

April 12, 1994

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-IV-94-014

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region IV staff on this date.

Facility

Entergy Operations Inc.
Arkansas Nuclear 1
Russelville, Arkansas
Dockets: 50-313

Licensee Emergency Classification

X Notification of Unusual Event
Alert
Site Area Emergency
General Emergency
Not Applicable

Subject: MANUAL REACTOR TRIP AND NOTIFICATION OF UNUSUAL EVENT DUE TO MAIN STEAM LINE ISOLATION

At 8:41 p.m. on April 11, 1994, a main steam line isolation (MSLI) occurred, which resulted in a manual reactor trip when the operator noted that the main steam isolation valves were going closed. The licensee declared an unusual event due to the MSLI at 8:44 p.m. The MSLI occurred due to an erroneous signal from the emergency feedwater initiation and control (EFIC) system that caused a power supply failure, resulting in a loss of EFIC Channels B and D. The cause for the power supply failures is believed to be a lightning strike in the immediate area prior to the MSLI.

Due to the problem with EFIC Channels B and D, there were several problems with the control of the same secondary side components. Emergency Feedwater (EFW) Pump P7A started but did not maintain proper once-through steam generator (OTSG) level due to level control valve problems. The flow control valves from Pump P7A to the steam generators did not modulate in automatic, but manual control was established. OTSG pressure and level indication from Channels B and D also failed. EFW Pump P7B started and automatically controlled feedwater to both OTSGs to the as-designed posttrip levels.

The licensee also had control problems with both atmospheric dump valves (ADV). ADV A cycled open and then failed closed, and ADV B failed open. Due to the control problems, a slight overcooling transient developed in the reactor coolant system. The respective ADV block valves were closed. The ADV A was manually jacked open and operators controlled reactor coolant system (RCS) temperature by manual operation of the block valves on both ADVs.

RCS pressure dropped to approximately 1700 psig and minimum RCS temperature was approximately 525 degrees F. Pressurizer level went offscale low for approximately 1 minute due to the overcooling, but level was restored by a short run of a second high pressure injection pump. Minimum steam generator pressure was about 725 psig on OTSG B. Minimum OTSG levels were approximately 30 inches for OTSGs A and B, respectively.

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The licensee exited the unusual event at 10:55 p.m. when conditions were stable. The licensee has had several other failures of instrumentation systems, including Channel B of the inadequate core cooling monitoring display system (ICCMDS), and is currently examining their facility to determine if other components are affected. The licensee recovered both EFIC Channels B and D and determined that the power supplies failed due to a common line overvoltage.

The state of Arkansas has been informed.

Region IV received notification of this occurrence by telephone from the resident Inspector at 9 p.m. CDT. Region IV has informed EDO, NRR, and PA.

This information has been confirmed with a licensee representative.

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