Consumers Power

POWERING MICHIGAN'S PROGRESS

Big Rock Point Nuclear Plant, 10269 US-31 North, Charlevoix, MI 49720

William L Beckman
Plant Manager

January 8, 1993

Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

DOCKET 50-155 - LICENSE DPR-6 - BIG ROCK POINT PLANT -
RESPONSE TO NRC BULLETIN 90-01, SUPPLEMENT 1 - LOSS OF FILL-OIL IN TRANSMITTERS MANUFACTURED BY ROSEMOUNT

NRC Bulletin 90-01, Supplement 1, dated December 22, 1992 requested Consumers Power Company to review the information contained in the Supplement for applicability and modify, as appropriate, any actions and enhanced surveillance programs as described within. The Supplement also requested a response within 60 days of receipt of the letter. This letter provides Consumers Power Company's response to Bulletin 90-01, Supplement 1 for Big Rock Point and supersedes our response dated July 11, 1990.

As discussed in our July 11, 1990 submittal, no transmitters from the manufacturing lots identified by Rosemount (Addendum December 1991), as having a high failure fraction due to loss of fill-oil, have been identified at Big Rock Point.

As requested by the Supplement, the Attachment provides a discussion of all the specific actions being taken by Consumers Power Company. Other than module replacement in one of the two spare transmitters as discussed within, all actions are considered complete at this time.

Consumers Power Company estimates that 80 hours of Staff time was required for completing this submittal and that less than $10,000.00 in short/long term costs is required for the corrective actions.

W L Beckman

William L Beckman
Plant Manager

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CC: Administrator, Region III, USNRC
NRC Resident Inspector - Big Rock Point

ATTACHMENT

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CONSUMERS POWER COMPANY

BIG ROCK POINT PLANT
DOCKET 50-155 - LICENSE DPR-06

At the request of the Commission and pursuant to the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974, as amended, and the Commission's Rules and Regulations thereunder, Consumers Power Company submits our response to NRC Bulletin 90-01, Supplement 1 dated December 22, 1992, entitled, "Response To NRC Bulletin 90-01, Supplement 1 - Loss Of Fill-Oil In Transmitters Manufactured By Rosemount". Consumers Power Company's response is dated January 8, 1993.

CONSUMERS POWER COMPANY

To the best of my knowledge, information and belief, the contents of this submittal are truthful and complete.

BY David P. Hoffman
David P Hoffman, Vice President
Nuclear Operations

Sworn and Subscribed to before me this 8th day of January 1993.

Jennifer L Lampman
Jennifer L Lampman, Notary Public
Charlevoix County, Michigan

My commission expires August 27,1995.

(SEAL)

ATTACHMENT

Consumers Power Company
Big Rock Point Plant
Docket 50-155

RESPONSE TO NRC BULLETIN 90-01
SUPPLEMENT 1

"Loss of Fill-Oil in Transmitters Manufactured by Rosemount"
Dated January 8, 1993

5 Pages

ATTACHMENT

RESPONSE TO NRC BULLETIN 90-01, SUPPLEMENT 1

Requested Action 1:

1. Review plant records and identify any Rosemount Model 1153 Series B, Model 1153 Series D, and Model 1154 transmitters manufactured before July 11, 1989, that are used or may be used in the future in either safety-related systems or systems installed in accordance with 10 CFR 50.62 (the ATWS Rule).

Response

Attachment 1 from our submittal dated July 11, 1990 provided a table of Model 1153 and 1154 transmitters at Big Rock Point. The model number for the second spare transmitter has been corrected. Big Rock Point has eight (8) series 1153 B transmitters installed in safety-related systems and two spares in stock. These ten transmitters are:

