

August 15, 2006

MEMORANDUM TO: Margie Kotzalas, Chief  
Accident Dose Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

FROM: Joshua N. McGuire **IRAI**  
Accident Dose Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF JUNE 22, 2006, CATEGORY 2 MEETING WITH  
INDUSTRY TO DISCUSS EXPERIENCE WITH IMPLEMENTATION OF  
AN ALTERNATIVE SOURCE TERM (TAC NO. MC8320)

On June 22, 2006 a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC), and representatives of industry, at Ramada Inn Rockville, 1775 Rockville Pike, Rockville, MD. The purpose of the meeting was to discuss the content of Regulatory Issue Summary (RIS) 2006-04 "Experience with Implementation of Alternative Source Terms," discuss the use of the RADTRAD code for dose assessment, and obtain feedback on licensees' experiences with implementation of an alternative source term.

Following introductions, the staff began with a brief presentation by Margie Kotzalas, Chief, Accident Dose Branch (AADB), on recent changes in staffing and themes of questions and comments received prior to the workshop.

Michelle Hart, AADB, gave a brief presentation on RIS 2006-04, level of detail contained in License Amendment Request submittals, and examples of high quality submittals.

Terry Heames, Alion Science and Technology, gave a presentation on RADTRAD design, limits and updates.

Tom Mscisz, Exelon Nuclear, gave a presentation on Exelon's lesson learned regarding AST.

Following the presentation an open forum was held. Informal comments were collected during the forum and participants were encouraged to email written comments to the NRC. A formal written comment, in the form of a letter to the NRC, was received and entered into the NRC's correspondence tracking system with a goal of responding to it within four months of receipt.

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M. Kotzalas

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A list of meeting attendees, a copy of the licensee's slides presented at the meeting (three powerpoint presentations), and a list of comments, questions, and answers from the meeting are enclosed.

Enclosures:  
As stated (5)

cc: Those on the enclosed list.

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cc: Those on the enclosed list.

DISTRIBUTION:

PUBLIC

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ADAMS Accession #(Package): ML062280136

ADAMS Accession #(Memorandum): ML062280177

ADAMS Accession #(Enclosure 3): ML062280232

ADAMS Accession #(Enclosure 4): ML062280252

ADAMS Accession #(Enclosure 5): ML062280265      NRR-106

OFFICE	NRR/DRA/AADB	NRR/DRA/AADB	
NAME	JMcGuire	MKotzalas	
DATE	08/15/06	08/15/06	

**OFFICIAL RECORD COPY**

Memo to Margie Kotzalas from Joshua N. McQuire dated August , 2006

SUBJECT: SUMMARY OF JUNE 22, 2006, CATEGORY 2 MEETING WITH INDUSTRY TO DISCUSS EXPERIENCE WITH IMPLEMENTATION AN ALTERNATIVE TERM (TAC NO. MC8320)

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## AST WORKSHOP COMMENTS AND QUESTIONS

### Comments:

1. Eliminate footnote 11 when updating RG 1.183 or give clear guidance on footnote 11.
2. Provide more discussion on Iodine partitioning in the Steam Generator in RG 1.183.
3. Clarify in RG 1.183 what Refueling Water Storage Tank back leakage assumption should be used, does “design” leakage mean TS leakage or is there some other leakage value that should be used.
4. Include generic guidance in RG 1.183 to make the condenser or other mitigating systems SSC qualified.
5. In RG 1.183, offsite breathing rate does not use the highest breathing rate during the moving two hour window for EAB dose.
6. Correct the DF in the spent fuel pool to 200 in RG 1.183.
7. Discuss Cs inclusion (discrepancy between RG 1.183 and RIS 2006-04).
8. In RG 1.183 clarify the release timing table (table 4).
9. In RG 1.183 provide guidance for acceptable justification for decreasing containment leakage for BWRs.
10. Clarify in RG 1.183 BWR LOCA – steam line break or recirc line break.
11. Include in RG 1.183 a discussion on the type of justification that is necessary for credit for MCR purge.
12. Expand the discussion in RG 1.183 on ESF leakage.
13. Give more guidance in RG 1.183 on applying deposition credit in the steam lines for MSIV leakage release pathway.
14. Include a description of the TID source term or the AST for equipment qualification in the AST submittal.
15. Include a discussion of the time frame for reaching a pH of 7 in the sump in the AST submittal.

