

Circle, Jeff

From: Steven Laur *in nrc*
Sent: Wednesday, May 21, 2008 11:21 AM
To: Melanie Galloway
Cc: Jeff Circle; Mike Franovich; Mark Rubin; Gareth Parry
Subject: RE: Oconee Flood Protection Questions

I think Mark Rubin is a very good source for discussions of this type; I've included him on "carbon copy" for this e-mail.

The MD 8.4 text Jeff quotes is interesting; it only "defines" adequate protection if one already knows what "no undue risk ..." means (and vice versa).

Melanie, to answer your question regarding the relationship of regulations to adequate protection, SRP 19.2 Appendix D has a pertinent discussion:

When a license amendment request complies with the regulations and other license requirements, there is a presumption by the Commission of adequate protection of public health and safety (Maine Yankee, ALAB-161, 6 AEC 1003 (1973)). However, circumstances may arise in which new information reveals an unforeseen hazard or a substantially greater potential for a known hazard to occur, such as identification of an issue that substantially increases risk. In such situations, the NRC has the statutory authority to require licensee action above and beyond existing regulations to maintain the level of protection necessary to avoid undue risk to public health and safety. Section 182.a of the Atomic Energy Act of 1954, as amended, and as implemented by 10 CFR 2.102 gives the NRC the authority to require the submittal of information in connection with a license amendment request if NRC has reason to question adequate protection of public health and safety. The licensee may decline to submit such information, but it would risk having the amendment request denied if NRC cannot find that the requested amendment provides adequate protection of public health and safety. (emphasis added)

In other words, if a licensee meets all existing regulations, there is a presumption of adequate protection unless special circumstances are identified that rebut that presumption.

Unfortunately, there is no crisp and clear definition (certainly not in terms of a risk number) that one can point to and say, "there is the boundary where adequate protection is no longer afforded." The declaration of "special circumstances" involves judgment.

As Jeff points out, the backfit rule provides some guidance in this matter

One question that comes to mind: What is special about Oconee? That is, if new information indicates that dam failures are more likely than originally thought, then there is the potential for a generic issue here. I can think of a couple of plants where a dam failure could drain the ultimate heat sink, or where an upstream dam failure could result in flooding. Maybe we should be pursuing this as a GSI.

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From: Melanie Galloway *NRK*
Sent: Wednesday, May 21, 2008 7:03 AM
To: Steven Laur
Cc: Jeff Circle; Mike Franovich
Subject: FW: Oconee Flood Protection Questions

Steve,

Do you have any further insights on "substantial" and "adequate protection" beyond what Jeff has written below? In particular, is there any relationship between adequate protection and the meeting of our regulatory requirements? If there is not a clear reg reqt, can we still determine that adequate protection is not met? If there is not a reg reqt, do we lower our standard for adequate protection? How does likelihood of a scenario play into the definition of adequate protection?

If you have thoughts to share, I would appreciate your getting on my calendar by Thursday to discuss.

Thanks.

Melanie

From: Jeff Circle *NRK*
Sent: Tuesday, May 20, 2008 4:32 PM
To: Patrick Hiland
Cc: Michael Case; Tim McGinty; Brian Richter; James Vail; Kamal Manoly; Kosmas Lois; Leonard Olshan; Melanie Galloway; Melanie Wong; Mike Franovich; Raman Pichumani
Subject: Oconee Flood Protection Questions

Pat,

I understand that at the last Oconee flood management meeting, you had a questions regarding leak-before-break and definitions in the backfit rule.

A while back, I posed the same question to Ken See, now in NRO, who came from the Army Corps of Engineers. His response was that there are no partial rupture of dams as one would experience analyzing piping systems, dams tend to fail catastrophically. Additionally, the population of dams that the failure frequency data came from is no different than that of Jocassee (e.g. over 50-ft in height and rockfill). Therefore, we feel that we cannot credit any special inspections on the physical integrity or health of the dam in lowering this failure rate frequency.

There were some questions on the terms "substantial" and "adequate protection". The guidance is more of a qualitative one requiring a judgment call on our part. Luckily, we can adapt some of the safety goal screening criteria as presented in NUREG/BR-0058, Section 3.3.1.

For the term "substantial", I have to thank Brian in pointing out the following from MD 8.4, Part II:

"In the statement of considerations for the 1985 reactor backfit rule, the Commission said—

Substantial means 'important or significant in a large amount, extent, or degree.' Under such a standard the Commission would not ordinarily expect that safety improvements would be required as backfits that result in an insignificant or small benefit to public health and safety or common defense and security, regardless of costs. On the other hand, the standard is not intended to be interpreted in a manner that would result in disapprovals of worthwhile safety or security improvements having costs that are justified in view of the increased protection."

For "adequate protection", the definition is in MD 8.4, Section 2.1 Footnote 3:

"The term 'adequate protection of the public health and safety, and common defense and security' means the same as "no undue risk and reasonable assurance of not endangering public health and safety, and common defense and security." In the NRC regulatory practice, these standards are used interchangeably."

If you have any comments or questions, please feel free to contact me or any of the staff.

Jeff.