



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.

LaSalle County Station Units 1 and 2,
(NRC Dockets 50-373 and 50-374)

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 LaSalle County Station response to the requested actions of Bulletin 90-01, Supplement 1. The details of the LaSalle response are contained in Attachment 1 and a tabular summary is provided in Attachment 2. Attachment 3 contains the necessary justification to extend the enhanced surveillance frequency to a refueling outage for certain affected transmitters.

LaSalle has a total of one hundred fourteen (114) transmitters within the scope of the referenced Bulletin. Based on transmitter maturity, operating pressure and Bulletin categorization, LaSalle Station has twenty-five (25) transmitters which require justification to maintain a refueling outage enhanced surveillance frequency.

Consistent with the Bulletin's reporting requirements, LaSalle Station has reviewed the requested actions and agrees to comply with the applicable actions. Specifically, LaSalle will:

maintain an enhanced surveillance program, at a refueling outage frequency, for the thirty-four (34), Category 1.d transmitters until they reach maturity;

and maintain the refueling outage enhanced surveillance for the twenty five (25) Category 1.c transmitters until they reach maturity.

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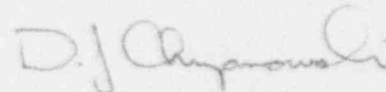
March 5, 1993

With NRC approval of LaSalle's Category 1.c monitoring program and justifications, LaSalle will fully comply with the recommended actions of the Supplement.

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 CECo 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,



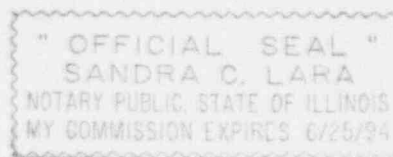
David J. Chrzanowski
Generic Issues Administrator
Nuclear Regulatory Services

Attachments:

- Attachment 1 - Response to NRCB 90-01 S1 Actions
- Attachment 2 - Tabular Summary of Transmitter Status
- Attachment 3 - Justification for Extended Surveillance Frequency

cc: Regional Administrator-RIII
R. Stransky, LaSalle Project Manager-NRR/PDIII-2
D. Hills, Senior Resident Inspector (LaSalle)

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



Attachment 1

LaSalle Station Response to NRCB 90-01 SI 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).

LaSalle has completed this review and has determined that a total of one hundred fourteen (114) affected 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, ESF actuation systems or ATWS systems.

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

LaSalle 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.

LaSalle 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.

LaSalle does not have any transmitters in this category.

Attachment 1

LaSalle 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.

LaSalle 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.

LaSalle has a total of seventeen (17) transmitters in this category. Attachment 3 contains a justification to extend the enhanced surveillance to a refueling outage frequency. Also, LaSalle is attempting to develop a on-line monthly surveillance to satisfy this requirement.

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.

LaSalle has a total of eight (8) transmitters in this category. The justification for extending the surveillance to a refueling outage frequency for these transmitters is described in Attachment 3.

- 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.

The PWR requirements are not applicable to LaSalle County Station.

Attachment 1

LaSalle 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.

LaSalle has thirty-four (34) transmitters in this category. LaSalle has, since issuance of the original Bulletin 90-01, maintained an enhanced surveillance program for these transmitters. This program will continue with a refueling outage surveillance frequency.

- 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.

LaSalle has ten (10) transmitters in this category. LaSalle has, since issuance of the original Bulletin 90-01, maintained an enhanced surveillance program for these transmitters. This program will continue with a refueling outage surveillance frequency thereby maintaining confidence that transmitter failures can be detected.

- 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.

LaSalle has a total of forty-five (45) transmitters in this category. LaSalle has, since issuance of the original Bulletin 90-01, maintained an enhanced surveillance program for these transmitters. This program will continue with a refueling outage surveillance frequency thereby maintaining confidence that transmitter failures can be detected.

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.