### Questions:

1. RG 1.183 sections 4.5 and 4.2 assume plants have TS values for secondary containment bypass leakage and positive pressure period respectively. What do plants do that don't have these values in their TS?

*Answer: These plants could voluntarily submit TS changes to include surveillance requirements consistent with those BWR/4 or 6 STS 3.6.4.1 “Secondary Containment,” for containment operability and draw down time, or other surveillance requirements as needed for leakage through secondary containment bypass pathways.*

*or*

*As an alternative, the licensee could provide information to supply a basis for the assumptions in the dose analysis as follows:*

*For the containment bypass leakage:*

*Other plants have proposed and it has been found acceptable to:*

1) *provide industry wide test data as a basis, provided this information can be accurately applied to the specific plant.*

or

2) *present result from plant-specific surveillance test data for leakage rates through bypass pathways.*

*For the positive pressure period:*

*The licensee may provide a plant-specific analysis using a DBA scenario which is the bounding case to determine the secondary containment draw down time.*

2. Can waste gas rupture be moved from Ch 15 to Ch 11 by 50.59?

Answer: If the waste gas decay tank rupture is currently a design basis accident (DBA), as implied by its Chapter 15 location, the analysis can be most likely be relocated to Chapter 11 without NRC approval using the 50.59 process. It would be prudent to maintain a reference to this DBA in Chapter 15, thereby minimizing the chance of overlooking this DBA during some future 50.59 screen/evaluation.

If the intent is to eliminate the waste gas decay tank rupture DBA, then a 50.59 review will most likely conclude that prior NRC approval is required.

3. In RIS 2006-04 Control Room normal ventilation system operation is considered credit, it really is not a credit when compared to the Control Room normal ventilation system secured.

*Answer: By saying the licensee is "crediting the MCR HVAC normal ventilation system," the staff means that the licensee has assumed that the MCR HVAC system would be operating in the normal ventilation mode after an accident. In other words, the MCR would not isolate, nor would the MCR emergency ventilation system initiate (if applicable). If the licensee intends to use the intake flow rate for the MCR HVAC normal ventilation system as a bounding value in the dose analysis for the unfiltered inleakage that may occur with MCR isolation and emergency ventilation system operation (as determined by appropriate control room envelope inleakage testing), the licensee should make this clear in the submittal. In addition, at a minimum the licensee should discuss the expected actual control room ventilation system operation for the accident being analyzed, including automatic initiation or manual actions.*

4. How far away is adjacent to nearest building to get credit for elevated release?

Answer: *The first paragraph of Section C.3.2.2 of RG 1.194 provides guidance for determining how far away a stack needs to be from adjacent building in order to get credit as an elevated release. Section C.3.2.2 says, in part:*

*"(An elevated) stack should be more than 2-1/2 times the height of the adjacent structures or be located*

- more than  $5L$  downwind of the trailing edge of upwind buildings, and
- more than  $2L$  upwind of the leading edge of downwind buildings, and
- more than  $0.5L$  crosswind of the closest edge of crosswind buildings

*where  $L$  is the lesser of the height or width of the building creating the downwind, upwind, or crosswind wake. Since  $L$  will be dependent on wind direction for most building clusters, it will generally be necessary to assess the zone of influence for all directions within the 90 degree wind direction sector centered on the line of sight between the stack and the control room intake." More information is given in Figure 1 to RG 1.194.*

*This guidance can be applied to site boundary calculations as well as control room calculations.*

5. If the accident dose is acceptable without credit for an ESF filter system. Can you remove ESF filter system from plant altogether, or is it's presence still required for defense-in-depth.

Answer: If the accident dose is acceptable without using the ESF filter system for mitigation, the first step would be to remove it from technical specifications. In order for the plant to remove an ESF system, it would have to screen the removal with a 10 CFR 50.59 evaluation or request a staff evaluation. In doing so, the plant would have to address the safety consequences of removing a barrier to the release of contamination to the environment. The GDC plants would have to consider the requirements of GDC 61 which requires ESF filter systems in areas where fuel is stored to contain, filter, and process contamination as appropriate and GDC 64 which has requirements for monitoring releases. Non-GDC plants would have to consider their equivalent design requirements. The uncertainty of design basis assumptions that make compliance with design basis analyses possible should be addressed along with the need for defense-in-depth.

**ATTENDANCE LIST**  
**JUNE 22, 2006**

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Uriel Bachrach	Westinghouse
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Jessica DeLaRosa	Exelon
John Schrage	Exelon
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