

ACRS Meeting on Proposed DG-1425 - Draft RG 1.183 R2

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IE Rulemaking Interface with RG 1.183



Alignment of Rule Package to Commission direction and intent of ADVANCE Act for a more risk-informed, modern, efficient regulatory process

- How does the proposed addition of a new non-bounding radiological accident (FFRD LOCA) and addition of new proposed tech specs supporting LOCA align with the intent of the ADVANCE Act?
 - Since MHA LOCA bounds the LOCA consequences inclusive of FFRD, what is the safety benefit of the new analysis requirement?
- How is the NRC evaluating the holistic implementation of the rule package?
- Is this a modern and cohesive rule package?
 - Proposed changes are based on out-of-date risk information as compared to what plants are currently approved for in recent TSTF-505 and 425
 - It is unclear if the dose consequence evaluation requires a separate dispersal calculation from the coolability assessment

Initial Industry Feedback on Proposed Draft RG 1.183



Industry is supportive of NRC efforts in DG-1425 development

- Appreciates the open and transparent dialogue with NRC staff during the public workshops (3) and information meetings (2)
 - Critical in addressing key technical issues supporting future industry initiatives and operation
 - Increased fuel enrichment and fuel cycle burnup
 - Discussions highlighted industry interest in NRC addressing technical and regulatory improvements
 - BWR suppression pool scrubbing credit
 - Best-Estimate Plus Uncertainty Approaches
 - Incorporation of Probabilistic Risk Assessment (PRA) basis providing relief in Control Room Design Criteria
- Encourages NRC to continue this practice in future Regulatory Guide developments

Initial Industry Feedback on Proposed Draft RG 1.183



Challenges remain to implementation of Revision 2

- Acknowledges significant technical items remain to be addressed
 - Equipment Qualification (EQ) applicability for continued use of TID-14844 source term
 - NRC communicated clarification is planned for a subsequent Regulatory Issue Summary (RIS) or another regulatory vehicle
 - Industry provided a White Paper position to the NRC (ML24165A085)
 - Development of updated deposition coefficients using the new phase durations for both BWR and PWR containments
 - NRC communicated updated are planned for a subsequent regulatory vehicle (possible Technical Report update)

Initial Implementation Observations of Proposed RG 1.183



Proposed Revision 2 adds another dose DBA for "LOCA with FFRD"

- Adding a new analysis for LOCA + FFRD does not appear to be risk-informed
 - MHA LOCA bounds the LOCA consequences inclusive of FFRD, regardless of fuel form
 - Has the proposed approach been exercised to assess its usability and impacts?
- Efficiency improvement could be a generic approach showing MHA LOCA bounds the FFRD LOCA for all sites

Applicability of RG 1.183 Revisions



Multiple Revisions of RG 1.183 remain in effect

- Industry supports the Staff's position to keep all versions
- Application of the revised MHA-LOCA source term and new DBA-LOCA requirements should not be backfit on the existing fleet without proper justification in accordance with 10 CFR 50.109
- Application of the new or modified staff positions should not be forward fit on future licensing actions except for those supporting HBU and increased enrichment above 5 wt%

Initial Implementation Observations of RG 1.183



Enhancements to be considered in future revisions

- Additional technical and methodological updates may be considered taking advantage of reactor design and operational improvements justifying relaxation of conservative, hypothetical models
 - Maximum Hypothetical Accident (MHA) release fractions and timing scenarios reflect unrealistically long timelines to release termination for DBA dose consequences
 - When is "release of appreciable quantities of fission products" achieved?
 - Plant configurations, safety-related features, and operator actions and training make these outcomes extremely unlikely