

## HLWYM NPEmails

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**From:** Albert Wong  
**Sent:** Friday, May 18, 2007 1:27 PM  
**To:** Fernando Ferrante  
**Cc:** Robert Johnson (NMSS); Christopher Ryder; asadul.chowdhury@swri.org  
**Subject:** RE: Summary from the Section 2.4 Event Sequence DevelopmentDiscussion\_May 14, 2007

Fernando - You have a point here. On the surface it appears that noble gases will find their way out of the bldg whether the HVAC is on or off because they are son light. Frankly, I don't have experience in this type of releases, so I sent an e-mail to the HPs in the agency who have way more experience than I do in this area. So far I have not heard anything from them. I suspect they are out today. In the mean time, please go ahead and only model the exhaust side for the time being. If I hear compelling arguments from the HPs here to point to a different course of action, I will let you know.

Chris - If you reach a different conclusion after you talk w/ Harold, please let us know. Thanks,

Albert

>>> Fernando Ferrante <fferrante@cnwra.swri.edu> 05/18/2007 11:07 AM >>>

Albert,

Thanks for the clarification. However, since the event sequence we are modeling has to deal with noble gases being released due to the drop of a TAD/STC canister (i.e., not a fire as you mentioned) it seems to me that the top event needs to mirror what can happen to the workers if the HVAC fails to exhaust the gases. In that case, does the supply side still need to be considered? Note that the conceptualized supply side looks exactly like the exhaust side, so it is not clear why adding this section benefits the reliability estimation. Is there is a believe that either failure of the supply or failure of the exhaust results in the noble gases not being exhausted? Please let me know.

Thanks,

Fernando Ferrante

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fferrante@swri.org

-----Original Message-----

From: Albert Wong [mailto:AXW2@nrc.gov]  
Sent: Friday, May 18, 2007 9:57 AM

To: Fernando Ferrante  
Cc: Christopher Ryder; Robert Johnson; asadul.chowdhury@swri.org  
Subject: RE: Summary from the Section 2.4 Event Sequence DevelopmentDiscussion\_May 14, 2007

Fernando -

I will ask Chris to clarify this one. My guess is for the entire HVAC system to function, you need to have both the exhaust and supply side working in concert. If the exhaust is lost while the supply side is still on, you run the risk of pressuring the bldg. On the other hand, if the supply is lost while the exhaust is still on, then you get into a situation where the bldg will experience higher vacuum (more negative pressure relative to ambient), which makes life uncomfortable inside the bldg and impedes egress in the event of an emergency.

The situation becomes more complicated if there is a fire in the bldg when the HVAC is lost. If you loses the supply fan (while the exhaust is still on), you can direct the smoke toward the HEPA. Depending on the magnitude, nature and duration of the fire, as well as the amount of smoke generated, the HEPA may be clogged and air filtration capability is lost/degraded. On the other hand, if you lose the exhaust fan while the supply fan is still on, you get into a situation where smoke can't be readily removed, which impedes the fire fighting. Another problem is more air (oxygen) is brought into the bldg, thereby prolonging the fire (potentially). Of course fire is outside the scope of the exercise, so this aspect does not need to be considered.

Chris, any thoughts on this one?

AW

>>> Fernando Ferrante <fferrante@cnwra.swri.edu> 05/18/2007 10:08 AM  
>>>

Albert,

Why is the supply side to be included in the FT modeling? I don't recall this decision during that meeting. As I mentioned earlier to Chris, I am still waiting for the definition of top event if the supply side is included. The dry cask PRA did not consider the supply side so it is unclear to me what the purpose of including this is at this point.

Thank you,

Fernando Ferrante

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-----Original Message-----

From: Albert Wong [mailto:AXW2@nrc.gov]  
Sent: Monday, May 14, 2007 5:12 PM  
To: Fernando Ferrante; Christopher Ryder; Tina Ghosh  
Cc: Asadul Chowdhury; Andy Campbell; Robert Johnson; Sheena Whaley  
Subject: Summary from the Section 2.4 Event Sequence Development Discussion\_May 14, 2007

All - Thank you for coming to the section 2.4 event sequence meeting this afternoon. The following staff were present: NRC - Tina Ghosh, Chris Ryder, Robert Johnson and Albert Wong. CNWRA - Asad Chowdhury and Fernando Ferrante. The team discussed the proposal prepared by Fernando (1st attachment). Here is the synopsis what the 2.4 team agreed to do:

A. 2.4.1.1 TAD Drop Scenario Description - Chris will write up a high level description on how a TAD canister or cask could be dropped. Chris will consult other reports (e.g., dry cask PRA [NUREG-1864] and/or the EPRI PRA as appropriate.

