

June 9, 2010

MEMORANDUM TO: Alexander R. Klein, Chief  
Fire Protection Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

FROM: Daniel M. Frumkin, Team Leader */RA/*  
Fire Protection Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF MAY 13, 2010, PUBLIC MEETING OF THE  
NUCLEAR REGULATORY COMMISSION TO DISCUSS FIRE  
PROTECTION TOPICS RELATED TO CIRCUITS

On May 13, 2010, the U.S. Nuclear Regulatory Commission (NRC) held a public meeting with industry stakeholders to discuss fire protection issues related to fire induced circuit failures. The main topics discussed were multiple spurious operation resolution, industry approach to compensatory measures under Enforcement Guidance Memorandum 09-002 "Enforcement Discretion for Fire Induced Circuit Faults", clarifications or adjustments to Nuclear Energy Institute (NEI) 00-01 "Guidance for Post-Fire Safe Shutdown Circuit Analysis" and Regulatory Guide 1.189 "Fire Protection for Nuclear Power Plants" and NRC testing of direct current (DC) circuits.

A list of participants is included in Enclosure 1. Industry slides from the meeting are included in Enclosure 2. The following is a breakdown of the discussion and actions from the meeting. The discussion below focuses on where there were deviations from the information presented in the slide presentations or where actions were identified. The slide number from Enclosure 2 is provided as context for the following bullets.

1. Slide 7 – NRC staff expressed concerns that in some circumstances the generic licensee compensatory measures may not be adequate. An example of a generic licensee compensatory measure that could cause staff a concern is solely utilizing existing operator plant rounds with heightened operator awareness when in areas requiring compensatory measures. Industry stakeholders indicated that it is difficult to provide specific compensatory measures before all the analysis is completed. The NRC staff stated that licensees are required to follow their approved fire protection program. The NRC staff explained that the multiple spurious actuations (MSAs) that could affect safe shutdown may be considered a lack of a fire barrier, since a fire barrier is the fire protection requirement in some areas to assure safe shutdown capability in accordance with Title 10 of the *Code of Federal Regulations* Part 50, Appendix R, Section III.G.2.

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2. Slide 9 - Regarding classifying components, industry stakeholders indicated they would review the definition of a component and ensure that it appropriately addressed logic circuit actuations.
3. Slide 21 - Both the NRC and industry staff indicated they would revisit the industry guidance in NEI 00-01, 3.5.1.2, regarding the number of MSAs to be considered. The industry stakeholders want to review Section 3.5.1.2 regarding the proposed change to add in a limitation on the number of cables to be considered in the sequentially selected cable faults to address NRC comments on the proposed limit of four cables.
4. Slide 25 - The NRC staff indicated that multiple high impedance faults, which the NRC endorsed the evaluation technique in NEI 00-01, Appendix B.1, should apply to III.G.1 and 2 as well as III.G.3. For this position to be formalized a change to Regulatory Guide 1.189 is needed.
5. Slide 28 - Regarding enforcement discretion, the staff stated that no additional enforcement discretion is planned. Issues identified during an inspection will be screened as part of Inspection Manual Chapter 0612, Appendix B, "Issue Screening". The results of this screening will dictate the status of issues and the regulatory response, and will be addressed on a case by case basis.
6. The NRC staff provided an update regarding the status of the direct current (DC) circuit testing and other fire testing:
  - The DC testing had 59 small scale tests and 14 intermediate tests. The testing is complete.
  - The test report is planned to be issued final in July 2010.
  - In the fall of 2010, RES plans to issue a report on Kerite cable testing that occurred last summer.
  - Additional Kerite cable testing is planned. A report is expected in the spring of 2011.
  - A Phenomena Identification and Ranking Table (PIRT) is planned for cable failures.
  - The Electrical Power Research Institute (EPRI) is collaborating on the above projects.

A. Klein

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The next interaction on circuits is expected to occur when NEI submits their next revision of NEI 00-01, to include the concepts discussed during this meeting. The NRC will consider revising Regulatory Guide 1.189, and endorse portions of NEI 00-01, as appropriate, as part of a regulatory guide update.

NEI is proposing to have a workshop in the 3<sup>rd</sup> Quarter of 2010, to address MSA resolution. Other than having breakout sessions as part of the workshop, little else has been planned.

There were no questions from members of the public in attendance at the meeting.

Enclosures:  
As Stated

The next interaction on circuits is expected to occur when NEI submits their next revision of NEI 00-01, to include the concepts discussed during this meeting. The NRC will consider revising Regulatory Guide 1.189, and endorse portions of NEI 00-01, as appropriate, as part of a regulatory guide update.

NEI is proposing to have a workshop in the 3<sup>rd</sup> Quarter of 2010, to address MSO resolution. Other than having breakout sessions as part of the workshop, little else has been planned.

There were no questions from members of the public in attendance at the meeting.

If you have any questions or comments, please contact me at 301-415-2280.

Enclosures:  
As Stated

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**NRC PUBLIC FIRE PROTECTION CIRCUITS MEETING  
LIST OF ATTENDEES**

May 13, 2010

<u>Name</u>	<u>Organization</u>	<u>Name</u>	<u>Organization</u>
Alex Klein	NRR/AFP	John Butler	NEI
Daniel Frumkin	NRR/DRA	Tom Basso	NEI
Harry Barrett	NRR/DRA	Tom Gorman	PPL
Gary Cooper	NRR/DRA	Dennis Henneke	GE Hitachi
Ed McCann	NRO/SBPA	Chris Pragman	Exelon
Gerry Gulla	NRC/OE	Saeed Savar	UTR
Tim Kobetz	NRR/DIRS	Andy Ratchford	KGRS
Jeremy Bowen	NRR/DIRS	Denis Shumaker	PSEG
Gabe Taylor	RES/DRA	Ashley Mossa	Westinghouse
Tim Padelford	NRR/DRA	Bob White	Erin
John Rogge*	Region I	Jigar Patel	Salem/PSEG
Robert Daley*	Region III	Ashok Bhuta	PSEG
Greg Pick*	Region IV	Brenda Simril	TVA
Phil Qualls*	NRR/AFP	Randy Jamison	Seabrook
		Mark Giles	Entergy
		Michelle Kelly	Monticello
		Ken Sullivan	Brookhaven
		Walt Bush*	Constellation/NMP
		William Sullivan*	Constellation/NMP
		Peter Mazzaferro*	Constellation
		Nancy Chapman*	Bechtel Power
		Alan Jelalian*	EPM
		Rob Burg*	EPM
		Bob Kalantari*	EPM
		William McDevitt*	AREVA
		Richard Bashall*	AREVA
		Ronald Rose*	AREVA
		Paul Finch*	AREVA
		Amy Hazelhoff*	Xcel Energy
		Larry Young*	Entergy (ANO)

\* Participated via phone or video conference