



Entergy Operations

Entergy Operations, Inc.

PO Box 750

Portland, ME 04102

tel 603-437-0000

W. T. Cottle

VP Project

Operations

Grand Gulf Nuclear Station

May 16, 1991

U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
Additional Information Related to NRC Bulletin 90-01

GNRO-91/00057

Gentlemen:

This submittal provides additional information for Grand Gulf Nuclear Station (GGNS) related to NRC Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount." Our initial response to this Bulletin was provided by letter dated July 19, 1990 (AECM-90/0128). At the request of the GGNS NRC Project Manager, additional information beyond that specified by the Bulletin was provided by letter dated September 12, 1990 (AECM-90/0165).

In accordance with the schedule provided in our July 19, 1990 submittal, 27 GGNS Rosemount transmitters from manufacturing lots identified by Rosemount as having a high failure fraction due to fill-oil loss were replaced during the fourth refueling outage.

One additional transmitter from these manufacturing lots has been recently identified, and has been documented as acceptable for interim use. Monitoring of this transmitter will continue as provided in the previously established enhanced surveillance program discussed in Attachment 1 until it is replaced during the upcoming fifth refueling outage. This additional transmitter was not included in the original list provided to GGNS by Rosemount of manufacturing lots with a high failure fraction due to fill-oil loss, and was installed prior to our receipt of a supplemental list of additional lot numbers from Rosemount. Plant records for this new transmitter were not yet updated when the GGNS review of these additional lot numbers identified by Rosemount was performed.

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Although not from lots identified as having a high failure fraction due to fill-oil loss, we have identified an additional fifteen Rosemount transmitters which fall within the scope of the Bulletin. The original computer searches of GGNS records did not locate the fifteen transmitters due to errors in the performance of the search and/or in the coding of vendor information in database records.

We are in the process of implementing corrective actions to address our failure to initially identify all applicable transmitters. Additional reviews have been performed to ensure that all transmitters within the scope of NRC Bulletin 90-01 are included in this submittal.

The Attachments have been updated to reflect changes to the information in the previous submittals. Changes are denoted by a bar in the right margin of each Attachment.

This information is being submitted under affirmation in accordance with 10CFR50.54(f). Please contact H. E. Kook (601-437-6477) should you have any questions or need additional information regarding this matter.

Yours truly,



WTC/HEK/cje

attachments: NRCB 90-01 Response Information

cc: Mr. D. C. Hintz (w/a)
Mr. J. Mathis (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. H. L. Thomas (w/o)
Mr. F. W. Titus (w/a)

Mr. Stewart D. Ebnetter (w/a)
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

Mr. L. L. Kintner, Project Manager (w/a)
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Stop 11D21
Washington, D.C. 20555

Mr. Alex Marion (w/a)
Nuclear Management and Resources Council
1776 Eye Street, N.W., Suite 300
Washington, D. C. 20006

BEFORE THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

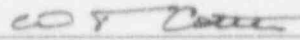
LICENSE NO. NPF-29

DOCKET NO. 50-416

IN THE MATTER OF
MISSISSIPPI POWER & LIGHT COMPANY
and
SYSTEM ENERGY RESOURCES, INC.
and
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION
and
ENTERGY OPERATIONS, INC.

AFFIRMATION

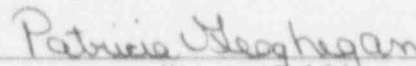
I, W. T. Cottle, being duly sworn, state that I am Vice President, Operations GGNS of Entergy Operations, Inc.; that on behalf of Entergy Operations, Inc., System Energy Resources, Inc., and South Mississippi Electric Power Association I am authorized by Entergy Operations, Inc. to sign and file with the Nuclear Regulatory Commission, this additional information for the Grand Gulf Nuclear Station related to NRC Bulletin 90-01; that I signed this letter and affirmation as Vice President, Operations GGNS of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information and belief.


W. T. Cottle

STATE OF MISSISSIPPI
COUNTY OF CLAIBORNE

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 16 day of May, 1991.

