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July 26, 2004

Energy to Serve Your World'

Docket Nos: 50-348 50-424 NL-04-1150

50-364 50-425

U. S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, D. C. 20555-0001

> Joseph M. Farley Nuclear Plant and Vogtle Electric Generating Plant Response to NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors"

Ladies and Gentlemen:

Pursuant to the requirements of Nuclear Regulatory Commission (NRC) Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors" issued to the Southern Nuclear Operating Company (SNC) on May 28, 2004, SNC hereby submits Enclosures 1, 2, and 3 which constitute the required 60-day response for Joseph M. Farley Nuclear Plant (FNP) Units 1 and 2 and Vogtle Electric Generating Plant (VEGP) Units 1 and 2.

Mr. J. T. Gasser states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company, and to the best of his knowledge and belief, the facts set forth in this letter are true.

This letter contains no new NRC commitments. If you have any questions, please advise.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

rev T. Gasser

Sworn to and subscribed before me this 26 day of

Ay commission expires:

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JTG/DRG

- Enclosures: 1) Joseph M. Farley Nuclear Plant and Vogtle Electric Generating Plant
 Response to NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600
 Materials used in the Fabrication of Pressurizer Penetrations and Steam
 Space Piping Connections at Pressurized-Water Reactors"
 - 2) Farley Nuclear Plant Units 1 and 2 Pressurizer Nozzle Examination History
 - 3) Vogtle Electric Generating Plant Units 1 and 2 Pressurizer Nozzle Examination History

cc: Southern Nuclear Operating Company

Mr. J. B. Beasley, Jr., Executive Vice President

Mr. L. M. Stinson, Vice President - Plant Farley

Mr. J. T. Gasser, Vice President - Plant Vogtle

Mr. D. E. Grissette, General Manager - Plant Farley

Mr. W. F. Kitchens, General Manager - Plant Vogtle

RType:CFA04.054; CVC7000; LC# 14091

U. S. Nuclear Regulatory Commission

Dr. W. D. Travers, Regional Administrator

Mr. S. E. Peters, NRR Project Manager - Farley

Mr. C. Gratton, NRR Project Manager - Vogtle

Mr. C. A. Patterson, Senior Resident Inspector – Farley

Mr. G. J. McCoy, Senior Resident Inspector - Vogtle

Joseph M. Farley Nuclear Plant and Vogtle Electric Generating Plant Response to NRC Bulletin 2004-01

Joseph M. Farley Nuclear Plant and Vogtle Electric Generating Plant Response to NRC Bulletin 2004-01

On May 28, 2004, the Nuclear Regulatory Commission (NRC) issued Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors." Southern Nuclear Operating Company (SNC) hereby responds to the 60-day information request set forth in the Bulletin with respect to Joseph M. Farley Nuclear Plant (FNP) Units 1 and 2 and Vogtle Electric Generating Plant (VEGP) Units 1 and 2.

NRC Request 1: All subject PWR licensees are requested to provide the following information within 60 days of the date of this bulletin.

NRC Request 1(a): A description of the pressurizer penetrations and steam space piping connections at your plant. At a minimum, this description should include materials of construction (e.g., stainless steel piping and/or weld metal, Alloy 600 piping/sleeves, Alloy 82/182 weld metal or buttering, etc.), joint design (e.g., partial penetration welds, full penetration welds, bolted connections, etc.), and, in the case of welded joints, whether or not the weld was stress-relieved prior to being put into service. Additional information relevant with respect to determining the susceptibility of your plant's pressurizer penetrations and steam space piping connections to PWSCC should also be included.

SNC Response to Request 1(a):

Farley Units 1 and 2 are a 3-loop Westinghouse design and Vogtle Units 1 and 2 are a 4-loop Westinghouse design. For both Farley and Vogtle, Alloy 82/182/600 locations associated with the pressurizer are limited to the butter and full penetration butt welds connecting stainless steel safe ends to: one 4" spray nozzle, four 6" Safety/Relief nozzles, and one 14" surge nozzle for each unit, each plant. (Note: the pressurizer surge nozzles were specifically excluded from the scope of this bulletin.) Standard practice for these locations was to apply Inconel 82/182 buttering to the nozzle, post weld heat treat (PWHT), and join the safe-end to the buttered nozzle with Inconel 82/182 weld material (does not receive PWHT). Instrumentation lines and heater wells are constructed of stainless steel and are welded directly to the low alloy steel with stainless steel welds.

