

U.S. Nuclear Regulatory Commission Public Meeting Summary

Title: Public Workshop on Updating the Cost-Benefit Guidance Phase 1

Meeting Identifier: 20160193

Date of Meeting: Thursday, March 3, 2016

Location: U.S. Nuclear Regulatory Commission (NRC) Headquarters, One White Flint North, Rockville, MD

Type of Meeting: Category 3

Purpose of the Meeting:

To discuss proposed changes to the NRC's cost-benefit guidance. Update members of the public and industry on efforts to improve and expand NRC cost-benefit guidance for materials licensees regulatory analysis, backfitting analysis, and the National Environmental Policy Act (NEPA) analysis, such as methods for assessing factors that are difficult to quantify (e.g., qualitative factors), cost estimating best practices, and the treatment of uncertainty. This workshop afforded members of the public and industry an opportunity to provide feedback on the proposed changes to NRC's cost-benefit guidance documents (phase 1).

General Overview:

The public workshop was scheduled from 8:30 a.m. – 12:00 p.m. eastern standard time and ran approximately two and a half hours long. The workshop began with introductions and opening remarks by NRC project manager, Pamela Noto, including a review of meeting ground rules and a short presentation on why the NRC is updating and expanding cost-benefit guidance. Additional presentations were provided by Fred Schofer on qualitative factors, Antonio Gomez on cost estimating and best practices, and Tina Ghosh on the treatment of uncertainty. The majority of the meeting was dedicated to discussing and receiving feedback on the proposed changes to cost-benefit guidance documents and new appendices. Open discussions were conducted after each presentation to allow members of the public and industry to provide feedback and ask questions.

Approximately 20 people participated in the meeting, both in-person, by phone, and webinar. Attendees included 12 NRC staff members. Three participants asked questions and four provided comments. Meeting attendees included representatives of the Nuclear Energy Institute (NEI), Exelon, Union of Concerned Scientists (UCS), U.S. Government Accountability Office, and NuScale.

Summary of Presentations:

Proposed changes to NRC cost-benefit guidance includes the restructuring of three cost-benefit guidance documents: NUREG/BR-0058, "Regulatory Analysis Guidelines of the U.S. NRC," NUREG/BR-0184, "Regulatory Analysis Technical Handbook," and NUREG-1409, "Backfitting Guidelines." Cost-benefit information contained in NUREG-1409 and NUREG/BR-0184 will be incorporated into NUREG/BR-0058, which is being expanded to include guidance for materials licensees' regulatory analyses, backfitting analyses, and NEPA analyses.

In SECY-12-0110, "Consideration of Economic Consequences in the NRC's Regulatory Framework," the NRC staff recommended enhancing the currency and consistency of the existing regulatory framework through updates to cost-benefit analysis guidance documents including harmonizing cost-benefit guidance across the agency in both the reactor and materials programs. The Commission approved this recommendation and directed the staff to identify potential changes to current methodologies and tools to perform cost-benefit analysis in support of regulatory, backfit, and environmental analyses. The Commission also directed the staff to provide a regulatory gap analysis prior to developing new cost-benefit guidance. In response to Commission direction the staff prepared SECY-14-0002, "Plan for Updating NRC's Cost-Benefit Guidance," SECY-14-0087, "Qualitative Consideration of Factors in the Development of Regulatory Analyses and Backfit Analyses," and SECY-14-0143, "Regulatory Gap Analysis of the NRC's Cost-Benefit Guidance and Practices."

The draft updated cost-benefit guidance addresses cost-benefit analyses across the agency and includes information for materials licensees' regulatory analysis, backfitting analysis, and NEPA analysis. The draft guidance was expanded to provide methods for assessing factors that are difficult to quantify and for incorporating quantitative analysis best practices, including an expanded discussion on the treatment of uncertainty and on the development of realistic estimates of the costs and benefits of proposed regulatory changes.

