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March 17, 1992

MSV-00821
#2909

Docket Nos. 50-424
50-425

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

Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
ASME SECTION XI CATEGORY B-D EXAMINATIONS

Georgia Power Company (GPC) hereby submits the enclosed information regarding a revision to the examination schedule for the inservice inspection (ISI) of Class 1 vessel nozzles (ASME Section XI Code, Examination Category B-D) at Vogtle Electric Generating Plant, Unit 2 (VEGP-2). Affected plant components include the reactor pressure vessel, steam generators, and the pressurizer. Our basis and justification for revising the ISI inspection plans for VEGP-2 are presented in the enclosure to this letter. The revisions are not applicable to Unit 1 (VEGP-1) at Vogtle since Category B-D examinations for certain vessels have already commenced.

No relief is being requested from either the NRC or the ASME Section XI Code requirements regarding the revision to the VEGP-2 Ten-Year ISI Plan. This submittal is being made to the NRC solely for informational purposes. The revision differs from the inspection schedule contained in the docketed VEGP-1 Ten-Year ISI Plan. A similar Ten-Year ISI Plan, although not docketed, exists for VEGP-2. In lieu of formally submitting a Ten-Year ISI Plan for VEGP-2, the NRC requested that GPC identify the differences between the plan documents for VEGP-1 and 2. The differences between the VEGP-1 and 2 Ten-Year ISI Plan documents were identified to the NRC by GPC letter MSV-00318 dated September 13, 1990. With regard to Category B-D, the Ten-Year ISI Plan documents for VEGP-1 and 2 were similar. Except as noted in this letter, the remaining ASME examination categories remain unchanged.

Similar changes to those discussed in the enclosure have been made by at least one other utility. Concurrence with the changes in the examination schedule for Category B-D was given by the NRC in a November 6, 1990 letter to the utility in question. GPC acknowledges the comments in the aforementioned NRC letter that the use of ASME Section XI Code Interpretation XI-1-86-74 cannot be applied generically to all examination categories. That code interpretation is being used by GPC as its basis for rescheduling ASME Section XI Code, Category B-D examinations at VEGP-2.

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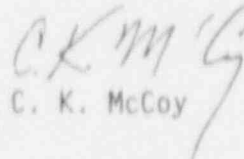
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It is the intention of GPC to implement its revised inspection schedule for ASME Section XI Code, Category D-D vessel nozzles during the VEGP-2 maintenance/refueling outage which began on March 9, 1992. The revised inspection schedule as discussed in the enclosure offers GPC significant opportunities for savings in contractor cost, critical path time, and internal manpower requirements while still maintaining compliance with the ASME Section XI Code.

Should there be any questions in this regard, please contact this office at your earliest convenience.

Sincerely,


C. K. McCoy

CKM/JnE/gb

Enclosure: Discussion on rescheduling of VEGP-2 ASME Section XI Category B-D Examinations

xc: Georgia Power Company
Mr. S. H. Chesnut (w/o encl.)
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Mr. W. B. Shipman (w/encl.)
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U. S. Nuclear Regulatory Commission
Mr. S. D. Ebnetter, Regional Administrator (w/encl.)
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ENCLOSURE TO GPC LETTER MSV-00821

BASES AND JUSTIFICATION FOR REVISED CATEGORY B-D
EXAMINATION SCHEDULE

VOGTLE ELECTRIC GENERATING PLANT, UNIT 2
NRC DOCKET 50-425

INTRODUCTION

Georgia Power Company (GPC) hereby notifies the NRC of a revision to the examination schedule for the inservice inspection (ISI) of Class 1 Examination Category B-D vessel nozzles for the Vogtle Electric Generating Plant, Unit 2 (VEGP-2). The revision applies to the inspection schedule for the twenty-two (22) Category B-D vessel nozzles during the first ten year inspection interval for VEGP-2. Affected plant components include the reactor pressure vessel (RPV), pressurizer, and the steam generators (primary side). The inspection schedule for VEGP-2 Category B-D vessel nozzles for subsequent inspection intervals will be specified in the Ten-Year ISI Plans for those intervals submitted in accordance with 10CFR50.55a requirements. The revision is not applicable to Unit 1 at VEGP since Category B-D examinations for certain vessels, e.g., the RPV, have already commenced.