Zinc addition was implemented on Farley Unit 2 in its 10th operating cycle in 1994 and was implemented on Farley Unit 1 in its 16th operating cycle in 1999. Vogtle Unit 1 plans to implement zinc addition during its 11th operating cycle in August 2004, and Vogtle Unit 2 plans to implement zinc addition during its 10th operating cycle in February 2005. EPRI Report 1003522, "Materials Reliability Program: Effect of Zinc Addition on Mitigation of Primary Water Stress Corrosion Cracking of Alloy 600 / MRP-78, October 2002," has shown zinc addition to be beneficial in mitigating the initiation of PWSCC in Alloy 600. SNC supplied proprietary and non-proprietary versions of MRP-78 to the NRC in a letter dated 1/30/2004 (ML040350656, ML040350662, ML040350664, ML040350667).

Joseph M. Farley Nuclear Plant and Vogtle Electric Generating Plant Response to NRC Bulletin 2004-01

NRC Request 1(b): A description of the inspection program for Alloy 82/182/600 pressurizer penetrations and steam space piping connections that has been implemented at your plant. The description should include when the inspections were performed; the areas, penetrations and steam space piping connections inspected; the extent (percentage) of coverage achieved for each location which was inspected; the inspection methods used; the process used to resolve any inspection findings; the quality of the documentation of the inspections (e.g., written report, video record, photographs); and, the basis for concluding that your plant satisfies applicable regulatory requirements related to the integrity of pressurizer penetrations and steam space piping connections. If leaking pressurizer penetrations or steam space piping connections were found, indicate what followup NDE was performed to characterize flaws in the leaking penetrations.

SNC Response to NRC Request 1(b):

The regulatory requirements to ensure the integrity of the pressurizer and steam space piping connections are found in 10 CFR 50.55a where Licensees are required to plan and perform examinations utilizing the ASME Section XI Code as implemented in the Owner's inservice inspection programs. To supplement these ASME Section XI required examinations, Farley and Vogtle performed "Bare Metal Visual" (BMV) inspections on one 4" spray nozzle, four 6" Safety/Relief nozzles, and one 14" surge nozzle at one unit of each plant during the most recent refueling outages (FNP 2R16 and VEGP 2R10). (As noted in paragraph 1(a) above, the pressurizer surge nozzles were specifically excluded from the scope of this bulletin.)

The BMV examinations were scheduled and implemented in response to EPRI MRP 2003-039, issued January 20, 2004. In addition, under the purview of the NEI 03-08 Materials Initiative, the BMV examinations for butt welded primary pressure boundary locations containing Alloy 600/82/182 were categorized as "Needed" in EPRI MRP 2004-05, issued April 2, 2004. The Vogtle inspections were performed after the issuance of the letter. Similar inspections are scheduled for the next refueling outages (FNP 1R19 / fall 2004 and VEGP 1R12 / spring 2005). In addition to the BMV examinations, "as-built" dimensional measurements (categorized as "Good Practice" under NEI 03-08) were obtained for Appendix VIII inspection applications (e.g., site-specific mockup determination) and for potential stress improvement applications. All of these examinations were documented by written reports.

FNP Units 1 and 2

FNP Units 1 and 2 began commercial operation in 1977 and 1981, respectively. Both units are currently in the 3rd inspection interval. As shown in enclosure 2 of this response, each of the 10 nozzle examinations (5 each unit) were satisfactorily inspected during the first and second inspection intervals and 5 of 10 have been performed during the third inspection interval with both volumetric and surface examination methods -- manual ultrasonic (UT) and liquid penetrant (PT). No reportable indications have been observed. With varying techniques and procedure requirements, volumetric coverage has been reported in the range of 80% to 100%, depending on the specific nozzles. Remaining inspections will be performed (UT only) to ASME Section XI Appendix VIII criteria.

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VEGP Units 1 and 2

VEGP Units 1 and 2 began commercial operation in 1987 and 1989, respectively. Both units are currently in the 2nd inspection interval. As shown in enclosure 3 of this response, each of the 10 nozzle examinations (5 each unit) were satisfactorily inspected during the first inspection interval and 9 of 10 during the second inspection interval with volumetric (manual UT) and surface (PT) examination methods. One 4" nozzle inspection remains for Unit 1 to complete the Code examination requirements and is scheduled for the third period. No reportable indications have been observed. Due to geometric configuration of the 6" safety/relief nozzles, the examination coverage (prior to ASME XI Appendix VIII implementation) was limited to approximately 75%. Code coverage (>90%) was achievable on the 4" nozzle for Unit 2. The Unit 1 nozzle will be performed (UT only) to ASME Section XI Appendix VIII criteria.

