

## CCNPP3eRAIPEm Resource

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**From:** Arora, Surinder  
**Sent:** Thursday, September 18, 2014 11:34 AM  
**To:** 'Infanger, Paul (paul.infanger@unistarnuclear.com)'; 'Mark.T.Finley@unistarnuclear.com'  
**Cc:** CCNPP3eRAIPEm Resource; Bradford, Anna; Wilson, Anthony; Eudy, Michael; Barss, Dan; Swain, Patricia; Brezovec, Michael; Segala, John  
**Subject:** CCNPP3 - Final RAI 424 NSIR ETE 7657  
**Attachments:** FINAL RAI 424 NSIR ETE 7657.docx

Paul,

Attached is FINAL RAI No. 424 (eRAI No. 7657) pertaining to pertaining to Calvert Cliffs Unit 3 FSAR Chapter 13, Section 13. 3. This RAI includes questions on the revised Evacuation Time Estimate Report submitted by UniStar. The draft of this RAI was previously sent to UniStar on September 9, 2014 and a clarification phone call requested was held on September 18, 2014. However, the clarification phone call did not result in any changes to the draft RAI question and it was agreed that the RAI can be issued as final without any changes or modifications to the draft question.

The schedule that we have established for review of your COL application assumes that your technically complete response to the RAI questions or a schedule for providing a complete response must be received within 30 days of the final issuance of the RAI. Please note that if, in lieu of a complete response, you are providing a response schedule, the staff will re-evaluate the completion schedule for the applicable chapter based on the response date provided by you.

Please also note that the time duration listed above are our normal time durations. However, due to the fact that Chapter 13 is one of your Group A Chapters in accordance with your May 30<sup>th</sup> letter, it is highly recommended that you take expeditious action and respond to the RAI question as soon as practical so that the staff's reviews continue without interruptions. Any interruptions, as you will appreciate, could have detrimental impact on our review schedule established for this chapter.

Additionally, please make sure to include in your response letter a statement certifying whether or not your response contains any sensitive or proprietary information that needs to be withheld from the public disclosure.

Thanks.

**SURINDER ARORA, PE**  
**LEAD PROJECT MANAGER,**  
**CALVERT CLIFFS U3 COLA PROJECT**  
**Office of New Reactors**  
**US Nuclear Regulatory Commission**

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## Request for Additional Information 424 (eRAI 7657)

Issue Date: 09/18/2014  
Application Title: Calvert Cliffs Unit 3 - Docket Number 52-016  
Operating Company: UniStar  
Docket No. 52-016  
Review Section: 13.03 - Emergency Planning  
Application Section: Part 5, Annex 2 (Revision 9 of the CCNPP Unit 3 Emergency Plan)

### QUESTIONS

13.03-70

**RAI ETE-1.** In the Executive Summary of Revision 4 of the ETE Report, the COL applicant states that roadway improvements from the Traffic Impact Study (TIS) (ADAMS Accession No. ML11273A093) at the Calvert Cliffs Nuclear Power Plant were incorporated into the analysis network. In the ETE study, the staff requests for the applicant to describe the roadway improvements from the TIS that were incorporated into the analysis network accordingly.

13.03-71

**RAI ETE-2.** The staff requests for the applicant to explain why the traffic improvements identified in the Traffic Impact Study (ADAMS Accession No. ML11273A093) are not listed in the ETE as specific recommendations that could be taken to significantly improve evacuation time as provided in the guidance of Appendix 4, Section V to NUREG-0654/FEMA-REP-1.

13.03-72

**RAI ETE-3.** School enrollments are identified in Table 8-2, "School and Daycare Population Demand Estimates." This table includes attendance for each school and also includes before and after school program enrollments for Mutual Elementary School, Dowell Elementary School, Our Lady Starr of the Sea School, and Patuxent Elementary School. The staff notes that this presents a potential double counting of students. The staff requests for the applicant to clarify whether students enrolled in the before and after school programs are also included in the school enrollment population. In addition, please explain any impact this may have on the ETE if fewer resources are needed to support the evacuation.

13.03-73

**RAI ETE-4.** The staff notes that CCNPP Unit 3 is located approximately 0.5 miles southeast of the existing CCNPP Units 1 and 2. The emergency response zones that make up the EPZ are illustrated in Figure 6-1, "CC3 EPZ Zones," which shows the 10 mile area centered around the proposed Unit 3. The CCNPP Unit 3 Emergency Plan and Revision 3 of the ETE Report shows the 10 mile area centered around the existing CCNPP Units 1 and 2. The newly defined 10 mile area encroaches an additional half mile into the Patuxent River Naval Air Station. The staff requests for the applicant to discuss whether appropriate agencies have agreed that the Patuxent Naval Air Station is not a part of the emergency planning zone (EPZ).

13.03-74

**RAI ETE-5.** The staff notes that in Table 8-7, "School Evacuation Time Estimates - Good Weather," the average speed for Dowell Elementary, Grover's Place Day Care, Our Lady Starr of the Sea, and Solomon's Day Care are 12.1, 13.9, 19.2, and 15.1 mph, respectively. For these same schools, Table 8-9, "School Evacuation Time Estimates - Snow," identifies speeds of 13.2, 17.0, 23.6, and 17.2 mph. The staff requests for the applicant to explain how the speeds during snow conditions can be faster than speeds during normal conditions.

