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Charles A. Bottemiller
Manager
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April 2, 2003

Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-4005

Attention: Mr. Ellis W. Merschoff

Subject: Boiling Water Reactor (BWR) Feedwater Nozzle Inservice Inspection
Report
Grand Gulf Nuclear Station
Docket No. 50-416
License No. NPF-29

GNRO-2003/00022

Dear Mr. Merschoff:

This letter provides the Boiling Water Reactor (BWR) Feedwater Nozzle Inservice Inspection Report in accordance with NUREG-0619 for Grand Gulf Nuclear Station (GGNS) Refueling Outage Twelve (RFO12). Compliance with NUREG-0619 is required by the Ten-Year Inservice Inspection Plan for GGNS. NUREG-0619 requires the report submittal within six months following the refueling outage in which the inspection was performed.

This letter does not contain any commitments.

If you have any questions or need additional information, please contact William B. Abraham at (601) 437-2319.

Yours truly,

A handwritten signature in black ink, appearing to be "William B. Abraham".

CAB/WBA/amt
attachment:

BWR Feedwater Nozzle Inservice Inspection Report for GGNS Unit 1,
Initial Commercial Operating Date: July 1, 1985

cc:

(See Next Page)

G030022

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cc:

Hoeg	T. L.	(GGNS Senior Resident)	(w/o)
Levanway	D. E.	(Wise Carter)	(w/o)
Reynolds	N. S.		(w/o)
Smith	L. J.	(Wise Carter)	(w/o)
Thomas	H. L.		(w/o)

U.S. Nuclear Regulatory Commission
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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

BWR FEEDWATER NOZZLE
INSERVICE INSPECTION SUMMARY REPORT
FOR
GRAND GULF NUCLEAR STATION
COMMERCIAL OPERATING DATE: JULY 1, 1985

REPORT NUMBER: NUREG-0619-00007

REFERENCE: NUREG-0619

OWNER/OPERATOR
ENTERGY NUCLEAR SOUTH
ECHELON ONE
P.O. BOX 31995
JACKSON, MS. 39286-1995

REPORT NUMBER: NUREG-0619-00007

REFERENCE: NUREG-0619

BWR FEEDWATER NOZZLE
INSERVICE INSPECTION SUMMARY REPORT
FOR
GRAND GULF NUCLEAR STATION
COMMERCIAL OPERATING DATE: JULY 1, 1985

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ENTERGY NUCLEAR SOUTH
ECHELON ONE
P.O. BOX 31995
JACKSON, MS. 39286-1995

Prepared By

Edward E Benton

Reviewed By

Mahon J. J. J.

DOCUMENT COMPLETION DATE

3/31/2003

REPORT NUMBER •NUREG-0619-00007

In accordance with NUREG-0619, a detailed report must be submitted to the Nuclear Regulatory Commission discussing the inspections performed on the Feedwater Nozzle Blend Radii and Bore Regions (Inner Radius) and Nozzle-to-Safe-End Welds. Program Plan M-489.1, Inservice Inspection Program, is in compliance with the requirements of Table 2 of NUREG-0619, which requires augmented volumetric examinations of these areas. This report summarizes the inspections performed since the previous report (RF9) through RF12.

The volumetric exams were performed by Framatome Technologies under contract to Entergy Operations, Inc. The data reports for all examinations are available for review upon request.

To provide the Nuclear Regulatory Commission with the requested information, this report is being presented in the following format. Each item listed in Paragraph 4.4.3.1(2) of NUREG-0619 is addressed separately.

a. Startup/Shutdown Cycles

1. Total number of cycles at Grand Gulf: 141; total includes 56 scrams, 71 heatups and their respective cool downs.
2. Total number of cycles since the previous volumetric examinations on the blend radii: 30; total includes 10 scrams, 6 heatups and their respective cool downs.
3. Total number of cycles since the previous surface examinations on the blend radii: 141; total includes 56 scrams, 71 heatups and their respective cool downs.
4. Total number of cycles since the previous volumetric examinations on the nozzle-to-safe-end welds: 30; total includes 10 scrams, 6 heatups and their respective cool downs.
5. Total number of cycles since the previous surface examinations on the nozzle-to-safe-end welds:

N4A and N4B: 30; total includes 10 scrams, 6 heatups and their respective cool downs.

