

April 19, 1995

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: WATTS BAR UNIT 1 - REQUEST FOR ADDITIONAL INFORMATION
REGARDING THE REACTOR COOLANT PUMP LUBE OIL COLLECTION SYSTEM
(TAC M63648 AND M91552)

Dear Mr. Kingsley:

Inspection Report (IR) 90-390/94-78 included the following two findings:
(1) reactor coolant pump (RCP) lube oil leakage is drained to the reactor building floor and equipment drain sump, and on high sump level, the liquids can be pumped into the radwaste system (tritiated drain collection tank); and
(2) the RCP system uses open collection basins on each RCP. Currently, TVA has no means to detect or identify oil entering the radwaste system, and the open basins may not be sized to collect all the potential RCP oil leakage during normal and design-basis accident conditions. In order to further evaluate these inspection findings and assess the adequacy of the RCP oil collection system, the staff is requesting TVA to provide additional information as delineated in the attached.

Please respond within 45 days of receipt of this letter. This requirement affects nine or fewer respondents and, therefore, is not subject to Office of Management and Budget review under P.L. 96-511.

Sincerely,

Original signed by

Peter S. Tam, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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Docket No. 50-390
Enclosure: RAI Items

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REQUEST FOR ADDITIONAL INFORMATION

WATTS BAR UNIT 1, DOCKET NO. 50-390)

REACTOR COOLANT PUMP (RCP) OIL COLLECTION SYSTEM

1. Describe the RCP oil collection system. This description should identify how each potential pressurized and unpressurized oil leakage site is contained by the oil collection system and drained to the collection basin. In addition, this description should include the design of the open catch basin, and verify that the design will control and contain the maximum leakage under the pump operational conditions anticipated. This description should also include the RCP lube oil alarms that are activated and annunciated in the main control room.
2. Provide simplified design drawings of the RCP oil collection system. These drawings should show the general arrangement of the oil collection system components, identify the RCP lube oil system components they are protecting, arrangement of the drainage piping from the individual leakage collection sites to the collection basin and from there to the reactor building floor and equipment drain sump.
3. Provide a description of the fixed fire suppression and detection systems provided for each RCP.
4. Question 6.2, "Container," of Generic Letter 86-10, "Implementation of Fire Protection Requirements," the staff provided guidance regarding the use of sumps as an alternative to a vented container. Specifically the staff stated that "...if it could be demonstrated by engineering evaluation that a sump and splash shields would be capable of preventing a fire during normal and design basis accident conditions, the safety objective of Section III.0 would be achieved. Such a design concept would have to be evaluated under the exemption process." TVA intends to use the reactor building floor and equipment drain sump as a collection tank for RCP oil collection system. This appears to deviate from Section III.0 of Appendix R, therefore, justify how the reactor building floor and equipment drain sump satisfies the safety objectives of Section III.0 of Appendix R. In addition, describe how oil being pumped from the sump tritiated drain collection tank in the radwaste system will be detected, separated out of the water, and handled.
5. Provide the results of any preoperational testing of this system which demonstrates that the drain piping from the RCP oil collection basins is sloped sufficiently to provide reasonable assurance that the maximum expected oil leak rate into the basin will be drained away quickly enough to preclude oil from overflowing the basin.

ENCLOSURE

Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

WATTS BAR NUCLEAR PLANT

cc:

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