LaSalle 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 LaSalle 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	LaSalle does not have any transmitters in this category
		Mature, > 60,000 psi*months	N/A	LaSalle 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	LaSalle does not have any transmitters in this category
		Mature, > 60,000 psi*months	N/A	LaSalle 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	Monthly	LaSalle has 17 transmitters in this category
			Refueling Outage	LaSalle has 8 transmitters in this category
		Mature, > 60,000 psi*months	N/A	LaSalle does not have any transmitters in this category
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	Not applicable to LaSalle
		Mature, > 60,000 psi*months	N/A	Not applicable to LaSalle
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	LaSalle has 34 transmitters in this category
1.e	Operating pressure from 500 to 1500 psi	Mature, > 60,000 psi*months	Exempt	LaSalle has 10 transmitters in this category
1.f	Operating pressure less than or equal to 500 psi	N/A	Exempt	LaSalle has 45 transmitters in this category
2	LaSalle has an enhanced surveillance monitoring program that provides measurement data with an accuracy range consistent for determining degradation caused by loss of fill oil.			

Attachment 3

Justification for Refueling Outage Surveillance Frequencies for
LaSalle County Station

1/2B21-N402A,B,C,D Reactor Vessel Low Low Low (Level 1) and Low Low
(Level 2) Water Level MSIV Isolation.

These transmitters feed a single failure proof logic scheme to isolate various primary containment valves, including the MSIV's in the event of a low water level. Therefore the failure of one transmitter will not preclude a trip. Presently, calibration of the transmitters are performed during refuel and the calibration data is used as part of an enhanced monitoring program. Calibrations are not presently performed with the unit at power due to the potential for inadvertent actuation. The consequences of an inadvertent actuation would be a containment isolation signal being supplied to various components including the MSIV's. Closure of MSIV's would cause a Reactor Scram and pressurization transient if the unit was at rated conditions. Testing which is performed at power includes monthly functional testing of each transmitter's trip unit(s) and shiftly channel checks, which compare indication to redundant channels of the same parameter. While neither functional testing or channel checks are used as input to an enhanced monitoring program, this information is used qualitatively to determine if degradation is present.

In Unit 1, 2 of the 4 installed transmitters are new transmitters or sensing modules and thus do not require enhanced monitoring. The other transmitters installed in Unit 1 and all 4 transmitters installed in Unit 2 have been in service for a minimum of 4.5 years and have had at least 4 calibrations. At this time, the trending of calibration data performed on an 18 month frequency has resulted in no reason to believe the transmitter is subject to oil loss at this time.

Based on the installed redundancy, potential for inadvertent actuation, and the acceptable performance history, the present monitoring is sufficient to determine degradation due to loss of oil. No additional actions will be taken on these transmitters. This monitoring provides a high degree of confidence that oil loss will be diagnosed and corrected.

1/2B21-N400A,B,C,D Reactor Water Low, Low (Level 2) ATWS/Reactor Recirc Pump Trip (RPT) and Alternate Rod Insertion (ARI)

These transmitters are part of the trip logic for ATWS/RPT and alternate Rod Insertion (ARI) on low Reactor Water Level or Reactor High Pressure. These transmitters feed one of two redundant tripping schemes, each of which utilizes a one out of two twice logic of reactor level and pressure signals to trip. Therefore, failure of one level transmitter would not preclude any safety function. Presently calibration of the level transmitters is performed at each refuel and the calibration data used as part of an enhanced monitoring program. Calibrations are not currently performed with the unit at power due to the potential for inadvertent actuation. The consequences of an inadvertent actuation would be a Reactor Scram and trip of Reactor Recirculation Pumps. The pressure transmitters which also provide an input into the ATWS/RPT and ARI tripping scheme are calibrated quarterly. Therefore, sufficient redundancy exists such that the failure of one level transmitter would not cause a failure of the system to trip in the event of an ACTUAL event (ATWS). Additional testing which is performed at power includes monthly functional testing of each transmitter's trip unit and shiftly channel checks, which compare indication to redundant channels of the same parameter. While neither functional testing or channel checks are used as input to an enhanced monitoring program, this information is used qualitatively to determine if degradation is present.

In both Units 1 and 2, 2 out of the 4 installed transmitters are new transmitters or sensing modules and thus do not require enhanced monitoring. The other transmitters installed in both units have been a minimum of 4.5 years in service and have at least 4 calibrations. Enhanced monitoring is being performed as described above and currently the transmitters do not show signs of oil loss.

Based on the installed redundancy, potential for inadvertent actuation and the acceptable past performance history, enhanced monitoring of these transmitters will continue as is being performed at the present time. This monitoring provides a high degree of confidence that oil loss will be diagnosed and corrected.

