



Qualitative Consideration of Factors in the Development of Regulatory Analyses and Backfit Analyses

ACRS Full Committee Meeting
September 4, 2014

Purpose/Outline

- Purpose
 - Provide an overview of SECY-14-0087, “Qualitative Consideration of Factors in the Development of Regulatory Analyses and Backfit Analyses.”
- Outline
 - Overview and Status
 - Background
 - Qualitative Consideration of Factors by the NRC
 - Federal and International Agencies
 - Scenarios Involving Qualitative Consideration of Factors
 - Conclusions
 - Staff’s Proposal
 - References

Overview and Status

- Staff submitted SECY-14-0087, “Qualitative Consideration of Factors in the Development of Regulatory Analyses and Backfit Analyses,” to the Commission on August 14, 2014.
- Notation Vote SECY paper with four enclosures
 - Seeking Commission approval of staff’s proposal

Background

- SRM-SECY-12-0157 directed the staff to “seek detailed Commission guidance regarding the use of qualitative factors [in regulatory analyses and backfit analyses] in a future notation voting paper”
 - Scope of this paper includes regulatory analysis and backfit analysis for all NRC regulated activities
- Context
 - Part of staff’s plan for updating cost-benefit guidance, SECY-14-0002
 - Linked to SECY-13-0132 (NTTF Recommendation 1) and RMRF due to defense-in-depth
 - Public Meeting on Qualitative Consideration of Factors held in May 2014

Qualitative Consideration of Factors by the NRC

- NRC guidance notes that even inexact quantification with large uncertainties is preferable to no quantification.
- Staff qualitatively considers factors which are not quantified in regulatory analyses and backfit analyses.
- Current practice consistent with NRC guidance and Commission direction
 - NUREG/BR-0058, Revision 4, “Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission”
 - SECY-77-388A, “Value-Impact Guidelines” instructed to quantify factors and qualitatively consider factors
 - SRM-SECY-93-086 allowed for qualitative consideration of factors for backfit analyses within the “substantial increase” criterion

Qualitative Consideration of Factors by the NRC *cont.*

- **NRC Risk-Informed Decisions**
 - Commission Safety goals and PRA Policy Statements discuss importance of qualitatively considering factors
 - Reg. Guide 1.174 notes decisions are expected to be made in “an integrated fashion”
- **Adequate Protection Determinations**
 - Limited to public health and safety and common defense and security matters; determined at the Commission’s discretion
 - Only related quantitative measure is the power reactor safety goal surrogates to the quantitative health objectives
- **Cost-Justified Substantial Safety Enhancements**
 - NUREG-1409 states that the backfitting rule does not require a strict quantitative analysis

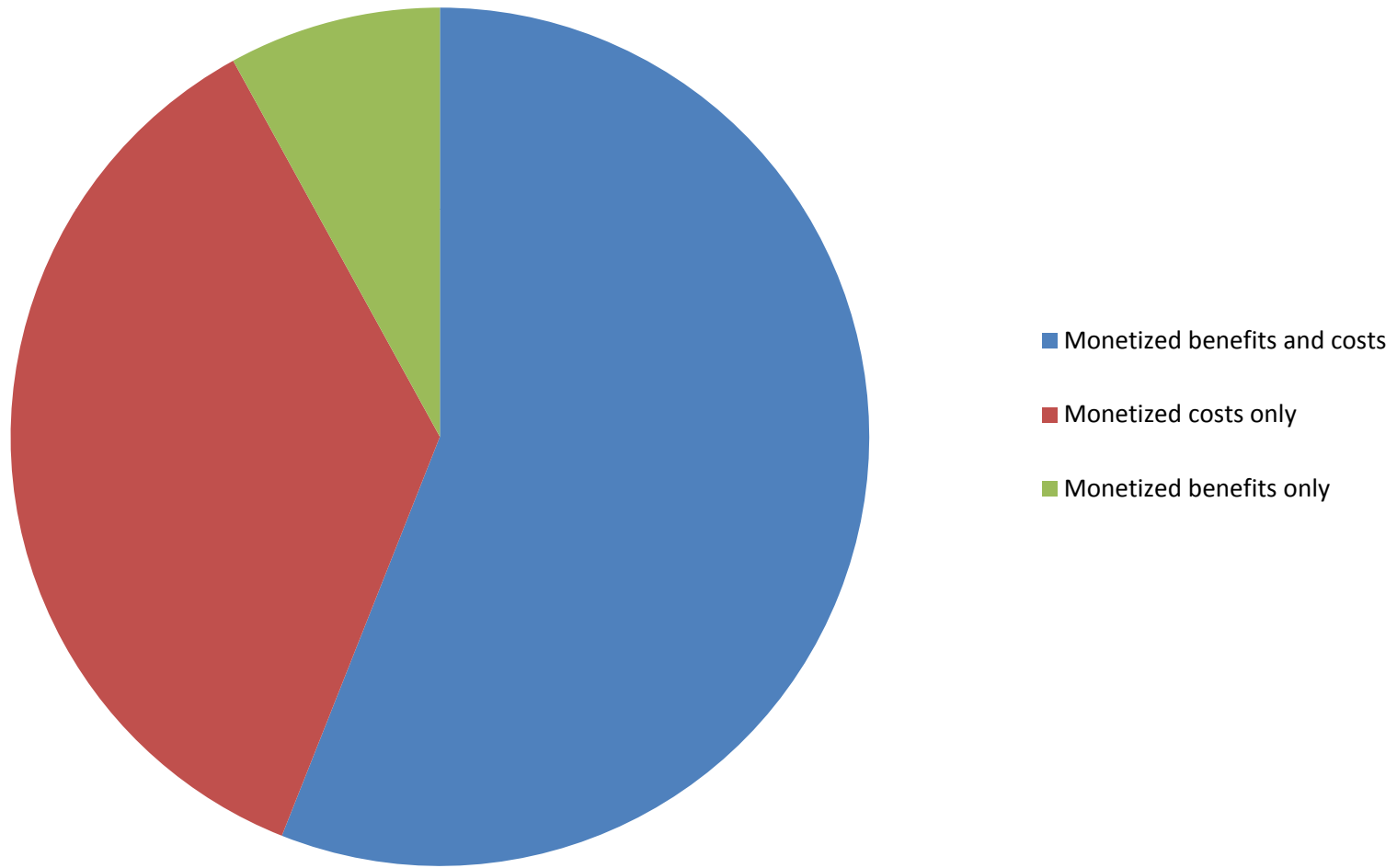
Qualitative Consideration of Factors by the NRC *cont.*

