Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

JAN 31 1992

John H. Garrity
Vice President, Watts Bar Nuclear Plant

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of	)	Docket Nos. 50-390
Tennessee Valley Authority	)	50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - NRC BULLETIN 90-01 - LOSS OF FILL-OIL IN TRANSMITTERS MANUFACTURED BY ROSEMOUNT

This provides TVA's response to the subject bulletin for WBN.

TVA has completed the actions requested in Item 2 for construction permit holders for WBN Unit 1 and Common. A total of six Model 1153, Series B, Rosemount transmitters manufactured before July 11, 1989, were found to be installed in safety-related systems or systems installed in accordance with 10 CFR 50.62 (Anticipated Transients Without Scram [ATWS] rule). However, those six transmitters were not from the suspect failure lots or located in extreme high pressure applications. Five additional Rosemount Model 1153 transmitters of the suspected failure lot were found in Power Stores' inventory stock. Those five transmitters were returned to the manufacturer for refurbishing. Rosemount Model 1154 transmitters were not found at WBN installed in safety-related systems or systems installed in accordance with 10 CFR 50.62 or in stock.

Enclosure 1 provides the response to the requested actions. TVA will complete the requested actions in Item 2 of the bulletin for WBN Unit 2 before Unit 2 fuel load.

Enclosure 2 identifies the commitments in this letter.

If there are any questions concerning this matter, please telephone John Vorees at (615) 365-8819.

Sincerely,

J H Garrity 1/31/92

John H. Garrity

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U.S. Nuclear Regulatory Commission

JAN 31 1992

Subscribed and sworn to before me
on this 31st day of January 1992

S. Jeannette Forge
Notary Public

My Commission Expires July 13, 1993

Enclosures
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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 AND COMMON (0)
NRC BULLETIN 90-01
LOSS OF FILL-OIL IN TRANSMITTERS MANUFACTURED BY ROSEMOUNT

TVA has evaluated the subject bulletin and found that WBN Unit 1 and 0 presently have a combined total of six Model 1153, Series B, Rosemount transmitters manufactured before July 11, 1989 (serial numbers less than 500000), installed in safety-related systems or systems installed in accordance with 10 CFR 50.62 (Anticipated Transients Without Scram [ATWS] rule). The bulletin requested that all construction permit holders that do not anticipate receiving an operating license within 120 days after receipt of this bulletin to complete Items 1 and 4 of Requested Actions for Operating Reactors before the date scheduled for fuel loading and to address the intent of Items 2 and 5 of the same requested actions by:

a. Identifying and replacing Model 1153, Series B and D, and Model 1154 transmitters from the manufacturing lots that have been identified by Rosemount as having a high failure fraction due to loss of fill-oil that are installed in reactor protection or engineered safety features actuation systems; and

b. Documenting and maintaining in accordance with existing plant procedures a basis for continued plant operation that addresses transmitters that, subsequent to fuel loading, are identified as exhibiting symptoms indicative of loss of fill-oil that do not conform to the established operability criteria and are not addressed in the technical specifications concerning the time period from the time these transmitters are identified until such time that these transmitters can be replaced.

The following is a response to Items 1 and 4 of Requested Actions for Operating Reactors.

REQUESTED ACTION 1

Identify Model 1153 Series B, 1153 Series D, and Model 1154 pressure or differential pressure transmitters, excluding Model 1153 Series B, 1153 Series D, and Model 1154 transmitters manufactured by Rosemount subsequent to July 11, 1989, that are currently utilized in either safety-related systems or systems installed in accordance with 10 CFR 50.62 (the ATWS rule).

RESPONSE

The following is a list of the six transmitters that are installed in WBN Unit 1 and 0 safety-related systems. These systems are the Component Cooling Water System (70) and the Waste Disposal System (77).

Unit ID Number	Model Number	Serial Number
1-FT-70-215A	1153DB3PB	405512
1-FT-70-215B	1153DB3PB	405514
0-LT-77-134	1153DB4PAN0014	404980
0-LT-77-135	1153DB4PAN0014	404979
0-PT-70-221	1153GB7PB	422310
0-PT-70-222C	1153GB7PB	422309

REQUESTED ACTION 4

Develop and implement an enhanced surveillance program to monitor transmitters identified in Item 1 for symptoms of loss of fill-oil. This enhanced surveillance program should consider the following or equally effective actions:

4(a) Ensuring appropriate licensee personnel are aware of the symptoms that a transmitter, both during operation and during calibration activities, may exhibit if it is experiencing a loss of fill-oil and the need for prompt identification of transmitters that may exhibit these symptoms;

RESPONSE

WBN has informed appropriate personnel in Operations and Instrument Maintenance of the symptoms of loss of fill-oil. Operations personnel were notified through the July 91-07 "Required Reading" newsletter, and the Operations' requalification training program also includes a lesson plan for NRC Bulletin 90-01. The Instrument Maintenance technician's "block" and apprenticeship training modules also include the subject bulletin material.

4(b) Enhanced transmitter monitoring to identify sustained transmitter drift;

RESPONSE

WBN will continue to use the same calibration interval for any installed 1153 (Series B and D) and 1154 Rosemount transmitter, including the above six transmitters listed in Item 1, unless unusual out-of-calibration values are encountered. In this case, the calibration frequency is increased to more closely monitor the problem in determining a course of corrective action. WBN has generated and issued Preventative Maintenance (PM) Instruction WBN-0-LT-077-0134-A, PM No. 1, to annually review the calibration results of safety-related or 10 CFR 50.62 associated (ATWS rule), installed Models 1153 and 1154, Rosemount transmitters. The PM dictates that any failures determined to be "loss of fill-oil" associated shall have an adverse condition report (ACR) generated along with the appropriate operability determination.

