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SUBJECT: Responds to violations noted in Insp Rept 50-410/88-14.
Corrective actions:four FSAR chapter changes evaluated.

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August 25, 1988
NMP2L 1158

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Re: Nine Mile Point Unit 2
Docket No. 50-410
NPF-69

Gentlemen:

During NRC Inspection No. 50-410/88-14, unresolved item 50-410/88-14-01 was identified. This item concerns a change to FSAR Chapter 14 "Initial Test Program" without 30-day notification to the NRC per License Condition 2.C.6.

The specific item identified in the Inspection Report concerned the Feedwater System test. The Feedwater System test (FSAR Table 14.2-222) showed manual flow step tests being performed at Test Condition (TC) 3 and 6. It was later identified that the test at TC-6 provided the same information as the test at TC-3. GE verified this fact. An FSAR change was processed and a copy was sent to the Nuclear Regulatory Commission on April 14, 1988 (letter No. NMP2L 1124). Unfortunately, we were not able to locate this letter prior to the Commission's issuance of the Inspection Report.

Even though notification per License Condition 2.C.6 was verified for the item in the Inspection Report, a review of other 10CFR50.59 evaluations for FSAR Chapter 14 changes was made. As a result, four other FSAR Chapter 14 changes, evaluated per 10CFR50.59, were found that were not reported to the Commission. These changes are described below.

1. The first change involved the Turbine Trip and Generator Load Rejection test. One of the test conditions required the recirculation system to be in the FLO (flow) mode. However, since the test would be performed at low power (TC-1 or TC-2) the recirculation system must be in the POS (valve position) mode. Since the test requirement was for the recirculation system to be in operation, the test program remained unchanged. Therefore, this FSAR change was determined not to be reportable under Licensing Condition 2.C.6.

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2. The second change involved the resolution of a conflict between two tables in FSAR Chapter 14. The Test Condition milestones for vibration monitoring of piping for the RHR system were given in FSAR Table 14.2-303. However, the test description for the RHR system (FSAR Table 14.2-244) described why the Test Conditions could not be specified due to the nature of the RHR system. Therefore, the applicable milestone references in Table 14.2-303 were deleted. This FSAR change was also determined not to be reportable under License Condition 2.C.6.

3. The third change involved deletion of two acceptance criteria from the Loss of Turbine Generator and Offsite Power test (see attachment A). The level 1 criterion (No. 2) was deleted from the GE test specification. The deleted level 2 criterion (No. 2) concerned the determination of safety relief valve closure by the measurement of the temperature on the discharge side of the valve. However, relief valve closure is verified in another test (SUT-26). Therefore, these criteria were deleted.

4. The fourth change involved a modification to the performance requirements of the Recirculation Flow Control System. These changes in the performance requirements resulted in a reduction in test steps required to demonstrate operability of the system (see Attachment B).

The first two changes discussed above do not represent a change in the initial test program and therefore, were not reported under License Condition 2.C.6. The last two changes identified above were processed for inclusion in the FSAR update but were inadvertently not reported under License Condition 2.C.6. A copy of these changes and the basis for their safety evaluations are attached.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

C. D. Terry
Vice President
Nuclear Engineering and Licensing

CDT/GG/bd
5415G
Attachment
xc: Regional Administrator, Region I
Mr. R. A. Capra, Director
Ms. M. F. Haughey, Project Manager
Mr. W. A. Cook, Resident Inspector
Records Management

ATTACHMENT A

SAFETY EVALUATION BASIS

1. MODIFICATION TITLE: Change to FSAR Ch. 14 Table 14.2-240.

2. MODIFICATION BACKGROUND AND SCOPE:

(See attached marked-up page.) The removal of the Level 1(b) criteria reflects the change made by GE in their test specification. The Level 2(b) criteria is being removed since the cooldown will result in the temperature change regardless of valve position.

3. ANALYSIS:

For Level 1(2) - GE test specification removed this test criteria. It does not affect the responses by the safety-related systems. This criteria was previously deleted (August 15, 1986) but inadvertently reinstated in Amendment 28.

