

Commissioner TA Briefing on Regulatory Improvement and Spent Fuel Pool Accident Risk for Decommissioning Plants



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Introduction

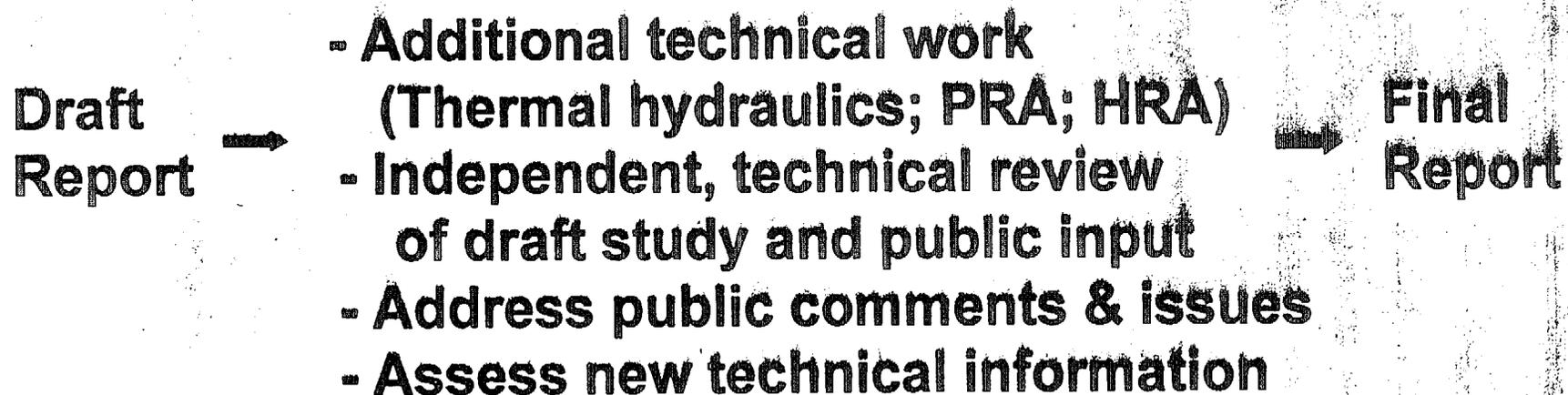
- ◆ **Background of decommissioning issues**
- ◆ **Overview of SECY-99-168**
- ◆ **Technical Working Group (TWG) Effort**
 - ◆ **Product and Process**
 - ◆ **Issue Resolution Examples**
 - ◆ **Summary and Schedule**
- ◆ **Integrated Decommissioning Rulemaking Effort**
- ◆ **Regulatory Improvement Initiative**

Decommissioning Background

- ◆ Most NRC Part 50 regulations were not developed considering the transition from power operations to decommissioning *50.82
50.75*
- ◆ Staff intends to resolve this situation by issuing risk-informed rules for decommissioning
- ◆ Staff must consider spent fuel pool accident risks when deciding how to reduce requirements
- ◆ SECY-99-168 requested Commission approval of a two-part process and schedule to improve regulations for decommissioning plants
 - ◆ Integrated decommissioning rulemaking
 - ◆ Regulatory improvement initiative

TWG Product and Process

- ◆ TWG is performing a comprehensive review of spent fuel pool accidents and risk at decommissioning plants that does not currently exist
- ◆ TWG output is to provide a technical basis on spent fuel pool (SFP) accident risk that will assist NRR in developing an integrated rulemaking and provide guidance for interim exemption criteria
- ◆ TWG process is working



Areas of Public Comment

- ◆ **Probabilistic Assessment**
 - ◆ **Seismic Events**
 - ◆ **Human Reliability**
 - ◆ **Heavy Loads**
 - ◆ **Consequences of Zirconium Fire**
- ◆ **Thermal Hydraulic Analysis**
- ◆ **Criticality**
- ◆ **Safeguards**
- ◆ **Normal operations**

We will explain how our process is resolving example issues that have been raised

