



ANPR on Risk-Informed and Performance-Based Revision to 10 CFR Part 50

Public Meeting

June 15, 2006, Rockville, MD



Meeting Agenda

- Introductions
 - Background
- Discussion to clarify the questions in the ANPR
 - i.e., context, purpose and reasoning behind the questions
- Discussion of:
 - difference between the January 2005 draft of the technology neutral framework and the current draft
 - description of information not in the current draft framework that will be added in July 2006
- Discuss planned August workshop on the ANPR and the technology neutral framework to obtain input on format, topics, and agenda of the workshop.
- Summary



Background

- The Commission directed the staff to
 - Develop a formal program plan to make a risk-informed and performance-based revision to 10 CFR Part 50
 - Develop in an expeditious fashion an ANPR to consider the spectrum of issues relating to risk-informing the reactor regulations
 - Incorporate in the ANPR a formal program plan for risk-informing 10 CFR Part 50, as well as other related risk-informed efforts
 - Integrate safety, security, and preparedness
 - Include the effort to develop risk-informed and performance-based alternatives to the single failure criterion



Background (cont'd)

- The Commission directed the staff to
 - Issue the ANPR
 - Complete the ANPR stage by December 2006
 - Provide its recommendation on whether and, if so, how to proceed with rulemaking by May 2007 having considered ACRS views
 - Provide, with its recommendation, a detailed summary of any differing stakeholder views to ensure that the Commission has the benefit of these views when deliberating on the recommendation
 - Include a proposed schedule to complete the effort



ANPR

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- Published: May 4, 2006, Federal Register, Vol. 71, No. 86, page 26267
 - Submit comments
 - Mail: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.
 - E-mail: SECY@nrc.gov.
 - NRC's rulemaking web site: <http://ruleforum.llnl.gov>.
 - Address questions about our rulemaking web site to Carol Gallagher (301) 415-5905; email cag@nrc.gov.
 - Federal eRulemaking Portal: <http://www.regulations.gov>.
 - Hand deliver: 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 am and 4:15 pm Federal workdays. (Telephone (301) 415-1966).
 - Fax: Secretary, U.S. Nuclear Regulatory Commission at (301) 415-1101
 - Include RIN 3150-AH81 in subject line



ANPR Supplementary Information

- Topics addressed in ANPR
 - Plan
 - Integration of safety, security, and preparedness
 - Level of safety
 - Integrated risk
 - ACRS views
 - Containment functional performance standards
 - Technology-neutral framework
 - Defense-in-depth
 - Single failure criterion
 - Continue individual Part 50 risk-informed rulemakings



ANPR – “Rulemaking Topic”

- The NRC’s proposed approach is to create a new Part in 10 CFR (referred to as “10 CFR Part 53”) that can be applied to any reactor technology as an alternative to current 10 CFR Part 50 requirements.
- NRC would undertake two major tasks:
 - Develop the technical basis for rulemaking for 10 CFR Part 53, and
 - Develop the regulations and associated guidance for 10 CFR Part 53.



ANPR – “Rulemaking Topic”

- NRC plans to continue the current risk-informed rulemaking actions (e.g., 10 CFR 50.61, 10 CFR 50.46) that are ongoing
- NRC would undertake new risk-informed rulemaking on an as-needed basis



ANPR – “Technical Topics”

- Integration of safety, security, and preparedness
- Level of safety
- Integrated risk
- ACRS views
- Containment functional performance standards
- Defense-in-depth
- Single failure criterion



ANPR – “Framework”

- One approach in the form of criteria and guidelines that could serve as the technical basis for 10 CFR Part 53
 - Approach is risk-informed and performance-based and is technology-neutral
 - Provides guidelines for
 - Safety, security, and preparedness expectations
 - Defense-in-depth: treatment of uncertainties
 - Risk-informed approach to licensing basis (e.g., identification of licensing basis events)
 - PRA technical acceptability
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Questions & Comments

