

JUL 15 1981

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MEMORANDUM FOR: Boyce H. Grier, Director, Region I

VIA: (1) R. 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 AUXILIARY FEEDWATER (AFW) FLOW RESTRICTION AT CALVERT CLIFFS UNIT 1

Background

From December 17, 1980 until January 12, 1981, AFW flow at Unit 1 was restricted to 480 gpm (130 gpm to SG11, 350 gpm to SG12) because feedwater control valve opening was limited to 75% by local, manual handwheel adjustment of the remotely operated feedwater control valves. During this time, a refueling outage was completed, and operation above 5% power (Mode 1) began about 3:30 a.m., January 11, 1981. The flow reduction below the 700 gpm TS limit (LCO) was imposed pursuant to a maintenance request associated with an approved field change which had received 10 CFR 50.59 review. The intent was to prevent pump runout on control air failure, based on a 460 gpm flow value established to maintain hot standby with worst case decay heat, and to prevent an excessive steam generator cooldown rate. The TS limit, which was not considered, is based on decay heat load plus reducing temperature to 300°F so shutdown cooling can be operated. After operator discovery of the TS violation, flow was restored to 750 gpm on January 12, 1981. Periodic AFW surveillance would not have detected the violation because the surveillance is based on feedwater pump pressure. Subsequent control air system upgrading has negated the need to provide this special precaution against pump runout.

Safety Significance

AFW flow, though reduced, was fully capable of handling decay heat and reducing temperature to 300°F under the actual core power history. Had the TS violation remained undetected, decay heat removal capability remained, with cooldown ability being delayed until worst case decay heat dropped off, or until the feedwater control valve handwheels were readjusted (not called for by the existing procedures). Alternate decay heat removal was available through the ECCS, which is the primary safety mechanism for removing decay heat. And, full AFW flow could have been achieved through local control on the bypass valves.

Violation Severity

Section III of the Interim Enforcement Criteria states that: 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.

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The Interim Enforcement Criteria (Supplement I) states that Severity III violations include exceeding a Limiting Condition for Operation where the appropriate Action Statement was not satisfied. That condition occurred.

The Interim Enforcement Criteria (Supplement I) states that Severity III Violations include a violation of 10 CFR 50.59 such that an amendment was not sought. A 10 CFR 50.59 review was done. No amendment was sought.

The Interim Enforcement Criteria (Supplement I) states that Severity IV Violations include failure to meet requirements not covered in Severity Levels I, II, or III, that measurably degrades the safety of operations. Auxiliary feedwater provides a means of cooling the core. Its degradation is therefore a measure of degradation of safety.

Failure to properly comply with TS limits can be very serious. In this case, literal compliance with both Severity III and Severity IV definitions exists if only Enforcement Criteria Supplement I is considered. But, this violation did not reduce the actual worst case margin of safety. Even if it had remained uncorrected, the violation would not have prevented the system from removing worst case decay heat, and the primary ECCS safety mechanism was not degraded. The licensee detected, corrected, and properly reported the event. There was no actual and no high potential impact on the public. Since the Enforcement Criteria Supplements should not be construed to contradict the basic Enforcement Criteria, a Severity Level IV Violation classification was made and is hereby submitted for concurrence.

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

E. C. McCabe, Jr.
E. C. McCabe, Jr., Chief
Reactor Project Section #2B

cc:
D. Thompson
R. Architzel