

OCT 29 1976

Docket No. 50-302

MEMORANDUM FOR: Thomas M. Novak, Chief, Reactor Systems Branch, DSS

FROM: Thomas A. Ippolito, Chief, Electrical, Instrumentation and Control Systems Branch, DSS

SUBJECT: ECCS SUPPLEMENTAL EVALUATION - FLORIDA POWER CORPORATION, CRYSTAL RIVER, UNIT NUMBER 3

In accordance with Thomas Novak's memorandum of July 12, 1976, to Thomas Ippolito, requesting assistance from the EI&CS Branch to review additional information pertaining to the ECCS for Crystal River Unit Number 3, we are reporting our findings as follows:

Pump Runout

Automatic flow controllers and discharge valve limit switch adjustments are being proposed by the applicant to maintain an adequate NPSH for the decay heat and reactor building spray pumps during both the injection and recirculation mode of ECCS operation. We have reviewed the design description and supporting electrical schematics and concluded that the electrical, instrumentation and controls for preventing pump runout satisfy the same criteria as that for the plant protection system and are acceptable, except for the BWST level instrumentation channels utilized to administratively accomplish the transfer from injection to recirculation mode of operation.

Two instrumentation channels monitoring BWST level are provided to effect manually the transfer from injection to recirculation mode of ECCS operation. The level transmitters are mounted in the same stem pipe in the BWST and the signal cables from these transmitters are routed in the same trays. Furthermore, the wiring has not been identified as safety-related and it is not clear whether the power supplied to the transmitters emanate from Class 1E sources and whether the instruments have been qualified in accordance with protection system requirements. It is obvious that a single failure can result in the loss of both BWST level instrument channels and as a consequence leaving the operator without information to determine when to transfer to the recirculation mode of ECCS operation.

Contact:
J. Calvo

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We had discussed this problem of the BWST level instrumentation with G. Mazetis and with the applicant. The applicant confirms that the design of the BWST level instrumentation was as described above. We therefore believe that the design be modified to meet the single failure criterion and other protection system requirements.

Environmental Qualification of Electrical Equipment

The Office of Inspection and Enforcement of Region II has performed an audit of the records pertaining to the environmental qualification of Balance of Plant Class 1E equipment as indicated in the memorandum from D. Thompson to R. DeYoung dated June 24, 1976. The attachment to the memorandum reported that the Balance of Plant Class 1E equipment at Crystal River Unit Number 3 is qualified for its intended service and no unresolved or open items were identified.

Thomas A. Ippolito, Chief
Electrical, Instrumentation
and Control Systems Branch
Division of Systems Safety

- cc: R. Tedesco
- G. Mazetis
- L. Engle
- J. Calvo
- D. Tondi

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Handwritten notes:
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