

## CCNPP3eRAIPEm Resource

---

**From:** Arora, Surinder  
**Sent:** Tuesday, May 29, 2012 7:52 AM  
**To:** 'Infanger, Paul'; 'UNECC3Project@unistarnuclear.com'  
**Cc:** CCNPP3eRAIPEm Resource; Segala, John; Stutzcage, Edward; Sampson, Michele; Wilson, Anthony; Vrahoretis, Susan; Clark, Phyllis; McLellan, Judith  
**Subject:** CCNPP3 - Draft Phase 4 RAI 354 RPAC 6474  
**Attachments:** DRAFT RAI 354 RPAC 6474.doc

Paul,

Attached is DRAFT RAI No. 354 (eRAI No. 6474) pertaining to section 12.3 of the CCNPP3 FSAR. This RAI is a follow up to RAI 199, Question 12.03-12.04-7 and is being issued because the information provided in your response to this question has been revised in the subsequent revisions of your COLA.

You have until June 11, 2012 to review it and decide whether you need a conference call to discuss the RAI before the final issuance. After the phone call or after June 11, 2012, the RAI will be finalized and sent to you for your response. You will then have 30 days to provide a technically complete response or an expected response date for the RAI.

**NOTE: This is a Phase 4 RAI.**

Thanks

**SURINDER ARORA, PE**  
**PROJECT MANAGER,**  
**Office of New Reactors**  
**US Nuclear Regulatory Commission**

Phone: 301 415-1421  
FAX: 301 415-6406  
Email: [Surinder.Arora@nrc.gov](mailto:Surinder.Arora@nrc.gov)

**Hearing Identifier:** CalvertCliffs\_Unit3Col\_RAI  
**Email Number:** 210

**Mail Envelope Properties** (B46615B367D1144982B324704E3BCEEDB085D5702E)

**Subject:** CCNPP3 - Draft Phase 4 RAI 354 RPAC 6474  
**Sent Date:** 5/29/2012 7:51:37 AM  
**Received Date:** 5/29/2012 7:51:39 AM  
**From:** Arora, Surinder

**Created By:** Surinder.Arora@nrc.gov

**Recipients:**

"CCNPP3eRAIPEm Resource" <CCNPP3eRAIPEm.Resource@nrc.gov>  
Tracking Status: None  
"Segala, John" <John.Segala@nrc.gov>  
Tracking Status: None  
"Stutzcage, Edward" <Edward.Stutzcage@nrc.gov>  
Tracking Status: None  
"Sampson, Michele" <Michele.Sampson@nrc.gov>  
Tracking Status: None  
"Wilson, Anthony" <Anthony.Wilson@nrc.gov>  
Tracking Status: None  
"Vrahoretis, Susan" <Susan.Vrahoretis@nrc.gov>  
Tracking Status: None  
"Clark, Phyllis" <Phyllis.Clark@nrc.gov>  
Tracking Status: None  
"McLellan, Judith" <Judith.McLellan@nrc.gov>  
Tracking Status: None  
"Infanger, Paul" <paul.infanger@unistarnuclear.com>  
Tracking Status: None  
"UNECC3Project@unistarnuclear.com" <UNECC3Project@unistarnuclear.com>  
Tracking Status: None

**Post Office:** HQCLSTR01.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	922	5/29/2012 7:51:39 AM
DRAFT RAI 354 RPAC 6474.doc		31738

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

Request for Additional Information No. 354 (eRAI 6474)  
DRAFT  
5/29/2012

Calvert Cliffs Unit 3  
UniStar  
Docket No. 52-016  
SRP Section: 12.03-12.04 - Radiation Protection Design Features  
Application Section: FSAR Section 12.3

QUESTIONS for Radiation Protection & Accident Consequences Branch (RPAC)

12.03-12.04-10

**This question is a follow up to the response to RAI 199, Question 12.03-12.04-7**

10 CFR 20.1301 requires that the total effective dose equivalent to individual members of the public does not exceed 100 mrem.

In addressing COL Item 12.3.5.1 (FSAR Section 12.3.5), the applicant provided estimated dose rate information for Calvert Cliffs Nuclear Power Plant (CCNPP), Unit 3, construction workers exposed to radiation sources from the nearby CCNPP, Units 1 and 2. During the staff's review of FSAR Revisions 7 and 8, the staff noticed that the information provided in FSAR Section 12.3.5 has changed from what was provided in the response to RAI 199, Question 12.03-12.04-7. Specifically, the construction worker dose calculations and estimated dose rates are different than those previously provided.

In addition, the staff noticed that the construction worker dose estimates in Section 12.3.5 are based on a construction time period from 2010 to 2015. During construction, one of the sources of radiation to construction workers from CCNPP Units 1 and 2 was identified as the independent spent fuel storage installation (ISFSI). Since the loading of the ISFSI increases over time, the ISFSI dose rate contribution to the construction worker also increases, and is greatest at the end of this time period (2015). However, the staff believes that the 2010 to 2015 time frame for construction of CCNPP Unit 3 is no longer realistic.

In light of the above, please update the construction worker dose estimates in FSAR Section 12.3.5 to include either construction worker dose rate information beyond 2015, through the new estimated completion date of plant construction, or using bounding dose rate information, assuming a full ISFSI. Also, explain any changes to the new construction worker dose estimate calculation methodology that occurred since the response to RAI 199, Question 12.03-12.04-7 (for example, in addition to the changes in the estimated construction period, explain the reason for any equation changes or new assumptions to the calculation methodology that occurred since the response to RAI 199, Question 12.03-12.04-7).