NRC Request 1(c): A description of the Alloy 82/182/600 pressurizer penetration and steam space piping connection inspection program that will be implemented at your plant during the next and subsequent refueling outages. The description should include the areas, penetrations and steam space piping connections to be inspected; the extent (percentage) of coverage to be achieved for each location; inspection methods to be used; qualification standards for the inspection methods and personnel; the process used to resolve any inspection indications; the inspection documentation to be generated; and the basis for concluding that your plant will satisfy applicable regulatory requirements related to the structural and leakage integrity of pressurizer penetrations and steam space piping connections. If leaking pressurizer penetrations or steam space piping connections are found, indicate what followup NDE will be performed to characterize flaws in the leaking penetrations. Provide your plans for expansion of the scope of NDE to be performed if circumferential flaws are found in any portion of the leaking pressurizer penetrations or steam space piping connections.

SNC Response to NRC Request 1(c):

FNP Unit 1 and VEGP Unit 1 Visual Examinations

Risk Informed inservice inspection programs have been implemented at both Farley and Vogtle. The surface examinations for these butt weld configurations are no longer required. As performed in the most recent outage for each plant, BMV examinations for one 4" pressurizer spray nozzle, four 6" pressurizer Safety/Relief nozzles, and one 14" pressurizer surge nozzle for each unit, each plant are scheduled for the next refueling outage for each plant (FNP 1R19/fall 2004 and VEGP 1R12/spring 2005). (As noted in paragraph 1(a) above, the pressurizer surge nozzles were specifically excluded from the scope of this bulletin.) Should BMV of the any nozzles reveal potential leaking penetrations, analysis of the residue and surface examinations will be performed for confirmation. If confirmed, volumetric inspections (ultrasonic, if possible) of the nozzles will be performed for flaw characterization. For VEGP, it is expected that the 6" nozzle configurations will have ultrasonic limitations. Surface conditioning will be performed to the extent practical to maximize ultrasonic coverage. A best effort qualified Appendix VIII examination will be performed. Radiography (RT) may be used to assist in characterization. Per 10 CFR 50.55a, by reference to the ASME Code, through-wall degradation is not permitted. Scope expansion requirements will be performed to the requirements of ASME Section XI. While not expected in these butt weld configurations, circumferential flaws, if discovered, would represent a more serious safety concern than axial flaws. If a circumferential flaw is discovered,

Joseph M. Farley Nuclear Plant and Vogtle Electric Generating Plant Response to NRC Bulletin 2004-01

the scope of the volumetric examination would be expanded to include all butt welds of similar design and operating conditions.

FNP Units 1 and 2 Volumetric Examinations

Appendix VIII qualified UT examinations will be performed in the Fall 2005 outage (2R17) on one 4" and one 6" nozzle, Spring 2006 outage (1R20) on one 6" nozzle, Fall 2007 outage (1R21) on one 6" nozzle, and Fall 2008 outage (2R19) on two 6" nozzles. It is expected that configurations will be favorable to Performance Demonstration Initiative (PDI) qualified ultrasonic requirements for all nozzles, with little additional surface conditioning required.

VEGP Units 1 and 2 Volumetric Examinations

Appendix VIII qualified UT examination for the 4" spray nozzle is currently scheduled during the upcoming 1R12 (Spring 2005) refueling outage. It is expected that >90% UT coverage can be achieved for this location.

NRC Request 1(d): (1) In light of the information discussed in this bulletin and your understanding of the relevance of recent industry operating experience to your facility, explain why the inspection program identified in your response to item (1)(c) above is adequate for the purpose of maintaining the integrity of your facility's RCPB and for meeting all applicable regulatory requirements which pertain to your facility.

SNC Response to NRC Request 1(d):

The EPRI MRP is in the process of developing inspection and evaluation guidance for all Alloy 600/82/182 butt weld locations in the primary system. SNC will be following recommendations from the various industry organizations (i.e., WOG, EPRI MRP, etc.) to determine the extent of inspections and best examination methods to be employed. The type or recommended frequency of inspections (i.e. BMV, volumetric) for non-Combustion Engineering (CE) facilities has not yet been determined. Therefore, until specific industry guidance is available, Farley and Vogtle plan to continue performing BMV examinations of the nozzles addressed in this bulletin at each refueling outage. Mitigation applications are being considered for both Farley and Vogtle. For Vogtle, weld overlay as a mitigation application is also being considered to increase UT inspection coverage due to complex "as-built" configurations.

