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Nuclear Operations



July 13, 1990

Docket Nos. 50-348
50-364

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

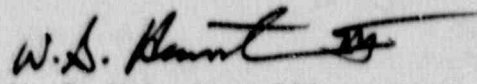
Gentlemen:

Joseph M. Farley Nuclear Plant - Units 1 and 2
Loss of Fill-Oil in Transmitters Manufactured By Rosemount
NRC Bulletin 90-01

NRC Bulletin 90-01, entitled "Loss of Fill-Oil in Transmitters Manufactured By Rosemount" was issued March 9, 1990 requesting licensees to promptly identify and take appropriate corrective measures for Rosemount Model 1153 Series B, Model 1153 Series D, and Model 1154 transmitters that may be leaking fill-oil. Licensees were requested, via the bulletin, to provide a written response, within 120 days of bulletin receipt, confirming that requested actions 1-5 have been completed, identifying transmitters believed to have exhibited oil loss symptoms, and identifying transmitters from manufacturing lots that have been identified by Rosemount as having a high failure fraction.

Alabama Power Company's complete response to NRC Bulletin 90-01 is provided in the Attachment hereto. The information provided herein is true to the best of our knowledge and belief. If there are any questions relating to the information provided herein, please advise.

Respectfully submitted,


W. G. Hairston, III

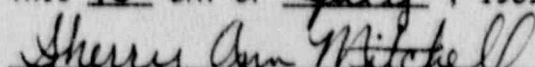
WGH,III/RWS:mV.1767

Attachment

cc: Mr. S. D. Ebner
Mr. S. T. Hoffman
Mr. G. F. Maxwell

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 13th DAY OF July, 1989


Notary Public

My Commission Expires: 12/15/92

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ATTACHMENT

Alabama Power Company's Response to
NRC Bulletin 90-01
for
Joseph M. Farley Nuclear Plant - Units 1 and 2

NRC Request

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 10CFR50.62 (the ATWS rule).

APCo Response

1. Alabama Power Company has identified the following Rosemount transmitters which perform safety related (or ATWS) functions.

| TPNS | Function | Model |
|---------------|--------------------------|-----------|
| Q1(2)B21PT402 | RCS Wide Range Pressure | 1154GP9RA |
| Q1(2)B21PT403 | RCS Wide Range Pressure | 1154GP9RA |
| Q1P17LT3027C | CCW Surge Tank Level | 1154DP4RD |
| Q1P17LT3027D | CCW Surge Tank Level | 1153DD4RG |
| Q1P23FT3229A | Auxiliary Feedwater Flow | 1154DP6RA |

NRC Request

2. Determine whether any transmitters identified in Item 1 are from the manufacturing lots that have been identified by Rosemount as having a high failure fraction due to loss of fill-oil. Addressees are requested not to utilize transmitters from these suspect lots in the reactor protection or engineered safety features actuation systems; therefore, addressees are requested to develop and implement a program to replace, at the earliest appropriate opportunity, transmitters from these suspect lots in use in the reactor protection or engineered safety features actuation system.

APCo Response

2. Alabama Power Company's review of the above listed safety related transmitters has revealed that one of these transmitters (Q1B21PT403) is from a suspect lot (S/N 412875). Alabama Power

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Company's review of these transmitters, however, has revealed that none of these transmitters are installed in reactor protection or engineered safety features actuation systems.

NRC Request

3. Review plant records (for example, the three most recent calibration records) associated with the transmitters identified in Item 1 above to determine whether any of these transmitters may have already exhibited symptoms indicative of loss of fill-oil. Appropriate operability acceptance criteria should be developed and applied to transmitters identified as having exhibited symptoms indicative of loss of fill-oil from this plant record review. 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 operability acceptance criteria and are not addressed in the technical specifications should be replaced at the earliest appropriate opportunity.

APCo Response

3. The three most recent plant calibration records were reviewed prior to the receipt of the subject NRC bulletin in order to address the Rosemount 10CFR21 notifications relating to transmitter fill-oil loss. None of these reviews revealed transmitters that had exhibited symptoms of fill-oil loss. The APCo response to Item 4 contains further information on the Farley Nuclear Plant Rosemount transmitter monitoring program.

