



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Docket

January 22, 1989

Docket Nos. 50-259
50-260
and 50-296

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Mr. Oliver D. Kingsley, Jr.
Senior Vice President, Nuclear Power
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. Kingsley:

SUBJECT: COMPLIANCE WITH RULE 10 CFR 50.62 RELATING TO ALTERNATE ROD
INJECTION AND REACTOR PUMP TRIP SYSTEMS (TAC 59072, 59073
AND 59074)

The ATWS Rule (10 CFR 50.62, "Requirements for Reduction of Risk from Anticipated Transients Without Scram (ATWS) Events for Light-Water-Cooled Nuclear Power Plant") requires improvements in the design and operation of commercial nuclear power facilities to reduce the likelihood of failure to shutdown the reactor following anticipated transients, and to mitigate the consequences of an ATWS event. The requirements for a boiling water reactor are to install an alternate rod injection (ARI) system, a standby liquid control system (SLCS) and to trip the reactor coolant recirculation pumps (RPT) automatically under conditions indicative of an ATWS.

Tennessee Valley Authority provided information by letters dated March 1, July 15 and August 4, 1988 concerning their implementation of the ATWS Rule. The Instrumentation and Control Systems Branch has reviewed this information. The staff finds that one area of the Browns Ferry ATWS design is not in full conformance with the ATWS Rule.

The Browns Ferry's ARI and RPT designs utilize the same analog trip units (ATU) for both the ATWS system and the reactor trip system (RTS). Although diversity of application is provided by setting two internal switches so that the ARI and RPT are energized to trip while the RTS is de-energized to trip, we conclude that the application of different energization states is not sufficient to minimize the potential for common cause failures in the ARI/RPT systems and RTP ATUs. If alternate boards by a different manufacturer were used in these systems, sufficient diversity would exist between the ATWS mitigation system and the RTS. We believe that it is prudent for the licensee to consider installation of the diverse ATU circuit boards prior to the restart of the plant. The licensee is also required to document the preoperational test to verify the ARI function time. This documentation will be verified during the staff inspection of the ATWS equipment implementation. We request your response to the above positions within 30 days of the receipt of this letter.

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Mr. Oliver D. Kingsley, Jr.

-2-

By letter dated August 4, 1988, the licensee requested an amendment to licenses DPR-33, DPR-52 and DPR-68 to change the technical specifications with respect to ATWS/RPT. The staff is currently reviewing the proposed changes.

Our safety evaluation, which provides the review details of the ARI and RPT systems, is enclosed. If you have any questions concerning the above, please contact the Browns Ferry Project Manager, Gerald E. Gears, at 301-492-0767.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required.

Sincerely,

Original signed by R. Auluck for

Suzanne C. Black, Assistant Director
for Projects
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Mr. Oliver D. Kingsley, Jr.

-3-

Browns Ferry Nuclear Plant

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