

*discussed on conf call #222
11/2/99*

From: Michael Cheok
To: Glenn Kelly
Date: Wednesday, November 24, 1999 10:21 AM
Subject: INEEL SFP analysis

Glenn:

Attached are some comments based on a very quick review of the analysis.

In the HRA, INEL factors a "fails to repair" probability into the "pump fails to function" event. We should review the fault trees and the cutsets to make sure that there are no dependencies between this event and prior and subsequent human failure events. A review of cutsets will also help us better understand how the "fails to diagnose" event fits into the model. Finally, independent of the HRA, we need the cutsets to understand the accident sequences better.

Some comments on the initiating event frequency for internal fires:

- The 2nd para in Sec 1.3.1.3 confuses ignition frequency with fire propagation. The presence of transient combustibles (oil, flammable liquids, etc.) affects propagation, not ignition frequency. In discussing ignition frequency, "transients" refer to extension cords, heaters, hot pipes, etc.
- When calculating ignition freq from pumps (in an intake structure) INEL assumes that the pumps are SW intake pumps (by assuming 4 running pumps). However, the FIVE document and the associated database (NSAC/178L) shows that these are the fire pumps.
- We may need to add the contribution of "plant-wide components" if we are going to add individual contributions (e.g., we have to add contributions from transformers, cables, etc. to those from pumps and electrical cabinets)
- We need to discuss the use of a "severity factor" for pump fires. I am not convinced that the EPRI FIVE data already includes this factor (as was assumed by INEL).

In Sec 1.4.2.2, the available time was chosen to be 33 hours. In the next section (1.4.2.3), 24 hours was used.

In the LP2 event tree, I am not sure what power recovery probability is used. The writeup mentions 33 hours for recovery (Sec 1.5.2.2) but it uses a probability of 0.02 which is based on 128 hours (Sec 1.5.2.3).

CC: Gareth Parry, Mark Rubin

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