Public Participation Discussions:

During open discussions, NRC staff responded to the following NEI questions:

- How will transparency be enhanced by using this document? – NRC will clearly demonstrate the basis for realistic cost estimates and provide documentation;
- When should qualitative factors be used? – Qualitative factors can be used at any point in the process;
- How will future analysts use this guidance (expressed concern that there may be risks of error due to insufficient guidance)? How will the uncertainty analysis be used? Applied? – For use on both sides of the cost-benefit analysis, as appropriate, for comparable costs and benefits;
- How will this document be used in a process? – Alongside NRC office instructions;
- Who is the audience for this document? – NRC cost-benefit analyst/reviewer;
- Will the updated cost-benefit guidance document increase the level of NRC staff effort to perform the cost-benefit analysis or change decisions? – No, intended to make the process more efficient;

- When in NRC's regulatory analysis process would providing industry cost data be most helpful? – At all points in the process but the earlier the better;
- Are there cost analysts in every NRC office? – Yes;
- Do NRC cost analyst positions have qualification requirements? – Yes, there is a certification process;
- Will the updated cost-benefit guidance document be reviewed by the ACRS and/or the Commission before it is issued? – Yes, both;
- How will this document supersede or interact with other NRC cost-benefit guidance? Does NRC staff plan to include NUREG-1409 and NUREG/BR-0184 as appendices in the updated cost-benefit guidance document? – Information from NUREG-1409 and NUREG/BR-0184 was pulled into the revised cost-benefit guidance document, NUREG/BR-0058. NUREG-1409 will remain a separate guidance document while NUREG/BR-0184 will be combined with NUREG/BR-0058.

Comments and concerns expressed by members of the public and industry about the proposed changes to NRC cost-benefit guidance documents and new appendices during open discussions included:

First Open Discussion – General

- NEI stated the working draft indicated the proposed approach and the structure of NUREG/BR-0058 was good;
- NEI urged the NRC to maintain the structure and content of the cost-benefit guidance documents;
- NEI noted that not all backfitting information was pulled into the revised NUREG/BR-0058, and is concerned that the NRC might make a decision based on limited backfitting guidance in the revised NUREG/BR-0058;

Second Open Discussion – Qualitative Factors Appendix

- NEI asked if this appendix is intended to be a standalone document;
 - NEI stated that the NRC did a good job of presenting methods for quantifying factors;
 - NEI's experience has shown that qualitative analysis has been an issue:
 - When would qualitative analysis be applied
 - How would qualitative analysis be used to inform the decision;
 - NEI asked how does Commission direction get applied in other aspects, like backfitting;
 - NEI expressed concern that this appendix does not present a clear picture of how this guidance would be applied by NRC offices. Context is important, backfit vs. safety evaluation report vs. cost-benefit analysis, etc. This needs to be explained in the appendix.
- NRC responded:
- NUREG/BR-0058 is the primary guidance document
 - Revised guidance reflects common practice across the agency
 - Consolidation of regulatory analysis across the agency;
 - NEI requested that the draft guidance should include the NRC staff explanations provided during the public meeting presentation;
 - NEI suggested that when staff produced a cost-benefit analysis that they extensively document the reason and basis regarding the use of qualitative factors

- UCS expressed concern that qualitative cost-benefit analyses are difficult to duplicate and very subjective. UCS considers it troubling if results of qualitative analyses depend on methodology. The choice of the qualitative analysis methodology used is important and needs to be properly done. The choice of qualitative analysis methodology needs further explanation in the draft guidance;
- The current guidance for safety goal screening recognizes that not all regulatory actions are amenable to a quantitative risk assessment and that certain evaluations may be based on qualitative analysis. UCS expressed concern regarding comparing absolute values to qualitative methods where there is no change in core damage frequency. The NRC staff should clarify how this will be handled in this updated cost-benefit guidance and not simply state that these evaluations are performed “on a case-by-case basis.”

