



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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MEMORANDUM TO: Dennis C. Morey, Chief
Licensing Processes Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

FROM: Jason C. Paige, Project Manager */RA/*
Licensing Processes Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF JANUARY 31, 2019, MEETING TO DISCUSS THE DIGITAL INSTRUMENTATION AND CONTROL INTEGRATED ACTION PLAN ACTIVITIES UNDER MODERNIZATION PLANS 1D AND 4B, AND PLANS FOR COMPLETING A REVIEW OF THE INTERNATIONAL ELECTROTECHNICAL COMMISSION STANDARDS FOR POTENTIAL ENDORSEMENT

On January 31, 2019, U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 meeting with industry representatives, including Nuclear Energy Institute (NEI), Dominion Energy, Duke Energy, Exelon, Oak Ridge National Laboratory, Tennessee Valley Authority, Bailey Engineering Services, LLC, Plant Life Extension, MPR Associates, Inc., EXCEL Services Corporation, Lockheed Martin, NextEra Energy, Westinghouse Electric Company, and members of the public. The purpose of the meeting was to discuss the staff's plans for updating Branch Technical Position (BTP) 7-19, Guidance for Evaluation of Diversity and Defense-in-Depth in Digital Computer-Based Instrumentation and Control Systems, and the staff's plans for completing a strategic assessment under Modernization Plan (MP) #4B to improve the regulatory infrastructure that integrates performance-based and technology neutral safety engineering concepts. The staff also discussed its plans to complete a review of the International Electrotechnical Commission (IEC) standards for potential endorsement. In addition, NEI presented on its digital instrumentation and controls (I&C) strategy and their view of four regulatory barriers and proposed solutions. All information related to the meeting and discussed in this summary can be found in the Agencywide Documents Access and Management System (ADAMS) package Accession No. ML19025A311.

During the presentation on BTP 7-19, the NRC staff provided its plans to address defense-in-depth for common cause failure (CCF). Specifically, the presentation focused on the staff's plans to improve the usability for stakeholders regarding digital I&C modifications and to address challenges of using the guidance between existing reactor reviews versus new reactor reviews. The staff indicated that the update to BTP 7-19 will be consistent with the staff requirements memorandum to SECY 93-087 and SECY 18-0090 and the associated five guiding principles. Also, the update will align with Supplement 1 to RIS 2002-22, Clarification on Endorsement of Nuclear Energy Institute Guidance in Designing Digital Upgrades in I&C Systems.

CONTACT: Jason C. Paige, NRR/DLP
301-415-1474

After the staff's presentation, industry representatives indicated that the update to BTP 7-19 is their highest priority. Also, industry suggested that the BTP 7-19 reflects guidance in a previous revision (Revision 4) to only apply to reactor protection systems, not all safety systems. The staff noted that they were proceeding with updating the BTP 7-19 based on previous industry comments on the document since 2016, but would welcome additional feedback. NEI suggested that those comments reflect older thinking, and would like to provide new comments. Industry also questioned the genesis of the five guidance principles for CCF in SECY 18-0090. NEI indicated it may have some reservations regarding the guiding principles, as NEI stated it was not involved in the development of the principles. The staff responded by stating that the NRC held two public meetings to discuss the five guiding principles. There were further discussions on the use of risk-insights, risk-informing, and graded approaches.

After the BTP 7-19 revision discussion, the staff presented its plans for completing a review of IEC standards for potential endorsement. The presentation provided an overview of the IEC project and its relationship to the digital I&C integrated action plan, and issues to be addressed by the IEC project. Lastly, the staff presented the objectives of the project, which included developing guidance as an acceptable way of demonstrating compliance with the regulations. Industry officials noted their work on an EPRI Digital Engineering Guide (DEG) that references IEC standards. Industry representatives noted that they do not plan to provide the DEG to NRC for endorsement; however, it was noted that an NEI document reflecting the EPRI DEG may be developed. Industry invited NRC to NEI workshops on the DEG to improve the staff's familiarity. The staff questioned the relationship between the DEG and other guidance for demonstrating compliance with NRC regulations for digital I&C. NEI further noted that NEI 16-16 would be melded into the new effort. Staff noted the need for NEI to identify a set of IEC standards that would be beneficial and used by industry.

The staff's final presentation was on its plans for completing a strategic assessment to improve the regulatory infrastructure. The objective of the strategic assessment is to provide recommendations that would improve the digital I&C regulatory infrastructure that integrates performance-based and technology-neutral safety engineering concepts, to assist stakeholders in demonstrating the safety of digital systems. In addition, the implementation of the recommendations will assist the NRC staff in performing regulatory reviews and digital systems inspections in an efficient, effective, consistent, and risk-informed manner. Industry had no comments or questions on the staff's strategic assessment activities.

Industry presented their view of four regulatory barriers and proposed solutions. These included BTP 7-19, BTP 7-14 guidance for software development standards, digital I&C architecture guidance in Chapter 7 of SRP, and limited functionality devices. During NEI's presentation, the discussions focused primarily on a workshop focused on the DEG, BTP 7-19, and other initiatives in the future to address these barriers. As a general request, the NRC and NEI agreed to provide point of contacts for each of the activities discussed during the meeting.

After the conclusion of the presentations, members of the public were given an opportunity to provide comments. No comments were received from members of the public.

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