

Appendix 11 Stakeholder Interactions

The technical staff reviewed and evaluated available technical information and methods to use as the risk-informed technical basis for reviewing decommissioning exemption requests and rulemaking related to emergency preparedness, safeguards, indemnification, and other areas. When the draft report was released for public comment in June 1999, stakeholders identified concerns, which we addressed for inclusion in the final report. The early stakeholder input has improved the overall quality of the draft report. Meetings held with the stakeholders are provided below. Then we discuss stakeholder comments in various technical areas.

Public meetings on the Technical Working Group Study

March 17, 1999	Commission meeting in Rockville, MD
May 5, 1999	Stakeholder meeting with NRC staff in Rockville, MD
April 13, 1999	Stakeholder meeting with NRC staff in Rockville, MD
June 7, 1999	Stakeholder meeting with NRC staff in Rockville, MD
June 8, 1999	Stakeholder meeting with Sam Collins in Rockville, MD
June 21, 1999	Pre-workshop stakeholder meeting with NRC staff in Rockville, MD
July 15-16, 1999	Workshop on decommissioning plant spent fuel pool accident risk in Gaithersburg, MD
November 3, 1999	Stakeholder meeting with Sam Collins in Rockville, MD
November 5, 1999	ACRS meeting in Rockville, MD
November 8, 1999	Commission meeting in Rockville, MD
November 19, 1999	Stakeholder meeting with NRC staff in Rockville, MD

Probabilistic Risk Assessment (PRA)

An industry stakeholder raised the concern that the PRA was too conservative and that some of the assumptions were unrealistic. We refined the PRA analysis, incorporating industry commitments, and subjected the results to an independent technical review. **The results of our review are found in Chapter 4 of this report.**

Human Reliability Analysis

Industry stakeholders raised a concern that the June 1999 draft report did not give sufficient credit for operator actions in the area of human reliability analysis (HRA). Specifically, industry stated that the NRC draft report did not reflect the potential for actions such as self-checking, longer reaction times available, management oversight, design simplicity, second crew member check, additional shift attention in recovery, or additional cues causing increased attention.

We in turn, enlisted the support of HRA experts to refine the analysis in the June 1999 draft report. The HRA results were also subjected to an independent technical review. This topic is discussed in more detail in Chapter 4 of this report.

Heavy Loads

Industry stakeholders raised a concern that the heavy load risk assessment in the draft report did not give sufficient credit for NUREG-0612 actions and used the conservative upper bound values.

To address these concerns, we employed more recent Navy data to requantify the fault tree, included the mean value estimate for compatibility with Regulatory Guide 1.174, and addressed industry voluntary commitment to Phase II of NUREG-0612. **The final results were subjected to an independent technical review and are included in Chapter 4 of this report.**

Seismic Assessment

To take credit for the seismic design margins existent in spent fuel pools, we sought an appropriate method to identify potential structural vulnerabilities without having to perform a detailed fragility review. At a July 15-16, 1999 public workshop, industry proposed development of a simple spent fuel pool seismic checklist as a way of assessing seismic vulnerabilities without performing quantifying analyses.

In a letter dated August 18, 1999, NEI submitted a "seismic checklist" for screening. We consider it an excellent approach to plant-specific seismic assessments; however, we have identified some deficiencies in the checklist proposed by NEI. The "seismic checklist" and our concerns are discussed in Appendix 2 of this report.

Criticality

A public stakeholder concluded that the June 1999 draft report did not address the potential for a criticality accident in the SFP of a decommissioned plant.

We therefore examined the mechanisms by which a criticality accident could occur to assess the potential for criticality, the consequences, and the likelihood of a criticality event. The results were subjected to an independent technical review where additional mechanisms were proposed and examined. **(See Chapter 5 and Appendix 7 of this report).**

Thermal-Hydraulic Assessment

Industry stakeholders raised a concern that the thermal-hydraulic assessment in the June 1999 draft report used overly conservative adiabatic heatup calculations and a maximum clad temperature that was too conservative for the zirconium ignition temperature.

We refined the thermal-hydraulic analysis presented in the draft report and subjected those results to an independent technical review. **The results of the analysis are included in Chapter 3 of this report.**

Concrete Aging of the SFP

A public stakeholder raised a concern that the June 1999 draft report did not address the potential for concrete aging in SFP's at decommissioned plants.

At the July 16, 1999, workshop, we committed to discussing the issue of concrete strength over time and the potential for aging or degradation for SFP's. **The discussion is found in Appendix 2 of this report.**

Seismic Effects on SFP Integrity

A public stakeholder raised a concern that the June 1999 draft report did not examine vulnerabilities related to the transfer tube and other SFP design vulnerabilities resulting from a seismic event for decommissioned plants. A discussion of this topic is found in Appendix 2 of this report.

Partial Draindown and Exothermic Reaction of SFP

An industry stakeholder stated that we did not consider the implications of a partial draindown as being as serious as or worse than a complete draindown. The stakeholder also stated that the draft report did not address the potential for a hydrogen explosion resulting from an exothermic reaction between steam and zirconium. **A discussion of this topic is found in Chapter 3 of this report.**

Safeguards

A public stakeholder stated that the draft report did not address the potential or threat for vehicle-borne bombs. We revised the draft report to include a discussion of this matter. **The discussion of this topic is found in Chapter 6 of this report.**

Impact of Decommissioning on Operating Units

A public stakeholder stated that we did not consider the impacts on operating units of removing the water from the SFP at a decommissioning site, such as Millstone and San Onofre. We revised the draft report to include a discussion of this matter. The results of our review are found in **[Chapter]** of this report.

Industry Information

An industry stakeholder suggested that we should include industry data on zirconium fires from Teledyne Wah Chang, a zirconium manufacturer. At the request of industry representatives, on Thursday, May 13, 1999, we contacted two employees of Teledyne Wah Chang by telephone to obtain more information on zirconium fires. They sent us documents on zirconium cladding.

The call and the references enabled us to determine that the zirconium information presented by Teledyne Wah Chang was consistent with the working group findings.