Equipment Number	System*	Normal Pressure	Months at Pressure	PSI-MOS	Service Description	Model & Serial No.
FT-2161	PIS	0	44	0	Backup Containment Spray Flow	1153 DD5 384149
FT-2162	PIS	100	44	4400	Primary Core Spray Flow	1153 DD5 384150
FT-2163	PIS	100	44	4400	Backup Core Spray Flow	1153 DD5 384151
FT-2164	PIS	0	44	0	Primary Containment Spray Flow	1153 DD5 384153
LT-3184	RDS	1350	44	59400	Steam Drum Level Channel A Trip & Indication	1153 DD4PA 407503
LT-3185	RDS	1350	44	59400	Steam Drum Level Channel B Trip & Indication	1153 DD4PA 407504
LT-3186	RDS	1350	44	59400	Steam Drum Level Channel C Trip & Indication	1153 DD4PA 407552
LT-3187	RDS	1350	44	59400	Steam Drum Level Channel D Trip & Indication	1153 DD4PA 403553
SPARE	N/A	N/A	0	0	Spare	1153 DD5 384159
SPARE	N/A	N/A	0	0	Spare	1153 DD4PA 377215

* PIS - Post Incident System
* RDS - Reactor Depressurization System

ATTACHMENT

RESPONSE TO NRC BULLETIN 90-01, SUPPLEMENT 1

Requested Action 1 A and 1 B

A. Expeditiously replace, or monitor for the life of the transmitter on a monthly basis using an enhanced surveillance monitoring program, any transmitters that have a normal operating pressure greater than 1500 psi and that are installed in reactor protection trip systems, ESF actuation systems or ATWS systems. Action for those transmitters that have not met the Rosemount psi-month threshold criterion should be expedited. At their discretion, licensees may monitor using an enhanced surveillance program at least once every refueling cycle, but not exceeding 24 months, transmitters in this category if the appropriate psi-month threshold criterion recommended by Rosemount has been reached, and the monitoring interval is justified based upon transmitter performance in service and its specific safety function. The justification should show that a sufficiently high level of reliability for the function is provided by the redundancy or diversity of applicable instrumentation and control systems, commensurate with the importance of the function, when considered in conjunction with the overall performance of the reactor protection trip system, ESF actuation systems, or ATWS system. Provide to the NRC a copy of the licensee justification to extend the enhanced surveillance program beyond the monthly test interval for transmitters that have reached the appropriate psi-month threshold criterion recommended by Rosemount.

B. Replace, or monitor for the life of the transmitter on a quarterly basis using an enhanced surveillance monitoring program, any transmitters that have a normal operating pressure greater than 1500 psi and that are used in safety-related applications but are not installed in reactor protection trip systems, ESF actuation systems, or ATWS systems. At their discretion, licensees may monitor using an enhanced surveillance program at least once every refueling cycle, but not exceeding 24 months, transmitters in this category if the appropriate psi-month threshold criterion recommended by Rosemount has been reached, and the monitoring interval is justified based upon transmitter performance in service and its specific function. Provide to the NRC a copy of the licensee justification to extend the enhanced surveillance program beyond the quarterly test interval for transmitters that have reached the appropriate psi-month threshold criterion recommended by Rosemount.

Response

Big Rock Point is a BWR with a nominal operating pressure of 1350 psia, thus none of the Rosemount transmitters in use at BRP are in this category (> 1500 psi).

ATTACHMENT

RESPONSE TO NRC BULLETIN 90-01, SUPPLEMENT 1

Requested Action 1C:

For BWR's

Replace, or monitor on a monthly basis using an enhanced surveillance monitoring program, until the transmitter reaches the appropriate psi-month threshold criterion recommended by Rosemount, any transmitters that have a normal operating pressure greater than 500 psi and less than or equal to 1500 psi, that are installed in reactor protection trip systems, ESF actuation systems or ATWS systems. On a case-by-case basis except for transmitters that initiate reactor protection or ATWS trips for high pressure or low water level, licensees may monitor using an enhanced surveillance program at least once every refueling cycle, but not exceeding 24 months, if sufficient justification is provided based upon transmitter performance in service and its specific safety function. The justification should show that a sufficiently high level of reliability for the function is provided by the redundancy or diversity of applicable instrumentation and control systems, commensurate with the importance of the function, when considered in conjunction with the overall performance of the reactor protection trip system, ESF actuation systems, or ATWS system. Provide to the NRC a copy of the licensee justification to extend the enhanced surveillance program beyond the monthly test interval.

