

Energy Measurements Group
San Ramon Operations

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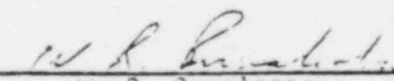
TECHNICAL EVALUATION OF THE RESPONSE TO POSITION NO.5
OF ITEM II. E. 4.2 OF NUREG-0737
CONTAINMENT ISOLATION SETPOINT
FOR THE
NINE MILE POINT
NUCLEAR POWER PLANT
UNIT 1

(DOCKET NO. 50-220)

by

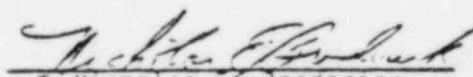
W. O. Wade

Approved for Publication


W. R. Ruvalcaba
Department Manager

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Nicholas E. Broderick
Department Manager

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INTRODUCTION AND BACKGROUND

As a consequence of the incident at TMI-2, implementation of a number of new requirements has been recommended for operating reactors. These new requirements are described in NUREG-0660, "NRC Action Plan Developed as a Result of the TMI-2 Accident," May 1980, and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980. The NRC staff has also requested licensees to submit information sufficient to permit an independent evaluation of their response to these new requirements. This report provides an evaluation of the response to Action Plan Item II.E.4.2, position 5, by the designated licensee.

DESIGN BASIS OR REVIEW CRITERIA

Position 5 requires that the containment pressure setpoint that initiates containment isolation for non-essential system containment vessel penetrations be at, or reduced to, "...the minimum compatible with normal operating conditions."

TECHNICAL EVALUATION

Response evaluation is based upon the values provided for the following parameters:

- (1) The maximum observed or expected containment pressure during normal operation.
- (2) The loop error and observed drift in the pressure sensing instrumentation providing the isolation signal (see note).
- (3) The containment isolation pressure setpoint.

NOTE: The clarification document (NUREG-0737) provided only the expected margin for instrument error and did not specify acceptable values for instrument drift or atmospheric changes contributing to the total sensing loop error. Additional staff guidance established a limit of 3.0 psi for an isolation setpoint margin over the normal containment pressure to account for total loop error. In addition, for subatmospheric containments, a 3.0 psi setpoint margin over atmospheric pressure is also considered acceptable.

In consideration of these values, the isolation pressure setpoint is to be as low as practical without increasing the probability of inadvertent activation of the isolation signal.

CONCLUSIONS

The letter of December 31, 1980, submitted by Niagara Mohawk Power Corporation, provided sufficient information to conclude that the containment isolation pressure setpoint for Nine Mile Point Nuclear Power Plant, Unit 1, meets the NUREG-0660/0737 requirements and is within the additional limiting guidelines provided by the NRC staff.

CONTAINMENT SYSTEMSLIMITING CONDITION FOR OPERATION

3.6.1.7 The containment purge supply and exhaust isolation valves may be open for safety-related reasons [or shall be locked closed]. The containment vent line isolation valves may be open for safety-related reasons [or shall be locked closed].

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

(For plants with valves closed by technical specification)

With one containment purge supply and/or one exhaust isolation valve open, close the open valve(s) within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

(For plants with valves that may be opened by technical specifications)

1. With one containment purge supply and/or one exhaust isolation or vent valve inoperable, close the associated OPERABLE valve and either restore the inoperable valve to OPERABLE status within 72 hours or lock the OPERABLE valve closed.
2. Operation may then continue until performance of the next required valve test provided that the OPERABLE valve is verified to be locked closed at least once per 31 days.
3. Otherwise, be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.
4. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The ___-inch containment purge supply and exhaust isolation valves and the ___-inch vent line isolation valves shall be determined locked closed at least once per 31 days.

4.6.1.7.2 The valve seals of the purge supply and exhaust isolation valves and the vent line isolation valves shall be replaced at least one per ___ years.

CONTAINMENT SYSTEMS

3/4 4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 The containment isolation valves specified in Table 3.6-1 shall be OPERABLE with isolation times as shown in Table 3.6-1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the isolation valves(s) specified in Table 3.6-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

- a. Restore the inoperable valve(s) to OPERABLE status within 4 hours
or
- b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position,
or
- c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or
- d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 The isolation valves specified in Table 3.6-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test, and verification of isolation time.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

- a. Verifying that on a Phase A containment isolation test signal, each Phase A isolation valve actuates to its isolation position.
- b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The containment purge and vent isolation valves shall be demonstrated OPERABLE at intervals not to exceed ____ months. Valve OPERABILITY shall be determined by verifying that when the measured leakage rate is added to the leakage rates determined pursuant to Specification 4.6.1.2.d for all other Type B and C penetration, the combined leakage rate is less than or equal to 0.60La. However, the leakage rate for the containment purge and vent isolation valves shall be compared to the previously measured leakage rate to detect excessive valve degradation.