March 25, 2008

MEMORANDUM TO: Deborah A. Jackson, Chief
Technical Support Branch
Special Projects and Technical
Support Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

FROM: David L. Rahn, Sr. I&C Engineer /RA/
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SUBJECT: SUMMARY OF THE FEBRUARY 29, 2008, PUBLIC MEETING AND TELECONFERENCE WITH THE NUCLEAR ENERGY INSTITUTE AND INDUSTRY TO DISCUSS TASK WORKING GROUP #7, DIGITAL INSTRUMENTATION AND CONTROL FOR FUEL CYCLE FACILITIES

On February 29, 2008, Task Working Group (TWG) #7 held a public meeting/teleconference to discuss various issues related to fuel cycle facility digital instrumentation and control problem statements and proposed licensing methodology.

A discussion took place regarding Nuclear Energy Institute (NEI) and Industry comments on the U.S. Nuclear Regulatory Commission (NRC) staff's proposed plan for addressing Problem Statement 3 pertaining to the staff's position on the independence of control measures used for items relied on for safety (IROFS) in criticality prevention applications. The NRC staff had proposed that the concepts described within process industry reliability design standards, such as IEC 61508, IEC 61511, and ANSI/ISA S84.00.01-Parts 1, 2, and 3, and the concepts of Safety Instrumented Systems, Layers of Protection Analysis, and Safety Integrity Levels be introduced into the process for reviewing new license applications. NEI and Industry suggested that rather than requiring licensees to commit to a particular design methodology using specific identified industry standards, they prefer that NRC staff develop potential "rules of thumb" reliability performance criteria applicable to specific applications of control measures. License reviewers would then utilize this criteria when reviewing a licensee's quantitative and qualitative

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reliability analyses to ascertain whether the licensee has appropriately addressed the specific hazard being prevented or mitigated to meet the 10 CFR Part 70 performance-based standards for likelihood of occurrence based on the risk and consequence of the hazard identified.

Mr. Walt Schwink suggested that the NRC staff consider the use of outcome-based regulatory guidance. He briefly traced the development of regulatory guidance from the early 1970s, where such guidance was prescriptive in nature with the intent to achieve a particular desired outcome, to the present where guidance is provided in a performance-based manner, similar to the wording of the requirements for fuel cycle facilities within 10 CFR Part 70 code. He further reminded licensees that the use of the NRC staff's proposed design concepts should not be objectionable because they are already addressing these concepts when they comply with Occupational Safety and Health Administration, Environmental Protection Agency, and chemical industry standards for their facilities.

The industry representatives recommended that NRC staff visit several fuel manufacturing facilities (Westinghouse, GNF, AREVA-Richland, etc.) to discuss with engineers and technicians who work daily with fuel cycle facility digital instrumentation and control systems, exactly how management measures are being implemented to maintain the reliability of digital I&C control measures used as IROFS. They believe the NRC staff would be able to see first-hand that such processes for maintaining these control measures receive significant attention on a day-to-day basis, and are sufficient for keeping the reliability of these systems within their high performance standards requirements.

Finally, NRC staff briefed industry members of the TWG on the status of activities the NRC is undertaking with regard to the identification of requirements for licensees when addressing cyber security for their facilities.

ACTION ITEMS

Item	Description	Responsibility
1.	Attempt to Draft "rules of thumb" criteria	David Rahn
2.	Review proposed criteria and ascertain whether it is reasonable to use this type of criteria for developing estimates of overall control system reliability for criticality prevention applications	Industry Members NEI
3.	Tour fuel facilities	NRC Staff
4.	Draft an Interim Guidance for Problem Statement 3 based on input received from industry members and NEI	David Rahn

PARTICIPANTS

NRC and external stakeholders, including members of NEI, industry representatives, consultants to the nuclear industry, and interested members of the Public:

NRC	Industry	Public
James Smith	Felix Killar, NEI*	Joseph DeBor, DeBor and Associates
David Rahn	Ed Prytherch, Westinghouse*	Kihwan Kim, Korea Hydro and Nuclear Power Co.
Walter Schwink*	Steve Powers, AREVA*	Sushant Kapur, Bechtel
Denise Edwards	Gordon Clefton, NEI*	
Dr. Christopher Tripp*	Charlie Vaughan, NEI*	
	Janet Schlueter, NEI*	
	Glenn Smith, GNF-A*	

* Attended via teleconference

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	Glenn Smith, GNF-A*	

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