



Commonwealth Edison  
1400 Opus Place  
Downers Grove, Illinois 60515

March 5, 1993

Dr. Thomas E. Murley, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Document Control Desk

Subject: Response to NRC Bulletin 90-01 Supplement 1, dated  
December 22, 1992.

Byron Units 1 and 2,  
(NRC Dockets 50-454 and 50-455)

Reference: NRC Bulletin 90-01 Supplement 1, "Loss of Fill Oil  
in Transmitters Manufactured by Rosemount," dated  
December 22, 1992.

Dear Dr. Murley:

The purpose of this letter is to provide the Byron Station response to the requested actions of Bulletin 90-01 Supplement 1. The details of the Byron response are contained in Attachment 1 and a tabular summary is provided in Attachment 2.

Byron has a total of forty-two (42) transmitters within the scope of the referenced Bulletin; however, no enhanced monitoring more frequent than once per refueling cycle will be required. This determination is based on transmitter maturity, operating pressure and Bulletin categorization.

Consistent with the Bulletin's requirements, Byron Station agrees to comply with all applicable actions. Specifically, Byron will maintain an enhanced surveillance program, at a refueling outage frequency, for the two (2) transmitters in Bulletin category 1.d. In addition, Byron Station will continue trending cumulative zero drift for the remaining forty (40) installed Rosemount transmitters on a refueling outage frequency. Although this trending is not required by the Bulletin, this enhanced surveillance program will provide additional confidence that failure of these transmitters, caused by a loss of fill-oil, will be detected. The enhanced surveillance program will be continued until all suspect transmitters have been replaced through normal maintenance and attrition.

These actions meet or exceed the recommendations of the Supplement and no additional actions or justifications are required.

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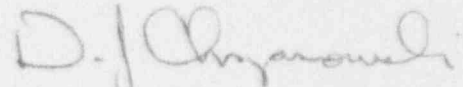
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March 5, 1993

To the best of my knowledge and belief, the statements contained in this document are true and correct. In some respects these statements are not based on my personal knowledge, but on information furnished by other Commonwealth Edison employees, contractor employees, and/or consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

If there are any questions or comments, please contact me.

Sincerely,

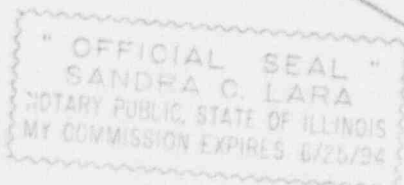


David J. Chrzanowski  
Generic Issues Administrator  
Nuclear Regulatory Services

Attachments: Attachment 1 - Response to NRCB 90-01 SI Actions  
Attachment 2 - Tabular Summary of Transmitter Status

cc: Regional Administrator-RIII  
J. Hickman, Byron Project Manager-NRR/PDIII-2  
H. Peterson, Senior Resident Inspector (Byron)

State of Ill, County of DeKalb  
Signed before me on this 5th day  
of March, 1993 by [Signature]  
Notary Public [Signature]



## Attachment 1

### Byron Station Response to NRCB 90-01 S1 Requested Actions

#### Requested Actions

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), and

Byron Station has completed this review and has determined that a total forty-two (42) Rosemount transmitters are installed in the described systems.

- 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, F actuation systems or ATWS systems.

Action for those transmitters that have not met the Rosemount psi-month threshold criterion should be expedited.

**Byron Station does not have any transmitters in this category.**

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.

**Byron Station does not have any transmitters in this category.**

- 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.

**Byron Station does not have any transmitters in this category.**

## Attachment 1

### Byron Station Response to NRCB 90-01 SI Requested Actions

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.

**Byron Station does not have any transmitters in this category.**

- c. [For BWRs] 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.

**The BWR requirements are not applicable to Byron Station.**

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 BWR requirements are not applicable to Byron Station.**

- c. [For PWRs] Replace, or monitor at least once every refueling cycle, but not exceeding 24 months, using an enhanced surveillance 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 and that are installed in reactor protection trip systems, ESF actuation systems, or ATWS systems.

**Byron Station does not have any transmitters, mature or non-mature, in this category.**

## Attachment 1

### Byron Station Response to NRCB 90-01 SI Requested Actions

- d. 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.

