ENCLOSURE
(REVISION 7 TO VEGP-1 ISI PROGRAM DOCUMENT ISI-P-096)

TO

GEORGIA POWER COMPANY
LETTER LCV-0667,
"REVISION 7 TO INSERVICE INSPECTION PROGRAM"

VOGTLE ELECTRIC GENERATING PLANT, UNIT 1
NRC DOCKET 50-424

GEORGIA POWER COMPANY
INSERVICE INSPECTION PROGRAM

(ISI-P-006)

FOR

VOGTLE ELECTRIC GENERATING PLANT
UNIT 1

PREPARED BY
SOUTHERN NUCLEAR OPERATING COMPANY
INSPECTION AND TESTING SERVICES GROUP

REV	DATE	DESCRIPTION	SNC				GPC	
			PREP'D BY (ITS)	REV'D BY (ITS)	APPV. BY (ITS)	APPV. VOGTLE PROJECT NMS	APPV. MGR. ENG. SUPP.	APPR GEN. MGR.
0	9/24/86	ISSUED FOR INSERVICE INSPECTION	X	X	X	X	X	X
1	7/23/87	ADDS RELIEF REQUEST FOR PRESSURE TESTS	X	X	X	X	X	X
2	4/01/88	INCORPORATE NRC COMMITMENTS	X	X	X	X	X	X
3	1/20/89	ADDS RELIEF REQUEST FOR RR-52, 53, 54	X	X	X	X	X	X
4	4/06/90	DELETED RELIEF REQUEST RR-45, 47, 48, 54 REVISED RR-12, 32	X	X	X	X	X	X
5	6/10/91	INCORPORATES COMMENTS PER GPC LTR. MSV-00318, 9/13/90	X	X	X	X	X	X
6	11/5/93	INCORPORATES COMMENTS PER PCR 93-017 AND ADD GENERAL COMMENTS	X	X	X	X	X	X
7	8/11/95	REVISED RELIEF REQUESTS SECTION	DRD	MB	MB	JAE 8/11/95	MB	8/11/95

Vogtle Electric Generating Plant (VEGP-1)
Inservice Inspection (ISI) Program
(ISI-P-006)

Revision 7 Summary of Changes

Affected ISI Program Document Pages	Changes
Distribution List	Changed to reflect current organization.
1-1 thru 1-6	Added words for clarification and added RR-59 to the General Relief Request listing. Removed references to the Line and Equipment Designation Lists on page 1-1 since they were deleted from this document in revision 6. Referenced the Pre-VEGP Improved Technical Specification on pages 1-2, 1-4, and 1-5. Also, section was re-formatted.
2-6, 2-15, 2-15a, 2-22 2-23, 2-23a and 2-23b	Added applicable relief request numbers in table and re-formatted the table resulting in extra pages.
3-2, 3-5, 3-5a, 3-12 and 3-12a	Added applicable relief request numbers in table and re-formatted the table resulting in an extra page.
4-2 thru 4-4a	Added applicable relief request numbers in table and re-formatted the table resulting in extra pages.
6-1 thru 6-4	Added references to RR-58 through RR-62 and re-formatted the table. On page 6-1 revised scope to reflect RRs prepared in addition to the pre-service RRs.
6-39 and 6-40	Removed sentence for clarification. Page 6-40 intentionally left blank.
6-41 and 6-41a	Changed wall thicknesses to reflect appropriate nominal and actual thickness measurements. Also added implementation schedule.
6-43	Revised weld examination limitation for consistency with PSI and ISI examinations.

Revision 7 Summary of Changes

(Continued)

6-54 thru 6-56	Added two CVCS Charging Pump welds that were inadvertently omitted from original relief request. Also made some editorial changes and changed item number on Discharge Pulsation Damper.
6-82 and 6-82a	Changed relief request to note the relocation of snubber testing requirements to a licensee-controlled document.
6-100	Intentionally left blank.
6-101 thru 6-103	Request approval to use ASME Code Case N-416-1 and augment the N-416-1 requirements with additional surface examination on the root pass layer of butt and socket welds.
6-104 thru 6-106	Request approval to use ASME Code Case N-498-1.
6-107 thru 6-109	Request approval to use ASME Code Case N-509.
6-110 thru 6-111	Request that selected Class 2 components be excluded from the surface and volumetric examination requirements as allowed by the 1989 Addenda through the 1992 Edition of ASME Section XI.