B. 2.4.2.1 Crane Load Drops - Chris will take over this section from Fernando, so Fernando can concentrate on section 2.4.2.3 HVAC System

C. 2.4.2.3 HVAC System - The entire HVAC system (both supply and exhaust side) should be modeled in the FT. The HVAC system should be based on the system description developed by Chris (second attachment). To simplify the FT, a 1-of-2 (not 3 of 4) train should be assumed in the model. This arrangement is the same as the one outlined in ISG-02 Appendix C, which was dropped from the final version of the ISG. In order to facilitate the modeling, Chris (and everyone else) will retrieve comments he made on the Appendix C and send them to Fernando.

D. 2.4.2.2 HRA - This section will be relocated to the end of 2.4.2.  
The discussion will cover both the crane drops and HVAC system.

E. 2.4.6 Summary of the Most Important Assumptions (tentative title) - Although important assumptions germane to each sub-section of 2.4 will be spelled out in the respective subsections, the most important ones should be placed in a new section at the end of the report. Tina will take a stab at it first.

F. Chap 1 and 2 should be ready by June 1. Team members can begin their individual reviews as soon as the chapters are completed. The full report will go into team review by June 25.

AW

>>> fferran cnwra <[REDACTED]> 05/14/2007 11:10 AM >>>

All,

It seems my e-mails are not getting through, although I am receiving e-mails from NRC. I am using this account to submit the file I had mentioned previously ahead of our meeting. Please let me know if you receive this. I am in my office.

Thank you,  
Fernando

Albert Wong <AXW2@nrc.gov> wrote: Fernando is on travel this morning and won't be back into the office until after lunch.

>>> Tina Ghosh 05/14/2007 10:55 AM >>>  
Fernando,

The X: drive has been disconnected from the NRC all morning so far - don't know when it will be back. Could you e-mail me the file?

Thanks,  
Tina

>>> Fernando Ferrante 05/11/2007 7:22 PM  
>>>

Chris and Tina,

I started working on Section 2.4 and came up with some suggestions in order to complete this section in time. Please find the file 'Phase II Report\_Section\_4\_May\_10.wpd' in the shared drive [X:\Preclosure\PCSA\_Exercise\Phase II Exercise\Phase II Report\Team Working Draft Sections\Section 2.4 (Event Sequence Analysis)]. These are just suggestions on how we can proceed given our June 1st deadline. We can discuss your input as well as how to split the write-up on Monday.

Thank you,

Fernando Ferrante

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-----Original Message-----

From: Albert Wong [mailto:AXW2@nrc.gov]  
Sent: Thursday, May 10, 2007 10:48 AM  
To: Albert Wong; Christopher Ryder; Tina Ghosh  
Cc: Asadul Chowdhury; Fernando Ferrante; Andy Campbell; Robert Johnson;

Sheena Whaley; Susan Cooper  
Subject: Phase II Exercise Section 2.4 Event Sequence  
DevelopmentDiscussion/Brainstorming

Item Type: Appointment  
Start Date: Monday, 14 May 2007, 03:00:00pm (Eastern Daylight Time)  
Duration: 1 Hour  
Place: War Room

Bridge Line: 1-800-638-8081, (301) 231-5539, pass code 7785#

Pls. let me know if this time is not good for you. I'll reschedule the telecon if you have a conflict. Tks.

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**Subject:** RE: Summary from the Section 2.4 Event Sequence  
DevelopmentDiscussion\_May 14, 2007  
**Sent Date:** 5/18/2007 1:26:36 PM  
**Received Date:** 5/18/2007 1:26:36 PM  
**From:** Albert Wong

**Created By:** Albert.Wong@nrc.gov

**Recipients:**

"Robert Johnson (NMSS)" <Robert.Johnson@nrc.gov>  
Tracking Status: None  
"Christopher Ryder" <Christopher.Ryder@nrc.gov>  
Tracking Status: None  
"asadul.chowdhury@swri.org" <asadul.chowdhury@swri.org>  
Tracking Status: None  
"Fernando Ferrante" <fferrante@cnwra.swri.edu>  
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