Byron has two (2) transmitters in this category.

- e. 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 transmitter).

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.

Byron has six (6) transmitters in this category.

- f. 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 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.

Byron has thirty-four (34) transmitters in this category. Sixteen (16) of these transmitters provide the control signal to the AF throttle valves and AF flow indication to the Main Control Board (MCB). The pressure these transmitters are exposed to the vast majority of the time is 15-30 psig which comes from the head pressure of the Condensate Storage Tank (CST). Every month the AF pumps are run during a surveillance test for approximately 1 hour. During the surveillance these flow transmitters are exposed to a system pressure of approximately 2000 psi. At present these transmitters are calibrated every 18 months and the results are trended for cumulative zero drift.

Byron considers that Bulletin Action 1.f is the appropriate category for these transmitters. The main consideration is that the primary risk factor contributing to the loss of fill-oil condition (high pressure) does not apply to these transmitters. In Rosemount Technical Bulletin No. 4, Rosemount evaluated various risk factors and determined that "Transmitters normally not pressurized (stand by service) are at acceptable low failure rates due to limited time in service". Rosemounts classification of "stand by service" is applicable to these AF transmitters and by their review are not susceptible to high failure rates.

## Attachment 1

### Byron Station Response to NRCB 90-01 SI Requested Actions

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.

Byron Station has an enhanced surveillance program that monitors, with required accuracy, the parameters indicative of a loss of fill oil condition.



## Attachment 2

### Summary of Transmitter Status for Byron Station

| Bulletin Category | Transmitter Pressure/Function  | Maturity                        | Frequency of Enhanced Surveillance | Discussion/Comments                                     |
|-------------------|--|---------------------------------|------------------------------------|---|
| 1.a               | Normal Operating Pressure >1500 psi and transmitter is installed in RPS,ESF or ATWS systems  | Not Mature, < 60,000 psi*months | N/A                                | Byron does not have any transmitters in this category   |
|                   |  | Mature, > 60,000 psi*months     | N/A                                | Byron does not have any transmitters in this category   |
| 1.b               | Normal Operating Pressure >1500 psi. Transmitter is safety related but is <u>not</u> installed in RPS, ESF or ATWS systems   | Not Mature, < 60,000 psi*months | N/A                                | Byron does not have any transmitters in this category   |
|                   |  | Mature, > 60,000 psi*months     | N/A                                | Byron does not have any transmitters in this category   |
| 1.c (BWR)         | Operating pressure from 500 to 1500 psi and transmitter is in RPS, ESF or ATWS systems   | Not Mature, < 60,000 psi*months | N/A                                | Not applicable to Byron                                 |
|                   |  |                                 | N/A                                | Not applicable to Byron                                 |
|                   |  | Mature, > 60,000 psi*months     | N/A                                | Not applicable to Byron                                 |
| 1.c (PWR)         | Operating pressure from 500 to 1500 psi and transmitter is in RPS, ESF or ATWS systems   | Not Mature, < 60,000 psi*months | N/A                                | Byron does not have any transmitters in this category   |
|                   |  | Mature, > 60,000 psi*months     | N/A                                | Byron does not have any transmitters in this category   |
| 1.d               | Operating pressure from 500 to 1500 psi and transmitter is <u>not</u> in RPS, ESF or ATWS systems but is safety related  | Not Mature, < 60,000 psi*months | Refueling Outage                   | Byron has 2 transmitters in this category               |
| 1.e               | Operating pressure from 500 to 1500 psi  | Mature, > 60,000 psi*months     | Exempt                             | Byron has 6 transmitters in this category               |
| 1.f               | Operating pressure less than or equal to 500 psi   | N/A                             | Exempt                             | Byron has 34 transmitters in this category <sup>1</sup> |
| 2                 | Byron Station has an enhanced surveillance monitoring program that provides measurement data with an accuracy range consistent for determining degradation caused by loss of fill oil. |                                 |                                    |   |

<sup>1</sup> Sixteen of these 34 transmitters are Auxiliary Feed System transmitters that normally operate at <100 psi. Per the Rosemount Technical Bulletin these transmitters are considered "Standby" and are exempt from enhanced surveillance.