For Level 2(2) - The safety/relief valves closure will be acoustically monitored. The 10° temperature requirement is not useful since cooldown will bring the valve discharge to within 10° of original temperature regardless of valve position.

4. CONCLUSION:

The above changes do not affect the performance of safety-related systems, equipment or components, and no new types of accident are possible. Therefore, no unreviewed safety questions exist.

TABLE 14.2-240 (Cont)

Acceptance Criteria

Level 1:

1. All safety systems such as the RPS, diesel generators, and HPCS must function properly without manual assistance, and HPCS and/or RCIC system action, if necessary, shall keep the reactor water level above the initiation level of the LPCS, LPCI, ADS, and MSIV closure. Diesel generators shall start automatically.

2. Bypass flow should be ≥80 percent of the bypass valve system's current capacity (based on % power at time of trip) within 0.3 sec of the start of stop/control valve closure. 28

Level 2:

1. Proper instrument display to the reactor operator shall be demonstrated, including power monitors, pressure, water level, control rod position, suppression pool temperature, and reactor cooling system status. Displays shall not be dependent on specially installed instrumentation.

2. If safety/relief valves open, the temperature measured by thermocouples on the discharge side of the safety/relief valves must return to within 10°F of the temperature recorded before the valve was opened.

ATTACHMENT B

SAFETY EVALUATION BASIS

1. MODIFICATION TITLE:

Changes to Startup Test Procedures in FSAR Chapter 14 Related to Recirculation Flow Control System Response Reduction.

2. MODIFICATION BACKGROUND AND SCOPE:

The automatic load following capability of the recirculation flow control system has been previously deleted at the Nine Mile Point Unit 2 by FDDR KGI-5161. The startup test procedures discussed in Chapter 14 of the FSAR have also been revised (by Amendment 28) to reflect such deletion.

With the plant set up for manual load control, the startup test procedures can be further simplified by establishing less stringent performance requirements and adjustments for the recirculation flow control system. These new values will significantly reduce the need to "fine tune" the flow and flux control loops. Therefore, fewer test steps at test conditions 3 and 6 are needed to demonstrate operability of the recirculation flow control system. The testing will verify operation to a less stringent set of performance requirements.

The recirculation flow control system is discussed in FSAR Section 7.7.1.2. The startup test procedures are discussed in FSAR Tables 14.2-233, "Recirculation Flow Control Valve Position Control" and 14.2-234, "Recirculation Flow Loop Control."

The function of the recirculation flow control system is to circulate reactor coolant through the core and to provide a means of controlling reactor power output, over a limited range, by varying the rate of flow of the coolant. This system is not safety-related.

3. ANALYSIS:

Changes to startup test procedures contained in FSAR Tables 14.2-233 and 14.2-234 are attached. These changes have been reviewed for accuracy against the revision to GE startup test specification for the recirculation flow control system, 23A4138, contained in FDDR KGI-6133, Rev. 0.

Since this change involves re-establishing a new set of test criteria for operability of the recirculation flow control system and that the system is not safety-related, changes to the startup test procedures contained in the FSAR have no impact on previous safety analysis.

4. CONCLUSION

The startup procedures contained in FSAR Tables 14.2-233 and 14.2-234 are changed to reflect a response reduction for the recirculation flow control system. Based on the above analysis, these changes do not constitute an unreviewed safety question and will not adversely affect the safe operation or shutdown of Nine Mile Point Unit 2.

TABLE 14.2-234

RECIRCULATION FLOW LOOP CONTROL

Startup Test (SUT-29B)

Test Objectives

1. To demonstrate the core flow system's control capability over the entire flow control range including core flow, neutron flux. | 22

2. To determine that all electrical compensators and controllers are set for desired system performance and stability.

Prerequisites

The preoperational tests have been completed; the SORC has reviewed and approved the test procedures and initiation of testing. All controls are checked and instrumentation calibrated.

