N. Thompson
Enf. #9
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MEMORANDUM FOR: Boyce H. Grier, Director, Region I

THRU: (1) R. Keimig, Chief, Projects Branch 2, DRPI, RI
(2) E. J. Brunner, Acting Director, DRPI, RI

FROM: E. C. McCabe, Chief, Reactor Projects Section #2B, DRPI

SUBJECT: VIOLATION SEVERITY FOR DRYWELL PRESSURE SENSOR ISOLATION AT PEACHBOTTOM UNIT 2

Background

On March 31, 1981, the licensee found three drywell pressure sensors valved out of service at Peach Bottom Unit 2. The valves were about 1/8 turn open and functioning to equalize pressure slowly - enough to follow normal changes in containment pressure but not enough to provide the specified accident response time. Two of the valves were for sensors in the same ECCS actuation channel. The third sensor was in a reactor protection system channel. Extensive licensee checks for other sensor valving errors found no further problems. The valves involved were last known to be in the open position about August 8, 1980. Licensee evaluation and resident inspector confirmation showed that the valving error did not prevent scram or ECCS actuation because the rest of the logic remained operable. The licensee detected, promptly corrected, and properly reported this occurrence.

Safety Significance

The valving errors left ECCS and RPS actuation on high drywell pressure susceptible to single failure for up to about 200 days. That single failure did not occur. Automatic core protective capability was not lost. Even if additional drywell pressure sensor failure had occurred, there would have been protection against a large break LOCA (lo level scram, lo-lo level HPCI and RCIC initiation, lo-lo-lo level plus low reactor pressure initiation of LPCI and Core Spray). For a small break LOCA without drywell pressure input, there is no ADS actuation, but operator action can compensate, and that sequence is one in which manual operator response time is adequate. This situation represents a reduction in the margin of safety, with other safety features and operator training capable of assuring core protection even if the additional failure were experienced. (This assessment appears consistent with the NSSS supplier's evaluations in NEDO 10189 and NEDO 24708, obtained from the Hatch licensee by Region II. The NSSS supplier analysis states that about 10 minutes is available for the operator to initiate depressurization.)

Violation Severity

Section III of the Interim Enforcement Criteria states: Severity III Violations are of significant regulatory concern and, in general, involve actual or high

potential impact on the public; Severity IV Violations include degradation of engineered systems designed to detect, prevent, or mitigate an event; and Severity IV Violations in themselves are not cause for significant concern but could lead to matters of significant concern if uncorrected.

The actual event which occurred meets the Severity Level IV definition of a degraded engineered system designed to detect, prevent, or mitigate an event. Literal reading of Supplement I to the enforcement criteria could result in fulfillment of the definitions for both Severity III and Severity IV Violations Since the supplements should not be construed to contradict the basic criteria, a Severity IV classification was assigned and is hereby submitted for concurrence.

This position is supported by Enforcement Guidance Memorandum 81-12 dated February 25, 1981.

E. C. McCabe, Jr.
Chief, Reactor Projects Section 2B

cc: D. Thompson