

## CCNPP3eRAIPEm Resource

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**From:** Arora, Surinder  
**Sent:** Wednesday, January 11, 2012 9:38 AM  
**To:** Infanger, Paul; UNECC3Project@unistarnuclear.com  
**Cc:** CCNPP3eRAIPEm Resource; Wheeler, Larry; McKenna, Eileen; Segala, John; Arora, Surinder; Wilson, Anthony; Vrahoretis, Susan; Hearn, Peter  
**Subject:** Final RAI 330 SBPA 6212  
**Attachments:** FINAL RAI 330 SBPA 6212.doc

Paul,

Attached please find the subject request for additional information (RAI) on FSAR Section 9.2.5. The draft of this RAI was sent to you on December 15, 2011. A clarification phone call on this RAI, requested by UniStar, was held on January 10, 2012. Several editorial changes agreed during this phone call have been incorporated in the attached version of the RAI.

The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a schedule date for submitting your technically correct and complete response will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the review schedule of the applicable FSAR Chapter.

Your response letter should also include a statement confirming that the response does or does not contain any sensitive or proprietary information.

Thanks.

**SURINDER ARORA, PE**  
**PROJECT MANAGER,**  
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**US Nuclear Regulatory Commission**

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**From:** Arora, Surinder

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Request for Additional Information No. 330 (eRAI 6212)

1/11/2012

Calvert Cliffs Unit 3  
UniStar  
Docket No. 52-016  
SRP Section: 09.02.05 - Ultimate Heat Sink  
Application Section: 9.2.5

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

09.02.05-20

**This is a follow-up RAI on the response provided to RAI 279, Question 09.02.05-5**

RAI 279, Question 09.02.05-5, original question:

The ultimate heat sink (UHS) must be able to withstand natural phenomena without the loss of function in accordance with General Design Criteria (GDC) 2 requirements. CCNPP Unit 3 FSAR Section 9.2.5.5, "Safety Evaluation," states that the set of traveling screens for the UHS makeup water intake structure meets seismic category II requirements and are large enough to preclude the occurrence of their being blocked to the extent that minimum required flow of water cannot be maintained. Based on the staff's review of the UHS travelling screen and screen wash design the applicant described in FSAR Section 9.2.5.3, "Component Description," and Table 3.2-1, "Classification Summary for Site-Specific SSCs," it was determined that the support systems for the UHS makeup are designed as non-safety related. The staff determined that the non-safety related classification of the travelling screen and screen wash system may be inappropriate since its failure to provide a water flow path to the UHS makeup pumps may effect the ability of the UHS to perform its intended function for up to 30 days. Describe in the FSAR Section 9.2.5.5, related to the natural phenomena events (earthquakes, tornadoes, hurricanes, floods, external missiles and other natural phenomena), the capability of the UHS makeup system to perform its intended safety related function between 72 hours and up to 30 days with the support systems such as screen wash and travelling screens designed as non-safety related.

RAI 279, Question 09.02.05-5, follow-up question:

The RAI response did not adequately address the issues identified in RAI 279, Question 09.02.05-5. The applicant should add to the CCNPP Unit 3 application and FSAR and fully describe the following:

The specific action that is being credited for continued operation, including whether manual actions would be needed to not only rotate the screens, but to also wash the screens. Specifically describe the number of operators that would be required at each required 'operable' UHS train to provide continued operations for the UHS out to 30 days.

1. Specifically describe if the associated non-safety related travelling screens and screen wash system is designed against internally generated missiles and other dynamic effects described in accordance with GDC 4.

2. Specifically describe this method of manual operations in the preoperational testing reference FSAR 14.2.14.2, "Ultimate heat Sink (UHS) Makeup Water System, item, 3.l and 5.m program. Include the number of operators needed to be successful, with respect to designed differential pressures expected.
3. Consider adding the design features needed for manual operation of the travelling screens and screen wash system to CCPNPP Unit 3, Part 10 - ITAAC. Testing should include all four trains.
4. Consider adding this method of operation of the travelling screens and screen wash system to the CCNPP Unit 3 Technical Specifications Surveillance Requirements since the safety related UHS makeup system does not normally operate.
5. Consider adding the nonsafety related traveling screens and screen wash subsystem to the Maintenance Rule.
6. Failure mode and effects analysis should be addressed due to operating experiences from Duane Arnold (08/11/11) related to traveling screen failures. Address a condition that resulted and prevented the ability to rotate traveling screens (intrusion of sand/silt).
7. Describe if manual operations of the traveling screens is capable of removing large amounts of algae (Fitzpatrick 10/13/07), debris (Hatch 7/23/01), or icing (Wolf Creek 1/30/96) that would possibly effect the operability of the traveling screens.
8. Describe in the FSAR if the UHS is capable of providing sufficient cooling for at least 30 days to permit simultaneous safe shutdown and cool down and to maintain the unit in a safe shutdown condition with all four traveling screens unable to rotate.
9. Describe in Chapter 9 of the FSAR the measures in place related to the trash racks and traveling screen heat tracing (FSAR 2.4.7.7, "Ice Accumulation on the Intake and ESWS Cooling Tower Basin and Preventive Measures"), in the event that heat tracing fails post DBA.