NRC Request

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:
 - 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;

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- b) Enhanced transmitter monitoring to identify sustained transmitter drift;
- c) Review of transmitter performance following planned or unplanned transients or tests to identify sluggish transmitter response;
- d) Enhanced awareness of sluggish transmitter response to either increasing or decreasing test pressures during calibration activities;
- e) Development and implementation of a program to detect changes in process noise; and
- 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 opportunity.

APCo Response

4. As stated in APCo's response to Item 3, since the initial Rosemount 10CFR21 notification of February 7, 1989, Alabama Power Company initiated a program at Farley Nuclear Plant whereby Rosemount transmitters have been monitored for symptoms of failure (as documented in the Rosemount 10CFR21 notifications and various technical bulletins). The scope of Alabama Power Company's monitoring program has evolved as further information has been made available by Rosemount. Prior to the receipt of the subject NRC bulletin, calibration data from all safety related Rosemount model 1153 and 1154 transmitters had been reviewed for zero and span shift as part of the acceptance criteria for each surveillance. Additionally, the two previous calibration records were reviewed for each safety related transmitter. None of these reviews revealed transmitters that had exhibited symptoms of fill-oil loss. Farley Nuclear Plant I&C personnel were made aware of the fill-oil loss phenomenon and instructed in methods of recognizing a defective transmitter through review of Rosemount technical bulletins. Operations personnel were provided with a list of transmitters and

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instructed to report any abnormal transmitter responses experienced during plant operation.

Subsequent to receipt of the subject NRC bulletin, the following actions have been added to those mentioned above:

- 1) A file has been placed in Document Control for each safety related and ATWS rule (AMSAC) transmitter. Each file documents calibration data from the three most recent surveillances along with zero shift data and calculation of time-in-service remaining before transmitter degradation begins. Files will be updated with future surveillance data as these surveillances are performed. Note: It is APCo's position that trending of process noise is not an effective indicator of failed/suspect transmitters, hence this parameter need not be monitored.
- 2) If during these surveillances a sustained zero shift greater than 1.0% is found, further evaluation for transmitter replacement, including step time response testing if deemed necessary, will be initiated.
- 3) Safety related Rosemount transmitters exhibiting any other problems during calibration will be evaluated for replacement.
- 4) A complete listing of safety related transmitters with model numbers and serial numbers is being maintained and updated by plant personnel.
- 5) Reactor coolant wide range pressure transmitter Q1B21PT403 will be replaced during the upcoming Unit 1 refueling outage (Spring 1991). Although this transmitter is not used in reactor protection and engineered safety features actuation systems, its serial number has been associated with suspect lots by Rosemount. (Note: this transmitter has not experienced symptoms indicative of fill-oil loss).
- 6) Review of technical information provided by Rosemount has been incorporated in the Farley Nuclear Plant I&C personnel requalification requirements.
- 7) Any Rosemount transmitter installed in FNP subsequent to this bulletin response will be from lots manufactured after July 11, 1989 or shall have been refurbished to Rosemount's current manufacturing standards; except that in the interim period, while APCo is procuring new/refurbished transmitters, it will be acceptable to temporarily use non-suspect lot transmitters.

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- 8) If failed transmitters are discovered, every effort will be made to return the transmitter to Rosemount for evaluation.

NRC Request

5. Document and maintain in accordance with plant procedures a basis for continued operation covering the time period from the present until such time that the 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 in use in the reactor protection or engineered safety features actuation systems can be replaced. In addition, while performing the actions requested above, addressees may identify transmitters 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. As these transmitters are identified, this basis for continued operation should be updated to address these transmitters covering the time period from the time these transmitters are identified until such time that these transmitters can be replaced. When developing and updating this basis for continued operation, addressees may wish to consider transmitter diversity and redundancy, diverse trip functions (a separate trip function that may also provide a corresponding trip signal), special system and/or component tests, or (if necessary) immediate replacement of certain suspect transmitters.

APCo Response

5. As stated above (APCo response to Item 2) Alabama Power Company's review has revealed that none of the transmitters identified in Item 1 are installed in reactor protection or engineered safety features actuation systems. There is, therefore, no need to document a basis for continued operation. APCo's Rosemount transmitter monitoring program has not identified any transmitters exhibiting symptoms of fill-oil loss. There is, therefore, no requirement to replace these transmitters.