This notification is not a request for relief from NRC or ASME Section XI Code requirements. GPC considers its revised inspection schedule to be in compliance with ASME Section XI Code rules. However, the revised examination schedule differs from the schedule contained in the Ten-Year ISI Plan for the first inspection interval previously filed with the NRC for VEGP-1. A similar Ten-Year ISI Plan, although not docketed, exists for VEGP-2. In lieu of formally submitting a Ten-Year ISI Plan for VEGP-2, the NRC requested that GPC identify the differences between the Plan documents for VEGP-1 and 2. The differences between the VEGP-1 and 2 Ten-Year ISI Plan documents were identified to the NRC by GPC letter MSV-00318 dated September 13, 1990. With regard to Category B-D, the Ten-Year ISI Plan documents for VEGP-1 and 2 were similar. In accordance with our docketed VEGP-1 ISI Plan, examinations of all four (4) RPV outlet nozzles were scheduled to be performed during the first inspection period. This is consistent for each unit at VEGP. For VEGP-2, these RPV nozzle examinations would be performed during the second maintenance/refueling outage, 2R2, in order to comply with the ISI plan as originally written. GPC has elected to reschedule the ISI examinations of the RPV outlet nozzles for VEGP-2 from the first inspection period to the third inspection period of the first inspection interval.

Unless directed otherwise by the NRC, it is the intention of GPC to implement its revised examination schedule for ASME Section XI Code, Category B-D vessel nozzles during the VEGP-2 maintenance/refueling outage which began on March 9, 1992. The revised schedule offers GPC significant opportunities for savings in contractor cost, critical path time, radiation exposure, and internal manpower requirements while still maintaining compliance with the ASME Section XI Code.

BACKGROUND

The Ten-Year ISI Plan for VEGP-2 for the first ten year inspection interval was prepared in accordance with the 1983 Edition of the ASME Code, Section XI (Code) with the Summer 1983 Addenda and other project commitments. VEGP-2 entered commercial operation on May 20, 1989.

The ISI examination requirements for Class 1 vessel nozzles are found in Code Table IWB-2500-1, Examination Category B-D (Exhibit 1 to this enclosure) for "Full Penetration Welds of Nozzles in Vessels". GPC elected to adopt Inspection Program "B" (i.e., four, ten year inspection intervals) for the

VEGP-2 ISI Program. Examination Category B-D applies to the twenty-two (22) nozzles associated with the VEGP-2 RPV, pressurizer, and steam generators (primary side). During the preparation of the VEGP-2 ISI Plan, GPC interpreted Category B-D to require examination of at least 25% of the RPV nozzles (i.e., two nozzles) during the first inspection period (i.e., within three calendar years after commercial operation) as specified by Footnote No. 2 to Table IWB-2500-1, Examination Category B-D. This interpretation is reflected in the RPV nozzle inspection schedule included in the Ten-Year ISI Plan. GPC scheduled all four of the RPV outlet nozzles for examination during the first inspection period, as allowed by Footnote No. 2 to the aforementioned table in order to minimize the ISI costs of these nozzles and to keep radiation exposure As Low As Reasonably Achievable (ALARA).

The other four (4) RPV nozzles (inlets) were scheduled for examination in the third inspection period while the core barrel is removed for the 10 year ISI. The eight (8) steam generator primary head nozzles and the six (6) pressurizer nozzles were scheduled for ISI examinations throughout the three inspection periods in accordance with Code Table IWB-2412-1 because these examinations are not deferrable in accordance with Footnote No. 3 to Code Table IWB-2500-1, Examination Category B-D. Therefore, the Category B-D inspections were originally scheduled in the VEGP-2 Ten-Year ISI Plan on an item number basis and not on an examination category basis. Table 1 to this enclosure reflects the original schedule for Category B-D inspections at VEGP-2.