N4C and N4D: 77; total includes 30 scrams, 33 heatups and their respective cool downs.

N4E and N4F: 54; total includes 20 scrams, 20 heatups and their respective cool downs.

b. Summary of Methods Used and Results of Previous Inspections

The volumetric exams performed during RF12 were the seventh examinations performed in accordance with NUREG-0619 since the preservice examinations. During RF12, volumetric exams were performed on all six (6) of the nozzle blend radii and bore regions (inner radius) and two of the six nozzle-to-safe end welds, N4C and N4D.

Refer to Tables 1 and 2 (attached) for examination method, results, and date examinations were performed.

c. System Changes and Changes in Operating Procedures

There have been no system changes or changes to operating procedures that would affect system temperature or flow during this period.

d. Inspection Results

During RF12 volumetric exams were performed on all six feedwater nozzle blend radii, bore regions (inner radii) as well as on two nozzle-to-safe end welds, N4C and N4D.

No indications were recorded on the blend radii, bore region, or nozzle-to-safe end welds which required evaluation in accordance with ASME Section XI.

Final analysis of the ultrasonic examination data was performed and found to be acceptable in accordance with GGNS-M-489.2, Performance of ASME Section XI Examinations.

e. Leakage Monitoring

Grand Gulf has not installed any type of on-line leakage monitoring system capable of detecting leakage through degraded seals on the feedwater spargers.

f. Information Regarding UT Crack-like Indications and Any Subsequent PT indications

No UT crack-like indications were detected; therefore no penetrant testing was required.

TABLE 1
 Inner Radius
 Page 1 of 3

ID/ AZIMUTH	EXAM TYPE	PROCEDURE	RESULTS	DATE
N4A @ 30°	UT	GG21A3802AB	No Recordable Indications	09/19/78
	PT	GG21A3809AA (RADIUS & BORE)	2 Areas Of Recordable Indications	04/07/80
	UT	UT-23-380 ATT. "A" ZONE 1	No Recordable Indications	12/19/80
	UT	UT-23-380 ATT. "B" ZONE 2	No Recordable Indications	12/19/80
	UT	UT-23-380 ATT. "C" ZONE 3	No Recordable Indications	12/19/80
	UT	UT-28	No Recordable Indications	10/20/86
	UT	UT-23	No Recordable Indications	04/14/89
	UT	UT-23	No Recordable Indications	05/22/92
	UT	83A6042	1 Area Of Recordable Indication	05/06/95
	UT	QAI 9.60	No Recordable Indications ¹	05/05/98
	UT	NDE 9.25 R2	No Recordable Indications	9/28/02
	N4B @ 90°	UT	GG21A3802AB	No Recordable Indications
PT		GG21A3809AA (RADIUS & BORE)	No Recordable Indications	04/07/80
UT		UT-23-380 ATT. "A" ZONE 1	No Recordable Indications	12/19/80
UT		UT-23-380 ATT. "B" ZONE 2	No Recordable Indications	12/19/80
UT		UT-23-380 ATT. "C" ZONE 3	No Recordable Indications	12/19/80
UT		UT-28	No Recordable Indications	10/20/86
UT		UT-23	No Recordable Indications	04/14/89
UT		UT-23	No Recordable Indications	05/22/92
UT		83A604	2 Areas Of Recordable Indications	05/06/95
UT		QAI 9.60	No Recordable Indications ¹	05/06/98
UT		NDE 9.25 R2	No Recordable Indications	9/28/02

¹ The previous exams exhibited non-relevant reflectors generated from geometry and mode conversion (GIN 95/01768). Current techniques (QAI 9.60) uses computer optimized beam paths that produce no reflectors in the absence of flaws.

