

NTTF Recommendation 1

Industry Perspective

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nuclear. clean air energy.



STORIED HISTORY
BRIGHT FUTURE

Initial Observations

- Substantial safety benefits have been made since March 11, 2011
- All Tier 1 and most of Tier 2 recommendations are completed or are well underway
- The Commission decision to defer consideration of Recommendation 1 was the right thing to do

The Finding Behind Recommendation 1

- The fundamental observation was that issues characterized “beyond the design basis” had ad hoc regulatory treatment
- Industry conclusion:
 - Better definition of the regulatory treatment for issues beyond the design basis would enhance regulatory stability
 - A Commission Policy Statement could provide this stability

Improvement Activity 1 – Establish Design Basis Extension Category

- Agreement with general intent
- Disagreement with proposed “design-basis extension” terminology/category
- Why?
 - We are specifying boundary conditions (e.g. loss of all AC power, loss of ultimate heat sink), not new events
 - Discounts the operational nature of the response
 - Perpetuates design basis thinking

Contrasting Design Basis and Beyond Design Basis Treatment

Defined Event
Design Basis SSCs
All Safety Functions
Detailed Procedures
Rigid Validation
Qualified Personnel



Boundary Conditions
FLEX Equipment
Core Clg, Cnmt, SFP Clg
Guidelines & Playbooks
Practical & Reasonable
Capable Personnel

Industry Paper on Beyond Design Basis

Current Design Basis Requirements:


- Provide a high level of assurance of design capability to address a defined set of event conditions

Beyond Design Basis Requirements:

- Provide reasonable confidence in a flexible operational capability for responding to a, by definition, unbounded class of event conditions

A Regulatory Framework

Licensing
Basis



No cost-benefit analysis	Perform cost-benefit analysis	Licensee discretion
Adequate protection	Is cost-beneficial, i.e. provides substantial additional protection	Is not cost-beneficial; may have other benefits
Design Basis	Beyond Design Basis	Residual Risk

PRA



Informs (provides risk insights) across spectrum

This framework is very similar to the proposed risk management regulatory framework in NUREG 2150, Figure 4-1.

The Commission's Prerogative

- New information (e.g. operating experience, changes to external hazards) will pose questions as to whether a new or changed requirement is needed, and is it considered adequate protection or is cost-benefit analysis necessary. That is a Commission decision on a case-by-case basis.

Improvement Activity 2 – Establish Defense-in-Depth Expectations

- Defense-in-Depth is a philosophy that permeates all aspects of plant design and operation
- Disagree with NNTF characterization seeking “appropriate balance of risk and defense-in-depth considerations”
- Similar to adequate protection: It’s what the Commission says it is

Improvement Activity 3 – Clarify Role of Voluntary Industry Initiatives

- Industry initiatives are not a substitute for justified regulatory requirements
 - By definition, they do not meet threshold for regulation
- Regulatory analyses should not credit industry activities that are not docketed
 - Controlled under NRC-endorsed Commitment Management program

Conclusions

- Industry supports a Commission Policy Statement on beyond design basis principles
- Industry does not believe additional work on defense-in-depth has value in the context of Recommendation 1
- Industry does not support regulation of voluntary industry initiatives

Acronyms

NTTF = Near-Term Task Force

SSC = Structures, Systems and Components

FLEX = Flexible, Diverse Coping Capability

Clg = Cooling

Cnmt = Containment

SFP = Spent Fuel Pool

PRA = Probabilistic Risk Assessment