

Date: January 27, 2014

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE – PNO-I-14-001

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. Some of the information received may not yet be fully verified or evaluated by Region I staff.

Facility

Constellation Energy Nuclear Group, LLC
Calvert Cliffs Nuclear Power Plant, Units 1 & 2
Lusby, MD
Docket: 50-317; 50-318

Licensee Emergency Classification

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

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT DUAL UNIT TRIP FOLLOWING
THE LOSS OF THE '21' 13KV BUS

On January 21, 2014, at 9:25 pm, a dual unit reactor trip occurred at the Calvert Cliffs Nuclear Power Plant after a loss of the '21' service bus. The preliminary cause of the loss of the '21' service bus is that ice and snow caused a ventilation louver filter on the bus metal clad to push in and allow snow and water to contact the buswork. The loss of the '21' service bus resulted in a loss of the Unit 2 motor generator sets for the control element drive mechanisms, which was the likely cause for the automatic reactor trip on Unit 2.

The loss of the '21' service bus also caused an unexpected automatic reactor trip of Unit 1 when the setpoint for high pressurizer pressure trip was reached. The preliminary cause of the Unit 1 trip was a malfunction of the digital turbine control system during the electrical transient following the loss of the '21' Service Bus and Unit 2 plant trip.

Additionally, due to the loss of the '21' service bus, power was lost to one safety-related 4kV bus on both units. One emergency diesel generator on each unit started as expected to supply power to its respective 4kV bus until offsite power was restored. The loss of the '21' bus resulted in the loss of power to the Unit 2 circulating water pumps. Thus the Unit 2 main condenser, the normal heat sink, was unavailable, and decay heat removal was accomplished by bleeding steam through the steam generator atmospheric dump valves and feeding via auxiliary feedwater. Unit 1 decay heat removal was via steam to the main condenser via the turbine bypass valves and feeding via main feedwater. The plant operators brought both units to a stable hot shutdown condition in accordance with plant operating procedures with no other complications. The NRC Senior Resident Inspector responded to the site. The Resident Inspectors have been following the licensee's activities since the shutdowns.

Region I is dispatching a Special Inspection Team to the site to understand the facts surrounding the event, specifically the unexpected system interaction which resulted in both units tripping following a fault on a single Unit 2 non vital bus, the repetitive failure of structures to protect 13.4kV switchgear from weather related events (a dual unit scram occurred in February 2010 due to weather related issues), and an unexpected impact on a security system during the event.

This preliminary notification is issued for information only. The State of Maryland was notified.

Region I received initial notification of this occurrence by telephone call from the Calvert Cliffs Senior Resident Inspector on January 21, 2014, at 10:20 pm and Constellation made Event Notification 49754 as required by 10 CFR 50.72 to the NRC Headquarters Operation Officer on January 22, 2014, at 12:33 am. The information presented herein has been discussed with the licensee, and is current as of Friday, January 24, 2014, at 4:00 pm.

ADAMS Accession Number: ML14027A183

Contact: Andy Rosebrook, Projects Branch 1
(610) 337-5199
Andrew.Rosebrook@nrc.gov

DISTRIBUTION: (PN Recipient List)

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