

January 22, 1996

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-IV-96-003A

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 Region IV staff in Arlington, Texas on this date.

Facility

Texas Utilities Electric Co.
Comanche Peak 1
Glen Rose, Texas
Dockets: 50-445

Licensee Emergency Classification

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

Subject: UPDATE OF SAFETY INJECTION WITH DISCHARGE TO THE REACTOR COOLANT SYSTEM

This is an update to the PN issued January 17, 1996. The licensee's investigation of the source of the safety injection (SI) signal that occurred on January 17 has focused on the following scenario. The loss of 118 VAC Bus 1PC-2 (the inverter output breaker tripped on overcurrent) may have caused the failure of the instruments noted in the original PN as a result of the voltage transient initiated when the bus was deenergized. Additionally, main turbine First Stage Pressure Transmitter PT-506, which provides an indication of turbine load to the steam dump control system, was deenergized. This perceived loss of turbine load armed the steam dump system. Upon reenergizing Bus 1PC-2, a momentary high reactor coolant system average temperature (Tave) signal was generated and provided an input to the steam dump circuitry through an auctioneered-high circuit. With the steam dumps armed, and a large difference between auctioneered high Tave and the reference temperature (T-ref), all steam dumps opened quickly in response to what the system sensed as a large transient. The quick opening of the steam dumps caused a decrease in main steam line pressure which initiated an SI on a low steam line pressure high rate of change. Reconstruction of the event using recorded plant data was hindered by the loss of the plant computer several minutes before the SI, which limited the amount of posttrip data available. Recovered plant data, including the sequence of events recorder and chart recorder traces, show an increase in steam flow prior to the SI, which supports the licensee's scenario. Additionally, the event was recreated and initiated on the plant simulator and Nuclear Engineering's computer model, with similar results, which further supported the licensee's hypothesis.

Several corrective actions have already been completed by the licensee. All the failed instrumentation channels have been repaired. The main turbine stop valves were retested and no abnormalities were identified. Plant computer inputs were reviewed and modified as appropriate prior to

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startup to enhance computer availability during transient conditions. The licensee believed that the volume of inputs received by the plant computer during the Bus 1PC-2 failure resulted in the loss of the computer prior to the SI. The abnormal operating procedure related to loss of instrument buses and/or inverters has been revised to preclude steam dump actuation as a result of failed instruments.

The state of Texas will be informed.

The unit was restarted on January 20 and reached 100 percent power on January 21. At 4:20 a.m. on January 22, Elgar Inverter 1EC1 failed and its loads were automatically transferred to the alternate power supply. At 8:06 a.m. the unit tripped when a fuse was replaced in the failed inverter. The resident inspectors are reviewing plant conditions and the cause of the latest trip.

Region IV received updated information regarding this event by telephone from the Senior Resident Inspector at approximately 8:35 a.m. (CST) on January 22, 1996. Region IV has informed the EDO's office and NRR.

The information herein has been discussed with the licensee and is current as of 9 a.m. on January 22, 1996.

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