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July 17, 1986

ANPP-00023-JGH/TDS/JHT/96!08 REGION 4

Mr. John B. Martin, Regional Administrator
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Docket No. STN 50-528 (License NPF-41)
Special Report-1-SR-86-079
File: 86-020-404

Dear Mr. Martin:

Attached please find a Special Report (1-SR-86-079) prepared and submitted pursuant to Emergency Plan Implementing Procedure-02. This report discusses the NOTIFICATION of UNUSUAL EVENT that occurred on July 12, 1986.

If you have any questions, please contact T. R. Bradish, Compliance Supervisor at (602)932-5300 Ext.6936.

Very truly yours,



J. G. Haynes
Vice President
Nuclear Production

JGH/JHT/dh

Attachment

cc: R. P. Zimmerman (all w/a)
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PALO VERDE NUCLEAR GENERATING STATION UNIT 1
NOTIFICATION OF UNUSUAL EVENT OF JULY 12, 1986

Docket No. 50-528

License No. NPF-41

Special Report 1-SR-86-079

At 1141 on July 12, 1986, the NRC Operations Center was notified, via the Emergency Notification System, of the declaration of a NOTIFICATION OF UNUSUAL EVENT for Unit 1 of the Palo Verde Nuclear Generating Station. The NOTIFICATION OF UNUSUAL EVENT was declared pursuant to Emergency Plan Implementing Procedure -02, which requires the reporting of a reactor trip which is complicated by concurrent or subsequent events or conditions.

Prior to the events which initiated the reactor trip, the Unit was in Mode 1 (POWER OPERATION) operating at 100 percent power with generator output at 1323 MWe.

At 10:45:17 on July 12, 1986, Channel "A" Steam Generator number 2 low reactor coolant flow tripped; 7 milliseconds later Channel "B" also tripped for Steam Generator number 2 on low reactor coolant flow, initiating a reactor trip. The main turbine tripped on "No Electrohydraulic Solenoid Trip Valve Pressure" as expected.

A momentary grid disturbance was generated from the reactor/generator trip causing the 13.8 KV supply buses (NAN-S01/S02) load side breakers to open. This was created from a low voltage transient on the 13.8 KV (NAN-S03/S04) buses. At 10:45:22 the circulating water pumps and all the nonclass load centers including the motor control centers were shed from S01/S02. The nonclass load centers and motor control centers were re-energized between 1111 and 1113. The "C" and "D" circulating water pumps were restored at 1551 and 1559 respectively. Class power was available throughout the event.

Control power for steam bypass control system permissives, NNN-D12, did not auto transfer to its backup class 480V source. This resulted in a loss of power to NNN-D12.

Engineered safety features actuations on Safety Injection Actuation Signal (SIAS), Containment Isolation Actuation Signal (CIAS), Auxiliary Feedwater Actuation Signal (AFAS), and Main Steam Isolation Signal (MSIS) occurred. This was due to the motor operated valves on the moisture separator reheater second stage steam supply lines remaining in open positions when power was lost to them and the second stage reheater air operated drain tank drain valves opening to the condenser as designed. The open valves created a flow path for main steam to the condenser. This resulted in a cooldown of the RCS.

Steam generator downcomer sample isolation valve, SGB-UV-221, did not close in response to the SIAS and could not be stroked closed from the control room. The penetration was isolated by closing and de-energizing SGA-UV-220 per the requirements of Technical Specification Action b of LCO 3.6.3.

All safety related equipment actuated and operated as designed. The cooldown caused the pressurizer pressure to decrease to about 1775 psia, the pressurizer level to decrease to approximately 3 percent, steam generator level to decrease to about 25 percent wide range indication, and steam generator pressure to drop to about 890 psia. The MSIS subsequently terminated the cooldown.

Quality Safety Parameters Display System (QSPDS) display "A" went blank intermittently during the restoration from the reactor trip.

While the operator was verifying the primary safety functions, it was noted that the three charging pumps were off. The charging pumps had been receiving suction from the volume control tank through volume control tank outlet valve (CH-UV501). The level indication for the tank lost power due to the power loss described above, which results in a low level signal as designed. This caused the volume control tank outlet valve to automatically close. By design, the refueling water tank outlet valve (CH-UV536) is then supposed to automatically open. It did not. With both CH-UV536 and CH-UV501 being closed, the charging pumps lost suction pressure and tripped. The operator was able to line up the charging pump suction to the refueling water tank by remote manual operation of CH-UV536 to restore charging pump suction. The three charging pumps were restarted at this time. However, one charging pump would not provide charging flow and was secured.

The NOTIFICATION OF UNUSUAL EVENT was terminated at 1232 on July 12, 1986.

The transient did not result in any challenges to fission product barriers or result in the release of radioactive materials.

This event continues to be evaluated. A Licensee Event Report will be submitted within 30 days to further describe this occurrence. Also, a Special Report will be submitted describing the initiation of safety injection during this event.

