

## Decommissioning SFP Risk Study

Presentation to EDO and Technical Assistants - May 2000

Frequency of Zirconium Fires  
Acceptance Criteria  
Timing of Zirconium Fire  
Window of Vulnerability

### Frequency of Zirconium Fires

Issue: Seismic conservatism  
Human reliability uncertainties

Action: Seismic addressed to some extent but staff not in position to push state of art of seismic risk analysis

Human reliability - additional discussion in report

### Acceptance Criteria

Issue: ACRS says zirconium fire may go beyond LER

Action: Report will include additional discussion as to why staff finds LERF criteria is acceptable. Land contamination importance not changed in latest guidance

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### Timing of Zirconium Fire

Issue: Zirconium hydrides and other phenomena may cause earlier ignition

Action: DSSA/RES have agreed on 800 °C temperature but revised writeup needed - at 800 °C hydrides and other phenomena can be addressed - could be greatly affected by ventilation availability

### Window of Vulnerability

Issue: Report did not address partial draindown

Action: Work to date indicates this is a major driver of concerns - if policy is to qualitative address concern could be addressed quicker than if required to bound by detailed calculations

Current Situation: More information than before but insufficient technical basis for rulemaking

### Problems

- 10-hour PRA assumption
- No zirconium fire possible >> 5 years
- Ventilation assumption in calculations cannot be ensured
- Partial and Transient draindowns
  - "smart earthquake"
  - heavy load drop to cause slow draindown
  - site-specific design (transfer tube in SP area)
- NEI wants to revisit seismic

## Recommended Actions

### - Commission Option Paper:

- 1) Additional Calculations on various ventilations and draindowns - 6 months? (and may not give adequate technical basis)
- 2) Give project to RES for experiments on Zirconium fires - 2 to 5 years?
- 3) Have Commission make a policy decision based on current work

# Decommissioning SFP Risk Study

Current Situation: More information than before but insufficient technical basis for rulemaking

## Problems:

- 10-hour PRA assumption *SRXB/RES To work together for 800°F probability o'k with 2 Bldg Ventilations Partial Drain Down not o'k or unknown*
- No zirconium fire possible >> 5 years *Fast drain may be o'k Partial/Transient?*
- Ventilation assumption in calculations cannot be ensured *for all events Bldg at 3X SSE will it survive Goutan yes Kennedy?*
- Partial and Transient draindowns
  - "smart earthquake" *Goutan says can qualitative make o'k Glenn not sure & doesn't think RES Kennedy will agree*
  - heavy load drop to cause slow draindown
  - site-specific design (transfer tube in SP area)*Assumption in draft final No catastrophic - Don't know frequency of drops that might result in bad transient*
- Seismicity & NET & conservative *Actions*

## - Commission Option Paper:

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*At 800°C what do we do with intermetallic*

*2 - 6 months*