

## NRR-PMDAPEm Resource

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**From:** Lingam, Siva  
**Sent:** Thursday, February 02, 2012 10:18 AM  
**To:** Mackaman, Clyde Douglas  
**Cc:** Titus, Brett  
**Subject:** RE: Sequoyah, Unit 1 LAR - Heavy Load Lifts and UHS One Time Change in Support of Unit 2 SGRP (TAC No. ME7225)

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**From:** Lingam, Siva  
**Sent:** Thursday, February 02, 2012 10:09 AM  
**To:** 'Mackaman, Clyde Douglas'  
**Cc:** Titus, Brett  
**Subject:** Sequoyah, Unit 1 LAR - Heavy Load Lifts and UHS One Time Change in Support of Unit 2 SGRP (TAC No. ME7225)

Please note the following official RAIs from our Balance of Plant Branch (SBPB), and provide your response within 30 days.

### RAI 1

#### Background:

Although they are simple schematics, Figures 6-1 and 8-2 both show the isolation boundary valve of the 2B essential raw cooling water (ERCW) header (2-FCV-67-82) to be outside the boundary of the Auxiliary Building and adjacent to the potential drop zone.

#### Issue:

The application does not assume that the isolation function of the subject valve could potentially be impacted by the postulated drop; however, the valve is clearly shown to be outside of the Auxiliary Building and adjacent to the potential drop zone. Following a postulated drop, if 2-FCV-67-82 is, in fact, in the ERCW tunnel and could be affected by a heavy load drop, the isolation function would be negated and, via the cross-tie, the 1B header would be discharging through the broken end of the 2B header. This would critically change flow and heat load calculations in the cross-tied configuration and potentially cause massive flooding of the ERCW tunnel.

#### Request:

Please provide a detailed description of the physical location of ERCW system valve, 2-FCV-67-82, with respect to the potential drop zone of a heavy load. If 2-FCV-67-82 is in the potential drop zone, describe how the ERCW 2B header will be isolated.

### RAI 2

#### Background:

The application refers several times to essential cross-tie valves with unique identifiers: 0-VLV-67-1610, -1611, -1612, and -1613. These valves are presumed to be shown (although not labeled as such) in Figures 6-1 and 8-2 on the 16-inch piping labeled as "Aux Bldg Header Crosstie."

#### Issue:

The subject valves are not shown on the latest UFSAR Figure 9.2.2-2 for the ERCW system, nor does the application identify them as temporarily installed equipment.

Request:

Please provide an explanation for the absence of the ERCW header cross-tie valves 0-VLV-67-1610, -1611, -1612, and -1613 from UFSAR Figure 9.2.2-2. Also, provide an updated Figure 6-1 showing where these valves are located or accurately describe the location of these valves on Figure 6-1.

### **RAI 3**

Background:

Due to the temporary alignment of the ERCW system to accommodate the mitigation strategy for the potential drop of a heavy load, the subject amendment requests to lower the required average water temperature of the ERCW system header from 87 degrees F to 74 degrees F. This new temperature value is the result of a steady-state hydraulic analysis of the ERCW system.

Issue:

Although the resulting 74-degree F value is requested by the subject application, there is no description of the design inputs and assumptions of the calculation which determined this new number.

Request:

Please describe the changes in the design inputs and assumptions of the new hydraulic analysis from the current hydraulic analysis. Explain why the maximum allowed ERCW system header temperature changes from 87 degrees F to 74 degrees F.

### **RAI 4**

Background:

Due to the temporary alignment of the ERCW system to accommodate the mitigation strategy for the potential drop of a heavy load, the subject amendment requests to lower the required average water temperature of the ERCW system header from 87 degrees F to 74 degrees F.

Issue:

Quantifying the historical average temperature of the water in the ERCW header will provide a benchmark by which the Nuclear Regulatory Commission staff can establish a realistic margin between the water temperature which will be technically required and that which is likely to be provided.

Request:

Please provide a summary of the last five years historical data which shows the actual, average temperature of the water in the ERCW header during the approximate time of year when the subject heavy load lifts are scheduled to be performed. (e.g. From October XX to November XX of 20XX, the average temperature of the ERCW header water was XX degrees. etc.)

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**Created By:** Siva.Lingam@nrc.gov

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