

From: David Loveless
To: Don Marksberry
Date: Mon, Jun 28, 2004 3:57 PM
Subject: Re: Last questions and concerns

1. I don't believe that this would dramatically affect operator stress. Again, it is not personal stress. My interpretation of extreme stress is going into a live steam environment, or manually operating equipment with major personal safety issues.

2. During the time that the grid was unstable, voltage was actually very high. So they would not have gotten undervoltage trips. More likely that low operating currents tripped particular pieces of equipment. However, there is some evidence that the anti-pumping device may have been the cause of the Unit 3 breaker failure. . . we have already discussed those.

Thanks again,

David

>>> Don Marksberry 06/28/04 02:22PM >>>

1. Concerning grid stability, was the grid unstable for a significant period of the 49 minutes where the operators stress could be considered extreme? This should not make that much a difference and it would be consistent with the thought process used in the Aug 14 grid LOOP analyses (i.e., operators not sure that a success path is available within the 1 hour time period).

2. If the operators attempted to close breakers to the vital 4kV bus when the grid was unstable and received the second UV trip, does palo verde have a blackout lockout interlock on all feeder breakers to the vital bus? (I may have not used the right terminology.) This may present added complexity to recover power since they may not know how to reset the interlock in nonSBO sequences---the SBO EOP would have instruction how to reset the interlock but not the LOOP procedure (this was an issue during the IP2 1999 LOOP event).

Results will be on the way the first thing in the morning, after I check the inputs tonight.

B/33