Discussed below is a description of specific examination requirements and examination techniques:

Reactor Pressure Vessel

The Code requires volumetric examination of the "Nozzle-to-Vessel Welds" and "Nozzle Inside Radius Section" on the four inlet and four outlet nozzles. These examinations are performed from the nozzle inside surfaces using submerged ultrasonic techniques with an automated reactor vessel inspection tool. These examinations are generally performed while defueled with water in the refueling canal, thus typically being a critical path activity. Inlet nozzles are accessible only when the core barrel is removed, as during the ISI 10 year outage.

Pressurizer

The Code requires volumetric examination of the "Nozzle-to-Vessel Welds" and "Nozzle Inside Radius Section" on the six pressurizer nozzles. These examinations are performed from the outside surfaces using manual contact ultrasonic techniques. Request for relief RR-15 was submitted to the NRC on the pressurizer surge nozzle inside radius examination (Exam ID No. 21201-V6-002-IR-06) because of interference with the heater well couplings. These inspections are not a critical path activity.

Steam Generators

The Code requires volumetric examination of the "Nozzle-to-Vessel Welds" and "Nozzle Inside Radius Section" on the primary inlet and outlet nozzles of all four steam generators. By design, VEGP does not have nozzle-to-vessel welds on either unit. The nozzles are integrally cast as part of the channel head. Component geometry prohibits meaningful ultrasonic examination of the nozzle inside radius section. Relief request RR-42 was submitted to the NRC in order to perform a visual examination on the internal surface of the inside radius section in lieu of volumetric examination. When scheduled, these visual examinations are performed in parallel with channel head cleanliness verifications prior to reinstalling the steam generator manway covers. These inspections are not a critical path activity.

JUSTIFICATION FOR REVISED SCHEDULE

ASME Section XI Code Interpretation No. XI-1-86-74 (Exhibit 2 to this enclosure), issued May 6, 1988, allows ISI examinations to be scheduled by examination category rather than by item numbers within each category. This interpretation was subsequently incorporated into the Code as revisions to IWB-2411 and IWB-2412 in the 1986 Addenda. If applied to Examination Category B-D, this logic would allow the RPV, pressurizer, and steam generator (primary side) nozzles to be grouped together for scheduling purposes. This modified approach to scheduling allows the first inspection period RPV nozzle examinations to be deferred to the 10 year ISI outage during the third inspection period. To meet the Code percentage requirements per inspection period, the other Examination Category B-D nozzle examinations (i.e., pressurizer and steam generators) required rescheduling such as indicated by Table 2 to this enclosure.

The RPV nozzle-to-safe end weld examinations (Examination Category B-F) have been rescheduled to be performed coincident with the RPV nozzle inspections during the 10 year outage. This was done for two reasons; first, Note 2 to Code Table IWB-2500-1, Examination Category B-F allows the safe end weld examinations to be performed coincident with the Category B-D nozzle examinations; second, the safe end examinations are normally performed at the same time as the Category B-D examinations using the automated RPV inspection tool. This rescheduling of the RPV nozzle safe end weld examinations is necessary to achieve the full benefit of critical path and budgetary savings. Table 3 to this enclosure provides the original examination schedule for the affected Category B-F welds. Table 4 provides the revised examination schedule for the Category B-F welds to accommodate the rescheduling of the Category B-D RPV nozzle examinations.

The advantages of performing the RPV nozzle examinations during the 10 year ISI are as follows:

1. The total critical path time should be reduced due to the deletion of duplicated tasks such as setup and teardown time of the RPV automated examination tool. The actual examination time will not be reduced.
2. A significant reduction in total contractor cost should be realized. RPV examinations generally take a significant amount of off-site preparation tool calibration, maintenance, training, etc. To add the RPV outlet nozzles to the 10 year ISI outage requirements should cost significantly less (only examination time) than mobilizing a contractor for an additional outage.
3. A reduction in GPC and Southern Nuclear Operating Company manpower should be realized. The support required to perform an RPV examination involves engineers, non-destructive examination personnel, Quality Assurance/Quality Control personnel, planners, schedulers, electricians, crane operators, etc. To combine the examination of the RPV nozzles into a single outage vice two outages as originally scheduled optimizes manpower resources.

