

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-I-06-5A

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

Millstone Unit 2 Power Station  
Waterford, CT  
Docket: 05000336

Licensee Emergency Classification

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

SUBJECT: UPDATE ON SHUTDOWN GREATER THAN 72 HOURS - MILLSTONE UNIT 2  
TURBINE DRIVEN AUXILIARY FEEDWATER PUMP ROTATING ASSEMBLY  
DEGRADATION

On April 1, 2006, at 7:55 a.m., Millstone Unit 2 removed the turbine generator from operation in conjunction with a shutdown required by Technical Specifications (TS) 3.7.1.2 due to an inoperable turbine-driven auxiliary feedwater pump (TDAFP).

Previously, on March 29, during a planned retest following governor maintenance, the outboard pump bearing of the TDAFP exhibited signs of overheating and high vibrations. An event review team (ERT) was formed to identify root causes and to propose corrective actions while, in parallel, licensee maintenance personnel began to develop a troubleshooting and repair plan. Subsequently, the licensee found the bearing needed replacement. Licensee engineering personnel have evaluated the shaft condition and consider it acceptable for continued use.

During further disassembly activities on March 31, maintenance personnel observed an additional problem with a balancing drum assembly that supports TDAFP operation. This condition, in combination with the degraded bearing, precluded restoring the TDAFP to an operable status prior to the expiration of the TS-allowed outage time at 3:55 a.m., April 1, 2006. Thus, a shutdown to comply with TS was begun at 10:20 p.m., March 31, 2006. As of 11:00 a.m., April 3, 2006, troubleshooting and repair activities are continuing with the plant in Mode 4.

The NRC resident inspector staff has been following TDAFP recovery activities since March 29 and did observe portions of the Unit 2 shutdown and cooldown. The facts of this PN were verified with S. Scace, Nuclear Safety and Licensing Director.

**UPDATED INFORMATION - Restart of Millstone Unit 2:** Licensee maintenance personnel have completed pump reassembly and are in the process of realigning the pump with the turbine shaft. Once complete, the TDAFP will be rolled with 50 psig steam in Mode 4 to verify freedom of motion, then the plant will be heated to normal operating temperature, and a surveillance test on recirculation flow and a full flow operational verification test will be completed to verify operability. The resident inspectors are planning to observe portions of the testing to independently assess equipment performance. The licensee's event review team (ERT) preliminarily determined that the most likely causes for the balancing drum failure were either a transient condition induced by foreign material, improper venting, or a system perturbation. A root cause determination team has been formed to further refine the licensee's initial cause determination. The licensee has stated that the repair and troubleshooting done to date are sufficient, along with the pump testing, to establish TDAFP operability. The NRC plans

additional inspection to confirm the reliability of the TDAFP. The resident inspectors are planning to observe portions of plant restart.

This update was verified with Dave Dodson, Licensing Manager. This information is current as of 10:00 a.m. EST on April 7, 2006.

The Region I Public Affairs Office has responded to media inquiries. The states of Connecticut and New York have been informed of this update.

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