III.G and III.I of Appendix R to 10 CFR Part 50 Involving Circuit Failures," July 21, 1999. In addition to changing the enforcement guidance, the NRC suspended fire-induced circuit failures of associated circuits inspections starting in March 2001. Since then, the staff has included guidance in Enforcement Manual Section 8.1.7.1, outlining how the inspection staff should deal with associated circuits issues until the moratorium on associated circuit inspections is lifted. In summary, this guidance prevents punitive enforcement action if the licensees agree to take appropriate compensatory actions.

Industry Activities:

Industry agreed to make a proposal to the NRC on how the issues of associated circuits could be solved. This industry effort involved performing fire testing, identifying potential circuit failure modes for specific conditions and arrangements, developing risk-informed methods for assessing the likelihood of spurious operation and their potential failures. NEI conducted 18 cable fire tests to further investigate the effects of fire conditions on circuit integrity and the potential for fire-induced spurious actuations, during the period of January 8 to June 1, 2001, at Omega Point Laboratories, located in Elmendorf, Texas. Some of the conclusions were that (1) hot shorts leading to spurious actuations cannot be regarded as negligible importance if the fire produces cable temperatures above thresholds identified by these tests, (2) the likelihood of spurious actuations given failure were found to be higher than originally assumed, (3) data recorded a significant number of spurious actions, given cable damage, (4) water spray on damaged cables can cause spurious actuations, and (5) shorting to another conductor within the same cable is much more likely than shorting to a conductor in another cable.

The industry provided their proposal to solve the associated circuit issues via NEI-00-01. The staff plans to use a modified version of the risk screening tool provided in NEI-00-01. The staff does not plan to endorse the deterministic method proposed in NEI-00-01 primarily because that proposal is inconsistent with test data and the associated failure probabilities of spurious actuations.

Staff Activities:

NRC used findings from the industry's test results to publish a Regulatory Information Summary (RIS) after a industry/NRC consensus meeting held in February 2003. This draft RIS titled "Risk-Informed Inspection Guidance for post-Fire Safe Shutdown Associated Circuits Inspections" instructs the inspectors to focus their inspections on spurious actuations that are most likely to occur. The draft of the RIS was published in August 2003 for public comment, and the final RIS was published March 2, 2004 [ML040620400]. The staff is currently preparing material for the inspector and subsequent public workshops/meetings. The staff has also issued draft NUREG-1778 "Knowledge Base for Post-Fire Safe-Shutdown Analysis in January, 2004 for public comment. The purpose of this NUREG is to facilitate understanding of the regulatory framework for Post-Fire Safe-Shutdown by compiling the related knowledge into a single document.

Current Status:

To resolve the associated circuit issue, the remaining actions are to update the inspection procedure to reflect the guidance provided in the final RIS. After that, NRR will hold a counterpart meeting with the inspectors to address inspector's questions on risk-informing circuit inspections and hold a public meeting to convey staff expectations (tentatively Summer 2004). After the revised fire protection significant determination process is fully implemented (also Summer 2004), and an interim period which is scheduled for approximately six-months to allow the licensees to prepare and self-evaluate their programs. NUREG-1778 is expected to be issued in the fall of 2004. The staff plans to be ready to resume inspections by the end of December 2004.

When the RIS is implemented to the inspection process, the staff inspections will be focused on the most risk-significant issues. However, some compliance issues may still be unresolved due to the variations in the licensing basis among licensees. In order to fully address the compliance issue, the staff plans to propose an options paper to the commission (Spring 2004).