

Boyle, Patrick

From: Boyle, Patrick *MBK*
Sent: Monday, September 12, 2011 8:01 AM
To: Martin, Robert; McCoy, Gerald; Kolcum, Gregory
Cc: Kulesa, Gloria; Mendiola, Anthony
Subject: RE: IOEB Clearinghouse Screening Summary for Friday, September 09, 2011

Bob brings up a good point. This is something that the restart team should review as part of their assessment.

Based on my limited knowledge of digital signal processing here are some potential options. Even if both conditions are monitored by the plant process computer (I don't know if they are), they could be sampled differently. For example one alarm could be monitored as an interrupt signal and the other could be a polled point. Even if both event occurred simultaneously and were both sampled the same way, a fraction of a second difference can lead to a one-second difference in the time stamp (one sampled 0.1 second prior to the time tick for the clock and one sampled 0.1 second after the clock tick) and if one alarm condition is polled before the other one then the one second difference can be artificially introduced by the data sampling.

Like I said, Bob has a good question here and the team should take a good look at the information when developing their conclusions.

From: Martin, Robert *MBK*
Sent: Friday, September 09, 2011 5:13 PM
To: McCoy, Gerald; Kolcum, Gregory
Cc: Boyle, Patrick; Kulesa, Gloria; Mendiola, Anthony
Subject: FW: IOEB Clearinghouse Screening Summary for Friday, September 09, 2011

I would be a bit curious about the conclusion that the North Anna trip occurred 1 second before the LOOP. Was the time of the trip and the time of the LOOP measured by the same instrument? If so, what was the response time for the two signals to get from their sensors to the time measuring device? If the time recorders for the two signals are separate, would 1 sec be within the instrument measurement error?

From: Bernardo, Robert
Sent: Friday, September 09, 2011 2:13 PM
Subject: IOEB Clearinghouse Screening Summary for Friday, September 09, 2011

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Issues for Resolution (IFR): None

OpE Forum Postings (COMMS): None

Management Requests: None

Follow-up/Other Tasks: Seven (7)

Outside of Scope

outside of Scope

Outside of Scope

4) NORTH ANNA 1 & 2 - ALERT DECLARED DUE TO AN EARTHQUAKE IN THE AREA AND A LOSS OF OFFSITE POWER (8/24) - FOLLOW UP INFORMATION

Dominion personnel briefed NRC staff on the Earthquake Response and the North Anna Restart Readiness Demonstration Plan during a public meeting on 9/8/2011. A copy of the presentation is available in ADAMS. (ML11252A006)

Dominion noted that the cause of the negative rate trip (first annunciator out) is still being investigated. At this point, it appears that the grippers for several of the control rods de-energized and dropped RCCAs into the core leading to the negative rate trip. They have confirmed that the flux was decreasing on all four power range channels, but do not have the root cause completed. By their post trip analysis, the trip due to negative flux rate occurred at 13:51:11, followed by the loss of off site power at 13:51:12. Transformers 1-EP-MT-1A, 2-EP-MT-1A, 1B, 1C, all RSSTs, 1-EP-SST-1C and switchyard transformer #2 tripped due to sudden pressure relay actuations (Loss of off site power). Thus, the negative flux rate trip occurred BEFORE the loss of off site power. Pass to the TRG Leads for AFW, ECCS, Electrical Power, EDGs, Emergency Preparedness, Flooding/Missiles, Spent Fuel Handling, Structural and to NRO. Assigned to Bob Bernardo.

Outside of Scope

OUTSIDE OF SCOPE

Outside of Scope

outside of scope

**(i.e., Screened /reviewed against LIC-401 criteria for initiating an "Issue for Resolution" (IFR), which is IOEB's process for conducting further evaluation of an issue to determine what, if any, additional actions should be taken to communicate and organizationally learn from OpE.)*

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Attendees at Screening Meeting:

- Dave Garmon
- Jesse Robles
- Rebecca Sigmon
- Bob Bernardo - by phone
- Steve Pannier - by phone
- Bob Beall (NRO)
- Mary Wegner (RES) - by phone