**From:** Christopher Staab
**Sent:** Wednesday, May 13, 2009 2:38 PM
**To:** NOSS Philip (AFS)
**Subject:** Phone Call for BRR: Verification of the source terms for MURR, MIT-II, ATR, and TRIGA

Phil -

We would like to have a phone call to discuss:

"Source term verification for MURR, MIT-II, ATR, and TRIGA:

On page 5.2-1 of the SAR, the applicant states that the shielding sources terms for MURR, MIT-II, and ATR fuel were developed and provided by the host reactor staff. MURR, MIT-II, and ATR have generated their source term using ORIGEN2.1, ORIGEN2.2, and ORIGEN-S. Also, on Page 5.2-2, the applicant states that the TRIGA fuel gamma source term is derived from information in INEL-96/0482.

According to ORNL, ORIGEN2.1 was first released in August 1991 and was replaced with ORIGEN2 Version 2.2 in June 2002. Version 2.2 was the first update to ORIGEN2 in over 10 years and was stimulated by a user discovering a discrepancy in the mass of fission products calculated using ORIGEN2 V2.1. Both codes are no longer supported by ORNL.

NRC staff ran some tests to confirm these source terms. NRC staff found some differences in both gamma and neutron source term calculations.

We would like to discuss the following:

1. Explain how the applicant accepted and verified the accuracy of the information/these calculations provided by the host Reactor Staff?
2. Justify the use of these computer codes to generate gamma source term since these codes are no longer supported by the code developer.
3. Are these codes being properly maintained?
4. What QA did the applicant use to verify that the information provided by these host's Reactor Staff is valid and can be use on this application? (The applicant is responsible to ensure the correctness of this information.)
5. How can TRIGA fuel be the bounded fuel since the other fuels have different configurations?
6. Could the applicant provide us with an example of the ORIGEN2.1, ORIGEN2.2, and ORIGEN-S input files that each host used?"

Please let me know a suitable time for you, and we will call.

Thanks,

Chris Staab
NRC Project Manager
(301) 492-3321

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## E-mail Properties

Mail Envelope Properties ()

Subject: Phone Call for BRR: Verification of the source terms for MURR, MIT-II, ATR, and TRIGA
Sent Date: 5/13/2009 2:32:41 PM
Received Date: 5/13/2009 2:38:00 PM
From: Christopher Staab

Created By: Christopher.Staab@nrc.gov

Recipients:
phil.noss@areva.com (NOSS Philip (AFS))
Tracking Status: None

Post Office:

| Files | Size | Date & Time |
|---|---|---|
| MESSAGE | 9150 | 5/13/2009 |

Options
Expiration Date:
Priority: olImportanceNormal
ReplyRequested: False
Return Notification: False

Sensitivity: olNormal
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