Safety Evaluation Report
Minimum Containment Pressure Setpoint
(Item II.E.4.2(5) of NUREG-0737)
Brunswick Nuclear Power Plant, Units 1 and 2
Docket Nos: 50-325, 324

1.0 Introduction

As a consequence of the accident 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.

2.0 Evaluation

Our consultant, the EG&G Energy Measurements Group (a subcontractor to Lawrence Livermore National Laboratory, which has the TMI Action Plan contract) has reviewed the licensee's submittals and prepared the attached technical evaluation report of the licensee's containment pressure setpoint used to isolate nonessential containment penetrations. We have reviewed this evaluation and concur in its basis and findings.

3.0 Conclusions

The information submitted by the licensee provided sufficient details of the licensee's containment isolation pressure for the staff to conclude that the requirements of Item II.E.4.2(5) of NUREG-0737, with the additional guidelines developed by the staff, have been met.

EG&G
Energy Measurements Group
San Ramon Operations

SRO-241
May 1981

TECHNICAL EVALUATION OF THE RESPONSE TO POSITION NO.5 OF ITEM II. E. 4.2 OF NUREG-0737 CONTAINMENT ISOLATION SETPOINT FOR THE BRUNSWICK NUCLEAR POWER PLANT UNITS 1 AND 2

(DOCKET Nos. 50-325 and 50-324)

By

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Approved for Publication

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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 Carolina Power and Light Company, provided sufficient information to conclude that the containment isolation pressure setpoint for Brunswick Nuclear Power Plant, Units 1 and 2, meets the NUREG-0660/0737 requirements and is within the additional limiting guidelines provided by the NRC staff.