



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, DC 20555 - 0001**

September 11, 2014

The Honorable Allison M. Macfarlane  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**SUBJECT: SECY-14-0087, "QUALITATIVE CONSIDERATION OF FACTORS IN THE DEVELOPMENT OF REGULATORY ANALYSES AND BACKFIT ANALYSES"**

Dear Chairman Macfarlane:

During the 617<sup>th</sup> meeting of the Advisory Committee on Reactor Safeguards, September 4-6, 2014, we reviewed SECY-14-0087, "Qualitative Consideration of Factors in the Development of Regulatory Analyses and Backfit Analyses." Our Regulatory Policies and Practices Subcommittee also reviewed this matter during a meeting on August 19, 2014. During these meetings we had the benefit of discussions with representatives of the NRC staff. We also had the benefit of the documents referenced.

**RECOMMENDATIONS**

1. The NRC staff proposal to include in updated guidance a set of methods that could be used for the qualitative consideration of factors within regulatory analyses should be approved.
2. The proposed guidance should seek to provide a single, comprehensive decision-making approach and not be limited to only separate qualitative and quantitative methods.
3. The staff should meet with the Committee periodically during development of the updated guidance to enable us to review and, if appropriate, to comment on the planned consideration of qualitative factors.

**BACKGROUND**

Updating of regulatory analysis guidance is discussed in SECY-14-0002, "Plan for Updating the U.S. Nuclear Regulatory Commission's Cost-Benefit Guidance," dated January 2, 2014. SECY-14-0002 notes that this effort is linked to SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report," dated December 6, 2013, specifically through activity 2, "Establish

## Commission Expectations for Defense-in-Depth."

In the Staff Requirements Memorandum for SECY-12-0157, "Consideration of Additional Requirements for Containment Venting Systems for Boiling Water Reactors with Mark I and Mark II Containments," dated March 19, 2013, the Commission directed the staff, independent of the issue involving boiling water reactors with Mark I and Mark II containments, to seek detailed Commission guidance regarding the use of qualitative factors. SECY-14-0087 responds to this direction and includes a proposal for updating regulatory analysis guidance for all NRC licensed activities discussed in SECY-14-0002. The proposal includes developing a set of methods that could be used for the qualitative consideration of factors within the regulatory analysis process. The methods would be consistent with the Probabilistic Risk Assessment Policy Statement, as characterized in Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis." The guidance would address the decision rationale and describe the qualitative evaluation of factors, the significance of each factor, and how each factor contributes to the integrated decision-making process.

As summarized in SECY-14-0087, the proposed approach would:

- Establish a systematic process for the qualitative consideration of factors that cannot be evaluated quantitatively,
- Increase the transparency of how the staff's recommendation qualitatively considered such factors in relation to the quantitative analysis, and
- Increase consistency in the qualitative consideration of factors for regulatory analyses.

## DISCUSSION

In NUREG/BR-0058, Revision 4, "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission," it is emphasized that "even inexact quantification with large uncertainties is preferable to no quantification, provided the uncertainties are appropriately considered." However, as is extensively documented in SECY-14-0087, qualitative arguments are important in regulatory analysis and, as noted by the staff, often provide the most important input to decision-making.

The staff's proposal in SECY-14-0087 is focused on ways to systematically improve the transparency and objectivity of the use of qualitative arguments in decision-making. This is a worthwhile objective, but a larger issue for the broader effort to update the current regulatory analysis guidance is how to improve the quantitative analyses that are performed and how to apportion the balance between quantitative results and qualitative arguments, especially in the case where uncertainties are large. As the staff proceeds to implement their proposal, we urge that the guidance avoid creating a dichotomy between quantitative and qualitative factors. Instead, every effort should be made to define a single, comprehensive decision-making approach which integrates the consideration of qualitative and quantitative factors, to the extent practical. For example, quantitative analyses need to be based on a thorough qualitative description of considerations, a description of why specific models were developed, and an assessment of uncertainties that could affect each issue.

Our evaluation of how to meet this objective will require review of the guidance and specific

methods as they are developed in accordance with the staff's proposal. Periodic briefings of the Committee by the staff will enable us to review and, if appropriate, to comment on the planned consideration of qualitative factors.

Sincerely,

/RA/

John W. Stetkar  
Chairman

## REFERENCES

1. SECY-14-0087, "Qualitative Consideration of Factors in the Development of Regulatory Analyses and Backfit Analyses," August 14, 2014, (ML14127A458)
2. SRM-SECY-12-0157, "Consideration of Additional Requirements for Containment Venting Systems for Boiling Water Reactors with MARK I and MARK II Containments," March 19, 2013 (ML13078A017)
3. SECY-14-0002, "Plan for Updating the U.S. Nuclear Regulatory Commission's Cost-Benefit Guidance," January 2, 2014 (ML13274A519)
4. SECY-12-0157, "Consideration of Additional Requirements for Containment Venting Systems for Boiling Water Reactors with MARK I and MARK II Containments," November 26, 2012 (ML12325A704)
5. SRM-SECY-12-0110, "Consideration of Economic Consequences Within the U.S. Nuclear Regulatory Commission's Regulatory Framework," March 20, 2013 (ML13079A055)
6. SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report," dated December 6, 2013(ML13329A336)
7. NUREG/BR-0058, "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission," Revision 4, September 2004 (ML042820192)
8. NUREG/BR-0184, "Regulatory Analysis Technical Handbook," Final Report, January 1997 (ML050190193)

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John W. Stetkar  
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