

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-I-09-003

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

Entergy Nuclear Operations, Inc.
Indian Point Unit 3
Buchanan, NY
Docket: 50-286

Licensee Emergency Classification

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

SUBJECT: INDIAN POINT UNIT 3 SHUTDOWN DUE TO FEEDPUMP ISSUES

On May 28, 2009, operators received indications of high vibrations on the 32 main boiler feed pump (MBFP). Operators reduced reactor power to approximately 65% and placed the 32 MBFP in manual at minimum speed. The 31 MBFP continued to provide flow to all four steam generators (SG) through the feedwater regulating valves (FRV). Operators subsequently reduced reactor power to 60% in preparation for removing the 32 MBFP from service. The 32 MBFP minimum flow valve opened as designed and resulted in some decrease in SG water level. The FRVs automatically responded as designed to restore SG levels. However, while water level in the 31, 33 and 34 SGs stabilized, the 32 SG water level continued to increase. Operators took manual control of the 32 FRV but were not able to stop the rising level in the 32 SG before receiving an automatic turbine trip on SG high water level. The turbine trip was followed by an automatic reactor trip at 0623. All rods inserted and the plant responded as designed and the auxiliary feedwater system supplied flow to the SGs as designed.

Entergy personnel subsequently determined the 31 MBFP produced less flow than expected when the 32 MBFP minimum flow valve opened. Entergy staff identified through troubleshooting that the high pressure steam supply valve, that opens on lower power levels to maintain steam flow to the 31 MBFP turbine, did not stroke full open as expected. Entergy implemented repairs and subsequent testing verified the steam supply valve would fully open. Entergy also verified that all four FRVs are operating correctly. Entergy staff also identified wear in the 32 MBFP pump to turbine shaft coupling as a likely source of the vibration and continues repair activities. Entergy identified the need to replace the 32 MBFP pump shaft in addition to the coupling. Operators commenced reactor restart on May 29 using the 31 MBFP. Reactor power was held to approximately 55% power with operation of one MBFP.

On May 31, while IP3 was operating at 55% power, operators observed the 31 MBFP was exhibiting speed oscillations. Adjustments were made to reduce the oscillations. However, due to questions about the 31 MBFP operation, Entergy operators commenced an orderly reactor shutdown in accordance with plant procedures. Entergy staff is investigating the causes of the 31 MBFP speed oscillations and continue to repair the 32 MBFP. The IP3 reactor is currently in Mode 3 (hot standby).

The NRC Indian Point Resident Inspectors were onsite and responded to the control room on May 28 during the reactor trip. Resident inspectors also observed portions of the plant shutdown on May 31, and are following the licensee's corrective maintenance activities.

State and local officials have been informed.

The NRC Region I Public Affairs Office has responded to media inquiries. Entergy has also issued a press release.

The information presented herein has been discussed with Entergy and is current as of June 1 at 3:00 p.m.

This PN will be updated when Region I receives further information regarding this event.

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