SUMMARY

Georgia Power Company has rescheduled the ISI examination of VEGP-2 RPV outlet nozzles for the first inspection period to the third inspection period of the first inspection interval. This rescheduling of ISI examinations is consistent with the Code, including Section XI Interpretation XI-1-86-74, requirements for distribution of examinations within the inspection interval. The requirements of this Code interpretation are now incorporated in the Code beginning with the 1986 Addenda. The revised ISI examination schedule allows GPC to minimize overall ISI examination costs and supports ALARA objectives by performing the required automated examinations of RPV nozzles during one maintenance/refueling outage (i.e., the 10 year ISI outage) in the third inspection period.

TABLE IWB-2500-1 (CONT'D)
EXAMINATION CATEGORIES

Table IWB-2500-1

EXHIBIT 1
(ASME Section XI, Category B-D Table)

SECTION XI - DIVISION 1

1983 Edition

EXAMINATION CATEGORY B-D, FULL PENETRATION WELDS OF NOZZLES IN VESSELS — INSPECTION PROGRAM B							
Item No.	Parts Examined	Examination Requirements/ Fig. No.	Examination Method	Acceptance Standard	Extent and Frequency of Examination		Deferral of Inspection to End of Interval
					1st Inspection Interval ¹	Successive Inspection Intervals, 2nd, 3rd, 4th ²	
B3.90	Reactor Vessel	IWB-2500-7 ^a	Volumetric	IWB-3512	All nozzles ³	All nozzles ³	Partial ³
B3.100	Nozzle-to-Vessel Welds	IWB-2500-7 ^a	Volumetric	IWB-3512	All nozzles ³	All nozzles ³	deferral
B3.110	Pressurizer	IWB-2500-7 ^a	Volumetric	IWB-3512	All nozzles ³	All nozzles ³	Partial ³
B3.120	Nozzle-to-Vessel Welds	IWB-2500-7 ^a	Volumetric	IWB-3512	All nozzles ³	All nozzles ³	deferral
B3.130	Steam Generators (Primary Side)	IWB-2500-7 ^a	Volumetric	IWB-3512	All nozzles ³	All nozzles ³	Partial ³
B3.140	Nozzle-to-Vessel Welds	IWB-2500-7 ^a	Volumetric	IWB-3512	All nozzles ³	All nozzles ³	deferral
B3.150	Heat Exchangers (Primary Side)	IWB-2500-7 ^a	Volumetric	IWB-3512	All nozzles ³	All nozzles ³	Partial ³
B3.160	Nozzle-to-Vessel Welds	IWB-2500-7 ^a	Volumetric	IWB-3512	All nozzles ³	All nozzles ³	deferral

NOTES:

- (1) Includes nozzles with full penetration welds to vessel shell (or head) and integrally cast nozzles, but excludes manways and handholes either welded to or integrally cast in vessel.
- (2) At least 25% but not more than 50% (credited) of the nozzles shall be examined by the end of the first inspection period, and the remainder by the end of the inspection interval.
- (3) If examinations are conducted from inside the component, the nozzle weld is examined by straight beam ultrasonic method from the nozzle bore, the remaining examinations required to be conducted on the shell may be performed at or near the end of each inspection interval.
- (4) The examination volumes shall apply to the applicable Figure shown in Figs. IWB-2500-7(a) through (d).

EXHIBIT 2
INTERPRETATION XI-1-86-74

Section XI — Interpretations No. 23

XI-1-86-73, XI-1-86-74

Interpretation: XI-1-86-73

Subject: Section XI, Division 1, IWA-2300(a)(1); Nondestructive Examination Personnel Certification — Final Date (1977 Edition With Addenda Through Winter 1979)

Date Issued: January 28, 1988

File: IN87-029

Question (1): Is it a requirement of Section XI, IWA-2300 that qualification requirements such as visual acuity, color vision, and sufficient work experience be completed before the dates of the written and practical examinations?

Reply (1): No. Section XI, IWA-2300 does not specify a sequence for completing the various qualification requirements.