The inspection program outlined above in conjunction with ongoing industry initiatives in this area provide assurance that the integrity of the RCPB at FNP and VEGP is maintained and that all applicable regulatory requirements are met.

Joseph M. Farley Nuclear Plant and Vogtle Electric Generating Plant Response to NRC Bulletin 2004-01

NRC Request 2: Within 60 days of plant restart following the next inspection of the Alloy 82/182/600 pressurizer penetrations and steam space piping connections, the subject PWR licensees should either:

(a) submit to the NRC a statement indicating that the inspections described in the licensee's response to item (1)(c) of this bulletin were completed and a description of the as-found condition of the pressurizer shell, any findings of relevant indications of through-wall leakage, followup NDE performed to characterize flaws in leaking penetrations or steam space piping connections, a summary of all relevant indications found by NDE, a summary of the disposition of any findings of boric acid, and any corrective actions taken and/or repairs made as a result of the indications found,

or

(b) if the licensee was unable to complete the inspections described in response to item (1)(c) of this bulletin, submit to the NRC a summary of the inspections performed, the extent of the inspections, the methods used, a description of the as-found condition of the pressurizer shell, any findings of relevant indications of through-wall leakage, followup NDE performed to characterize flaws in leaking penetrations or steam space piping connections, a summary of all relevant indications found by NDE, a summary of the disposition of any findings of boric acid, and any corrective actions taken and/or repairs made as a result of the indications found. In addition, supplement the answer which you provided to item (1)(d) above to explain why the inspections that you completed were adequate for the purpose of maintaining the integrity of your facility's RCPB and for meeting all applicable regulatory requirements which pertain to your facility.

For lines attached directly to the pressurizer, with the exception of the surge line, the information requested in (1) and (2) above should be provided for any locations, including those remote from the pressurizer shell, which contain Alloy 82/182/600 materials which are exposed to conditions similar to those of the pressurizer environment.

SNC Response to NRC Request 2:

Within 60 days of plant restart following the next inspections of the Alloy 82/182/600 pressurizer penetrations and steam space piping at FNP Units 1 and 2 and VEGP Units 1 and 2, SNC will submit to the NRC a statement indicating that the inspections described in the above response to item (1)(c) of this bulletin were completed and a description of the as-found condition of the pressurizer shell, any findings of relevant indications of through-wall leakage, followup NDE performed to characterize flaws in leaking penetrations or steam space piping connections, a summary of all relevant indications found by NDE, a summary of the disposition of any findings of boric acid, and any corrective actions taken and/or repairs made as a result of the indications found.

Farley Nuclear Plant Units 1 and 2 Pressurizer Nozzle Examination History

Farley Nuclear Plant Units 1 and 2 Pressurizer Nozzle Examination History

Farley 1 (History / Interval-Period-Outage)

ALA1-4205-35DM (1st Int ALA-130-35DM) - 4" Spray Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	Outage	_Exam/Results*	Comments*
1	1	1 (Spring 1979)	PT/NRI UT/NRI	UT Limited - PAR
2	2	2 (Spring 1994)	PT/NI UT/NI	UT Limited (80%)
3	2	1 (Fall 2001)	PT/NRI UT/NRI	UT Limited (81%)

ALA1-4501-1DM (1st Int ALA-147-25DM) - 6" Safety Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	Exam/Results*_	Comments*
1	2	1 (Fall 1981)	PT/NRI UT/NI	UT Limited - PAR
2	1	2 (Fall 1989)	PT/NI UT/NI	UT Limited (45°Sh 100%)
3	1	1 (Fall 1998)	PT/NI UT/NI	UT Limited (45° Sh 100%)

ALA1-4502-1DM (1st Int ALA-147-13DM) - 6" Safety Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	_Exam/Results*_	Comments*
1	2	1 (Fall 1981)	PT/NRI UT/NI	UT Limited - PAR
2	2	2 (Spring 1994)	PT/NI UT/NI	UT Limited (45°Sh 100%)
3	2	1 (1R17/F01)	PT/NRI UT/NRI	UT Limited (81%)

