



Performance-Based Regulation:

How Did We Get Here

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What is Performance-Based Regulation?

- Regulations that are based on measurable (or calculable) parameters.
- Acceptance criteria based on the measurable parameters.
- Flexibility in determining how to meet the criteria.
- Sufficient margin in the acceptance criteria from an immediate safety concern to allow for corrective action.

Background

- Prior to the current emphasis on performance-based regulation, performance was calculated in the design phase and compared to acceptance criteria.
- In the operations phase, performance was usually evaluated deterministically:
 - Operating experience and judgement
 - 1984 - Commission Policy on Integrated Safety Assessment Program
 - Systematic Assessment of Licensee Performance (SALP)
- Extensive evaluation of serious operating events.

Background (continued)

- Interest in performance-based regulation grew under Chairman S. Jackson (6/95 – 7/99).
- Major Shift in Incorporating Performance-Based Approaches Into Regulatory Activities:
 - Commission White Paper (March 11, 1999)
 - Maintenance Rule (July 1996)
 - Revised Reactor Oversight Program (Trial Period 6/99 – 12/99)
 - Development of High-Level Guidelines for Performance-Based Initiatives (NUREG/BR-0303, “Guidance for Performance-Based Regulation”, 12/02)

Recent Activities

- Performance-Based Approach to Fire Protection (10 CFR 50.48(c)(2)(vii))
- Functional Containment Performance Criteria (SECY-18-0096, 9/28/18).
- Proposed Rule – EP for SMRs and New Technologies (85 FR 28436).
- Draft RG: DG-1350, “Performance-Based Emergency Preparedness”
- Development of SMR and Non-LWR licensing guidance:
 - RG 1.233, “Guidance for a Technology-Inclusive, Risk-Informed and Performance-Based Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications and Approvals for Non-LWRs” (June 2020)



Wrap up

- Performance-based approaches have been and are continuing to be considered in regulatory activities.
- They put the burden on the applicant/licensee to propose the goals that define acceptable performance and to select the parameters to monitor to confirm the goals are met.
- Performance-based approaches also have the potential to reduce the amount of design and programmatic information that needs to be in a SAR.
- Feedback on areas that are candidates for a performance-based approach are welcome.