

January 4, 2017

MEMORANDUM TO: David Curtis, Acting Chief  
Instrumentation, Controls,  
and Electronics Engineering Branch  
Division of Engineering Infrastructure  
and Advanced Reactors  
Office of New Reactors

FROM: Carolyn Lauron, Senior Project Manager /RA/  
New Reactor Rulemaking and Guidance Branch  
Dinesh Taneja, Senior Electronics Engineer /RA/  
Instrumentation, Controls,  
and Electronics Engineering Branch  
Division of Engineering and Infrastructure  
and Advanced Reactors  
Office of New Reactors

SUBJECT: SUMMARY OF THE PUBLIC MEETING TO DISCUSS  
MODERNIZATION PLAN NO. 3 – COMMERCIAL-GRADE DEDICATION OF  
DIGITAL EQUIPMENT

On November 3, 2016, the U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public meeting with representatives from Nuclear Energy Institute (NEI) to initiate a series of public interactions leading to the development of improved guidance for commercial grade dedication (CGD) of digital equipment. Discussions at this first meeting included the proposed use of standards and third party certification for dedication of CGD equipment. The meeting summary package is available in the NRC's Agencywide Documents Access and Management System (ADAMS) under Accession No. ML16312A380 which includes the meeting notice, the NRC staff presentation slides, the NEI document discussed, and the meeting transcript.

Enclosures:

1. Meeting Summary
2. Participant List

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**DISTRIBUTION:** See next page

**ADAMS ACCESSION No:** ML16312A380 (package), ML16294A153 (Staff Slides), ML16118A279 (NEI document discussed), ML16312A079 (Meeting summary), ML16313A363 (Meeting Transcript) \*Via e-mail

<b>OFFICE</b>	PM:NRO/DEIA/NRGB	LA: NRO/DEIA/NRGB	NRO/DEIA/ICE	BC:NRO/DEIA/ICE
<b>NAME</b>	CLauron*	BAbeywickrama*	DTaneja*	DCurtis*
<b>DATE</b>	12/19/2016	12/6/2016	1/3/2017	1/3/2017

**OFFICIAL RECORD COPY**

Memo to David Curtis from C. Lauron and D. Taneja dated January 4, 2017

SUBJECT: SUMMARY OF THE PUBLIC MEETING TO DISCUSS MODERNIZATION PLAN NO. 3  
– COMMERCIAL-GRADE DEDICATION OF DIGITAL EQUIPMENT

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## **Meeting to Discuss Modernization Plan No. 3 – Commercial Grade Dedication of Digital Equipment**

### **Meeting Summary**

On November 3, 2016, U.S. Nuclear Regulatory Commission (NRC) staff met with representatives from the Nuclear Energy Institute (NEI). The purpose of the meeting was to initiate a series of public interactions leading to the development of improved guidance for commercial grade dedication (CGD) of digital equipment. Discussions at this first meeting included taking credit for third party certification for dedication of commercial grade digital equipment. The third party certification discussed is the International Electrotechnical Commission (IEC) 61508 Safety Integrity Level (SIL) certification. Information related to the meeting, including presentations and the attendees list, can be found in the Agencywide Documents Access and Management System (ADAMS) package Accession No. ML16312A380.

This initial meeting was focused on the following topics:

- Status of Draft Regulatory Guide (DG)-1292, “Dedication of Commercial-Grade Items for Use In Nuclear Power Plants”
- Purpose and scope of Modernization Plan No. 3 (MP No. 3), “Commercial-Grade Dedication (CDG) of Digital Equipment”
- Discussion of digital device procurement
- Review of MP No. 3 activities, priorities and schedule

The NRC staff presented the status of Draft Regulatory Guide (DG)-1292, “Dedication of Commercial-Grade Items for Use in Nuclear Power Plants.” The NRC staff noted that it continues to consider the comments received to date and projects issuance of the final guidance by April 2017.

During the review of the purpose and scope of MP No. 3, the NRC staff noted the limited precedent for the use of third-party certifiers to meet the requirements in the regulations, and the need to pursue the viability of using third-party certifiers with the NRC legal staff. In addition, the NRC staff noted its preference to review and endorse a consensus standard on the methodology for using third-party certifiers rather than developing specific NRC guidance.

The NEI representatives noted that in Attachment 2, Appendix C, to its submittal dated April 22, 2016 (ADAMS Accession No. ML16118A279), NEI presented its proposal to investigate taking credit for third-party certification (i.e., IEC 61508 SIL certification) to establish the basic quality of digital equipment for safety related applications. The NEI representatives noted that the proposal does not intend to replace its current process; rather, the proposal seeks to leverage third-party certification within the commercial-grade dedication process.