Question (2): Is it a requirement of Section XI, IWA-2300 that the latest date of the written or practical examinations be used as the certification or recertification date?

Reply (2): No. The certification or recertification dates are not addressed in Section XI, IWA-2300. Requirements for certification shall be included in a written procedure prepared in accordance with IWA-2300(a).

Interpretation: XI-1-86-74

Subject: Section XI, Division 1, IWB/IWC-2412 and Table IWB/IWC-2500-1; Examination Schedule Requirements (1977 Edition With Addenda Through Summer 1978 and Subsequent Addenda Through Winter 1981)

Date Issued: May 6, 1988

File: IN86-003A

Question: It is a requirement of Section XI, Division 1, to apply the schedule requirements of IWB-2412 and IWC-2412 to each examination category or to each item number listed in Tables IWB-2500-1 and IWC-2500-1?

Reply: Schedule requirements are applied by category.

TABLE 1
VEGP-2 EXAMINATION CATEGORY B-D SCHEDULE
(typical for both units)

COMPONENT EXAMINATION ID (SEE NOTES 1 & 2)	1ST PERIOD (2R1 & 2R2)	2ND PERIOD (2R3 & 2R4)	3RD PERIOD (2R5 & 2R6)
REACTOR VESSEL EXAMS			
21201-V6-001-IR01	X		
21201-V6-001-IR02			X
21201-V6-001-IR03			X
21201-V6-001-IR04	X		
21201-V6-001-IR05	X		
21201-V6-001-IR06			X
21201-V6-001-IR07			X
21201-V6-001-IR08	X		
21201-V6-001-W025	X		
21201-V6-001-W026			X
21201-V6-001-W027			X
21201-V6-001-W028	X		
21201-V6-001-W029	X		
21201-V6-001-W030			X
21201-V6-001-W031			X
21201-V6-001-W032	X		
TOTAL	8	0	8
PRESSURIZER EXAMS			
2-1201-V6-002-IR01	X		
2-1201-V6-002-IR02	X		
2-1201-V6-002-IR03		X	
2-1201-V6-002-IR04		X	
2-1201-V6-002-IR05			X
2-1201-V6-002-IR06 (RR-15)	N/A		
2-1201-V6-002-W010	X		
2-1201-V6-002-W011	X		
2-1201-V6-002-W012		X	
2-1201-V6-002-W013		X	
2-1201-V6-002-W014			X
2-1201-V6-002-W016			X
TOTAL	4	4	3
STEAM GENERATOR EXAMS			
21201-B6-001-IR-01	X		
21201-B6-001-IR-02	X		
21201-B6-002-IR-01			X
21201-B6-002-IR-02			X
21201-B6-003-IR-01			X
21201-B6-003-IR-02			X
21201-B6-004-IR-01		X	
21201-B6-004-IR-02		X	
TOTAL	2	2	4
EXAM CATEGORY B-D TOTAL	14	6	15
ACCUMULATIVE PERCENTAGE	40%	57%	100%
PERCENTAGE PER PERIOD	40%	17%	43%

NOTES: 1. "IR" in component examination ID no. refers to Inside Radius Section for affected nozzles.
2. "W" in component examination ID no. refers to the nozzle-to-vessel welds associated with the affected vessels, e.g., RPV, pressurizer.