Third Open Discussion – Cost Estimating and Best Practices Appendix

- NEI stated that they can help the NRC by gathering complete and accurate industry input. They have worked with industry cost estimators to develop a process of obtaining good cost-benefit data through a new NEI feedback process. NEI plans to pilot this process this year;
- NEI stated that the draft updated cost estimating appendix is good, appears to be consistent with standard practice, and has no major issues;
- NEI asked that the cost estimating scope be bounded. Industry can bound conceptual costs estimates (e.g., labor estimates and costs).
 - NRC responded that they would conduct a public meeting to discuss cost estimating scope. The Paperwork Reduction Act limits government data gathering. The NRC must obtain approval from OMB for information collection requests involving 10 or more persons.

Fourth Open Discussion – Treatment of Cost Estimate Uncertainty Appendix

- As with backfitting, NEI stated that this appendix is written at a high-level and is not sufficiently detailed for full implementation. What is the context and intent of this document?
- NEI asked if the more detailed references (e.g., NUREG-1855 or Regulatory Guide 1.174) would continue to be used after the revised cost-benefit guidance is issued. Would NRC retire these guidance documents or duplicate the guidance?
 - NRC responded that these guidance references are intended for risk-informed reactor licensing actions and would not be retired;
- NEI asked if the intent is to focus on cost-estimate uncertainty or for all aspects of uncertainty;
- NEI stated that rulemaking runs into problems when the technical safety concern proceeds without being informed by cost estimating (i.e., decisions were made before cost information was available).

Final Discussion – Next Steps

- NEI stated they will work to get cost estimate information (i.e., cost estimating relationships) to the NRC, and is pleased with the idea of future workshops;
- NEI offered to provide the NRC with editorial comments on the draft guidance document and plans to submit them informally;

- NEI suggested that the table of contents should indicate when content has been revised. NEI asked how the NRC plans to issue and control the document's table of contents so that it can serve as a road map to the current version of the document and appendices;
- NEI asked for a list of the titles of the planned appendices and whether the graphic on slide 9 represents the planned appendices to be developed during phase 2;
- NEI requested the expected schedule for phase 1 and phase 2;
- NRC asked whether there should be more workshops on the guidance update;
- NEI asked how they can find out about any opportunities to participate in NRC activities potentially impacting industry, especially early on in the NRC processes that may not evolve into advanced notice of proposed rule (which industry does receive).
 - NRC responded that www.regulations.gov can be used to post draft NRC materials. If the public shows interest and comments on that posted material, the NRC could schedule a public meeting for further discussion. This is one possible way but not the only possible way;
- NRC mentioned that under Part 51, the regulations encourage prospective applicants to confer with NRC staff as early as possible in industry's planning process for NEPA assessments, such as cost-benefit and severe accident analyses (see Title 10 of the *Code of Federal Regulations* (10 CFR) 51.40, Consultation with NRC staff).

Action Items/Next Steps:

- NRC staff will issue a draft list of appendices:
 - Appendix A: Qualitative Factors Assessment Methodology
 - Appendix B: Cost Estimating and Best Practices
 - Appendix C: Treatment of Uncertainty
 - Appendix D: Guidance on Backfitting Related to ASME Codes
 - Appendix E: Special Circumstances
 - Appendix F: Data Sources
 - Appendix G: Historical Data
 - Appendix H: Severe Accident Analysis
 - Appendix I: NEPA Analysis
 - Appendix J: Security Event Frequency and Damage Outcomes;
- Provide an estimated schedule of both phase 1 and phase 2:
 - Phase 1
 - September 2016 – Issue draft document for public comment
 - Winter 2016 – ACRS meeting
 - February 2017 – Issue document
 - Phase 2
 - Multi-year phase
 - Dependent on policy issues and resources
 - Appendices will be rolled out as they are completed

Attachments:

- Meeting agenda – ML15217A420;
- NRC staff presentation – ML16061A139

Attachments:

- Meeting notice and agenda – ML16061A254;
- NRC staff presentation – ML16061A139

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