

Date: March 6, 2001

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-I-01-004

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

North Atlantic Energy Service Corporation
Seabrook
Route 1
Seabrook, New Hampshire 03874

Docket No.: 05000443

License No.: NPF-86

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

SUBJECT: SEABROOK STATION LOSS OF OFFSITE POWER AND UNUSUAL EVENT (#37810)

On March 5, 2001, at 11:24 pm, Seabrook Station automatically tripped from 100 percent power due to electrical grid instability during an ongoing severe winter storm. The 345-kV breakers tripped open and re-closed resulting in a momentary loss of offsite power and main electrical generator trip. This caused a turbine trip and reactor trip. All rods fully inserted. Both emergency diesel generators automatically started and loaded providing power to the vital buses. As a result of the electrical transient, non-vital loads in the plant were lost including the reactor coolant pumps (RCP) and the circulating water pumps. One RCP shortly was placed back in service, restoring forced circulation and normal pressure control for the reactor coolant system. Due to the loss of offsite power, an automatic start of the emergency feedwater system occurred. During startup, the steam-driven emergency feedwater pump, one of two emergency feedwater pumps, tripped on overspeed. The electrical-driven emergency feedwater pump started and successfully provided makeup to the steam generator for decay heat removal.

Due to the loss of the circulating water system the main condenser was unavailable as a heat sink. Operators closed the MSIVs and controlled the decay heat removal by use of the main steam atmospheric relief valves. The "C" MSIV initially failed to close on manual actuation and the operators inserted an MSIV isolation actuation signal and the "C" MSIV closed successfully.

The licensee reported that there were no radioactive releases as a result of the event.

An Unusual Event was declared at 11:36 pm at the discretion of the shift supervisor since offsite power was not considered reliable. At the time of the event, the unit was experiencing 50 miles per hour winds and heavy snow conditions. Operators subsequently determined they met the criteria for an Unusual Event at 11:43 pm, since at that time the emergency diesel generators had been in use for a period greater than 15 minutes.

The unit remains in the Unusual Event, and winds are currently sustained at a rate of approximately 40 miles per hour. All three offsite power lines have been restored. However, due to unreliability of the offsite lines because of the storms conditions, both emergency diesel generators remain in operation and continue to provide power to both vital buses. The non-vital buses have been re-energized from offsite power, however, the licensee has determined that restoration of the main condenser is not expected at this time. The startup feedwater pump, a non-safety related pump, has been started to provide makeup water to the steam generators. The licensee has commenced a plant cooldown and anticipates that cold shutdown will be achieved later on March 6, 2001.

The licensee stated that the Unusual Event will remain in affect until the reliability of the offsite power lines can be assured and normal alignment of the plant electrical systems restored.

The State of New Hampshire and the Commonwealth of Massachusetts have been notified of the event.

The licensee issued a press release about the event on March 6, 2001.

This information has been discussed with the licensee and is current as of March 6, 2001.

An NRC inspector is on site following licensee actions.

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Licensee: North Atlantic Energy Service Corp.
(Reactor Licensees)

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