Calibration documentation (since 1982) for the first four transmitters in Item 1 was reviewed and found to be out of calibration over a long calibration cycle. The calibration frequency has been increased from 18 to 6 months to allow more frequent monitoring in order to determine the exact nature of the problem. One of the last two transmitters in Item 1 was out of calibration once, which does not establish a trend. These two transmitters are to be reviewed in accordance with the PM instruction.

4(c) Review of transmitter performance following planned or unplanned plant transients or tests to identify sluggish transmitter response;

RESPONSE

WBN does not have the implemented capability to automatically online record and log transmitter responses after a planned or unplanned plant transient or test and, therefore, does not plan to review transmitter performance after a transient. However, the PM instruction referenced in the Item 4(b) response above contains an action to review for the "slow response" condition during calibration or operational failure conditions.

4(d) Enhanced awareness of sluggish transmitter response to either increasing or decreasing test pressure during calibration activities;

RESPONSE

As indicated in Item 4(a) response, a portion of enhanced awareness is provided by training/retraining of the appropriate Operations and Instrument Maintenance personnel. Additionally, the PM instruction referenced in Item 4(b) contains a specific monitoring review step for the action requested by this item. The results are reviewed and trended by the systems engineer and his management. If the calibration results are outside normal drift tolerances, calibration interval monitoring is reduced, and, if determined to be a "loss of fill-oil" problem, an ACR and subsequent operability determination/documentation is initiated.

4(e) Development and implementation of a program to detect changes in process noise;

RESPONSE

Presently, WBN does not elect to implement a program to detect changes in process noise. Such a program would not provide additional assurance of proper transmitter performance.

However, the above referenced PM contains specific monitoring review steps for monitoring process noise changes from amplitude variations, "one-sided" noise, and asymmetric noise distribution.

4(f) Development and application to transmitters identified as having exhibited symptoms indicative of loss of fill-oil of an appropriate operability acceptance criteria. Transmitters identified as having exhibited symptoms indicative of loss of fill-oil that do not conform to the operability acceptance criteria should be addressed in accordance with the applicable technical specification. Transmitters identified as having exhibited symptoms indicative of loss of fill-oil that do not conform to the operability acceptance criteria and are not addressed in the technical specifications should be replaced at the earliest appropriate opportunity.

RESPONSE

At WBN, the safety-related or 10 CFR 50.62 associated (ATWS related) Rosemount Model 1153/1154 transmitter calibration results are reviewed annually in accordance with the PM instructions. Any transmitters that are determined to be significantly out of calibration over the annual review period (low, high, or both), will have their calibration/monitoring frequency increased. This allows the specific transmitter to be scrutinized in order to determine the actual problem. If the problem is determined to be a "loss of fill-oil problem," then corrective action and subsequent operability assessment will be initiated.

Technical specification associated transmitters will be addressed in accordance with their applicable technical specifications. Nontechnical specification associated transmitters will be replaced at the earliest opportunity.

REQUESTED ACTION (From Item 2 for Construction Permit Holders)

2. Address the intent of Items 2 and 5 of Requested Actions for Operating Reactors by:

   (a) Identifying and replacing Model 1153 Series B, 1153 Series D, and Model 1154 transmitters from the manufacturing lots that have been identified by Rosemount as having a high failure fraction due to loss of fill-oil that are installed in the reactor protection or engineered safety features actuation systems; and

   (b) Documenting and maintaining in accordance with existing plant procedures a basis for continued plant operation that addresses transmitters that, subsequent to fuel loading, are identified as exhibiting symptoms indicative of loss of fill-oil that do not conform to the established operability acceptance criteria and are not addressed in the technical specifications covering the time period from the time these transmitters are identified until such time that these transmitters can be replaced.

RESPONSE

2(a) The only Rosemount transmitters identified at WBN as being in the suspected failure lots were found in WBN storage inventory. They were pulled from stock by TVA and shipped back to Rosemount for refurbishment and are listed below:

Item	Unit Id No.	Model No.	Serial No.
1	FT-3-155B	1153DB5PB	405566
2	FT-3-163B	1153DB5PB	405569
3	FT-3-163B	1153DB5PB	405570
4	FT-3-170B	1153DB5PB	405573
5	FT-3-170B	1153DB5PB	405574

There were no suspected high failure rate transmitters identified that were installed in the Reactor Protection or Engineered Safety Features Actuation Systems.

2(b) As previously noted, Rosemount 1153 and 1154 transmitters manufactured before July 11, 1989, and installed in safety-related systems or systems installed in accordance with 10 CFR 50.62 are annually reviewed for trending and for calibration failure historical documentation, under PM WBN-0-LT-077-0134-A, PM No. 1. If any transmitters are found with abnormally large "out-of-calibration deviations," the specific transmitter calibration frequency is increased for closer scrutiny for problem determination and/or correction. If the problem can be determined initially to be "loss of oil-fill" related, an ACR and the appropriate operational assessment will be initiated.

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT
NRC BULLETIN 90-01
LIST OF COMMITMENTS

TVA will complete the requested actions in Item 2 of the subject bulletin for WBN Unit 2 before Unit 2 fuel load.