Distribution, Rev. 7
Table of Contents, Rev. 6
Introduction:

- Page 1-1, Rev. 7
- Page 1-2, Rev. 7
- Page 1-3, Rev. 7
- Page 1-4, Rev. 7
- Page 1-5, Rev. 7
- Page 1-6, Rev. 7

Class 1:

- Page 2-1, Rev. 0
- Page 2-2, Rev. 5
- Page 2-3, Rev. 0
- Page 2-4, Rev. 0
- Page 2-5, Rev. 0
- Page 2-6, Rev. 7
- Page 2-7, Rev. 1
- Page 2-8, Rev. 0
- Page 2-9, Rev. 0
- Page 2-10, Rev. 0
- Page 2-11, Rev. 0
- Page 2-12, Rev. 0
- Page 2-13, Rev. 1
- Page 2-14, Rev. 0
- Page 2-15, Rev. 7
- Page 2-15a, Rev. 7
- Page 2-16, Rev. 0
- Page 2-17, Rev. 0
- Page 2-18, Rev. 0
- Page 2-19, Rev. 0
- Page 2-20, Rev. 0
- Page 2-21, Rev. 0
- Page 2-22, Rev. 7
- Page 2-23, Rev. 7
- Page 2-23a, Rev. 7
- Page 2-23b, Rev. 7
- Page 2-24, Rev. 0

Class 2:

- Page 3-1, Rev. 0
- Page 3-2, Rev. 7
- Page 3-3, Rev. 0
- Page 3-4, Rev. 5

Class 2 (continued):

Page 3-5, Rev. 7
Page 3-5a, Rev. 7
Page 3-6, Rev. 5
Page 3-7, Rev. 0
Page 3-8, Rev. 0
Page 3-9, Rev. 0
Page 3-10, Rev. 0
Page 3-11, Rev. 0
Page 3-12, Rev. 7
Page 3-12a, Rev. 7
Page 3-13, Rev. 0

Class 3:

Page 4-1, Rev. 0
Page 4-2, Rev. 7
Page 4-2a, Rev. 7
Page 4-3, Rev. 7
Page 4-3a, Rev. 7
Page 4-4, Rev. 7
Page 4-4a, Rev. 7

Component Supports:

Page 5-1, Rev. 0
Page 5-2, Rev. 0
Page 5-3, Rev. 0
Page 5-4, Rev. 0

Relief Requests:

Page 6-1, Rev. 7
Page 6-2, Rev. 7
Page 6-3, Rev. 7
Page 6-4, Rev. 7
Page 6-5, Rev. 5
Page 6-6, Rev. 1
Page 6-7, Rev. 1
Page 6-8, Rev. 1
Page 6-9, Rev. 1
Page 6-10, Rev. 1
Page 6-11, Rev. 1
Page 6-12, Rev. 1
Page 6-13, Rev. 1
Page 6-14, Rev. 6
Page 6-15, Rev. 1

Relief Requests (continued):

Page 6-16, Rev. 1
Page 6-17, Rev. 1
Page 6-18, Rev. 4
Page 6-19, Rev. 1
Page 6-20, Rev. 1
Page 6-21, Rev. 1
Page 6-22, Rev. 1
Page 6-23, Rev. 1
Page 6-24, Rev. 1
Page 6-25, Rev. 1
Page 6-26, Rev. 1
Page 6-27, Rev. 1
Page 6-28, Rev. 1
Page 6-29, Rev. 1
Page 6-30, Rev. 5
Page 6-31, Rev. 1
Page 6-32, Rev. 1
Page 6-33, Rev. 1
Page 6-34, Rev. 1
Page 6-35, Rev. 1
Page 6-36, Rev. 5
Page 6-36a, Rev. 5
Page 6-37, Rev. 5
Page 6-38, Rev. 2
Page 6-39, Rev. 7
Page 6-40, Rev. 7
Page 6-41, Rev. 7
Page 6-41a, Rev. 7
Page 6-42, Rev. 1
Page 6-43, Rev. 7
Page 6-44, Rev. 1
Page 6-45, Rev. 1
Page 6-46, Rev. 5
Page 6-47, Rev. 5
Page 6-48, Rev. 5
Page 6-49, Rev. 5
Page 6-49a, Rev. 5
Page 6-49b, Rev. 5
Page 6-49c, Rev. 5
Page 6-49d, Rev. 5
Page 6-50, Rev. 1

Relief Requests (continued):