ALA1-4503-1DM (1st Int ALA-147-1DM) - 6" Safety Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	Exam/Results*	Comments*
1	2	1 (Fall 1981)	PT/NRI UT/NI	PAR
2	2	2 (Spring 1994)	PT/NI UT/NI	UT Limited (45°Sh 100%)
3	2	1 (Fall 2001)	PT/NRI UT/NRI	UT Limited (81%)

ALA1-4504-1DM (1st Int ALA-146-1DM) - 6" Relief Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	_Exam/Results*_	Comments*
1	1	1 (Spring 1979)	PT/NRI UT/NI	UT Limited - PAR
2	3	2 (Spring 1997)	PT/NI UT/NI .	No Limits
3	3	2 (Spring 2006)	UT Scheduled 3 rd Interva	ıl

^{*} UT – Ultrasonic Exam, PT – Liquid Penetrant Exam, NRI – No Recordable Indications, NI – No Indications, GEO – Geometry, PAR – Partial, Sh – Shear Wave

Farley Nuclear Plant Units 1 and 2 Pressurizer Nozzle Examination History

Farley 2 (History / Interval-Period-Outage)

APR1-4205-49DM (1st Int APR-1-4208-47DM) - 4" Spray Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	Outage	Exam/Results*	_Comments*
1	2	2 (Spring 1986)	PT/NI UT/NRI	UT Limited - PAR
2	2	2 (Fall 1996)	PT/NI UT/NI	No limits
3	2	1 (Fall 2005)	UT Scheduled	

APR1-4501-1DM (1st Int APR-1-4502-1DM) - 6" Safety Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	_Exam/Results*_	Comments*
1	1	2 (Fall 1983)	PT/NI UT/NI	UT Limited - PAR
2	1	2 (Fall 1993)	PT/NI UT/NI	UT Limited (65%)
3	1	1 (Fall 2002)	PT/NI UT/NRI	UT Limited (>92%)

APR1-4502-1DM (1st Int APR-1-4502-11DM) - 6" Safety Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	Outage	_Exam/Results*_	Comments*
1	1	2 (Fall 1983)	PT/NI UT/NI	UT Limited - PAR
2	3	2 (Fall 1999)	PT/NI UT/NI	No Limits
3	3	1 (Fall 2008)	UT Scheduled	

APR1-4503-1DM (1st Int APR-1-4502-23DM) - 6" Safety Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	Outage	_Exam/Results*	Comments*
1	2	2 (Spring 1986)	PT/NI UT/NI	UT Limited - PAR
2	2	2 (Fall 1996)	PT/NI UT/NI	No Limits
3	2	1 (Fall 2005)	UT Scheduled	

APR1-4504-1DM (1st Int APR-1-4501-1DM) - 6" Relief Nozzle to Safe End Weld

<u>Interval</u>	<u>Period</u>	Outage	_Exam/Results*_	_Comments*
1	3	2 (Fall 1990)	PT/NI UT/NI	No Limits
2	3	2 (Fall 1999)	PT/N! UT/NI	No Limits
3	3	1 (Fall 2008)	UT Scheduled	

^{*} UT – Ultrasonic Exam, PT – Liquid Penetrant Exam, NRI – No Recordable Indications, NI – No Indications, PAR – Partial

Vogtle Electric Generating Plant Units 1 and 2 Pressurizer Nozzle Examination History

Vogtle Electric Generating Plant Units 1 and 2 Pressurizer Nozzle Examination History

Vogtle 1 (History / Interval-Period-Outage)

11201-V6-002-W17 (6" Safety Nozzle to Safe End Weld)

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	_Exam/Results*	Comments*
1	1	2 (Spring 1990)	PT/NRI UT/RI/GEO	UT Limited (50%)
2	1	2 (Spring 1999)	PT/NRI UT/NRI	UT Limited (50%)
2	2	1 (Fall 2000)	PT/NRI UT/NRI	UT Limited (75%) Additional exam
3	1	2 (Fall 2009)	Next UT Exam Tentati	for coverage. vely Scheduled – 3 rd Interval

11201-V6-002-W18 (6" Safety Nozzle to Safe End Weld)

<u>Interval</u>	Period	<u>Outage</u>	Exam/Results*_	Comments*
1	1	2 (Spring 1990)	PT/NRI UT/NRI	UT Limited (50%)
2	1	2 (Spring 1999)	PT/NRI UT/NRI	UT Limited (50%)
2	2	1 (Fall 2000)	PT/NRI UT/NRI	UT Limited (75%) Additional exam
				for coverage.
3	1	2 (Fall 2009)	Next UT Exam Tentative	ely Scheduled – 3 rd Interval