13.03-75

**RAI ETE-6.** The staff notes that road travel times for the medical facilities are presented in Table 8-14, "Medical Facility Evacuation Time Estimates - Good Weather." The table shows travel time to the EPZ boundary for Ashbury Solomons Island Skilled Nursing Home to be 47 minutes for ambulatory residents who depart at 130 minutes (90 minutes for mobilization and 40 minutes for loading). The table shows travel time to the EPZ boundary for Solomons Nursing Center Inc., to be 79 minutes for bedridden residents who depart at 120 minutes (90 minutes for mobilization and 30 minutes loading). These facilities are 0.2 miles apart. The transport vehicles for these ambulatory and bedridden residents enter the roadway network within 10 minutes of each other, and one takes 32 minutes longer to travel the same evacuation route. The staff requests for the applicant to explain the factors that contribute to a 32 minute difference in travel time for facilities that are located at about the same location, depart within 10 minutes of each other, and travel the same evacuation route.

13.03-76

**RAI ETE 7.** The staff notes that table 8-14, "Medical Facility Evacuation Time Estimates - Good Weather," shows a travel time to the EPZ boundary for Solomon's Nursing Center Inc., of 79 minutes for bedridden residents. In addition, Table 8-16, "Medical Facility Evacuation Time Estimates - Snow," shows a travel time to the EPZ boundary of 78 minutes for these same residents. The staff requests for the applicant to explain how the travel time to the EPZ boundary can be 1 minute faster during snow conditions that during good weather conditions for the Solomon's Nursing Center. Similarly, please explain how the travel time can be the same for snow and normal conditions for Asbury Solomon's Island Assisted Living when all other facilities at this location have substantially longer travel times during snow.

13.03-77

**RAI ETE-8.** The staff notes that in Table 8-15, "Medical Facility Evacuation Time Estimates - Rain," the Asbury Solomons Island Skilled Nursing Home travel time for bedridden residents is 20 minutes, but is 59 minutes under normal conditions (Table 8-14). The travel time for In God's Care, Inc. is 84 minutes during rain, but is 77 minutes during snow (Table 8-16). The staff requests for the applicant to explain how the travel time for the Ashbury Solomon's Island Skilled Nursing Home can be faster during rain conditions than during normal conditions. In addition, please explain how the travel time can be longer during rain conditions than during snow conditions for In God's Care, Inc.

13.03-78

**RAI ETE-9.** The staff notes that in Section 8, the applicant explains that based on Table 8-5, sufficient total resources are available to evacuate ambulatory residents including schools, medical facilities and the transit dependent population. The table presents total resources

related to total needs and identifies 27 wheelchair resources located in Dorchester County. The staff requests for the applicant to explain whether the 27 wheelchair capacity resources from Dorchester County Board of Education are needed to support a single wave evacuation of Calvert and St. Mary's Counties which are located across the bay. In addition, please explain how the time to mobilize these resources is included in the ETE.

13.03-79

**RAI ETE-10.** The staff notes that in Section 8.4, "Evacuation Time Estimates for Transit Dependent People," the applicant explains that no data were received confirming the number of ambulances for each county. The ETE Report further explains that buses have an average capacity for 2 wheelchair bound persons. Table 8-5, "Summary of Transportation Resources," lists a wheelchair capacity of 156. The staff requests for the applicant to explain whether the resources included in Table 8-5 are dedicated for wheelchair evacuation or whether they represent 2 persons per bus as part of the general bus fleet. If they are part of the general bus fleet, then please explain whether these resources will be needed to evacuate the transit-dependent residents prior to initiating evacuation of the special needs facilities.

13.03-80

**RAI ETE-11.** The staff notes that in Section 8, the applicant explains that based on Table 8-5, sufficient resources are available to evacuate ambulatory and wheelchair bound persons from medical facilities in a single wave, but there is a shortfall of ambulances. In Section 8.3, "Medical Facility Demand," it is stated that no data were received confirming the number of ambulances for each county. Furthermore, in Table 8-14, "Medical Facility Evacuation Time Estimates - Good Weather," a 90 minute mobilization time is indicated for each of the 8 bedridden individuals identified indicating that transportation resources are available for each of these individuals. The staff requests for the applicant to explain how the ETE was calculated for bedridden residents considering the shortfall of ambulances available to support the evacuation. In addition, please discuss whether return trips are required for ambulances and any impact this may have on the ETE.

13.03-81

**RAI ETE-12.** The staff notes that guidance in Appendix 4 to NUREG-0654/FEMA-REP-1, Rev. 1 provides that specific recommendations for actions that could be taken to significantly improve evacuation time shall be given. In Section M, "Evacuation Sensitivity Studies," analysis of traffic improvements show the ETE can be reduced by as much as 2.5 hours. The staff requests for the applicant to explain whether the analyses in Appendix M, "Evacuation Sensitivity Studies," are intended to be recommendations that could be taken to significantly improve evacuation time. In addition, if such costs are significant, then provide preliminary estimates of the cost of implementing these recommendations.

13.03-82

**RAI ETE-13.** The staff notes that Table 1-1, "Stakeholder Interaction," lists the stakeholders involved in the ETE interactions and identifies meetings held to define data requirements and explain the project scope. The staff requests for the applicant to provide additional information regarding interactions with the stakeholders identified in Table 1-1, "Stakeholder Interaction," including whether stakeholders were provided the final ETE document for review.