April 17, 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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Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

SUBJECT: SUMMARY OF THE MARCH 27, 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 March 27, 2008, Task Working Group (TWG) #7 held a public meeting and teleconference to discuss various issues related to fuel cycle facility digital instrumentation and control (I&C) problem statements and proposed licensing methodology.

A discussion was held regarding the first draft of the proposed Interim Staff Guidance (ISG) that addresses 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. In a previous meeting the Nuclear Regulatory Commission (NRC) staff had proposed that the concepts described within process industry reliability design standards, such as International Electrotechnical Commission (IEC) Standards 61508, IEC 61511, and ANSI/ISA S84.00.01-Parts 1, 2, and 3, and the concepts of Safety Instrumented Systems (SIS), Layers of Protection Analysis (LOPA), and Safety Integrity Levels (SILs) be introduced into the process for reviewing new license applications. However, Nuclear Energy Institute (NEI) and Industry did not believe that licensees should be required to commit to a

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particular standard or set of industry standards, since the licensing basis for their facilities (10 CFR Part 70) is performance-based. The draft guidance discussed at this meeting provides definitions the NRC staff uses when evaluating licensee evaluations of likelihood of events and definitions used for evaluating system reliability. It also provides a preliminary discussion of the basis for evaluating, in both qualitative and quantitative terms, the overall reliability of a proposed control system used as a control measure for meeting the double contingency criteria needed for criticality prevention. NEI and industry generally agreed with the approach, but provided several comments regarding wording that implies the use of the standards described above, even though they were not specifically named within the standard. In addition, they had concerns regarding the discussion within the document pertaining to considerations for when IROFS may not be truly independent.

Dr. Steven Arndt of the NRC Office of Nuclear Reactor Regulation attended this meeting in the capacity of Senior Level Advisor, representing the Digital I&C Steering Committee. He provided several suggestions for assuring that the work performed within TWG #7 is compatible with work being performed within other Digital I&C TWGs, and for making the output from this TWG available to members of other working groups, and to the public.

The industry representatives reiterated their previous recommendation 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.	Incorporate NEI/Industry comments into the draft ISG for Problem Statement 3	David Rahn
2.	Continue to review the draft ISG and provide further comments to NRC staff regarding proposed criteria. 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
4.	Schedule visits with fuel facilities	NRC Staff
5.	Begin draft ISG regarding cyber security aspects of fuel cycle facilities for presentation at next meeting	David Rahn
6.	Begin draft ISG regarding software quality requirements in preparation for next meeting	Denise Edwards

PARTICIPANTS

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

NRC	Industry
David Rahn	Ed Prytherch, Westinghouse
Denise Edwards	Steve Powers, AREVA*
Wilkins Smith	Gordon Clefton, NEI
Dr. Steven Arndt	Charlie Vaughan, NEI*
	Janet Schlueter, NEI
	Glenn Smith, GNF-A*

* Attended via teleconference

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