1/2B21-N401A,B,C,D Reactor Vessel Hi Pressure ATWS/Reactor Recirc Pump Trip (RPT) and Alternate Rod Insertion (ARI)

These transmitters are part of the trip logic for ATWS/RPT and Alternate Rod Insertion (ARI) on low Reactor Water Level or Reactor High Pressure. These transmitters feed one of two redundant tripping schemes, each of which utilizes a one out of two twice logic of reactor level and pressure signals to trip. Therefore, failure of one pressure transmitter would not preclude any safety function. Presently calibration of each of the 4 pressure transmitters is performed quarterly and the calibration data used as part of an enhanced monitoring program. Additional testing includes a monthly functional test of each transmitters trip unit and shiftly channel checks, which compare indication to redundant channels of the same parameter. While neither functional testing or channel checks are used as input to an enhanced monitoring program, this information is used qualitatively to determine if degradation is present.

In both Unit 2, 2 out of the 4 installed pressure transmitters are new transmitters or sensing modules and thus do not require enhanced monitoring. The other transmitters installed in both units have a minimum of 4.5 years in service and have at least 10 calibrations. Enhanced monitoring is currently being performed and the transmitters are presently within manufacturers drift criteria.

Based on the installed redundancy, and the quarterly calibrations and monitoring, no further actions will be taken for these transmitters. This monitoring provides a high degree of confidence that oil loss will be diagnosed and corrected.

1/2B21-N403A,B,C,D Reactor Vessel Water Level Low (Level 3) RPS Scram

These transmitters are part of the RPS trip logic on Reactor Low Water Level. There are two redundant RPS divisions each requiring a signal from one of two level transmitters to trip. Additionally, RPS is fed by signals from several other plant parameters. Therefore, sufficient redundancy exists such that the failure of one transmitter would not cause a failure of the respective RPS division to trip. Calibrations are performed on these transmitters at each refuel with drift data trended as part of an enhanced monitoring program. Currently calibrations are not performed on these transmitters with the unit at power due to the potential for inadvertent actuation and resulting reactor scram. Additional testing which is performed includes monthly functional checks of the trip unit and shiftly channel checks which compare indication to redundant channels of the same parameter. While data from the channel checks or functional tests is not used for enhanced monitoring, this information is used qualitatively to determine if degradation is present.

All transmitters with the exception of one transmitter in Unit 1 are in the category which requires enhanced monitoring on a monthly frequency. However, all of these transmitters have been in service for a minimum of 3 years and have been calibrated a minimum of 3 times. Drift data taken at the time of calibration is being used for enhanced monitoring in accordance with manufacturers acceptance criteria. No transmitters show signs of degradation at this time.

Based on the diversity of installed instrumentation, and the potential for and consequences of inadvertent actuation, the present frequency of monitoring will be used to determine degradation. This monitoring provides a high degree of confidence that oil loss will be diagnosed and corrected.

1/2E31-N503 Reactor Water Cleanup System Inlet Flow

This transmitter provides an input into the Primary Containment Isolation on Reactor Water Cleanup System Differential Flow. The sum of system return and blowdown flows, obtained from other transmitters, is subtracted from this transmitter's signal to obtain differential flow. While a single set of transmitters services both divisions of primary containment isolation logic, redundancy is provided by the fact that an increase in inlet flow due to a pipe break downstream of that sensing element would also show up as a decrease in return flow in the system. Additionally, a diverse trip is provided by RWCU area temperature sensors. Therefore, the failure of one transmitter would not prevent an isolation of the RWCU system.

Transmitter calibration is performed each refuel outage and zero drift data is trended as part of an enhanced monitoring program. Additionally, a monthly functional test of the transmitter and associated electronics is performed. Since this functional test includes the transmitter, any gross degradation of transmitter response would be noted.

The transmitters for both Units 1 and 2 have been installed for at least 4 1/2 years, have accumulated a minimum of 41,500 psi-months and have been calibrated at least 4 times. Based on calibration data utilized in the enhanced monitoring program to date, these transmitters show no signs of degradation at this time.

Based on the diversity of installed instrumentation, these transmitters will continue to be calibrated at each refuel outage. The results of these calibrations will be used as part of the enhanced monitoring program. This monitoring provides a high degree of confidence that oil loss will be diagnosed and corrected.