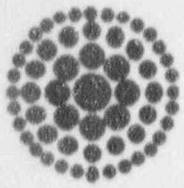

Florida
Power
CORPORATION
Crystal River Unit 3
Docket No. 50-302

3F0494-07 April 20, 1994

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Loss Of Fill-Oil In Transmitters Manufactured By Rosemount
Bulletin 90-01, Supplement 1

References: A. Bulletin 90-01, Supplement 1, 3N1292-20, dated December 22, 1992
B. FPC to NRC letter, 3F0393-02, dated March 5, 1993
C. NRC to FPC letter, 3N0394-11, dated March 15, 1994

Dear Sir:

Florida Power Corporation (FPC) is submitting, as an attachment to this letter, our clarified and modified response to Reference A in response to NRC request (Reference C). This submittal supersedes Reference B in its entirety. Some of the numbers of transmitters have changed substantially since the earlier submittal. This is due to transmitters being reclassified from one group to another, transmitters reaching the psi-month threshold, and elimination of new transmitters from the scope of the response.

Except for the transmitter described in FPC's response to Requested Action 1b, which is classified safety related but has no safety related function, the programs described in the attachment to this letter meet all of the requested actions of NRC Bulletin 90-01, Supplement 1.

Sincerely,

P. M. Beard, Jr.
Senior Vice President
Nuclear Operations

Attachment

PMB:AEF

xc: Regional Administrator, Region II
Senior Resident Inspector

IE39
1

ATTACHMENT TO LETTER NO. 3F0494-07

STATE OF FLORIDA

COUNTY OF CITRUS

P. M. Beard, Jr. states that he is the Senior Vice President, Nuclear Operations for Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

P. M. Beard, Jr.
Senior Vice President
Nuclear Operations

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 20th day of April, 1994.

JOAN BUFE CARR
Notary Public (print)

Notary Public

Notary Public, State of Florida at Large,

My Commission Expires: 6-21-95

NOTARY PUBLIC, STATE OF FLORIDA.
MY COMMISSION EXPIRES: June 21, 1995.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

Florida Power Corporation Response to Requested Actions of NRC Bulletin 90-01, Supplement 1

Requested Action 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)...

FPC Response to 1:

Florida Power Corporation (FPC) has identified all subject Rosemount transmitters that are safety related or installed in accordance with 10 CFR 50.62. (Safety classification at Crystal River 3 (CR-3) is done at the component level, not at the system level. Consequently transmitters were identified based on their individual safety classification, rather than by system.) For subject Rosemount transmitters not installed in the plant, FPC has inspected all warehouse spares and verified that no "suspect lot" transmitters are on site as spare parts.

Requested Action 1a:

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.

FPC Response to 1a:

Crystal River 3 (CR-3) has seventeen (17) transmitters which fall into this category. All of these are presently monitored weekly by the CR-3 Rosemount Transmitter Drift Trending Program. The Program gathers on-line data from redundant channels of instrumentation using the plant computer and compares the channels against each other within 0.1% of the transmitter scale. Data is collected and plotted weekly. The data is analyzed using the methodology described in Rosemount Technical Bulletin No. 4, Appendix A, Section 4. Properly operating redundant transmitters will indicate the same process value within calibration tolerance and, consequently, trend together. Failing transmitters will drift away from the redundant channels and be rapidly identified. This

Program has been in place for twenty-seven (27) months to date and has proven successful in identifying failing transmitters twice during that period.

Requested Action 1b:

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.

FPC Response to 1b:

CR-3 has seven (7) transmitters in this category. All but one of these are presently monitored weekly by the CR-3 Rosemount Transmitter Drift Trending Program. This is the same Program described in Response 1a and utilizes the same computer hardware and software. The transmitter that is not included in the Program is the transmitter for the low range reactor coolant pressure indicator on the remote shutdown panel. It was installed to meet the requirements of 10 CFR 50, Appendix R, but is not required to be safety related. Although it was purchased and installed as safety related, it fulfills no safety related function. It would ordinarily be considered as a non-safety related component, but its close electrical proximity to other safety related instrumentation requires that it be maintained as safety related. This transmitter has been in service in excess of the 60,000 psi-months applicable to these transmitters and therefore is considered to be "mature." However, because it does not perform a safety related function, it is not included in the Drift Trending Program or the As-Found Calibration Data Trending Program.

Requested Action 1c:

[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 systems, or ATWS systems.

FPC Response to 1c:

CR-3 has three (3) transmitters in this category. None of these transmitters have accumulated the 60,000 psi-month threshold criterion recommended by Rosemount to be considered "mature" and consequently all are monitored by the As-Found Calibration Data Trending Program during refueling interval calibration. Under this Program, the as-found calibration data taken during refueling interval calibration are trended using the methodology defined in Rosemount Technical

Bulletin No. 4, Appendix A, Section 3. No failed transmitters have been identified to date in this category.

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.

FPC Response to 1d:

CR-3 does not have any transmitters in this category.

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 appropriated 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.

FPC Response to 1e:

CR-3 has nine (9) transmitters in this category. All have been in service in excess of the 60,000 psi-months applicable to these transmitters and therefore are considered to be "mature." These transmitters have been excluded from the Rosemount Transmitter Drift Trending and As-Found Calibration Data Trending Programs. A high degree of confidence in failure detection is maintained by two methods:

1) I&C technicians have been trained in the potential for loss of fill oil in Rosemount transmitters, and the expected symptoms to be observed during calibration (sluggish response to calibration pressures). This training has been incorporated into the annual technician requalification training conducted by the Nuclear Operations Training.

2) Precautionary notes have been included in the calibration surveillance procedures. These notes review these same concerns and are required reading prior to performance of the calibration.

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 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.

FPC Response to 1f:

CR-3 has twenty-two (22) transmitters in this category. These transmitters have been excluded from the Rosemount Transmitter Drift Trending and As-Found Calibration Data Trending Programs. A high degree of confidence in failure detection is maintained by the same training and procedural controls described in Response 1e.

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.

FPC Response to 2:

The Rosemount Transmitter Drift Trending Program and the As-Found Calibration Data Trending Program are both based on Rosemount Technical Bulletin No. 4, Appendix A. The instrumentation used to collect data for these Programs 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.

Summary Table

Bulletin Category	Drift Trending	Cal Data Trending	No Enh. Surv.*	Total
1a	17			17
1b	6		1**	7
1c		3		3
1d				0
1e			9	9
1f			22	22
Total	23	3	32	58

* No enhanced surveillance beyond the training and procedural guidance given to technicians as described in Response 1e.

** Although transmitter is classified as "safety related," it performs no safety function. See response to Requested Action 1b.