Page 6-51, Rev. 1
Page 6-52, Rev. 1
Page 6-53, Rev. 1
Page 6-54, Rev. 7
Page 6-55, Rev. 7
Page 6-56, Rev. 7
Page 6-57, Rev. 5
Page 6-57a, Rev. 5
Page 6-58, Rev. 4
Page 6-58a, Rev. 4
Page 6-59, Rev. 4
Page 6-60, Rev. 2
Page 6-61, Rev. 1
Page 6-62, Rev. 1
Page 6-63, Rev. 1
Page 6-64, Rev. 1
Page 6-65, Rev. 0
Page 6-66, Rev. 0
Page 6-67, Rev. 0
Page 6-68, Rev. 0
Page 6-69, Rev. 0
Page 6-70, Rev. 0
Page 6-71, Rev. 5
Page 6-72, Rev. 0
Page 6-73, Rev. 0
Page 6-74, Rev. 0
Page 6-75, Rev. 0
Page 6-76, Rev. 0
Page 6-77, Rev. 0
Page 6-78, Rev. 0
Page 6-79, Rev. 0
Page 6-80, Rev. 0
Page 6-81, Rev. 2
Page 6-81a, Rev. 2
Page 6-82, Rev. 7
Page 6-82a, Rev. 7
Page 6-83, Rev. 1
Page 6-84, Rev. 1
Page 6-85, Rev. 4
Page 6-86, Rev. 1
Page 6-87, Rev. 4
Page 6-88, Rev. 4

Relief Requests (continued):

Page 6-89, Rev. 4
Page 6-90, Rev. 6
Page 6-90a, Rev. 6
Page 6-90b, Rev. 6
Page 6-91, Rev. 1
Page 6-92, Rev. 5
Page 6-93, Rev. 5
Page 6-94, Rev. 5
Page 6-95, Rev. 3
Page 6-96, Rev. 4
Page 6-97, Rev. 4
Page 6-98, Rev. 4
Page 6-99, Rev. 6
Page 6-100, Rev. 7
Page 6-101, Rev. 7
Page 6-102, Rev. 7
Page 6-103, Rev. 7
Page 6-104, Rev. 7
Page 6-105, Rev. 7
Page 6-106, Rev. 7
Page 6-107, Rev. 7
Page 6-108, Rev. 7
Page 6-109, Rev. 7
Page 6-110, Rev. 7
Page 6-111, Rev. 7

VEGP-1 INSERVICE INSPECTION PROGRAM

(ISI-P-006)

DISTRIBUTION LIST

HOLDER	MANUAL NUMBER
J. J. Churchwell	4
Deleted	6
L. L. Rowe	14
A. E. Cardona	18
K. G. Lowery	20
L. K. Mathews	22
L. A. Ward	26
Supervisor, Engineering Support	29

1.0 INTRODUCTION

1.1 General

This document details the scope of inservice inspections for the Vogtle Electric Generating Plant (VEGP) Unit 1 and includes the following points of interest:

- Frequency of inspections.
- Identification of all areas to be examined.
- Relief Requests.

The contents of this document are subject to change (with approval) during the course of inservice inspections.

The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1983 Edition through the Summer 1983 Addenda is currently used for inservice inspection (ISI). The actual edition applicable to ISI is the latest edition approved by the Nuclear Regulatory Commission 12 months prior to the date of issuance of the operating license per 10 CFR 50.55A. Additionally, inspection program B will be used as defined by IWA-2400 of Section XI.

1.2 Scope

This document is a description of the Inservice Inspection Program for Class 1, 2, and 3 components.

1.3 Component Upgrading

All plant components have been reviewed to determine the appropriate classification for inservice inspection. The classification information is given in the Line Designation List and Equipment Designation List located in the VEGP Unit 1 Inservice Inspection Plan, ISI-P-005. It must be noted, however, that the classification of components as ISI Class 1, 2, or 3 for inservice inspection does not imply that the components were designed or constructed in accordance with the same ASME classification requirements. The component design codes remain as stated in the VEGP Final Safety Analysis Report (FSAR).

1.4 Responsibility

Georgia Power Company bears the overall responsibility for the performance of the inservice inspections. Certain nondestructive examinations will be performed by a qualified inspection

agency. The results of such examinations will be reported to Georgia Power Company for final evaluations and disposition.

1.5 Records

Records and documentation of all information and inspection results, which provide the basis for evaluation and which facilitate comparison with results from subsequent inspections, will be available for the active life of the plant.

1.6 Methods of Examination

The method of examination planned for each area is delineated in subsequent sections. Personnel performing nondestructive examinations will be trained in accordance with the American Society for Nondestructive Testing (ASNT) and the ASME Code.

1.6.1 Eddy Current

Eddy current examinations will be performed on the steam generator tubing in accordance with the Pre-VEGP Improved Technical Specification Section 4.4.5.0 and Regulatory Guide 1.83, Rev. 1. The alternative techniques used for this examination, as permitted by paragraph IWA-2240, either satisfy or exceed the requirements of Appendix IV of ASME Section XI and/or Article 8, Appendix I of ASME Section V.

1.6.2 Liquid Penetrant

Dye penetrant inspections will be performed whenever a surface examination is required on nonmagnetic components.

1.6.3 Magnetic Particle

Magnetic particle tests will usually be used when surface examination of carbon steel components is required.

