

May 03, 2001

MEMORANDUM TO: William D. Beckner, Acting Chief  
Generic Issues, Environmental, Financial  
and Rulemaking Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

FROM: Peter C. Wen, Project Manager/**RA**  
Generic Issues, Environmental, Financial  
and Rulemaking Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF APRIL 26, 2001, MEETING WITH THE NUCLEAR  
ENERGY INSTITUTE AND THE ELECTRIC POWER RESEARCH  
INSTITUTE REGARDING LICENSING DIGITAL UPGRADE ISSUES

On April 26, 2001, members of the NRC staff and representatives from the Nuclear Energy Institute (NEI), the Electric Power Research Institute (EPRI), vendors, various licensees, and members of the public participated in a public meeting held at the Nuclear Regulatory Commission (NRC) offices in Rockville, Maryland. The purpose of the meeting was to discuss updating the EPRI document, TR-102348, "Guideline on Licensing Digital Upgrades," to reflect the new 10CFR 50.59 regulation and the companion guidance document, NEI 96-07 (Revision 1). Attachment 1 lists attendees at the meeting, and Attachment 2 contains a copy of the material presented at the meeting.

NEI provided an overview of the industry's presentation and the background of the subject issue. NEI indicated that updating of the guidance was important because (1) the potential exists for considerable licensing actions in the near future due to obsolescence of analog I&C equipment to be replaced with digital equipment, and (2) need for consistency with the new 10 CFR 50.59 regulation and new NEI guidance for 10 CFR 50.59 evaluation. NEI also indicated that industry had formed a task force group and is working on this issue. The task force group is composed of NEI, EPRI, vendors, system integrators, and various licensees.

The meeting was held in open discussion format. The major points are as follows:

- The task force group will issue the first draft of industry guidelines on licensing digital upgrades for NRC review in June 2001.

- The guidelines will discuss both the technical considerations for designing and evaluating digital systems as well as the licensing evaluations (such as 10 CFR 50.59 reviews).
- An industry representative indicated that the guidelines will be consistent with and complementary to NEI 96-07 (Revision 1) to address digital specific issues.
- The staff suggested that examples be added to the guidelines both of replacements that could be made without NRC approval and those that would require NRC approval to facilitate the understanding of the guidelines by the users.
- The staff raised the question as to how upgrades of multiple systems, over a period of time, leading to complex, integrated digital systems would be addressed in these guidelines.
- The subject of software common-mode failures and how they would be handled in the guidance was also discussed. The task force group initial thinking was that reactor protection systems (RPS) and engineered safety features actuation systems (ESFAS) required a defense-in-depth and diversity analysis in accordance with Standard Review Plan and BTP-19 guidance, but that other safety-related systems did not require this analysis. The staff indicated that the subject of software common-mode failures applicability to various safety systems would require further discussions between the industry and NRC staff.
- NEI stated that they would seek NRC agreement with the guideline document in the form of issuance of an endorsement later in 2001.

The staff noted its appreciation of the opportunity to be briefed by the industry on this industry new development and agreed to meet with them again when the industry's task group is ready to discuss specific issues.

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**NRC-NEI/EPRI Meeting on Licensing Digital Upgrade Issues**  
**LIST OF ATTENDEES**  
**April 26, 2001**

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Evangelos Marinos	NRR/DE/EEIB
Matt Chiramal	NRR/DE/EEIB
Paul loeser	NRR/DE/EEIB
Mike Waterman	NRR/DE/EEIB
Keith Mortensen	NRR/DE/EEIB
Jim Bongdrra	NRR/DIPM/IOLB
Cliff Doult	NRR/DSSA/SPSB
Steven Arndt	RES/DET/ERAB
Eileen McKenna	NRR/DRIP/RGEB
Peter Wen	NRR/DRIP/RGEB
Lennette Hendricks	NEI
Fred Madden	NEI
Mike Schoppman	NEI
Ray Torok	EPRI
Joseph Naser	EPRI
Bruce Geddes	Calvert Cliffs
James Kirpatrick	Calvert Cliffs
Bob Fink	MPR Associates
Kristin Davis	MPR Associates
Eric Claude	MPR Associates
William Sotos	STPNOC
Robert Contratto	Framatome
Jerry Mauck	Framatome
Larry Erin	Westinghouse
Roy Raychaudhuri	Sargent & Lundy
Dinesh Taneja	Bechtel
Wayne Glidden	First Energy/NUSMG
Jack Stringfellow	SNC
Clayton Scott	Triconex/FSA
Ronald Jorrett	TVA
Wade Messer	Duke Energy
Tim Hurst	Hurst Technologies
Lane Hay	Serch/Bechtel
Bob Slough	TXU Electric
Deann Raleigh	US Scientech