The NRC staff noted some initial considerations for the industry to address in the further development of its proposal, and committed to including these considerations in the meeting summary. The considerations provided below were identified during the meeting<sup>1</sup> although not discussed in detail:

- What entity will submit a request to the NRC for conducting an evaluation on the adequacy of the proposed third-party certification process?
- What entity will conduct an evaluation of the International Electrotechnical Commission's (IEC) third-party audit certification process?
- What entity will provide membership access to the third-party certification audit records?
- What entity will provide membership access to the results of evaluations conducted by the third-party organizations?
- What entity will maintain ongoing oversight of the third-party certification process?
- What entity will ensure Part 21 responsibilities for evaluating and reporting are satisfied?
- What entity will evaluate the adequacy of the IEC 61508 standard?

The NEI representatives presented its schedule for the investigative and research activities needed to evaluate its proposal. The NRC staff noted that the means to ensure repeatability of the certification for the same product by different certifiers should also be considered in these activities.

The NRC staff and the NEI representatives agreed to hold future meetings to continue discussions on MP No. 3. In addition, the meeting participants agreed to the following action items:

- NRC staff will confirm when the comment resolution table on DG-1292 will be available.
- NEI representatives will provide feedback and comments on the activities, prioritization and schedule for consideration in the NRC staff's next revision to SECY-16-0070, "Integrated Action Plan to Modernize Digital Instrumentation and Controls Regulatory Infrastructure."
- NRC staff will clarify the objectives of the MP No. 3 activities.

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<sup>1</sup> November 3, 2016, Meeting Transcript (ADAMS Accession No.: ML16313A363, pages 61 – 62.)

Upon conclusion of the business portion meeting concluded, members of the public provided the following comments:

- A topical report for a field programmable gate arrays (FPGA)-based Instrumentation and Control system platform was recently submitted by RadiCS, of Kirovograd, Ukraine, for the NRC staff's review. This topical report discusses the applicability of IEC 61508, "Functional Safety of Electrical/Electronic/Programmable Electronic Safety-related Systems," to the RadiCS platform. This IEC standard was referenced in the NEI presentation, and may be helpful in understanding the potential application of IEC 61508 in supporting third-party certification processes.
- Due to the difficulty in hearing the discussion, confirmation was requested on the availability of the meeting transcript.

The NRC staff confirmed that the meeting transcript, along with a summary of the meeting, will be available on the NRC Public Meeting Notice website for this November 3, 2016, public meeting, under the "Related Documents" section of the notice.

#### Post-Meeting Update

The NRC staff confirmed that the comment resolution table for DG-1292 will be made available simultaneously with the issuance of final regulatory guide projected for April 2017. The ADAMS accession number for the comment resolution table will be located in the footer section of the final regulatory guide.

NEI provided comments on possible updates or additions to the schedule in the Integrated Action Plan (IAP) for consideration in the NRC staff's next revision to SECY-16-0070. The comments included identification of sub-tasks to support previously identified tasks in the original SECY paper and suggested changes to the target completion dates.

Project No. 689

**Meeting to Discuss Modernization Plan #3 –  
Commercial-Grade Dedication of Digital Equipment  
November 3, 2016**

**Meeting Participant List**

PARTICIPANTS	AFFILIATION
David Curtis	U.S. Nuclear Regulatory Commission (NRC) / Office of New Reactors (NRO) / Division of Engineering Infrastructure and Advanced Reactors (DEIA)
Dinesh Taneja	NRC / NRO / DEIA
Carolyn Lauron	NRC / NRO / DEIA
Ismael Garcia	NRC / NRO / DEIA
Jonathan Ortega- Luciano	NRC / NRO / Division of Construction Inspection and Operational Programs (DCIP)
Aaron Armstrong	NRC / NRO / DCIP
Ashley Ferguson	NRC / NRO / DCIP
Yaguang Yang	NRC / Office of Nuclear Regulatory Research (RES) / Division of Engineering (DE)
Dan Warner	NRC / Office of Nuclear Reactor Regulation (NRR) / Division of Engineering (DE)
David Rahn	NRC / NRR / DE
Jason Drake*	NRC / NRR / Division of Policy and Rulemaking (DPR)
Dean Mundy	Nuclear Energy institute (NEI)
Stephen Geier	NEI
S. Jason Remer*	NEI
Marcus Nichol*	NEI
Matt Gibson*	Electric Power Research Institute (EPRI)
David Hooten*	Altran
Warren Odess-Gillett*	Westinghouse
Ed Renaud*	Westinghouse
Wes Frewin*	NextEra Energy
Steven Pope*	NuScale Power
Mark Burzynski*	RadiCS
Gordon Cleifton*	Idaho National Laboratory
Devin Shiple	Neal R. Gross
Jana Bergman	Curtiss-Wright-Scientech

\*via teleconference