

From: Diane Jackson / *NR*
To: Edward Connell, Joseph Staudenmeier, Tanya Eaton
Date: Thu, Apr 15, 1999 11:42 AM
Subject: Design Information for Zirc Fire

Ed and Tanya -

After yesterday's meeting, Jason and Glenn were talking about the releases that Jason was calculating. It occurred to me that you had been given the design information to match Chris Boyd's work. However, most likely not all of the FAs in a completely full SFP will be involved in the zirc fire. Jason is doing dose calculations building on information on Millstone 1 which was used in NUREG/CR-4982 (SAs for SFP in support of GSI 82). Appendix A gives a rundown of the operating history. Case 1 in NUREG/CR-4982 assumed a fire of the whole pool. It looks to me, the whole pool was 1653 FAs or the equivalent of just over 3 full cores (p.90-92). (not the 4000 or so that Chris Boyd is using). Since Jason is doing the dose from a fire release, your information should be more in-line with his release information. I would suggest using the Millstone 1 values as much as possible and augment it with generic (Chris Boyd's) design information as necessary. (FYI - Chris Boyd's purpose is different. The decay heat contributed by the older fuel will affect his heat up calculation and that is why it is necessary for him to account for more FAs)

If a PWR is done, Jason will use Ginna (information from the same NUREG/CR). They had 428 FAs in the SFP at the time, which is about the equivalent of 3.5 cores. (Both cores are on the small side for a NPP)

Joe and I talked briefly about how many FAs would most likely be involved in the fire. We thought about 1 and 2/3 cores, which would be the last core prior to final shutdown and the last two refuelings.

Do you think the amount of zircaloy should be 1 and 2/3 core to match what we think will be involved or 3 cores to match what is being calculated?

Can Jason's answer be scaled down for 1 and 2/3 core?

Diane

CC: Jason Schaperow, VLO

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