

## Mitman, Jeffrey

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**From:** Mitman, Jeffrey *MM*  
**Sent:** Thursday, April 08, 2010 9:29 AM  
**To:** Galloway, Melanie; Cunningham, Mark  
**Cc:** Circle, Jeff; James, Lois  
**Subject:** RE: Comments on the NRR Draft Memo: "Supplement to Tech Basis for Allowing ONS to Remain in Operation"

I've made two important mistakes in my discussion below that I need to correct.

- The current "JCO" justifies operation through November 2010 not 2011.
- The baseline risk levels for all ONS internal events is  $\sim 1\text{E-}5$  not  $1\text{E-}6$ .

Regardless of these mistakes, my issues and conclusions remain unchanged.

Jeff

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**From:** Galloway, Melanie *MM*  
**Sent:** Thursday, April 08, 2010 7:45 AM  
**To:** Cunningham, Mark  
**Cc:** Circle, Jeff; Mitman, Jeffrey; James, Lois  
**Subject:** FW: Comments on the NRR Draft Memo: "Supplement to Tech Basis for Allowing ONS to Remain in Operation"

Mark,

I am also forwarding you Jeff's comments on the latest revision to the tech basis for allowing the Oconee units to remain in operation. His points regarding incorrect risk characterization are valid and something we should weigh in on such that this memo is appropriately revised, with the benefit of risk expertise included, before it is finalized.

Melanie

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**From:** Mitman, Jeffrey  
**Sent:** Tuesday, April 06, 2010 6:07 PM  
**To:** James, Lois; Circle, Jeff; Galloway, Melanie  
**Cc:** Ferrante, Fernando  
**Subject:** Comments on the NRR Draft Memo: "Supplement to Tech Basis for Allowing ONS to Remain in Operation"

Here are my comments on the subject document a copy of which is attached.

- Antonios Zoulis should be removed from the "contacts" list and from concurrence.
- The purpose of the memo is unclear. In talking with Meena, she indicated that Jack Grobe requested that the August 2009 memo/analysis concluding that ONS was good to operate through November 2011, be reviewed to ensure that based on new knowledge that the conclusions are still valid. I recommend that this be clearly indicated in the new memo's first paragraph.
- On page 2, in paragraph 3, the acronym SSF is used. As this is its first use, it should be defined.
- Starting on Page 1, the last paragraph states in part: "In addition, based on the new information received from the licensee, specifically with regards to the projected schedules for the interim compensatory measures (ICMs) and the flooding inundation information, the staff is more confident that that continued operation during this period is not inimical to the public health and safety." This is not accurate. The additional 2D analysis indicates that the flooding/inundation is more severe than previously understood from either the 1992 inundation analysis or the March 2009 1D analysis. In addition, the draft (February 2009) ICMs written by Duke assume that there is 5 hours to prepare the

site for inundation. The draft 2D analysis from the summer of 2009 indicate that in the worst case analyzed, there could be as little as 3 hours to prepare the site.

- Page 3, last bullet states: "While the current health of the dam combined with ongoing condition monitoring is sufficient to support the staff's assessment to allow a slight increased risk until Duke's implementation schedule is in place, the overall defense-in-depth and adequate safety margins for protecting ONS are deterministic, pending completion of ongoing flood analysis work." The base line internal events CDF for Oconee is about  $1E-6$  per year. The currently calculated (based on the best available information) CDF from a Jocassee Dam failure is about  $2E-4$  per year. This is not a slight increase in risk and should not be characterized as such. I recommend changing "... to allow a slight increase in risk ..." to "... to allow a significant increase in risk ..."
- Page 4, second paragraph states: "In evaluating the applicable LIC-504 criteria, the increased risk over the short term when balanced against the defense in depth and safety margin criteria of LIC-504 over the same period was deemed acceptable." This paragraph implies that Oconee has defense-in-depth against core damage from a Jocassee Dam failure. This characterization is incorrect. Oconee has no core damage defense against a Jocassee Dam failure (Duke has indicated that all three units will go to core damage if Jocassee fails and inundates the SSF). Therefore, Oconee has no core damage defense-in-depth against a Jocassee Dam failure. Duke has also stated that containment failure will occur between 59 to 68 hours after the dam break but that mitigation actions could be performed after flood water recession (flood water recession is expected to occur about 10 hours after dam failure). However, Duke has supplied no procedures and/or strategies that describe what mitigation strategies might be taken to prevent containment failure. Thus, as of this writing, Duke has no defense or defense-in-depth to prevent containment failure.

The basic argument in this memo is two fold. First, that the increase risk is "slight" and second, that there is sufficient defense-in-depth. Our analysis indicates that the increase in risk is not slight in fact it is over an order of magnitude higher. Our understanding is that ONS has no defense or defense-in-depth to core damage and only a possible defense against containment failure (no defense-in-depth against containment failure). Duke to date has not supplied any documented evidence countering these concerns.

Jeff Mitman