Test Procedure

will demonstrate stable operation

Following the initial position mode tests of Part 1 the final adjustment of the position loop gains, flow loop gains, and preliminary values of the flux loop adjustments are made on the midpower line. This is the most extensive testing of the recirculation control system. The core power distribution is adjusted by control rods to permit a broad range of maneuverability with respect to PCIOMR. In general, the controller dials and gains are raised to meet the maneuvering performance objectives. Thus the system is set to be the slowest that will perform satisfactorily, in order to maximize stability margins and minimize equipment wear by minimizing actuator motion.

Because of PCIOMR power maneuvering rate restrictions, the fast flow maneuvering adjustments are performed along a mid-power rod line, and an extrapolation is made to the expected results along the 100-percent rod line. The utility has the option to decide to:

1. Perform the faster power changes on the 100-percent rod line that are greater than what the PCIOMR allows, or

2. Accept the mid-power load line demonstrations as acceptable proof of maneuverability.

TABLE 14.2-233 (Cont)

28	2. Small step changes input into position controller.	a. Before or at TC-1 with pumps using low frequency power supply; at TC-3; and 6. b. Recirculation system in POS mode; other systems in NORM mode.

Acceptance Criteria

Level 1:

The transient response of any recirculation system-related variables to any test input must not diverge.

Level 2:

1. Recirculation system-related variables may contain oscillatory modes of response. In these cases, the decay ratio for each controlled mode of response must be less than or equal to 0.25.

2. Maximum rate of change of valve position shall be 10 ± 1 percent/sec. (5 +1, -0.5)

   During TC-3 and TC-6 while operating on the high speed (60 Hz) source, gains and limiters shall be set to obtain the following response.

3. Delay time for position demand step shall be:

   For step inputs of 0.5 percent to 5 percent ≤ 0.15 (0.22) sec

   For step inputs of 0.2 percent to 0.5 percent (see Figure 14.2-233-1)

4. Response time for position demand step shall be:

   For step inputs of 0.5 percent to 5 percent ≤ 0.45 (1.05) sec

   For step inputs of 0.2 percent to 0.5 percent (see Figure 14.2-233-1)

