

PRELIMINARY NOTIFICATION

Date: May 28, 1981

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-III-81-51

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

Facility: Commonwealth Edison Company
Zion, Unit 1 (Docket No. 50-304)
Zion, Illinois

Subject: ZION UNIT 1 SAFETY INJECTION



At approximately 8:47 a.m. on May 28, 1981, Zion Unit 1 tripped from 100% power and a safety injection signal was experienced. The safety injection resulted in ECCS equipment starting and the injection of the Boron Injection Tank. The safety injection was caused by high steam flow coincident with low steam line pressure. However, the low steam pressure indication was the direct result of the loss of an inverter to instrument bus 114. The reactor did not experience a pipe break and all vital system parameters remained nominal. Resident inspectors were in the control room during the recovery. The safety injection with boron injection tank injection was reset when vital parameters were verified to be normal.

The licensee investigated the cause of the reactor trip. The trip occurred before the safety injection and computer first out indicated over power ΔT and over power ΔP in two out of four loops. No nuclear safety parameters were exceeded.

The cause of the over power ΔT and over power ΔP reactor signals being developed is as follows: Instrument mechanics were working in loop C inputting new 100% loop ΔT s based on the recent startup from refueling. In order to do this, bistables were tripped on loop C OP ΔP and OT ΔT channel. During this work in progress, the plant experienced a loss of instrument inverter supply to bus 114. Loss of the inverter developed OP ΔT and OP ΔP signals in another loop. The plant now had OP ΔP and OT ΔT signals in two out of four loops and experienced a reactor trip as designed. The inverter failure also developed low steam line pressure signals in two out of four loops.

The reactor trip caused the high steam flow alarm because the set point for high steam flow drops to a zero power setpoint immediately following the trip. Steam flow decay initially lags zero power setpoint. The high steam flow coincident with the low steam pressure from the inverter resulted in safety injection. No water hammers were reported.

Present plans call for the unit to return to power late on May 28, 1981.

A similar event occurred on Unit 2 on May 7, 1981

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Zion Unit 2 remained at 92% throughout the event.

No press release is planned.

Region III received notification of this occurrence by telephone from the Senior Resident Inspector at 9:30 a.m. on 5/28/81.

This information is current as of 12:55 a.m. on May 28, 1981

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