## DCS No: 05000029900623 Date: June 25, 1990

## PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-1-90-51

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:	Licensee Emergency Classification:
Yankee Atomic Electric Company Yankee Nuclear Power Station Rowe, Massachusetts	Notification of Unusual Event Alert Site Area Emergency General Emergency X Not Applicable

Subject: TWO CONTROL RODS FAILED TO FULLY INSERT DURING ROD DROP TEST

At 8:40 a.m. on June 23, two control rods failed to fully insert into the core when the reactor was manually tripped for control rod drop time testing as part of a planned refueling outage shutdown sequence. At the time of the incident, the plant had completed a load reduction to Mode 2 (STARTUP) for the core XXI refueling outage. After establishing required shutdown margin through main coolant system boration, the licensee manually tripped the reactor to accomplish a control rod drop time test. Control rod Nos. 17 and 18 did not fully insert, sticking at approximately one-half insertion length.

The licensee implemented abnormal operating procedures to insert the rods. At 11:55 a.m., all control rods were fully inserted. Shutdown margin requirements were maintained, in that refueling boron levels had been established before the rods were tripped. The licensee is performing a safety assessment to determine the significance of this event relative to the past operating cycle. Rod drop times were last measured at the end of the last refueling outage. As of 9:00 a.m. on June 25, 1990 the reactor was in cold shutdown with a reactor coolant temperature of 130 degrees F.

The control rods used at Yankee Rowe are of cruciform design, and apparently are not used at any other U.S. pressurized water reactor facility. Control Rod Nos. 17 and 18 had been inspected by the licensee during the last refueling outage and found acceptable for continued use. About half of the blades in use (including the two which did not fully insert) are of an older design (about 1972 vintage), and were scheduled for retirement during this or the next refueling outage. The remaining blades in use are of a newer design with improved heat treatment to make them less susceptible to bowing, although the licensee has not previously observed the two types to perform differently during rod drop time testing.

The licensee notified the NRC Operations Center of this event at 12:40 p.m. on June 23 via the emergency notification system (ENS). The resident inspectors were in the control room at the time of the event observing preparations for the refueling outage. and monitored the licensee's actions.

The Commonwealth of Massachusetts has been informed.

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