

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-I-06-014

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 I staff on this date.

Facility

Constellation Generation Group, LLC
Calvert Cliffs Unit 2
Lusby, MD
Docket: 50-318

Licensee Emergency Classification

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

SUBJECT: SHUTDOWN GREATER THAN 72 HOURS DUE TO REACTOR/TURBINE TRIP FROM THE UNEXPECTED CLOSURE OF MAIN TURBINE GOVERNOR AND INTERCEPT VALVES

On November 16, 2006, at 12:18 a.m., Calvert Cliffs Unit 2 experienced an automatic reactor trip from full power due to the unexpected closure of main turbine valves during a maintenance activity. Closure of the turbine valves resulted in a reactor trip on high reactor coolant system (RCS) pressure. All control rods fully inserted in response to the reactor trip. One power operated relief valve (PORV), which opened to control RCS pressure, remained open for longer than expected (approximately 90 seconds). The resulting RCS depressurization caused a safety injection actuation signal (SIAS) and safety related equipment responded as expected. Operators implemented emergency operating procedures, stabilized the plant in hot shutdown, and initiated a plant cooldown.

Immediately prior to the event, maintenance personnel were implementing a tagout in the Unit 2 relay room. Their actions unexpectedly initiated a closure of the main turbine governor and intercept valves, which caused RCS pressure to reach the reactor high pressure trip setpoint. In response to the high pressure, both PORVs opened as designed. However, the automatic closure of one PORV was delayed for approximately 90 seconds. The RCS pressure decrease resulting from the delayed PORV closure caused a SIAS initiation (1740 psia) in which all related equipment responded as expected. RCS pressure reached a minimum of 1500 psia when the PORV closed. During the PORV discharge, the quench tank rupture disk (100 psig setpoint) relieved approximately 300 gallons of coolant to the containment sump system. No actual safety injection flow to the reactor vessel occurred due to the SIAS initiation because RCS pressure did not go below the shutoff head of the safety injection (SI) pumps.

The main steam and feedwater systems remained in service following the transient for decay heat removal. No steam generator safety valves opened during the event and auxiliary feedwater was not required.

Shutdown cooling was placed in service at 12:44 a.m., on November 17 and cold shutdown conditions were established as of 1:25 a.m., on November 17. Planned activities during the shutdown include an investigation of the plant's response to the pressure transient, replacement of power operated relief valve ERV-402, replacement of pressurizer safety valve RV-200, and replacement of the quench tank rupture disk. The facts of this Preliminary Notification (PN) were verified with the Calvert Cliffs Director of Licensing and is current as of November 17, 4:00 p.m.

The NRC resident inspector responded to the site and has been supported by regional inspectors during the NRC's initial assessment of this event. The NRC staff is continuing to assess the licensee's response to this event and the level of inspection followup warranted.

Constellation has established an event review team to review the root causes, extent of condition, and actions taken to address the event. The company issued two updates to its initial NRC notification under 10 CFR 50.72 (Event Number 42995). The updates reflect revised information regarding the affected plant equipment, and the company's determination that PORV discharge met a criterion for an Unusual Event emergency action level (EAL) since the RCS identified leakage exceeded 25 gpm. Consistent with NRC guidance, the discovery was reported to the NRC operations center after the fact.

The Region I Public Affairs Office is prepared to respond to media inquiries. The State of Maryland has been informed.

This PN will be updated as close to plant restart as possible.

ADAMS Accession Number: ML063210460

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