

Beasley, Benjamin

From: Criscione, Lawrence
Sent: Tuesday, September 18, 2012 7:25 PM
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Subject: Inadequately Sized Flood Wall at Oconee Nuclear Station Could Lead to Fukushima Scenario in the Event of a Failure of the Lake Jocassee Dam
Attachments: Jocassee Dam Failure Concerns.pdf; References.pdf

Chairman Macfarlane,

Please see the attached letter. I apologize for its length but it is written for a broad audience and concerns some technically complex issues with six years of regulatory background.

The risk that a core meltdown will occur at the Oconee Nuclear Station (ONS) is ten times greater than at similarly designed US reactor plants and the risk of a containment breach leading to significant public dose is 500 times greater.

ONS lies eleven miles downstream of the Lake Jocassee Dam. Since 2006 the NRC has known of a harrowing liability: a failure of Jocassee Dam would lead to all three reactors at ONS melting down within 10 hours and a potential breach of the containment buildings within 68 hours. This is very similar to the events which occurred at Fukushima Dai-ichi in 2011.

I am not directly involved with this issue. My involvement stems from concerns of a co-worker that serious safety concerns regarding ONS are being illegally withheld from the public under the guise of "Security-Related Information". My knowledge of this issue comes entirely from a cursory review of documents in ADAMS. From that review it is clear that:

- Despite knowing about the significant risk posed by a failure of Jocassee Dam since 2006, no efforts have yet been taken to substantially lower those risks. Although interim actions are being taken at Duke Energy, they are not of a nature that significantly lowers the risks to a par with typical US reactor plants.
- Most of the documents pertaining to this safety concern are not publicly available due to being stamped "Security-Related Information". However, none of these documents discuss security topics at all. Terrorism, sabotage, vandalism or any other intruder or insider threat are not mentioned. These documents deal wholly with the failure of Jocassee Dam due to natural phenomena or latent engineering/construction flaws.
- The annual risk of core damage at ONS is on the order of $1E-4$ /year and the annual risk of core damage followed by containment failure is on the order of $1E-5$ /year.

The items below are also apparent from the documents I have reviewed, although it is possible these items have been done and I have merely not located the documents affirming them:

1. After six years, the NRC does not have an accurate risk model of ONS which takes into account the liabilities posed by a failure of Jocassee Dam.

2. After six years, the NRC does not have an accurate assessment of the probability that ONS operators can prevent a containment failure in the 49 to 58 hours between the recession of the flood waters and the failure of the containment structures.
3. The original due date for constructing adequate flood protection was November 30, 2011. After the Fukushima Dai-ichi accident, instead of being prioritized this due date has been extended to 2016. That's ten years after we first became aware of the liability.

Please note that the above three items are conjecture on my part as I have not been involved in any of the NRC discussions concerning this issue and it is likely there are many documents in ADAMS which I failed to find and review. However, from the documents I have reviewed, it is apparent to me that the above statements are true. The technical staff involved in this issue (i.e. whose names appear on the ADAMS documents) are Eric Leeds, Joseph Glitter, Melanie Galloway, George Wilson, Jeff Mitman as well as others. I have not spoken to any of these people other than Jeff Mitman and my short conversation with Jeff last Thursday was merely to get an understanding of the current status of the Jocassee Dam/ONS flood protection issue (i.e. I didn't want to bother writing to you if they have broken ground and actually started installing adequate flood protection). These individuals should be able to inform you of the specifics of the Jocassee Dam issue. I have copied them on this email and encourage them to inform you of any items in my letter which are not accurate. It is not my intent to misrepresent anybody, but being an outsider on this issue it is possible that I have.

The purpose of the attached letter is to (1) bring to your attention the issues regarding Jocassee Dam, (2) inform our congressional oversight committees of concerns I have that the NRC is not addressing the liabilities at ONS in a timely manner, and (3) bring to your attention that I support Richard Perkins' allegation that the issues surrounding Jocassee Dam have been inappropriately categorized as "Security-Related Information".

Although as an agency we tend to refer to them in the same breath, security and safety are separate issues. All manmade structures, no matter how well built, can be destroyed by some level of terrorist action if left unprotected. The solutions to terrorist threats are security measures that assess the credible threat and that guard access to critical areas sufficient to the assessed threat level. Construction margins and "defense-in-depth" modifications are the solutions to safety concerns not security concerns. The issues regarding Jocassee Dam are about construction margins – that is, is the dam constructed to typical margins (supporting a $2.8E-4$ /year failure rate) or to some type of exceptional margins. They have nothing to do with the necessity of whether or not security measures need to be taken to avert a terrorist threat. If the fact that ONS lies 11 miles downstream of Jocassee Dam makes it a security liability, then separate from the safety concerns discussed in my letter the NRC and the Department of Homeland Security need to secretively address security measures to protect the dam. After six years it is unacceptable to withhold vital safety liabilities from public disclosure solely because there may have been a possibility of a security threat. If there is a security vulnerability, then I would hope that it was addressed within months of us becoming aware of this issue in 2006. If anyone within the NRC believes there is still an unaddressed security liability, then separate from the safety solutions (e.g. building an adequately sized flood wall) the NRC should be ensuring that appropriate protective measures are in place to protect Jocassee Dam – merely withholding basic information regarding nuclear safety from public view is not the way to address a security threat.

V/r,

Lawrence S. Criscione, PE
NRC/BES/DRA/OEGIB

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