



UNITED STATES
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September 21, 2016

MEMORANDUM TO: John A. Nakoski, Chief
Performance and Reliability Branch
Division of Risk Analysis
Office of Nuclear Regulatory Research

FROM: Anders Gilbertson, Reliability and Risk Analyst */RA/*
Performance and Reliability Branch
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SUBJECT: SUMMARY OF THE SEPTEMBER 1, 2016, PUBLIC MEETING
ON THE DEVELOPMENT OF REGULATORY GUIDE 1.174,
REVISION 3, "AN APPROACH FOR USING PROBABILISTIC
RISK ASSESSMENT IN RISK-INFORMED DECISIONS ON
PLANT-SPECIFIC CHANGES TO THE LICENSING BASIS"

On September 1, 2016, the Nuclear Regulatory Commission (NRC) staff held a public meeting to obtain stakeholder feedback on a draft revision of the guidance for the development of Regulatory Guide (RG) 1.174, Revision 3, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis." The purpose of this meeting was to obtain stakeholder feedback on the beyond-scope issues raised during the July 7, 2016, public meeting on RG 1.174, Revision 3, and have industry stakeholders present and discuss examples that demonstrate how the defense-in-depth evaluation factors could be addressed in an integrated manner. The industry-proposed examples related to the latest proposed publicly available draft of Section 2.1 from draft Regulatory Guide DG-1285, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," which is available in the NRC Agencywide Document Access and Management System (ADAMS) under accession number ML16209A221.

External stakeholder participants included representatives from the following organizations: Curtiss-Wright, Duke Energy, Exelon, the Nuclear Energy Institute (NEI), Jensen Hughes, the Pressurized-Water Reactor Owner's Group, the Boiling-Water Reactor Owner's Group, and South Korea. This public meeting was announced on August 8, 2016, on www.nrc.gov and the meeting notice was made publicly available in ADAMS under accession number ML16242A090. Presentations were given by both the NRC and NEI. The NRC and NEI presentations were made publicly available in ADAMS on September 6, 2016, under accession numbers ML16246A333 and ML16246A332, respectively. The following is a summary of the presentations and discussions that occurred.

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NRC Staff and Industry Presentations

The NRC staff gave a presentation that briefly summarized the status of the effort to develop RG 1.174, Revision 3, and presented the goals for the meeting. NEI gave a presentation that provided feedback on the latest draft revision of Section 2.1 from DG-1285; provided feedback on beyond-scope issues that were raised during the July 7, 2016, public meeting on RG 1.174, Revision 3, including proposed changes to Section 2.1 of DG-1285; and presented multiple examples that demonstrated how the defense-in-depth evaluation factors could be addressed in an integrated manner.

Regarding the industry feedback on the latest draft revision of Section 2.1, industry discussed feedback that was provided to the NRC on August 9, 2016, which is available under ADAMS package number ML16237A351, and the NRC staff and members of industry discussed in greater detail some of the industry-proposed changes.

Regarding beyond-scope issues raised during the July 7, 2016, public meeting on RG 1.174, Revision 3, NEI discussed and provided feedback on the following issues:

- Enhancement of language in DG-1285 related to the evaluation of combined risk from multiple hazards and plant operating states (i.e., risk aggregation) and as related to the treatment of uncertainty in risk-informed decisionmaking.
- Enhancement of the language to further emphasize that the transitions from one region to another of the acceptance guidelines in Figures 4 and 5 of DG-1285 are not abrupt step changes.
- Adoption of relevant language from other NRC guidance documents, e.g., NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," and the Office of Nuclear Reactor Regulation Office Instruction LIC-504, "Integrated Risk-Informed Decision-Making Process for Emergent Issues."

With regard to the enhancement of language in DG-1285 related to risk aggregation, industry expressed concern over the level of conservatism in many licensees' external hazard PRA models, such as those related to seismic and internal fire hazards, and the effect that such conservatism may have on the overall risk when combined with PRA models for other hazards, such as internal events. NEI indicated that they plan to create an industry guidance document on the Risk-Informed Decisionmaking process that they anticipate starting work on early in the 2017 calendar year. NEI indicated that in developing the industry guidance document they intend to draw insights from the published version of NUREG-1855, Revision 1, "Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decisionmaking," the Electric Power Research Institute (EPRI) report 3002003116, "An Approach to Risk Aggregation for Risk-Informed Decision-Making," and an industry pilot of EPRI 3002003116. With regard to the enhancement of language related to emphasizing that the transitions from one region to another of the acceptance guidelines in Figures 4 and 5 of DG-1285 are not abrupt step changes, industry presented specific proposed language in their presentation for consideration. With regard to the adoption of relevant language from other NRC guidance documents, the industry identified specific portions of LIC-504 and Section 19.2 from NUREG-0800 and described how the language could be incorporated into RG 1.174, Revision 3.

Finally, NEI and other members of industry presented three examples of risk-informed licensing basis changes and, for each example, discussed with NRC staff how each of the defense-in-depth evaluation factors could be addressed as well as relationships between certain factors. Following the conclusion of discussions on the examples, NRC staff recommended that industry provide a draft write up that is informed by the discussions during the meeting and that provides specific language that the RG 1.174 Working Group can consider directly integrating into the draft guidance.

During this meeting NEI committed to the following actions:

- Submit a marked up version of DG-1285 that includes proposed in-text edits from industry stakeholders as related to risk aggregation, which was provided in the afternoon of the day of the meeting.
- Provide by the end of September 2016, a draft write up on the industry-proposed examples, as informed by discussions during the meeting, for incorporation into RG 1.174, Revision 3.

The NRC committed to holding subsequent public meeting after the RG 1.174 Working Group has reviewed the industry's draft write up on the proposed examples to ensure a common understanding of the write up.

Additional Feedback and Discussion

In addition to the above feedback, the following was discussed during the course of the public meeting.

- Industry expressed a strong interest in having NRC licensing staff represented at the public workshop that is to occur following the completion of the next draft version of Section 2.1 from DG-1285.
- Industry recommended that both industry and the NRC work to identify other NRC guidance documents that will potentially need to be updated based on the changes made in RG 1.174, Revision 3.

Enclosure:

1. List of Meeting Attendees
2. NRC Meeting Presentation (ADAMS Accession No. ML16246A333)
3. NEI Meeting Presentation (ADAMS Accession No. ML16246A332)

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- Submit a marked up version of DG-1285 that includes proposed in-text edits from industry stakeholders as related to risk aggregation, which was provided in the afternoon of the day of the meeting.
- Provide by the end of September 2016, a draft write up on the industry-proposed examples, as informed by discussions during the meeting, for incorporation into RG 1.174, Revision 3.

The NRC committed to holding subsequent public meeting after the RG 1.174 Working Group has reviewed the industry's draft write up on the proposed examples to ensure a common understanding of the write up.

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