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ACCESSION NBR:9503310033 DOC.DATE: 95/03/27 NOTARIZED: NO DOCKET #
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50-287 Oconee Nuclear Station, Unit 3, Duke Power Co. 05000287
AUTH.NAME AUTHOR AFFILIATION
HAMPTON,J.W. Duke Power Co.
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SUBJECT: Forwards response to request for addl info re Rosemount transmitters.

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Duke Power Company
Oconee Nuclear Site
P.O. Box 1439
Seneca, SC 29679

J. W. HAMPTON
Vice President
(803)885-3499 Office
(803)885-3564 Fax

DUKE POWER

March 27, 1995

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

Subject: Oconee Nuclear Site
Docket Nos. 50-269, -270, -287
Request for Additional Information Regarding Rosemount Transmitters

In a fax dated January 30, 1995, the NRC provided a request for additional information to Duke Power regarding the Rosemount Transmitters. The responses to the request for additional information are attached to this letter.

If there are any questions regarding this response, please contact Michael Bailey at (803) 885-4390.

Very truly yours,

J. W. Hampton

Attachment

cc: Mr. S. D. Ebneter, Regional Administrator
U. S. Nuclear Regulatory Commission, Region II

Mr. L. A. Wiens, Project Manager
Office of Nuclear Reactor Regulation

Mr. P. E. Harmon
Senior Resident Inspector
Oconee Nuclear Site

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ROSEMOUNT TRANSMITTER TECHNICAL BULLETIN #4
REQUEST FOR ADDITIONAL INFORMATION

Requested Action 1a:

The licensee indicated that they may evaluate the transmitters, once they become mature, for extension of the surveillance interval. What is the criteria to be used in making the determination to extend the surveillance interval? (For extending the surveillance frequency, the supplement asks that justification be based on the transmitter's history (performance in service), and its diversity and/or redundancy.)

The licensee indicated that based on their range code, transmitters which have reached the psi-month threshold criterion will be monitored monthly. Do they plan to evaluate these transmitters for extension of the surveillance interval?

Response

The criteria which will be used to extend the surveillance interval will consist of the criteria that is specified in the Rosemount Technical Bulletin Number 4. A list of the criteria is provided below:

1) The transmitter has reached the appropriate time at pressure (psi-month) threshold criteria which is based upon the transmitter range code that is stated in the technical bulletin.

2) The trending of the calibration data has shown reliable performance which is based on the fact that the cumulative drift is below the values that are stated in the technical bulletin.

3) The redundant design of the transmitter installations with 4 transmitters all sensing the same parameter.

There are no plans to extend the monthly surveillance of the transmitters which have reached the psi-month threshold criterion. These transmitters are approaching the end of their Environmental Qualification (EQ) life and will be replaced per our EQ program. The transmitters will be monitored monthly until they are replaced.

Requested Action 1b:

The licensee indicated that transmitters have reached the psi-month threshold criterion and based on their service function and performance in service, the surveillance interval is at least once every refueling cycle. They also indicated that the transmitters have been stable thus far (May 24, 1993). For the data used to conclude that stable performance was seen, did that data meet the criteria of Rosemount Technical Bulletin #4?

Unit 3 transmitters were committed to being changed out in December 1993, Unit 1 transmitters were to be replaced in April 1994, and Unit 2 transmitters were to be replaced in August 1994. Please confirm that these transmitters have been replaced in each of the Oconee units.

Response

Yes, the transmitters have reached the applicable psi-month threshold criterion which is stated in the technical bulletin. The trending of the calibration data concluded stable performance for the transmitters. This conclusion was based on the fact that the cumulative drift was below the values that are stated in the technical bulletin.

The transmitters which were committed to be changed out have been replaced. The transmitters were replaced under the following work orders:

1HPIPT0227 replaced under work order 93093547
1HPIFT0157 replaced under work order 93093543
2HPIPT0227 replaced under work order 93093627
3HPIPT0227 replaced under work order 93060118
3HPIFT0157 replaced under work order 93060098

Requested Action 1f:

The licensee indicated the transmitters that will be excluded from the monitoring program. The supplement allows this; however, the supplement asks that a high degree of confidence be maintained in the ability to detect failures in these transmitters due to a loss of fill-oil. How is confidence maintained in the ability to detect failures due to fill-oil loss?

Response

A high degree of confidence is maintained through Technician awareness of the oil loss symptoms and observation of the instruments during calibration. Also, confidence is maintained through the redundancy of the instrumentation. Abnormal indications between the redundant transmitters can be detected by comparisons and trending of the calibration results.

HPIPT0223 transmitters are the only transmitters which are not redundant. Generally, the system monitored by the transmitters is not in service; therefore, the transmitters do not experience pressure regularly. If the system were in service, the pressure that the transmitters will experience would be less than 35 psig. The information in the technical bulletin indicates that the transmitters which experience pressure less than 250 psi will have an acceptably low failure rate. The fact that the transmitters do not regularly experience pressure combined with the observance of the transmitters during calibration ensures a high degree of confidence in detecting fill-oil loss.

Requested Action 2:

The licensee indicated that they are using an enhanced surveillance monitoring program. Is this program in accordance with Rosemount Technical Bulletin #4? (Is calibration and/or operating data trended? Does the data meet the acceptance criteria of Rosemount Technical Bulletin #4?)

Response

Yes, Oconee's enhanced surveillance monitoring program is in accordance with Rosemount Technical Bulletin #4. Trending of the calibration data is performed on the transmitters to ensure that cumulative drift is below the values which are stated in the technical bulletin. In addition to the trending of the calibration data, some transmitters are trended monthly with operational data. This is done per requested action 1a and will continue until the criteria for extension of the interval are met. Along with the trending, sluggish response testing is performed during each calibration on the transmitters with range code 9 in accordance with the technical bulletin. The response testing is performed because the drift that the transmitters exhibit before failure is small according to the technical bulletin. If a transmitter exceeds the cumulative drift stated in the technical bulletin, then sluggish response testing will be performed on the transmitter.