TABLE 7
VEGP-2 EXAMINATION CATEGORY B-D
REVISED SCHEDULE

COMPONENT EXAMINATION ID (SEE NOTE 1)	1ST PERIOD (2R1 & 2R2)	2ND PERIOD (2R3 & 2R4)	3RD PERIOD (2R5 & 2R6)
REACTOR VESSEL EXAMS			
21201-V6-001-1R01			X
21201-V6-001-1R02			X
21201-V6-001-1R03			X
21201-V6-001-1R04			X
21201-V6-001-1R05			X
21201-V6-001-1R06			X
21201-V6-001-1R07			X
21201-V6-001-1R08			X
21201-V6-001-W025			X
21201-V6-001-W026			X
21201-V6-001-W027			X
21201-V6-001-W028			X
21201-V6-001-W029			X
21201-V6-001-W030			X
21201-V6-001-W031			X
21201-V6-001-W032			X
TOTAL	0	0	16
PRESSURIZER EXAMS			
2-1201-V6-002-1R01	X		
2-1201-V6-002-1R02		X	
2-1201-V6-002-1R03		X	
2-1201-V6-002-1R04	X		
2-1201-V6-002-1R05		X	
2-1201-V6-002-1R06 (RR-15)		X	
2-1201-V6-002-W010	X		
2-1201-V6-002-W011	X		
2-1201-V6-002-W012		X	
2-1201-V6-002-W013		X	
2-1201-V6-002-W014		X	
2-1201-V6-002-W016	X		
TOTAL	5	6	0
STEAM GENERATOR EXAMS			
21201-B6-001-1R-01		X	
21201-B6-001-1R-02		X	
21201-B6-002-1R-01	X		
21201-B6-002-1R-02	X		
21201-B6-003-1R-01		X	
21201-B6-003-1R-02		X	
21201-B6-004-1R-01	X		
21201-B6-004-1R-02	X		
TOTAL	4	4	0
EXAM CATEGORY B-D TOTAL	9	10	16
ACCUMULATIVE PERCENTAGE	26%	54%	100%
PERCENTAGE PER PERIOD	26%	28%	46%

NOTE 1: Refer to Notes 1 and 2 on Enclosure page 7.

TABLE 3
VEGT-2 EXAMINATION CATEGORY B-F SCHEDULE
(typical for both units)

COMPONENT EXAMINATION ID (SEE NOTE 1)	1ST PERIOD (2R1 & 2R2)	2ND PERIOD (2R3 & 2R4)	3RD PERIOD (2R5 & 2R6)
REACTOR VESSEL EXAMS			
21201-V6-001-W033	X		
21201-V6-001-W034			X
21201-V6-001-W035			X
21201-V6-001-W036	X		
21201-V6-001-W037	X		
21201-V6-001-W038			X
21201-V6-001-W039			X
21201-V6-001-W040	X		
TOTAL	4	0	4
PRESSURIZER EXAMS			
2-1201-V6-002-W017	X		
2-1201-V6-002-W018	X		
2-1201-V6-002-W019		X	
2-1201-V6-002-W020		X	
2-1201-V6-002-W021			X
2-1201-V6-002-W017			X
TOTAL	2	2	2
EXAM CATEGORY B-F TOTAL	6	2	6
ACCUMULATIVE PERCENTAGE	43%	57%	100%
PERCENTAGE PER PERIOD	43%	14%	43%

NOTE 1: "W" in component examination ID no. refers to the safe end-to-nozzle weld associated with the affected vessels.

TABLE 4
VEGP-2 EXAMINATION CATEGORY B-F
REVISED SCHEDULE

COMPONENT EXAMINATION ID (SEE NOTES 1 & 2)	1ST PERIOD (2R1 & 2R2)	2ND PERIOD (2R3 & 2R4)	3RD PERIOD (2R5 & 2R6)
REACTOR VESSEL EXAMS			
21201-V6-001-W033			X
21201-V6-001-W034			X
21201-V6-001-W035			X
21201-V6-001-W036			X
21201-V6-001-W037			X
21201-V6-001-W038			X
21201-V6-001-W039			X
21201-V6-001-W040			X
TOTAL	0	0	8
PRESSURIZER EXAMS			
2-1201-V6-002-W017	X		
2-1201-V6-002-W018	X		
2-1201-V6-002-W019		X	
2-1201-V6-002-W020		X	
2-1201-V6-002-W021		X	
2-1201-V6-002-W022	X		
TOTAL	3	3	0
EXAM CATEGORY B-F TOTAL	3	3	8
ACCUMULATIVE PERCENTAGE	21%	43%	100%
PERCENTAGE PER PERIOD	21%	21%	57%

NOTES: 1. The Category B-F RPV nozzle-to-safe end welds are scheduled for examination coincident with the RPV nozzle examinations conducted from the nozzle bore (Footnote 2 to Category B-F, Table IWB-2500-1).

2. Refer to Note 1 on Enclosure page 8.