



POLICY ISSUE **(Notation Vote)**

April 1, 2022

SECY-22-0028

FOR: The Commissioners

FROM: Daniel H. Dorman
Executive Director for Operations

SUBJECT: APPENDICES TO NUREG/BR-0058, REVISION 5, "REGULATORY ANALYSIS GUIDELINES OF THE U.S. NUCLEAR REGULATORY COMMISSION"

PURPOSE:

The purpose of this paper is to request Commission approval to publish four appendices (Enclosures 1-4) to NUREG/BR-0058, "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission," Revision 5, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19261A277) and to document the disposition of the activities identified in SECY-14-0002, "Plan for Updating the U.S. Nuclear Regulatory Commission's Cost-Benefit Guidance," dated January 2, 2014 (ADAMS Accession No. ML13274A495), and SECY-14-0143, "Regulatory Gap Analysis of the Nuclear Regulatory Commission's Cost Benefit Regulations, Guidance and Practices," dated December 16, 2014 (ADAMS Accession No. ML14280A426, Enclosure 6).

The four appendices are: Appendix F, "Data Sources;" Appendix G, "Regulatory Analysis Methods and Data for Nuclear Facilities Other Than Power Reactors;" Appendix H, "Severe Accident Risk Analysis;" and Appendix I, "National Environmental Policy Act Cost-Benefit Analysis Guidance." These appendices will guide the staff to cost-benefit analysis source data, document references, and serve as a knowledge management repository. This paper does not address any new commitments or resource implications.

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BACKGROUND:

Based upon insights gained from the 2011 nuclear accident in Japan, the staff reassessed how the U.S Nuclear Regulatory Commission's (NRC) regulatory framework considers offsite property damage and the associated economic consequences caused by a significant radiological release from an NRC-licensed facility. Among other activities, staff issued SECY-12-0110, "Consideration of Economic Consequences within the U.S. Nuclear Regulatory Commission's Regulatory Framework," dated August 14, 2012 (ADAMS Accession No. ML12173A478). In SECY-12-0110, the staff recommended enhancing the currency and consistency of the existing regulatory framework through updates to cost-benefit analysis guidance documents. This proposal included harmonizing cost-benefit guidance across agency business lines.

In the staff requirements memorandum (SRM) in response to SECY-12-0110, dated March 20, 2013 (ADAMS Accession No. ML13079A055), 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 before developing new cost-benefit guidance.

In response to SRM-SECY-12-0110, the staff issued SECY-14-0002, which identified potential changes to current methodologies and tools related to performing cost-benefit analysis in support of regulatory, backfit, and environmental analyses. The staff recommended a two-phased approach to revise the content and structure of cost-benefit guidance documents. Phase 1 would align regulatory guidance across business lines by restructuring and pursuing non-policy revisions to the NRC cost-benefit guidance.¹ Phase 2 would identify and discuss for Commission consideration potential policy issues that could affect the NRC's cost-benefit guidance, and incorporate updates to guidance on backfitting.²

Also, in response to SRM-SECY-12-0110, the staff submitted SECY-14-0143. In SECY-14-0143, the staff described the review of current NRC guidance, methodologies, and tools used for cost-benefit determinations. The staff also described the results of its review of the NRC regulatory analyses that had been completed and identified differences across the NRC business lines (e.g., material users, fuel cycle facilities, reactors) and across the various analyses (e.g., regulatory, backfit, National Environmental Policy Act [NEPA]). The staff's gap analysis, which was provided to the Commission in SECY-14-0143, identified where additional guidance is needed to ensure consistency across the agency.

SECY-14-0143 included a staff commitment to seek Commission approval of cost-benefit guidance prior to final publication in accordance with direction provided in SRM-SECY-12-0110. Therefore, SECY-20-0008, "Draft Final NUREG/BR-0058, 'Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission,'" was submitted to the

¹ On January 28, 2020, staff submitted SECY-20-0008, "Draft Final NUREG/BR-0058, 'Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission'" (ADAMS Accession No. ML19261A277), to complete Phase 1 tasks.

² Backfitting guidance was provided to the Commission in 1) SECY-18-0049, "Management Directive and Handbook 8.4, "Management of Backfitting, Issue Finality, and Information Collection," and 2) SECY-20-0021: Draft NUREG-1409, "Backfitting Guidelines," Revision 1. MD 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests," issued on September 20, 2019.

Commission on January 28, 2020. Additionally, this paper provides four new appendices to NUREG/BR-0058 for Commission review and approval. These appendices were issued for public comment in the *Federal Register* (86 FR 20208, dated April 16, 2021). The staff received 2 comment submissions with a total of 20 individual comments from industry. The NRC responses to the public comments are provided in Enclosure 5. To facilitate public comment, the staff held an Information Meeting with a Question-and-Answer Session on May 19, 2021 (ADAMS Accession No. ML21146A085), to provide an overview of the four draft appendices to NUREG/BR-0058 and discuss how they relate to the NRC's overall cost-benefit guidance update. Meeting participants included industry representatives and other interested parties.