11201-V6-002-W19 (6" Safety Nozzle to Safe End Weld)

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	_Exam/Results*_	Comments*
1	2	1 (Fall 1991)	PT/NRI UT/RI/GEO	UT Limited (50%)
2	2	1 (Fall 2000)	PT/NRI UT/NRI	UT Limited (75%)
3	2	1 (Spring 2011)	Next UT Exam Tentative	ly Scheduled – 3 rd Interval

11201-V6-002-W20 (6" Relief Nozzle to Safe End Weld)

<u>Interval</u>	Period	Outage	_Exam/Results*	Comments*
1	2	1 (Fall 1991)	PT/NRI UT/RI	UT Limited (50%)
				Code Accept
				UT (FAB)
2	2	1 (Fall 2000)	PT/NRI UT/RI/Geo	UT Limited (75%)
3	2	1 (Spring 2011)	Next UT Exam Tentat	ively Scheduled – 3 rd Interval

11201-V6-002-W21 (4" Spray Nozzle to Safe End Weld)

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	_Exam/Results*_	Comments*
1	3	2 (Spring 1996)	PT/NRI UT/RI/GEO	100%
2	3	1 (Spring 2005)	UT Scheduled - 2nd Inter	
3	3	1 (Spring 2014)	UT Exam Tentatively Sc	heduled – 3 rd Interval

^{*} UT – Ultrasonic Exam, PT – Liquid Penetrant Exam, NRI – No Recordable Indications, NI – No Indications, GEO – Geometry, FAB – Fabrication Flaw

Vogtle Electric Generating Plant Units 1 and 2 Pressurizer Nozzle Examination History

Vogtle 2 (History / Interval-Period-Outage)

21201-V6-002-W17 (6" Safety Nozzle to Safe End Weld)

<u>Interval</u>	Period	Outage	_Exam/Results*_	Comments*
1	1	2 (Spring 1992)	PT/NRI UT/RI/GEO	UT Limited (75%)
2	1	2 (Spring 2001)	PT/NRI UT/NRI	UT Limited (75%)
3	1	2 (Spring 2010)	Next UT Exam Tentative	ly Scheduled – 3 rd Interval

21201-V6-002-W18 (6" Safety Nozzle to Safe End Weld)

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	_Exam/Results*_	Comments*
1	• 1	2 (Spring 1992)	PT/NRI UT/RI/GEO	UT Limited (75%)
2	1	2 (Spring 2001)		UT Limited (75%)
3	1	2 (Spring 2010)	Next UT Exam Tentative	ly Scheduled – 3 rd Interval

21201-V6-002-W19 (6" Safety Nozzle to Safe End Weld)

<u>Interval</u>	<u>Period</u>	<u>Outage</u>	<u>Exan</u>	n/Results*_	Comments*
1	1	2 (Spring 1992)	PT/NRI	UT/NRI	UT Limited (75%)
2	1	2 (Spring 2001)	PT	UT/NRI	UT Limited (75%)
					Code Acceptable PT
3	1	2 (Spring 2010)	Next UT	Exam Tentativ	vely Scheduled – 3 rd Interval

21201-V6-002-W20 (6" Relief Nozzle to Safe End Weld)

Interval	Period	Outage	_Exam/Results*_	Comments*
1	1	2 (Spring 1992)	PT/NRI UT/NRI	UT Limited (75%)
2	1	2 (Spring 2001)	PT/NRI UT/NRI	UT Limited (75%)
3	1	2 (Spring 2010)	Next UT Exam Tentativ	ely Scheduled – 3 rd Interval

21201-V6-002-W21 (4" Spray Nozzle to Safe End Weld)

<u>Interval</u>	Period	Outage	Exam/Results*	Comments*
1	2	2 (Spring 1995)	PT/NRI UT/RI/GEO	UT Limited (87%)
2	2	1 (Fall 2002)		UT Limited (>90%)
3	2	1 (Fall 2011)	Next UT Exam Tentative	ly Scheduled – 3 rd Interval

^{*} UT – Ultrasonic Exam, PT – Liquid Penetrant Exam, NRI – No Recordable Indications, NI – No Indications, GEO – Geometry