TABLE 1
 Inner Radius
 Page 2 of 3

ID/ AZIMUTH	EXAM TYPE	PROCEDURE	RESULTS	DATE
N4C @ 150°	UT	GG21A3802AB	No Recordable Indications	09/19/78
	PT	GG21A3809AA (RADIUS & BORE)	No Recordable Indications	04/07/80
	UT	UT-23-380 ATT. "A" ZONE 1	No Recordable Indications	12/19/80
	UT	UT-23-380 ATT. "B" ZONE 2	No Recordable Indications	12/19/80
	UT	UT-23-380 ATT. "C" ZONE 3	No Recordable Indications	12/19/80
	UT	UT-28	No Recordable Indications	10/20/86
	UT	UT-23	No Recordable Indications	04/14/89
	UT	UT-23	No Recordable Indications	05/22/92
	UT	83A6042	4 Areas Of Recordable Indications	05/06/95
	UT	QAI 9.60	No Recordable Indications ¹	05/06/98
	UT	NDE 9.25 R2	No Recordable Indications	9/28/02
	N4D @ 210°	UT	GG21A3802AB	No Recordable Indications
PT		GG21A3809AA (RADIUS & BORE)	No Recordable Indications	04/07/80
UT		UT-23-380 ATT. "A" ZONE 1	No Recordable Indications	12/19/80
UT		UT-23-380 ATT. "B" ZONE 2	No Recordable Indications	12/19/80
UT		UT-23-380 ATT. "C" ZONE 3	No Recordable Indications	12/19/80
UT		UT-28	No Recordable Indications	10/20/86
UT		UT-23	No Recordable Indications	04/14/89
UT		UT-23	No Recordable Indications	05/22/92
UT		83A6042	2 Areas Of Recordable Indications	05/06/95
UT		QAI 9.60	No Recordable Indications ¹	05-06-98
UT		NDE 9.25 R2	No Recordable Indications	9/28/02

¹ The previous exams exhibited non-relevant reflectors generated from geometry and mode conversion (GIN 95/01768). Current techniques (QAI 9.60) uses computer optimized beam paths that produce no reflectors in the absence of flaws.

TABLE 1
 Inner Radius
 Page 3 of 3

ID/ AZIMUTH	EXAM TYPE	PROCEDURE	RESULTS	DATE
N4E @ 270°	UT	GG21A3802AB	No Recordable Indications	09/19/78
	PT	GG21A3809AA (RADIUS & BORE)	No Recordable Indications	04/07/80
	UT	UT-23-380 ATT. "A" ZONE 1	No Recordable Indications	12/19/80
	UT	UT-23-380 ATT. "B" ZONE 2	No Recordable Indications	12/19/80
	UT	UT-23-380 ATT. "C" ZONE 3	No Recordable Indications	12/19/80
	UT	UT-28	No Recordable Indications	10/20/86
	UT	UT-23	No Recordable Indications	04/14/89
	UT	UT-23	No Recordable Indications	05/20/92
	UT	83A6042	No Recordable Indications	05/06/95
	UT	QAI 9.60	No Recordable Indications	05-06-9
	UT	NDE 9.25 R2	No Recordable Indications	9/28/02
N4F @ 330°	UT	GG21A3802AB	No Recordable Indications	09/19/78
	PT	GG21A3809AA (RADIUS & BORE)	No Recordable Indications	04/07/80
	UT	UT-23-380 ATT. "A" ZONE 1	No Recordable Indications	12/19/80
	UT	UT-23-380 ATT. "B" ZONE 2	No Recordable Indications	12/19/80
	UT	UT-23-380 ATT. "C" ZONE 3	No Recordable Indications	12/19/80
	UT	UT-28	No Recordable Indications	10/20/86
	UT	UT-23	No Recordable Indications	04/14/89
	UT	UT-23	No Recordable Indications	05/20/92
	UT	83A6042	No Recordable Indications	05/06/95
	UT	QAI 9.60	No Recordable Indications	05-05-98
	UT	NDE 9.25 R2	No Recordable Indications	9/28/02