(SEAL)


Notary Public

My commission expires:
~~My~~ Commission Expires July 1, 1993

**Grand Gulf Nuclear Station
NRC Bulletin 90-01**

"Reporting Requirements for Operating Reactors"

<u>NRCB Item</u>	<u>Grand Gulf Nuclear Station Response</u>
1.a)	<p data-bbox="480 455 1433 549">Grand Gulf Nuclear Station (GGNS) confirms that Items 1, 2, 3, 4, and 5 of NRC Bulletin (NRCB) 90-01 Requested Actions for Operating Reactors have been completed as stated below:</p> <p data-bbox="480 583 898 614"><u>Requested Actions, Item 1-</u></p> <p data-bbox="480 649 1422 904">GGNS has identified Models 1153 Series B, 1153 Series D, and 1154 pressure and differential pressure transmitters manufactured by Rosemount prior to July 12, 1989, that are currently utilized in either safety-related systems or systems installed in accordance with 10CFR50.62 (the ATWS rule). ** 152 of these affected transmitters were determined to have been installed at GGNS, with 33 of the 152 replaced during the recent fourth refueling outage.</p> <p data-bbox="480 938 898 970"><u>Requested Actions, Item 2-</u></p> <p data-bbox="480 1004 1433 1127">GGNS has determined that 28 of the 152 affected transmitters were from manufacturing lots identified by Rosemount as having a high failure fraction due to the loss of fill-oil.</p> <p data-bbox="480 1161 1433 1325">GGNS has replaced 27 of these transmitters during the recent fourth refueling outage***. The current schedule is for the additional transmitter to be replaced by the end of the upcoming fifth GGNS refueling outage. This outage is presently scheduled to begin approximately April 1992.</p> <p data-bbox="480 1359 898 1391"><u>Requested Actions, Item 3-</u></p> <p data-bbox="480 1425 1433 1708">GGNS plant records have been reviewed to determine if any of the 152 affected transmitters may have already exhibited symptoms indicative of fill-oil loss. This review was consistent with the guidance of NRCB 90-01 and Rosemount Technical Bulletin Number 4. As a result of the review, it was determined that none of these currently installed GGNS transmitters have fill-oil loss. Previously installed transmitters which have experienced fill-oil loss are discussed in NRCB Item 1.b).</p>

* Previously Attachment 1 to AECM-90/0128.

** Referred to hereafter as the "affected transmitters."

*** Six additional transmitters within the scope of NRCB 90-01 which were not from the manufacturing lots identified with high failure fractions were also replaced during this outage.

Requested Actions, Item 4-

GGNS has developed and implemented an enhanced surveillance program to monitor the affected transmitters for symptoms of fill-oil loss. The program is consistent with the guidance of NRCB 90-01 and Rosemount Technical Bulletin Number 4.

Requested Actions, Item 5-

A basis for continued plant operation was documented covering the time until the 27 transmitters discussed in NRCB 90-01 Requested Actions, Item 2 were replaced. This basis has been updated to cover the additional "suspect lot" transmitter (1B21N095B). Based on information determined from the reviews discussed above, and that in NRCB 90-01 and Rosemount Technical Bulletin Number 4, the use of this transmitter was found to be acceptable until its replacement. Replacement is now scheduled during the upcoming fifth refueling outage. This outage is scheduled to begin approximately April 1992.

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1.b)

As a result of the review of plant records discussed in NRCB Item 1.a), Item 3, no currently installed GGNS transmitter has been identified with fill oil loss. Information regarding four GGNS transmitters previously identified with fill-oil loss is presented in Attachment 2. These four transmitters were replaced before March 1988, which was prior to the issuance of NRCB 90-01 and NRC Information Notice 89-42, "Failure of Rosemount Models 1153 and 1154 Transmitters." No other GGNS transmitters are known to have experienced fill-oil loss.

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1.c)

There were 28 affected transmitters installed in GGNS from manufacturing lots identified by Rosemount as having a high failure fraction due to loss of fill-oil. 27 of these transmitters were replaced during the recent fourth refueling outage. The final transmitter is currently scheduled for replacement during the upcoming fifth GGNS refueling outage. This outage is scheduled to begin approximately April 1992. The plant system in which each of these transmitters is installed is identified in Attachment 3.

NRCB

Grand Gulf Nuclear Station Response

2. Rosemount Models 1153 Series B, 1153 Series D, and 1154 transmitters which are suspected or confirmed to have fill-oil loss will be documented as nonconformances and returned to Rosemount for failure analysis. As part of this process, data similar to that in Reporting Requirement Item 1.b) will be recorded. Reportability reviews under existing NRC regulations will be conducted as part of the nonconformance process.

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"GGNS Transmitters Identified with Fill-Oil Loss"

<u>Transmitter Number/ Serial No.</u>	<u>Indicated Manufacturer</u>	<u>System Number</u>	<u>Approximate Time at Pressure</u>	<u>Corrective Action/Disposition</u>
B21-N073L** /412017	Rosemount	B21***	9 months	Replaced in December 1985 after mismatch between channels was found during operational rounds channel check.
B21-N091F** /412022	Rosemount	B21***	15 months	Replaced in June 1986 after mismatch between channels was found during operational rounds channel check. ****
B21-N091B** /412020	Rosemount	B21***	28 months	Replaced in July 1987 after mismatch between channels was found during operational rounds channel check. ****
B21-N091F** /412029	Rosemount	B21***	20 months	Replaced in February 1988 after mismatch between channels was found during operational rounds channel check. ****

* Previously Attachment 2 to AECM-90/0128.