- Enclosure 1 of the SECY paper provides a list of past NRC regulatory actions that rely upon the qualitative consideration of factors
- Examples of factors that are difficult to quantify
 - Defense in depth (DID)
 - Increased security capabilities
 - Increased public confidence
 - Increased regulatory effectiveness

Federal and International Agencies

- Documents that require or recommend the use that federal agencies qualitatively consider factors
 - Executive Order (EO) 12866, “Regulatory Planning and Review”
 - Office of Management and Budget (OMB) Circular A-4, “Regulatory Guidance”
 - Office of Information and Regulatory Affairs (OIRA), “Regulatory Impact Analysis: A Primer”
- Importance of qualitative considerations is recognized internationally
 - OECD/NEA report, “Methodologies for Assessing the Economic Consequences of Nuclear Reactor Accidents,” April 2000, discusses importance of qualitative considerations of factors

Federal and International Agencies *cont.*



Scenarios Involving Qualitative Consideration

- Scenario A:
 - Benefits cannot be quantified and are presented only qualitatively
 - Costs are quantified
 - Past application to security-related and nonpower reactor regulatory actions
- Scenario B:
 - Some benefits can be quantified, others qualitatively considered
 - Costs are quantified
 - The net benefit of the quantitative analysis is **positive**

Scenarios Involving Qualitative Considerations

- Scenario C:
 - Some benefits can be quantified, others qualitatively considered
 - Costs quantified
 - The net benefit of the quantitative analysis is **negative**; qualitative considerations support the regulatory action
- Scenario D:
 - Some benefits can be quantified, others qualitatively considered
 - Costs are quantified
 - The staff identifies the qualitatively considered factors, but does not include them when forming a recommendation

Conclusions

- NRC guidance notes that the staff should make reasonable efforts to quantify costs and benefits.
- Both quantitative and qualitative consideration of factors is important to understanding the overall impacts of a regulatory action
- Aligned with other federal and international agencies' practices
- NRC's current framework for considering qualitative consideration of factors is sound
- Lack of specific guidance has led to a perception that qualitative consideration of factors can be arbitrarily weighted against quantitative consideration of factors
- The staff finds that developing guidance to clarify the potential tools available would enhance the transparency and consistency of the regulatory process

Staff's Proposal

- Update cost-benefit guidance to include a set of methods that could be used for the qualitative consideration of factors within a cost-benefit analysis for regulatory analyses and backfit analyses
- The revised guidance would include information regarding how and when to apply the methods and how the results would be used to inform the decisions.
- Methods should be consistent with the PRA policy statement as characterized in Reg. Guide 1.174
- Regulatory analyses and backfit analyses decision rationale should include
 - Describing qualitative evaluation of factors
 - Significance of each factor
 - How each factor contributes to the integrated decisionmaking process
- If Commission approved, guidance would be developed as part of overall plan for updating cost-benefit guidance
 - Staff would plan to have ACRS interactions/review

References

- SECY-14-0087 available at ML14127A458
- EO 12866, 58 FR 51735 (October 4, 1993) and http://www.whitehouse.gov/omb/inforeg_riaguide/
- May 28, 2014 Public Meeting Summary available at ML14156A024
- NRC policy statements available at <http://www.nrc.gov/reading-rm/doc-collections/commission/policy/>
- NUREG/BR-0184 available at ML050190193
- NUREG/BR-0058 available at ML042820192

References (cont'd)

- NUREG-1409 available at ML032230247
- NUREG-1530 available at ML063470485
- OMB Circular A-4, available at ML11231A834
- OIRA Regulatory Analysis Primer,
http://www.whitehouse.gov/sites/default/files/omb/inforeg/regpol/circular-a-4_regulatory-impact-analysis-a-primer.pdf
- Regulatory Guide 1.174 available at ML100910006
- OECD/NEA April 2000 report http://www.oecd-ilibrary.org/nuclear-energy/methodologies-for-assessing-the-economic-consequences-of-nuclear-reactor-accidents_9789264181472-en

References (cont'd)

- SECYs available at <http://www.nrc.gov/reading-rm/doc-collections/commission/> or in ADAMS
- SECY-77-388A available at ML12234B122
- SECY-12-0110 available at ML12173A478
- SECY-12-0157 available at ML12345A030
- SRM-SECY-12-0110 available at ML13079A055
- SRM-SECY-12-0157 available at ML13078A017
- SRM-SECY-13-0132 available at ML14139A104