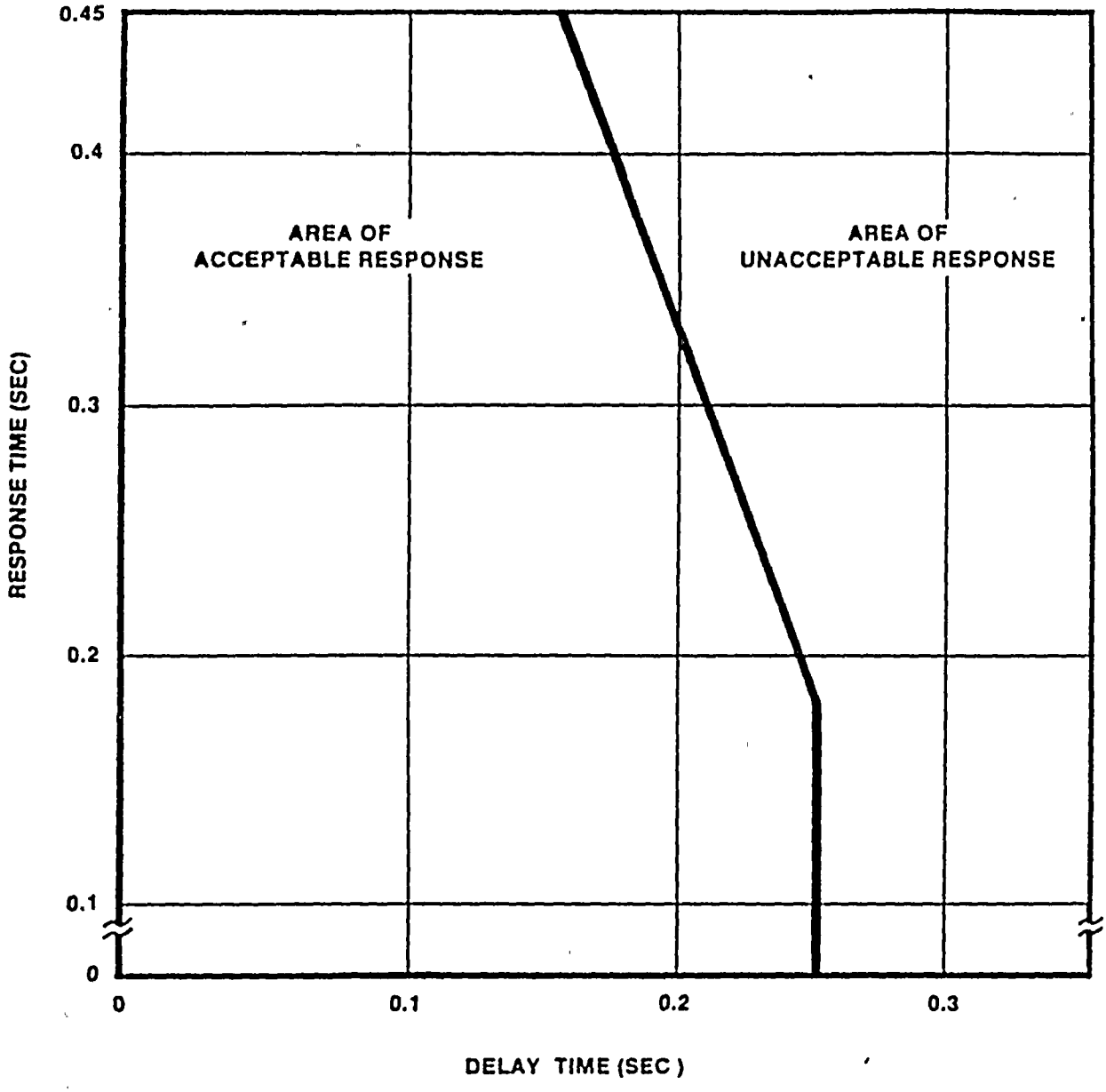

FIGURE 14.2-233-1

TRADEOFF CURVE FOR STEP SIZES 0.2% TO 0.3% (0.5%)

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TABLE 14.2-234 (Cont)

For immediate commercial operation, the flux loop is set slower, and the operator limits his action in the manual mode. If PCIOMRs are ever withdrawn, the tested faster auto settings can be inserted onto the controller with only a brief dynamic test, rather than a full startup test.

The following tests are performed:

	Action	Test Conditions
28	1. Large and small step and ramp inputs.	a. At TC-3. b. Recirculation system in FLO and FLX modes; other systems in NORM mode. c. Normal power sources to be used as applicable.
28	2. Step changes to demonstrate satisfactory response.	a. At TC-6. b. Recirculation system in FLO and FLX modes; other systems in NORM mode.

Acceptance Criteria

Flow Loops Criteria

Level 1:

The transient response if any recirculation system-related variable to any test input must not diverge.

Level 2:

1. The decay ratio of the flow loop response to any test inputs must be ≤0.25. (less than or equal to 0.25.)
2. The flow loops provide equal flows in the two loops during steady-state operation. Flow loop gains should be set to correct a flow imbalance in about 20 ± 5 sec.
3. The delay time for flow demand step (≤5 percent) must be 0.4 (0.75) sec or less.

TABLE 14.2-234 (Cont)

4. The response time for flow demand step (≤5 percent) must be 1.1 (1.8) sec or less.
5. The maximum allowable flow overshoot for step demand of ≤5 percent of rated must be 6 (2) percent of the demand (rated) step.
6. The flow demand step settling time must be ≤6 (25) sec.

Flux Loop Criteria

Level 1:

The flux loop response to test inputs must not diverge.

Level 2:

1. Flux overshoot to a flux demand step must not exceed 2 percent of rated for a step demand of ≤20 percent of rated.
2. The delay time for flux response to a flux demand step must be ≤0.8 sec. ≤ 20% of rated must be ≤ 5.0 sec.
3. The response time for flux demand step must be ≤2.5 (30.0) sec. (≤ 20% of rated)
4. The flux setting time must be ≤15 (60) sec for a flux demand step ≤20 percent of rated.
5. The flow control system shall be adjusted to limit the maximum core flow to 102.5 percent of rated by limiting the flow control valve opening position. 28