

July 18, 2013

High Inlet Temperatures Forces Pilgrim Nuclear Plant to Power Down

POWERnews

Entergy's Pilgrim Nuclear Power Station in the Manomet section of Plymouth on Cape Cod Bay, Mass., was on Tuesday forced to reduce power to 85% after its salt service water inlet temperature exceeded technical specifications.

At about 5 p.m. on Tuesday, while at 100% core thermal power, the reactor was forced to enter a 24-hour limiting condition for operation (LCO) because its salt service water inlet temperature measured 75.3F—exceeding the technical specification limit of 75F. The Nuclear Regulatory Commission (NRC) reported that the condition lasted until about 6:30 p.m., when the salt service water system was again declared operable.

A salt service water system is required to provide cooling water to the reactor building closed cooling water system heat exchanger. When inlet temperatures exceed 75F, the system is declared "inoperable" until temperatures trend below that value.

Entergy said it was "closely monitoring" salt service water temperature. "It is accurate to say that we reduced power to 85% for a short time yesterday to stay within prescribed discharge temperature limits but we returned the plant to full power yesterday and are at full power today," said Entergy spokesperson Jim Sinclair. The NRC noted that salt service water temperature varies with tidal movements.

Temperatures in the Northeast have been soaring as a heat wave sweeps through the region, prompting independent grid operators to encourage consumers to conserve power. On Wednesday, ISO New England warned that "extremely hot temperatures" and high levels of humidity expected in New England could drive regional electricity use to near-record levels. On Tuesday, the New York Independent System Operator also declared an energy emergency alert, calling on special case resources and emergency demand response programs to help manage demand on the system. Meanwhile, PJM Interconnection, which operates the grid in 13 Mid-Atlantic and Midwestern states prolonged a hot weather alert for nearly all utilities operating in its region.

Last August, [Dominion Power was forced](#) to shut down its 871-MW Unit 2 of the two-unit Millstone Nuclear Plant in Waterford, Conn., saying average water temperatures in the Niantic Bay in Long Island Sound, from which it draws cooling water for plant safety-related systems, exceeded limits of 75F. In an emergency license amendment, the NRC granted Millstone unit operators permission to take an average of three temperature measurements for the water at the intake pipes of Unit 2, rather than using the single highest measure.

Sources: POWERnews, NRC, ISO New England, NYISO, PJM Interconnection

—**Sonal Patel, Senior Writer** (@POWERmagazine, @sonalcpatel)

CORRECTION (7/18): This version reflects that the reactor powered down to 85% during the event; it did not shut down as originally noted. POWERnews regrets the error.

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