UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REGARDING FOUR CHANGES TO THE INITIAL TEST PROGRAM

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION, UNIT 2

DOCKET NO. 50-410

INTRODUCTION

By letter dated August 25, 1988, Niagara Mohawk Power Corporation (the licensee) advised the NRC of four (4) changes that were made to its Initial Test Program described in Chapter 14 of the Final Safety Analysis Report (FSAR) for Nine Mile Point Nuclear Station, Unit No. 2. The licensee provided additional information by letter dated April 10, 1990. The NRC staff has reviewed the licensee's description of these changes. Our evaluations of these changes are discussed in the following paragraphs.

1. Change to the Turbine Trip and Generator Load Rejection Test

   The first change involved the Turbine Trip and Generator Load Rejection test. One of the test conditions as specified in the FSAR 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 and the FSAR was subsequently changed to require recirculation system be in the POS mode. This FSAR change was determined by the licensee not to be reportable under License Condition 2.C.(6).

   The staff has reviewed this change and finds the change made to Table 14.2-231, TURBINE TRIP AND GENERATOR LOAD REJECTION, acceptable since the change reflects the proper test conditions.

2. Conflict Between FSAR Tables 14.2-244 and 14.2-303

   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 (residual heat removal) 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 by the licensee not to be reportable under the Lice..se Condition 2.C.(6).

The staff did not agree with the licensee's deletion of vibration measurements on the RHR system required under Table 14.2-303. The licensee referenced Table 14.2-244, RESIDUAL HEAT REMOVAL SYSTEM, as justification for stating that the steam condensing and shutdown cooling modes of operation could not be tested in the startup program due to low decay heat loads. This was a reasonable statement, but did not provide a justification for deletion of vibration testing for the RHR system. The staff proposed that vibration testing be performed at a time when plant conditions would support the steam condensing and shutdown cooling modes of the RHR system.

This conflict was resolved when vibration measurements of the RHR piping were performed when plant conditions supported the steam condensing and shutdown cooling modes of the RHR system. The results were reported in the licensee's Power Ascension Test Program Final Startup Report (May 1988). The tests were performed as N2SUT 77 in FSAR Chapter 3.3, and the test results are reported in table 3.34-1 on pages 246 and 249. This resolution was acceptable to the staff.

3. Deletion of Two Acceptance Criteria from the Loss of Turbine Generator and Offsite Power Test

The third change involved deletion of two acceptance criteria specified in the FSAR Table 14.2-240 from the Loss of Turbine Generator and Offsite Power test. The first deleted criterion (Level 1, No. 2), concerning bypass flow, had been determined not applicable and deleted from the test specification. The second deleted criterion (Level 2, No. 2) concerned the determination of safety relief valve closure by the measurement of the temperature on the discharge side of the valve. However, since relief valve closure is verified in another test (SUT-26), the licensee deleted this criterion from FSAR Table 14.2-240.

By letter dated April 10, 1990, the licensee submitted information from the reactor vendor stating that the first criterion (Level 1, No. 2) was not applicable to this test or power level and recommended that it be deleted. The staff finds this deletion acceptable.

The licensee deleted the second acceptance criterion (Level 2, No. 2) and proposed using acoustical monitoring of safety relief valve position vice using temperature readings on the tailpipe. The staff agreed with the proposed alternate method for verifying SRV position, but does not agree with the deletion of the acceptance criteria. The second criterion (Level 2, No. 2) was deleted from FSAR 14.2-240 because the licensee concluded that the requirement for the valve discharge side temperature to be within 10°F of the temperature recorded before the valve was opened is not useful since cooldown will bring the valve discharge temperature to within 10°F of the pre-opened valve regardless of valve position. However, the licensee committed to acoustically monitor valve closure and to monitor temperature measured by thermocouples on the discharge side of the valves, for valve opening. This test is described in Table 14.2-230 and was performed as start up test SUT-26. The staff finds this revised test acceptable.

4. Modification to the Performance Requirements of the Recirculation Flow Control System

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

The licensee recommended significant changes in the acceptance criteria for Tables 14.2-233 and 14.2-234, RECIRCULATION FLOW CONTROL VALVE POSITION CONTROL and RECIRCULATION FLOW LOOP CONTROL, respectively. The licensee cited, as justification for these changes, a revision to GE startup test specification for the recirculation flow control system, 23A4138, contained in FDDR KGI-6133, Rev. 0.

The staff has received and reviewed GE startup test specification 23A4138 in FDDR KGI-6133, Rev. 0. The NSSS manufacturer recommended the changes to Tables 14.2-233 and 234 be made to the licensee startup test program. The staff finds the changes acceptable.

CONCLUSION

Based on the staff review of the licensee changes described in its August 25, 1988, letter and the additional information provided by the licensee, the staff concludes that the changes will not affect the safe operation of Nine Mile Point 2 and, therefore, the changes are acceptable.

Dated: January 10, 1991

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