** Model Number 1153DD5.

*** System B21 - Nuclear Steam Supply and Related Instrumentation.

**** This transmitter was returned to Rosemount for failure analysis
after replacement.

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"Affected Transmitters from Manufacturing
Lots Identified by Rosemount with a High
Failure Fraction due to Fill-Oil Loss"

<u>Transmitter Number</u>	<u>Model Number</u>	<u>Transmitter System</u>
1B21N062A**	1153GD9	B21-Nuclear Steam Supply and Related Instrumentation
1B21N067C**	1153AD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N067G**	1155AD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N067L**	1153AD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N067R**	1153AD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N073C**	1153DD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N073G**	1153DD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N073L**	1153DD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N073R**	1153DD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N078C**	1153GD9	B21-Nuclear Steam Supply and Related Instrumentation
1B21N091A**	1153DD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N091B**	1153DD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N091E**	1153DD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N091F**	1153DD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N094A**	1153AD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N094B**	1153AD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N094E**	1153AD5	B21-Nuclear Steam Supply and Related Instrumentation
1B21N094F**	1153AD5	B21-Nuclear Steam Supply and Related Instrumentation
1E12N007A**	1153DD5	E12-Residual Heat Removal System
1E12N007B**	1153DD5	E12-Residual Heat Removal System
1E12N015A**	1153DD5	E12-Residual Heat Removal System
1E12N015B**	1153DD5	E12-Residual Heat Removal System
1E12N015C**	1153DD5	E12-Residual Heat Removal System
1E12N062A**	1153AD5	E12-Residual Heat Removal System
1E12N062B**	1153AD5	E12-Residual Heat Removal System
1E12N062C**	1153AD5	E12-Residual Heat Removal System
1E12N062D**	1153AD5	E12-Residual Heat Removal System
1B21N095B***	1153DD4	B21-Nuclear Steam Supply and Related Instrumentation

* Previously Attachment 3 to AECM-90/0128.

** Replaced with "non-suspect lot" transmitter during the fourth refueling outage.

*** Scheduled for replacement in the fifth refueling outage.

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"Additional Information on 'Suspect Lot' Transmitters"

<u>Transmitter Number</u>	<u>Serial Number**</u>	<u>ESF/RPS</u>	<u>Transmitter Function</u>
1B21N062A	411859	N/A	FPV Pressure - Accident monitoring only, no ESF or PS actuation function
1B21N067C	411865	ESF	HPCS Drywell Pressure
1B21N067G	411866	ESF	HPCS Drywell Pressure
1B21N067L	412005	ESF	HPCS Drywell Pressure
1B21N067R	412006	ESF	HPCS Drywell Pressure
1B21N073C	412015	ESF	HPCS Level
1B21N073G	412016	ESF	HPCS Level
1B21N073L	412028	ESF	HPCS Level
1B21N073R	412030	ESF	HPCS Level
1B21N078C	411863	ESF & RPS	Shutdown Cooling Isolation & Level 3 Scram
1B21N091A	412019	ESF	Reactor Vessel Water Level
1B21N091B	412033	ESF	Reactor Vessel Water Level
1B21N091E	412021	ESF	Reactor Vessel Water Level
1B21N091F	412031	ESF	Reactor Vessel Water Level
1B21N094A	412007	ESF	Drywell Pressure
1B21N094B	412008	ESF	Drywell Pressure
1B21N094E	412009	ESF	Drywell Pressure
1B21N094F	412010	ESF	Drywell Pressure
1E12N007A	412023	N/A	RHR Heat Exchanger Flow - in an ESF System, but has no ESF actuation function
1E12N007B	412024	N/A	"
1E12N015A	412025	N/A	RHR Flow - in an ESF System, but has no ESF actuation function
1E12N015B	412026	N/A	"
1E12N015C	412027	N/A	"
1E12N062A	412011	ESF	Containment Spray
1E12N062B	412012	ESF	Containment Spray
1E12N062C	412013	ESF	Containment Spray
1E12N062D	412014	ESF	Containment Spray
1B21N095B	412035	ESF	Vessel Narrow-Range Level-ADS B

* Previously Attachment to AECM-90/0165.

** Serial numbers of original "Suspect Lot" transmitters; all replaced in the fourth refueling outage except for 1B21N095B, which is scheduled for replacement in the fifth refueling outage.