ANPR Topics



Framework – 2005/2006

- Conceptual approach unchanged
 - Presentation of information re-organized to better communicate the approach
 - Details for the technical issues have been expanded
 - Additional information has been included
 - Additional information will be provided (July 2006)
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Framework – 2005/2006 (cont'd)

Ch '06	Ch '05	April 2006 Organization – Main Body	Differences
2	2	Provides a “Roadmap” to the framework; i.e., provides a high level discussion of the overall approach and the various elements of the approach	Additional detail
3	----	Delineates the expectations for safety, security and preparedness for future reactors	New chapter
4	5	Defines defense-in-depth and provides the approach for implementation of defense-in-depth	Additional detail
5	3	Defines the safety fundamentals needed for protection of public health and safety	Additional detail
6	4	Provides the probabilistic approach for the design criteria	Additional detail
7	----	Establishes the high-level requirements for PRA scope and technical acceptability needed to support the framework	New chapter
8	6	Describes the process for the development of the technology neutral requirements using the criteria established in the framework	Additional detail



Framework – 2005/2006 (cont'd)

Ap '06	Ap '05	April 2006 Organization -- Appendices	Differences
A	C	Provides examples of variation of the safety characteristics among some new reactor designs	Written
B	E	Discusses the relationship of the requirements of Part 50 to requirements in other parts of 10 CFR	Written
C	----	Describes an approach for addressing the protection of the environment	New appendix: Information previously contained in 2005 FW Chapter 4
D	B	Describes the derivation of the risk surrogates of CDF and LERF for the QHOs for LWRs	Additional detail
E	----	Provides results of a test case using the framework against current LWRs for the licensing basis selection process	New appendix to be added



Framework – 2005/2006 (cont'd)

Ap '06	Ap' 05	April 2006 Organization -- Appendices	Differences
F	D	Identifies the high level requirements necessary for PRA technical acceptability to support the approach proposed in the framework	Written
G	F	Provides the results of comparing the framework against other documents containing requirements for reactor safety	Written
H	A	Provides a step-by-step approach to be used in making the requirements performance-based	Technical editing
I	----	Provide the results of using the process to select the topics for which requirements will be developed	New appendix to be added: contains information on topics from Chapter 8
J	----	Provides some example technology-neutral requirements	New appendix



Framework – July 2006

Chap/App	July 2006 Revision
4	<ul style="list-style-type: none">• High level discussion on definition of “safety margin”
6	<ul style="list-style-type: none">• Detailed discussion on definition of “safety margin” and implementation using risk criteria• Discussion on security performance standards needed to meet the security expectations
E	<ul style="list-style-type: none">• Provides results of a test case using the framework against current LWRs for the licensing basis selection process
Glossary	<ul style="list-style-type: none">• Provides definitions of terms as used in the framework



Framework – Future Applications

- Framework has been tested using a current operating LWR
- Staff considering demonstrating applicability of framework to non-LWR
 - Testing using NGNP, IRIS, PBMR
- ANPR soliciting stakeholder views regarding desirability to test approach to non-LWR



Questions & Comments

Framework Topics



Public Workshop

- Public workshop on ANPR scheduled for late August 2006
 - Tentative dates: Aug 23-25 or Aug 29-31, 2006
- Objective: to facilitate stakeholder feedback
- Meeting notice to be issued end of June 2006



Public Workshop (cont'd)

- Purpose is to hold detailed discussions with stakeholders on the topics presented in the ANPR
 - Few staff “presentations” planned
 - Separate “break-out” working sessions planned for smaller group discussions
 - Parallel sessions on different topics
 - Can not attend sessions on all topics
 - More time for discussion
 - Serial sessions on different topics
 - Able to attend session on each topic
 - Less time for discussion
 - Limited time available for formal stakeholder presentations
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Questions & Comments

Public Workshop



Summary

- Comments on the general proposals in this ANPR would be most beneficial to the NRC if submitted within 90 days of issuance of the ANPR
 - Comments on any periodic updates will be most beneficial if submitted within 90 days of their respective issuance
- ANPR comment period closes December 29, 2006
- SECY paper with staff recommendation on whether and, if so, how to proceed with rulemaking due to the Commission in May 2007