Human Reliability Analysis (HRA)

Issue: HRA values do not give sufficient credit for operator actions

TWG Resolution/Actions:

- ◆ **Issued draft HRA approach for long term events focusing on conditions that are needed to support a claim of high reliability**
- ◆ **Provided approach to two topic experts (separate from independent, technical review) and the public for comment**
- ◆ **No technical comments from public to-date**
- ◆ **Exploring possibility of other topic experts for comment in response to a recent NEI concern**
- ◆ **TWG will revise HRA approach based on feedback and included it in the independent review**

Heavy Loads

Issue: Heavy load risk does not give sufficient credit for NUREG-0612 actions and uses upper bound values

NEI Actions: Proposed that all decommissioning plants meet NUREG-0612 Phase I and II actions (operating reactors are required to meet Phase I) and provided raw data on cask lifts

TWG Resolution/Actions:

- ◆ **Reassessment of heavy loads using improved statistical methods and new information**
- ◆ **Risk values from the reassessment have been included in independent review**
- ◆ **TWG will consider needed assurances given that the risk assessment values include NEI's proposal**

Seismic Events

Issue: Resolution needed to address seismic events

NEI Actions: Provided a proposed seismic checklist

TWG Resolution/Actions:

- ◆ **TWG initial review finds the NEI input is useful for seismic screening of SFPs**
- ◆ **NEI's proposed checklist is included in the independent review; may need some augmentation**

Thermal Hydraulic Assessment

Issue: Maximum clad temperature is too conservative compared to zirconium ignition temperature

TWG Resolution/Actions:

- ◆ **Maximum temperature based on when the temperature excursion can be halted due to runaway oxidation**
- ◆ **Improve discussion in report to explain the zirconium oxidation reaction and structural limitations on temperature limit**

TWG Summary and Schedule

- ◆ **Continue our planned process and to interact with the public on comments and additional technical information**
- ◆ **Final assessment will provide a risk-informed technical basis on SFP accident risk that will assist in developing an integrated rulemaking and will provide guidance for interim exemption criteria**
- ◆ **Release Draft For Comment in early January**
- ◆ **Release Final Report in early April**
- ◆ **TWG process is working**

Integrated Rulemaking Plan

- ◆ **SECY-99-168 requests Commission approval to combine individual rulemakings for EP, Insurance, Safeguards, Operator Staffing & Training, and backfit into a single, integrated package using a risk-informed approach**
- ◆ **The staff is not requesting approval of any technical position or policy matter related to decommissioning regulations**
- ◆ **The process for arriving at a risk-informed technical basis for these rules is proceeding with both industry and public stakeholder issues being considered**
- ◆ **Staff is currently drafting rules that are independent of the spent fuel risk study (Operator staffing & training, Backfit)**
- ◆ **An integrated rulemaking plan is on track for May 31, 2000. Commission approval of SECY-99-168 will support this effort**

Regulatory Improvement Initiative

As stated previously, this initiative primarily involves developing a new part within Title 10 of the Code of Federal Regulations (CFR) for decommissioning nuclear power plants

- ◆ **The Commission will have another opportunity to approve the long-term schedules and resources when staff completes its detailed assessment of this effort**
- ◆ **Staff has performed an initial screening of applicability of Title 10 regulations to decommissioning nuclear power plants and found approximately 40 areas that may need to be amended**
- ◆ **A contract has been recently placed with BNL to perform a more comprehensive review of the regulatory applicability of Title 10**

Regulatory Improvement Initiative

- ◆ **A draft outline of a new part for decommissioning regulations in Title 10 is also underway to provide a placeholder for the new regulations being considered**
- ◆ **The staff is moving forward and utilizing resources as available in the decommissioning section to keep this proposal active and ensure rapid progress is made in developing a detailed rulemaking plan once Commission approval is received**
- ◆ **The staff continues to recommend that the Commission approve the effort to develop a rulemaking plan on creating a new part within 10 CFR for decommissioning regulations**