DISCUSSION:

The staff has developed four appendices to NUREG/BR-0058 as part of the update to the agency's cost-benefit guidance. The information in the appendices refines the information the staff uses when performing a cost-benefit analysis and incorporates guidance enhancements that were identified in SECY-14-0143. These appendices also provide references to update pertinent information that is currently contained in NUREG/BR-0184, "Regulatory Analysis Technical Evaluation Handbook," dated January 1997. Lastly, these appendices contain cost-benefit guidance for application across business lines (e.g., materials, fuel cycle facilities, non-power reactors). These appendices to NUREG/BR-0058 are:

- Appendix F, "Data Sources." This appendix provides guidance on the processes needed to collect and analyze data, defines data types, and sources, and describes adjustment techniques. This appendix (1) identifies sources of information that can be collected to support data analysis activities, (2) describes various methods for adjusting raw data to put it on a common basis (i.e., data normalization), and (3) discusses the importance of collecting historical cost and non-cost (e.g., technical or programmatic) data to support parametric estimating techniques.
- Appendix G, "Regulatory Analysis Methods and Data for Nuclear Facilities Other Than Power Reactors." This appendix is a consolidation of available resources with information of use when performing non-power reactor regulatory analyses, especially the cost-benefit portion. This appendix provides supplemental information for performing a regulatory analysis for materials and non-power reactor licensees.
- Appendix H, "Severe Accident Risk Analysis." This appendix addresses and expands on the guidance and best practices recommended for use at the NRC when performing probabilistic risk assessments and consequence analyses as part of regulatory and backfit analyses. This appendix expands upon guidance regarding the safety goal evaluation and valuation of public health (accident) and economic consequences (offsite property) attributes. It provides references on sources of information and an overview of the tools and methods used to estimate changes in core damage frequency, public health risk, and offsite economic consequences risk.
- Appendix I, "National Environmental Policy Act Cost-Benefit Analysis Guidance." This appendix describes the methods to be used when preparing cost-benefit analyses and in performing environmental justice reviews in support of the NRC's regulatory and licensing actions conducted under the NEPA of 1969. This appendix describes the process for conducting cost-benefit analyses for the NRC NEPA reviews and the

methods used for conducting cost-benefit analyses in evaluation of severe accident mitigation alternatives and severe accident mitigation design alternatives. In addition, the appendix provides guidance on complying with the 2004 Commission's "Policy Statement on the Treatment of Environmental Justice Matters in the NRC Regulatory and Licensing Actions" (69 FR 52040).

The staff plans to use these appendices to support ongoing cost-benefit analyses to allow for more efficient data collection and reviews. The staff believes the information in these appendices does not impact the revision to NUREG/BR-0058, which is currently with the Commission for review and approval (SECY-20-0008). However, these appendices cannot be issued until the revision to NUREG/BR-0058 has been approved and issued.

Enclosure 6 documents the disposition of the activities identified in SECY-14-0002 and SECY-14-0143.

RECOMMENDATION:

The staff recommends that the Commission approve the publication of Appendices F, G, H, and I to NUREG/BR-0058, and issuance of a notice in the *Federal Register* (Enclosure 7) to inform the public of the availability of this final guidance.

If the Commission approve this paper in conjunction with the approval of SECY-20-0008, the staff will develop a new *Federal Register* notice that will include the publication of the documents in SECY-20-008 and the appendices in this paper. The staff will provide the *Federal Register* notice to the Commission 10 days before the publication of the NUREG/BR-0058 and its appendices.

COORDINATION:

The Office of the General Counsel reviewed this package and has no legal objection. The Office of the Chief Financial Officer reviewed this package and determined that it has no financial impact.



Signed by Dorman, Dan
on 04/01/22

Daniel H. Dorman
Executive Director
for Operations

Enclosures:

1. Appendix F – Data Sources
2. Appendix G – Regulatory Analysis
Methods and Data for Nuclear
Facilities Other Than Power Reactors
3. Appendix H – Severe Accident
Risk Analysis
4. Appendix I – National Environmental
Policy Act Cost-Benefit Analysis
5. NRC Responses to Public Comments
on Appendices F-I to NUREG/BR-0058
6. Closure of Identified Activities in
SECY-14-0143 SECY-14-0002
7. *Federal Register* notice:
NUREG-BR-0058 Phase 2 Appendices

SUBJECT: SECY-21-XXXX: APPENDICES TO NUREG/BR-0058, REVISION 5,
 "REGULATORY ANALYSIS GUIDELINES OF THE U.S. NUCLEAR REGULATORY
 COMMISSION" Dated: April 1, 2022

ADAMS Accession No: ML21228A118, Pkge

SECY-012

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