4/12/99

WORKING GROUP PLAN
TO SUPPORT TECHNICAL ANALYSIS OF SFP ACCIDENTS FOR DECOMMISSIONING PLANTS

Background:

Permanently shutdown reactors have a significantly reduced risk to the public. As such, decommissioned plants have requested exemptions from regulations, particularly in the areas of emergency preparedness, safeguards, and insurance indemnity. To date, the staff has reviewed the licensee's requests on a case-by-case basis. A set of predictable, risk-informed review criteria has not been established for issues associated with spent fuel pool accidents at decommissioned plants. Further technical work is needed on spent fuel pool accidents due to uncertainties in the current generic analyses and the potential for significant consequences.

Mission Statement:

The technical staff will review and evaluate available technical information and methods to use as the risk-informed, technical basis for reviewing exemption requests and rulemaking related to EP, safeguards, indemnification, and other areas. This activity may also identify the need for follow up research or activities to address areas of large uncertainty.

Note: "interim" removed by John Hannon

Outputs:

1) To establish a risk-informed, technical basis for spent fuel pool accidents that supports predictable methods for reviewing exemption requests and follow up actions to rulemaking related to EP, safeguards, and other areas at decommissioned plants.

2) To identify the need for follow up research or other technical activities to address any large uncertainties in the available information.

Long Term Outcome:

To achieve realistic, risk-informed criteria to address spent fuel pool accidents at decommissioned plants in a predictable manner while ...

1) Maintaining safety,
2) Reducing unnecessary regulatory burden,
3) Increasing public confidence, and
4) Improving efficiency and effectiveness

8/13/1

Technical Working Group Milestones

❑	April 1	Establish working group
❑	April 5	Working Group Meeting #1
❑	April 12	Working Group Meeting #2 **Rough outlines of writeups due**
❑	April 13	Meet with NEI & the public
❑	April 19	Working Group Meeting #3 **Final outlines of writeups due**
❑	April 23	**Draft writeups of available information due (Output #1)**
❑	April 26	Working Group Meeting #4
❑	May 3	Working Group Meeting #5 **Draft writeup identifying any further research due (Output #2)**
❑	May 10	Working Group Meeting #6
❑	May 17	Working Group Meeting #7 **Final writeups of available information due (Output #1)** **Final writeups of identifying any further research due (Output #2)**
❑	May 17-19	Combine all inputs into a risk-informed, predictable technical basis
❑	May 21	Put technical basis in a final form (Output #1) Put identification of further research in a final form (Output #2)
❑	May 24	Working Group Meeting #8
❑	May 24-28	Put final products of Outputs #1 and #2 in parallel concurrence
❑	May 31	Outputs #1 and #2 due to Projects Decommissioning Branch

Technical Working Group for Decommissioning Rulemaking

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Criticality	Larry Kopp, SRXB
Maintenance Rule and QA	Wayne Scott, HQMB

Working Group Plan

1) Re-evaluate the probabilities of SFP scenarios.

   - Determine potential initiating events and accident scenarios that could lead to spent fuel uncovery. (SPSB)
   - Determine the site limiting scenarios to analyze based on their probabilities. (SPSB)
   - Evaluate the use of a seismic margins assessment to analyze the structural integrity of the SFP structure. (DE)
   - Evaluate the effects of mitigative actions on the probabilities of the scenarios (i.e., instruments, procedures, staffing). (SPSB)
   - Consider the effects of Maintenance Rule and Quality Assurance Programs. (HQMB)
   - Evaluate the recovery probability of the spent fuel. (SPSB)

2) Re-evaluate the spent fuel heat up analysis.

   - Evaluate whether 565 degrees C is an appropriate acceptance criterion for analysis and/or recommend what the appropriate temperature may be. (SRXB)
   - Evaluate existing spent fuel heat up analyses (GSI-82) to determine if they represent current operating and storage practices and if they are applicable to decommissioned plants. (SPLB/SRXB)
   - Evaluate the use of existing computer codes that, if applied appropriately, could be used to analyze the heat up of the spent fuel pool. (SRXB)
   - Evaluate generic decay times associated with spent fuel pool configurations. (RES/SRXB)

3) Evaluate the potential for criticality.

   - Evaluate the potential for criticality from accidents or personnel actions in response to an accident. (SPXB)

4) Assess the consequences (zircaloy fire) of the most limiting scenarios.

   - Evaluate release fractions. (RES)
   - Evaluate the phenomena of a zircaloy fire and potential mitigating controls. (SPLB)

- Perform a dose assessment for time-dependent offsite consequences. (RES)

- Evaluate existing accident dose assessments to determine if they represent current operating and storage practices and if they are applicable to decommissioned plants. (HOHB)

5) Compare risk in SFP scenarios to the NRC safety goals.

6) Explore design considerations and controls of the Wet-Basin Independent Spent Fuel Storage Installation (ISFSIs). (SPLB)

7) Interact with industry and the public to understand their concerns and utilize industry efforts, if possible, in the resolution of concerns. (SPLB/PD4D)

8) Consolidate Action Items 1-7 into a risk informed, technical basis for reviewing exemption requests and supporting rulemaking related to EP, safeguards, insurance indemnification, and other issues for decommissioned plants. (SPLB)

9) Identify any follow up research or other activities which need to be performed to address any large uncertainties in the available information and further technical support needed. (ALL)