

PMLevyCOLPEm Resource

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Sent: Wednesday, June 10, 2015 7:21 AM
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Cc: Segala, John; Pieringer, Paul; Junge, Michael; Chien, Nan
Subject: Levy Qs for 6-11-15 Public Teleconference.docx
Attachments: Levy Qs for 6-11-15 Public Teleconference.docx
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Bob –

Attached are NRC staff questions for tomorrow's public teleconference.

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The following sequence is what the staff used as the bases for their questions below.

- Emergency main control room (MCR) ventilation system (VES) actuates on high-2 alarm for particulate or iodine radioactivity. AC power remains available.
- VBS remains functional and is capable of maintaining habitability of the MCR when non-1E AC power is available as stated in DEF response to NRC RAI L-1117, Page 2 of 5, paragraph 2.

OR

VBS is not available to perform its normal cooling functions as stated in of the DEF response to NRC RAI L-1117, page 3 of 5, paragraph 2.

Based on the DCD descriptions the staff believes VBS is unavailable.

- Phase 1 load shed occurs upon VES actuation. The plant continues to operate with MCR cooling provided by VES.
- 3 hours after VES actuation, the Phase 2 load shed actuates, de-energizing the wall panel information system.
- Between 1 and 3 hours the main control room temperature would exceed the tech spec limit of 75 degrees F. (DCD, Section 6.4.3.2: “The initial values of temperature/relative humidity in the MCR are 75°F/60 percent. At 3 hours, when the non-1E battery heat loads are exhausted, the conditions are 87.2°F/41 percent.”). The staff believes the phase 1 load shed will affect this DCD description but could not find comparable numbers in the exemption request.
- While the MCR temperature surveillance is only required every 24 hours, knowing the temperature profile from the licensing basis (which we now know is not worst case but may be mitigated by the phase 1 load shed), operators would take conservative action to monitor MCR temperature and if it exceeds 75 degrees would initiate a shutdown to mode 3 within 6 hours in accordance with the tech spec action statement. The same action would also be taken for the surrounding rooms if their temperature exceeded 85 degrees. (Assumes that there is no ability to restore required air temperatures to within limits within 24 hours)

This action would be necessitated by the need to protect the VES heat sink for response to a loss of AC power.

Based on this sequence please address the following questions:

1. Explain why an immediate load shed is appropriate if the temperature calculations indicate a tech spec required shutdown would be initiated within a relatively a short time frame.

If the load shed is appropriate because the sequence given above is incorrect:

1. Provide a corrected sequence.
2. List the specific loads that will be de-energized by the phase 1 load shed.
3. List the specific loads that will be de-energized by the phase 2 load shed.
4. As described in DCD, Section 18.8 (pg. 18.8-1), the WPIS is credited with supporting teamwork, situational awareness, and command and control as part of the “State of the

art control room" required by 10 CFR 50.34.f.2.iii. How are these functions accomplished when the WPIS is de-energized?

- VES actuation places the MCR in a condition with reduced lighting, increased noise levels, and restricted access to information used to manage and integrate control room actions. How do these factors affect operator performance? What actions have been taken to validate the proposed licensing basis change is acceptable from an operator performance perspective?
- With AC available, explain why it is preferable to de-energize WPIS than provide additional cooling from non-safety related sources.