TABLE 2

Nozzle-To-Safe End

Page 1 of 3

ID/ AZIMUTH	EXAM TYPE	PROCEDURE	RESULTS	DATE	
N4A @ 30°	PT	PT-01-390	No Recordable Indications	01/09/81	
	PT	PT-04-390	No Recordable Indications	04/12/83	
	PT	QAP 9.50	No Recordable Indications	09/21/86	
	UT	UT-22-380	No Recordable Indications	02/19&25/81	
	UT	UT-22-380	1 Recordable Indication	04/12/83	
	UT	UT-51	Non-Relevant/Inside Surface Geometry	10/06/86	
	UT	UT-51	Non-Relevant/Inside Surface Geometry	04/12/89	
	UT	GE-UT-209	Non-Relevant/Inside Surface Geometry	05/21/92	
	UT	QAI 9.22/4	No Recordable Indications	05/08/95	
	UT	54-151-131-00	No Recordable Indications	05/05/98	
	PT	QAI 9.30	No Recordable Indications	05/05/98	
	N4B @ 90°	PT	PT-01-390	No Recordable Indications	01/09/81
		PT	PT-04-390	No Recordable Indications	04/12/83
PT		QAP 9.50	No Recordable Indications	09/21/86	
UT		UT-22-380	No Recordable Indications	02/19&25/81	
UT		UT-22-380	3 Recordable Indications	04/12/83	
UT		UT-51	Non-Relevant/Inside Surface Geometry	10/06/86	
UT		UT-51	Non-Relevant/Inside Surface Geometry	04/10/89	
UT		GE-UT-209	Inside Surface Geometry	05/21/92	
UT		QAI 9.22/4	No Recordable Indications	05/06/95	
UT		54-151-131-00	No Recordable Indications	05/05/98	
PT		QAI 9.30	No Recordable Indications	05/06/98	

TABLE 2

Nozzle-To-Safe End

Page 2 of 3

ID/ AZIMUTH	EXAM TYPE	PROCEDURE	RESULTS	DATE
N4C @ 150°	PT PT UT UT UT PT UT UT UT UT	PT-01-390 PT-04-390 UT-22-380 UT-22-380 UT-51 PT-SR UT-51 GE-UT-209 QAI 9.22/4 NDE 9-41 R1	No Recordable Indications No Recordable Indications 3 Recordable Indications 12 Recordable Indications Non-Relevant/Inside Surface Geometry No Recordable Indications Non-Relevant/Inside Surface Geometry Inside Surface Geometry 2 Recordable Indications No Recordable Indications	01/09/81 04/12/83 02/19&25/81 04/12/83 10/06/86 03/21/89 04/12/89 05/22/92 05/06/95 9/28/02
N4D @ 210°	PT PT UT UT UT PT UT UT UT UT	PT-01-390 PT-04-390 UT-22-380 UT-22-380 UT-51 PT-SR UT-51 GE-UT-290 QAI 9.22/4 NDE 9-41 R1	No Recordable Indications No Recordable Indications No Recordable Indications 3 Recordable Indications Non-Relevant/Inside Surface Geometry No Recordable Indications Non-Relevant/Inside Surface Geometry Non-Relevant/Inside Surface Geometry No Recordable Indications No Recordable Indications	01/09/81 04/12/83 2/19&25/81 04/12/83 10/09/86 03/21/89 04/07/89 05/22/92 05/08/95 9/27/02

TABLE 2

Nozzle-To-Safe End

Page 3 of 3

ID/ AZIMUTH	EXAM TYPE	PROCEDURE	RESULTS	DATE
N4E @ 270°	PT PT UT UT UT UT PT UT UT	PT-01-390 PT-04-390 UT-22-380 UT-22-380 UT-51 UT-51 QAI 9.13 GE-UT-209 QAI 9.22/4	1 Recordable Indications No Recordable Indications No Recordable Indications 6 Recordable Indications Non-Relevant/Inside Surface Geometry Non-Relevant/Inside Surface Geometry No Recordable Indications Non-Relevant/Inside Surface Geometry 4 Recordable Indications	01/09/81 04/12/83 02/19&25/81 04/12/83 10/07/86 04/11/89 05/09/92 05/21/92 05/06/95
N4F @ 330°	PT PT UT UT UT UT PT UT UT	PT-01-390 PT-04-390 UT-22-380 UT-22-380 UT-51 UT-51 QAI 9.13 GE-UT-209 QAI 9.22/4	No Recordable Indications No Recordable Indications No Recordable Indications 3 Recordable Indications Non-Relevant/Inside Surface Geometry Non-Relevant/Inside Surface Geometry No Recordable Indications Non-Relevant/ID Surface & Root Geometry 3 Recordable Indications	01/09/81 04/12/83 2/19&25/81 04/12/83 10/07/86 04/11/89 05/09/92 05/22/92 05/06/95