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Sent: Thursday, June 02, 2016 9:58 PM
To: CHAIRMAN Resource
Cc: Johnson, Michael; Screnci, Diane; Sheehan, Neil; Lyon, Jill:(NMP); Bridget Frymire; ESTRONSKI@aol.com
Subject: [External_Sender] Phase 2 Comments on June 2, 2016

Good morning,

I have these comments on "Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants, Phase 2".

From Chapter 1, Introduction

No comments

From Chapter 2, Lesson Learned for Spent Fuel Storage

Page 20 "The racks in the spent fuel pools at the Fukushima Dai ichi plant are about 40 cm taller than the top of the active fuel." Figure 2.3 on page 22 is not consistent with this statement.

Page 21, note "e" Apparently, mixed oxide fuel was only in the Unit 3 reactor.

Page 21 Inaccurate comment that the (BWR) reactor shroud is placed in the dryer-separator pit (for U.S. practice).

Page 21, note "2" Spent fuel pool water pressure can seal the inner gate (if there is no balancing water pressure on the other side of it.)

Page 22, Figure 2.2 Bottom of gates between spent fuel pool and reactor well shown much too close to the top of the spent fuel. In fact, nowhere in this entire Phase 2 report is it pointed out that there has been an intentional design effort to keep water over the spent & new fuel in the spent fuel pool racks.

Page 23, Figure 2.4 Did they really do this? Shroud does not come out of a U.S. BWR. U.S. steam separator is not placed under the U.S. steam dryer. Neither piece would be left above water, although the steam dryer is removed without water over it. Bottom of gates shown too close to top elevation of the spent fuel.

Page 26 An explosion above the spent fuel pool will cause sloshing.

Page 31 Math error Start out 5.5 m (page 27) above the racks, water level decreased by 3 m, answer is 2.5 m, not 4 m.

Page 34, Figure 2.7 Notice that spent fuel pool racks are not higher than fuel bundle handles.

Page 37, Figure 2.9 The gates appear closer than I remember ours. During operation, the space between the gates is empty and, I believe, leakage is collected and alarmed.

Page 37 Since I think the reactor shroud on a BWR is fully welded to the reactor vessel, I am having a hard time believing that theirs was removed, as stated here. More explanation would have been nice.

Page 38, Figure 2.10 How can you miss seeing that the hottest (red colored) fuel is all placed together. This does not conform to U.S. requirements today, and I think, did not at the time of the accident either. No wonder to me that Chairman Jaczko was seriously worried at that time.

Page 38, note "18" They can get in there to repair and shore up the bottom of at least part of the Unit 4 spent fuel pool, but still today, 5 years later, there is no information on why it was needed (only) there. Specifically, was the damage to the Unit 4 spent fuel pool due to failure during earthquake? Note that the Unit 4 spent fuel pool had the largest number of fuel bundles in it of all the elevated spent fuel pools, meaning the most weight. (See Table 2.1 on page 21.)

Page 45, Figure 2.14 The bottom of the one gate shown needs to be at a higher elevation than the level of the top of the fuel, as it is being shown.

Page 47, note "22" I think that ".4 m" is too large.

Page 48, Figure 2.15 Reference to Figure 2.14 should actually be to Figure 2.13.

Page 53 How can you say the Units 1 – 4 spent fuel pools were "sufficient robust" if they needed to be strengthened? Isn't this misleading, particularly since the reader is told that TEPCO and the regulators disagreed "about the status of the Unit 4 pool" on the bottom of page 39?

Page 54 How is the status of fuel rods in the Unit 2 spent fuel pool known?

Page 57 Note that B.5.b equipment is not necessarily compatible with FLEX equipment. I hope it can still be used anyway.

Page 57 Check structural and architectural drawings to see if "A gate breach could drain a spent fuel pool to just above the level of the racks." I don't think this is correct for U.S. plants.

From Appendix 2A

Page 59 Note that 73 degrees C in the common spent fuel pool is about 163 degrees F.

From Appendix 2B

Page 62, note "1" Why would fuel Mw value in the common pool be 2 or 3 times higher than fuel in the elevated spent fuel pools? Where is this heat coming from?

Page 64, Figure 2B.2 When was the picture taken, (not released)?

Page 69, note "5" "Because there was a mix of different age fuel in the pool, the values obtained from the fitting process cannot be interpreted literally." Then what is their use?

From Appendix 2C

Page 74, note 3 Apparently, at least one of the gate seals became affective after April 22.

From Chapter 3, Lessons Learned for Nuclear Plant Security

Page 77 Independent, redundant, and protected power supplies are needed for plant security systems.

From Appendix 3A

No comments



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