Response

As shown in the table provided in the response to Action 1, four (4) level transmitters LT-3184 through 3187 are in this category. Since the compilation of this data in 1990, all four (4) of these transmitters have exceeded the appropriate "psi-month" threshold criterion recommended by Rosemount (60,000), concluding that an enhanced surveillance monitoring program is not required. In addition, no transmitter replacements are planned.

As discussed in our July 11, 1990 submittal, the four (4) transmitters in the RDS system have been monitored to detect loss of fill-oil by performing a static alignment check. This test compares the transmitters output with no process leg pressure and no differential pressure across the cell versus the transmitter output when the process leg is pressurized to 1350 psig with no differential pressure across the cell. Loss of fill-oil will be revealed as a shift in output signal. Based on our review of calibration records maintained since the transmitters were installed in 1985, no symptoms indicative of loss of fill-oil have been exhibited.

Requested Action 1D:

Replace, or monitor at least once every refueling cycle, but not exceeding 24 months, using an enhanced surveillance monitoring program until the transmitter reaches the appropriate psi-month threshold criterion recommended by Rosemount, any transmitters used in safety-related systems that have a normal operating pressure greater than 500 psi and less than or equal to 1500 psi, and that are not installed in reactor protection trip systems, ESF actuation systems, or ATWS systems.

ATTACHMENT

RESPONSE TO NRC BULLETIN 90-01, SUPPLEMENT 1

Response

Big Rock Point does not utilize any additional Rosemount 1153 or 1154 transmitters in systems operating at pressures between 500-1500 psi, other than those discussed in the response to Action 1C above. No further action required.

Requested Action 1E:

At licensee discretion, exclude from the enhanced surveillance program any transmitters that have a normal operating pressure greater than 500 psi and less than or equal to 1500 psi that have reached the appropriate psi-month threshold criterion recommended by Rosemount (60,000 psi-months or 130,000 psi-months depending on the range code of the transmitters). A high degree of confidence should be maintained for detecting failure of these transmitters caused by a loss of fill-oil and a high degree of reliability should be maintained for the function consistent with its safety significance.

Response

As discussed in the response to Action 1C above, the four (4) transmitters in this operating pressure range have reached their appropriate "psi-month" threshold (60,000) and thus an enhanced surveillance program has not been established.

In addition, as discussed in our July 11, 1990 submittal, the spare transmitter (serial #377215) will be returned to Rosemount for module replacement. Since lead time for the change-out is of concern, we anticipated this action to be completed by December 31, 1993. This would eliminate the need for an enhanced surveillance program should this transmitter be installed in the plant.

Requested Action 1F:

At licensee discretion, exclude from the enhanced surveillance program any transmitters that have a normal operating pressure less than or equal to 500 psi. A high degree of confidence should be maintained for the function consistent with its safety significance.

Response

As shown in the above table, BRP uses four 1153 transmitters (FT-2161-2164) in applications where the operating pressure is less than 500 psi. One of the spare 1153 transmitters is also for this application. These transmitter are also not included in an enhanced surveillance program. However, as discussed in our July 11, 1990 submittal, a static alignment check is now being performed on the four flow transmitters to detect fill-oil loss should it occur.

ATTACHMENT

RESPONSE TO NRC BULLETIN 90-01, SUPPLEMENT 1

Our July 11, 1990 submittal also stated that the spare 1153 transmitter (serial #384159) would be returned to Rosemount for module replacement. Based upon the guidance contained in this supplement, since the transmitter is a spare for an application where the operating pressure is less than 500 psi, modification is no longer warranted.

Requested Action 2

Evaluate the enhanced surveillance monitoring program to ensure that the program provides measurement data with an accuracy range consistent with that needed for comparison with manufacturer drift data criteria for determining degradation caused by a loss of fill-oil.

Response

Since per the guidance of this supplement, an enhanced surveillance monitoring program is not needed at Big Rock Point, the requested evaluation is not required. Consumers Power Company believes that the static alignment check performed on these transmitters is a reasonable method to monitor for fill-oil loss.