

**From:** MATHUES Glenn (AREVA) <Glenn.Mathues@areva.com>  
**Sent:** Thursday, January 23, 2014 9:57 AM  
**To:** Vera, John  
**Cc:** PHAM Tan Trieu (AREVA); MIGLIORE Rick (AREVA); SHAW JR Donis (AREVA)  
**Subject:** TN-LC Question regarding the Model

John,

I passed the attachments on to the Analyst.  
He has reviewed and will be able discuss with the Reviewer this afternoon.

Thanks to you and the Reviewer for this information and for allowing TN the opportunity to address the Reviewers' question.

Glenn

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**From:** Vera, John [<mailto:John.Vera@nrc.gov>]  
**Sent:** Wednesday, January 22, 2014 3:08 PM  
**To:** MATHUES Glenn (BE/TN)  
**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

Glenn,

Let's do tomorrow at 2pm. I will send out the info shortly.

Attached are two files. One is for an infinite array. You can get the results for a single cask by just changing the boundary conditions to water. The code is SCALE using CSAS6.

The hexMC4 file is an earlier model with CSAS5, which had to be done with a square array, since hexagon surfaces are not allowed. It resulted in about 0.94, as well.

Regards,  
John A. Vera, Ph.D.  
Project Manager  
NMSS/SFST/LB  
Email (Best way to contact): [john.vera@nrc.gov](mailto:john.vera@nrc.gov)  
301-287-9165

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**From:** MATHUES Glenn (AREVA) [<mailto:Glenn.Mathues@areva.com>]  
**Sent:** Wednesday, January 22, 2014 1:16 PM  
**To:** Vera, John  
**Cc:** PHAM Tan Trieu (AREVA); MIGLIORE Rick (AREVA)  
**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

John,

We have a request wondering if this would this be possible.

Would the NRC Reviewer share with TN his model. This would assist TN to identify the differences, or at least have some information on the computer code the Reviewer uses (SCALE or MCNP and version)?.

Thank you.

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**From:** MATHUES Glenn (BE/TN)  
**Sent:** Wednesday, January 22, 2014 11:30 AM  
**To:** 'Vera, John'  
**Cc:** PHAM Tan Trieu (BE/TN); MIGLIORE Rick (AFS)  
**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

John,

Good morning.

I spoke with our folks and would tomorrow, January 23, 2014 at 2 PM be acceptable for TN to call in to discuss this question?

Will you be setting up the call in?

Please let me know if this is acceptable.

Thank you.

Glenn

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**From:** Vera, John [<mailto:John.Vera@nrc.gov>]  
**Sent:** Tuesday, January 21, 2014 2:18 AM  
**To:** MATHUES Glenn (BE/TN)  
**Cc:** PHAM Tan Trieu (BE/TN)  
**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

Glenn,

This is from the reviewer, to give you an idea of what we're looking at.

"I've looked over my file repeatedly, and even without some conservatisms, my keff is 0.94 for an array. For example, my array does not consider the rods to touch at the ends, which is the model shown to result in a higher keff by TN. I also didn't model my cask on its side, which was also shown by TN to result in a higher keff. However, I can't see anything wrong with the input they used in MCNP. I'm at a loss for how we could have a difference of 0.04 in keff, but it obviously needs to be resolved, since my results show they can't use a CSI of 0.

Also, we need to clarify the contents that can be put in the package, since they don't identify the Zirc to Hydrogen ratio allowed and what types of TRIGA rods are allowed from what I can tell."

We can try to have a call today (Tuesday) afternoon, or we can give you a day or two. Let me know.

Regards,  
John A. Vera, Ph.D.  
Project Manager  
NMSS/SFST/LB

Email (Best way to contact): [john.vera@nrc.gov](mailto:john.vera@nrc.gov)  
301-287-9165

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**From:** MATHUES Glenn (AREVA) [<mailto:Glenn.Mathues@areva.com>]  
**Sent:** Friday, January 17, 2014 6:55 AM  
**To:** Vera, John  
**Cc:** PHAM Tan Trieu (AREVA)  
**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

John,

Good morning. Yes I did get your voice message and glad to hear that you identified the file for the Cask Model Case from page 6.10.3-23.

Would a conference call next week between your Reviewer and our Analyst to discuss the  $k_{eff}$  question be acceptable?

I will be here until 1PM today.

**GLENN MATHUES**

Licensing Manager (Transportation)

**AREVA TN**

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**From:** Vera, John [<mailto:John.Vera@nrc.gov>]  
**Sent:** Thursday, January 16, 2014 3:48 PM  
**To:** MATHUES Glenn (BE/TN)  
**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

Glenn,

Regarding the VM I left you today, I think we have identified the files. However, the reviewer said the keff he's obtaining in the confirmatory models is higher than what was calculated by TN. This may be an RAI, if in fact his model is correct. Such RAI would go out Mid-February.

Regards,

John A. Vera, Ph.D.

Project Manager

NMSS/SFST/LB

Email (Best way to contact): [john.vera@nrc.gov](mailto:john.vera@nrc.gov)  
301-287-9165

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**From:** MATHUES Glenn (AREVA) [<mailto:Glenn.Mathues@areva.com>]  
**Sent:** Thursday, January 16, 2014 9:18 AM  
**To:** Vera, John  
**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

John,

Thanks for the update.

Please let me know if there are any RAIs., and if so when you anticipate communicating them to TN.

Glenn

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**From:** Vera, John [<mailto:John.Vera@nrc.gov>]

**Sent:** Thursday, January 16, 2014 9:11 AM

**To:** MATHUES Glenn (BE/TN)

**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

Hi Glenn,

Technical review ends Jan 31st, I asked the reviewers a few weeks ago and there were no RAIs at that time, I will check again.

Regards,  
John

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**From:** MATHUES Glenn (AREVA) [Glenn.Mathues@areva.com]

**Sent:** Thursday, January 16, 2014 8:57 AM

**To:** Vera, John

**Cc:** GUIBERT Nicolas (AREVA)

**Subject:** RE: UX-30 Renewal Pre-application Meeting (CoC 9196)

John,

Good morning. I trust you are doing well.

I have question; How is the TN-LC review coming along?

Are there any anticipated RAIs and when do you anticipate them?

I have been asked several times and was hoping to get an update yesterday at our monthly call but it was re-scheduled to next week.

Thank you.

Glenn