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General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 665-5000

January 4, 1991

Docket No. 50-336
A09188

Mr. E. C. Wenzinger, Chief
Projects Branch No. 4
Division of Reactor Projects
U. S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406

Dear Mr. Wenzinger:

Millstone Nuclear Power Station, Unit No. 2
RI-90-A-0206

We have completed our review of an allegation concerning activities at Millstone Unit 2 (RI-90-A-0206). As requested in your transmittal letter dated December 6, 1990, our response does not contain any personal privacy, proprietary, or safeguards information. The material contained in this response may be released to the public and placed in the NRC Public Document Room at your discretion. The NRC letter and our response have received controlled and limited distribution on a "need to know" basis during the preparation of this response.

Issue 1

On November 6, 1990, the I&C Department completed IC-2435F, which starts the stator cooling system without the main turbine on line. The procedure sets the flow control valves and records data on pressures and flows within the system. On November 11, 1990, a low stator flow condition was identified during two-pump operation which in itself is abnormal since one pump is generally in standby with a low pressure actuation setpoint. Troubleshooting identified that the flow control setpoint was not set as required by IC-2435F. Operations does not understand the basis for the low flow setpoint of the standby pump.

Please discuss the validity of these statements. Are there procedural compliance issues identified in the problems presented?

Background

The procedure reference is incorrect for stator liquid cooling; IC-2435F is a non-existent procedure. The correct procedure for this activity is IC-2425F.

The stator cooling system contains two pumps. One is operated continuously, and the other is considered a reserve. An autostart of the reserve pump is provided by a pressure switch, 63-P60A, which is set to start the reserve pump at a system pressure that corresponds to the minimum allowable system flow. For additional reliability, an additional switch, 63-P60B, provides a backup autostart signal to the reserve pump. IC-2425F, Stator Cooling System Setup, contains procedural guidance that records system pressures at the required flow settings and uses that information to calculate pressure setpoints for the reserve and backup reserve pressure switches.

This procedure was implemented after completion of maintenance activities on the stator cooling system prior to placing the system in service.

During power operation, it was noted that the reserve pump could not be secured and returned to standby status. Troubleshooting activities noted that the system pressure developed with one pump operating was below the reset value for the reserve autostart pressure switch, 63-P60A. It was also identified that the flow control valve that sets the flowrate to the rectifier cabinet was set at a value of six rather than 32 gpm. This was corrected by AWO M2-90-13938. A setpoint change was then processed to set the trip value five psi lower than initially calculated via IC-2425F. This setpoint change was implemented by AWO M2-90-14323. These activities resolved the problem of not being able to secure the running reserve stator cooling pump.

Response

Stator cooling flow was not abnormally low on November 11, 1990. On that day, Unit 2 I&C investigated the problem of not being able to secure the reserve stator cooling pump. The reset value of the reserve pump autostart pressure switch was found to be above the discharge pressure of the lead stator cooling pump. The system was found with the flow control valve for the rectifier cooling set at six rather than 32 gpm. It is apparent that the procedural guidance was not followed.

The procedure was not properly performed. The erroneous rectifier cooling flow setting was corrected, and a temporary setpoint was implemented. The procedure will be revised to include additional guidance on setpoint determination.

The pump does not have a low flow setpoint per se. The system is designed to start the reserve pump at a system pressure value that is equivalent to the low system flow condition.

Issue 2

On or about November 9, 1990 during recovery from the refueling outage, surveillance procedure SP-2401J, Thermal Margin Low Pressure (TM/LP) Function Test, was partially completed in operational mode 3 with the remainder completed in mode 2. Technical Specification Table 4.3-1 requires TM/LP functional tests to be completed in operational modes 1 and 2.

Are the above statements valid? If so, do technical specifications and procedures allow this surveillance to be segmented in the two operational modes? Please discuss.

Background

The Control Element Assembly Withdraval Prohibit (CWP) is a design feature intended to restrict CEA outward motion when two or more pretrip conditions occur on the RPS channels of High Power or Thermal Margin/Low Pressure (TM/LP). The TM/LP generated CWP is bypassed below power levels of 10E-4% by contacts operated by the respective channel's wide range nuclear instrumentation.

During 1990, procedure changes were made to functional testing procedures to include alarm and interlock testing. The wide range functional test procedure SP-2401B was modified to include testing the operation of the relay contacts that serve to remove the bypass the CWP generated from the TM/LP pretrips and checked the proper operation of the TM/LP CWP as part of this testing process. This test is a start-up surveillance and was performed on November 4, 1990 prior to entering Mode 2. The CWP circuitry was therefore tested and operable.

The TM/LP functional test procedure SP-2401J was also modified to test the CWP feature. The method used to verify CWP operation only checked the generation of a CWP alarm after the bypass generated from the wide range nuclear instrumentation had been cleared. The procedure did not include the ability to perform the CWP check prior to actual plant conditions reaching greater than 10E-4% power.

No violation of the Unit 2 Technical Specifications occurred.

Response

The statements of Issue 2 are not accurate. The portions of SP-2401J that are required to demonstrate the operability of the TM/LP trip were performed prior to entry into mode 2, consistent with the requirements of the Technical Specifications.

During 1990, Unit 2 I&C has taken a conservative approach to the requirement to test alarms. In some cases such as this one, this conservative approach to testing alarms has added confusion to which portions of the procedure must be completed to support the operability of the channel. In addition, this conservative interpretation deviates from the original design objective for the system to be fully testable with the plant in any operating mode. Unit 2 I&C is currently planning to review the requirement for alarm and interlock testing. This review is intended to make clear the distinction between those activities in a surveillance procedure that are required to support technical specification system operability from those that are not. Additional procedure refinements are expected.

Issue 3

During a past technical specification review of alarm functions (i.e., LER 90-01), it was identified that the alarm verification of control element assembly withdraval prohibit was included in the wide range functional surveillance (SP-2401B), but not in TM/LP, High Power, and "Local Power Density Functional" surveillance tests. During recent procedure upgrades, this change was not included in these procedures, though it should have been.

Please discuss the validity of the assertion.

Background

The information that was learned during the technical specification review included the fact that the same relay that provides the CWP alarm also has contacts that provide the logic for the input to the rod control system to accomplish the CWP. These contacts are checked during the Wide Range Nuclear Instrument Functional Test SP-2401B, but not in the TM/LP functional test SP-2401J and high power functional test SP-2401F. Once the relay has been verified intact and functional through the accomplishment of SP-2401B, there is no need to further verify its function in SP-2401J and SP-2401F. These latter procedures verify the TM/LP and High Power Channel will actuate the relay.

Response

Control Element Assembly Withdrawal Prohibit (CWP) alarm is verified for TM/LP and High Power functions in I&C procedures SP-2401J and SP-2401F, respectively. Local Power Density (LPD) has no CWP alarm associated with it. If the issue is related to the alarm, the alarm is being adequately tested with the existing procedures SP-2401B, SP-2401J, and SP-2401F.

After our review and evaluation, we find that none of these issues taken either singularly or collectively present any indication of a compromise of nuclear safety. We appreciate the opportunity to respond and explain the basis for our actions. Please contact members of my staff if there are any further questions on any of these matters.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

E. J. Mroczka
Senior Vice President

cc: W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3