1.6.4 Radiographic

Radiographic techniques may be used as an alternative method to ultrasonic examinations.

1.6.5 Ultrasonic

Ultrasonic examinations will be conducted in accordance with the provisions of Articles 4 and 5 of Section V, ASME, or Appendix III of Section XI, ASME, as applicable. The reactor vessel will be examined to the requirements of Regulatory Guide 1.150, Rev. 1 to the extent practical.

1.6.6 Visual Tests

A visual test (VT) inspection will be employed to provide evidence of leakage or to provide a report of the general condition of the component.

A. The VT-1 inspection shall be performed to determine corrosion, erosion, wear, cracks, or physical damage of the part, component, or surface being inspected.

B. The VT-2 inspection shall be performed to determine and locate leakages from pressure retaining components or excessive leakage from components without leakage collection systems.

C. The VT-3 inspection shall be performed to determine the structural, general, and physical conditions of components or their supports.

D. The VT-4 inspection shall be performed to ensure the operability of components and their mechanical or hydraulic devices.

1.7 Evaluation of Examination Results

Examination results are evaluated per IWA-3000, IWB-3000, and IWF-3000 of the ASME Code, Section XI. Articles IWC-3000 and IWD-3000, "Acceptance Standards for Flaw Indications," are in the course of preparation and, as yet, are not available for use. Therefore, the rules of IWB-3000 may be utilized for ISI Class 2 and 3 components.

1.8 Repair and Replacement Procedures

Repair and replacement procedures have been developed by Georgia Power Company.

1.9 Limitations of Examinations

Certain limitations to nondestructive examination of welds due to geometric configuration or inaccessibility were identified during the Preservice Inspection. During ISI the required examination will be accomplished to the maximum extent possible and limitations will be documented in relief requests. Known relief requests are contained in the Relief Request section of this document. Additional relief requests will be submitted as necessary.

The inservice inspection program outlined in the attached tabulations have been developed as a result of a design review and the Preservice Inspection.

1.10 Augmented Examinations

The Nuclear Regulatory Commission (NRC) has required certain augmented examinations to assure structural reliability. The areas of interest and the examinations to be performed are discussed below.:

1.10.1

The Reactor Coolant Pump flywheels shall be examined per the recommendations of Regulatory Position C.4.b of Regulatory Guide 1.14 Revision 1, August 1975. (Reference: Pre-VEGP Improved Technical Specification Section 4.4.10.2.)

1.10.2

The four main steam lines and feedwater lines from the containment penetration flued head outboard welds up to the first five-way restraint shall be examined. The extent of the inservice examinations completed during each inspection interval (ASME Code Section XI) shall provide 100 percent volumetric examination of circumferential and longitudinal pipe welds to the extent practical. (Reference: Pre-VEGP Improved Technical Specification Section 4.4.10.3.)

1.10.3

During each ten year inspection interval, a minimum of 7.5 percent of the required welds in the engineered safety systems (safety injection, containment heat removal, and residual heat removal) will be subjected to an ultrasonic examination. For VEGP-1 this commitment will require that 70 welds be ultrasonically examined each ten-year interval. These added welds are mostly in thin-walled or small-diameter piping that Section XI exempts from volumetric weld examinations because of size, thickness, pressure, or temperature.

1.10.4

Snubbers installed on safety-related systems as well as snubbers whose failure of the system on which they are installed would adversely affect a safety-related system shall be examined. (Reference: Pre-VEGP Improved Technical Specifications Section 3/4.7.8.)

1.10.5

Georgia Power Company letter GN-1345 dated February 9, 1987, to the U. S. Nuclear Regulatory Commission requires that a walkdown for visual observation of leakage be performed on accessible ASME Code Class 3 portions of the nuclear service cooling water system. This visual observation is required to be performed with the system at operational pressures during each refueling interval for the first ten years of service. In addition, an ultrasonic examination of two representative welds which are in piping 24 inches in diameter, one in each unit, will be performed every 40 months for the first 10 years of service.

1.11 Relief Requests

During the course of the preservice inspection, examination areas were identified where total compliance with the requirements of the ASME Code were not achieved. Relief requests were prepared for each of these areas. Relief requests were also added post-PSI in order to take advantage of ASME Section XI Code Cases. The relief requests address the area of relief, ASME Code examination requirements, Code item no. and category (if applicable), basis for relief, alternate examination (if any), and implementation schedule (if applicable). Each relief request is identified by a unique number and is contained in Section 6 of this document. Relief requests that pertain to a particular category and code item no. are listed opposite the appropriate item no. in the IWB, IWC, IWD, or IWF Table. General relief requests that do not apply to a unique item no. are identified below.

Relief Request No.	Examination Area
RR-18	Use of Section XI, Appendix III for austenitic and dissimilar metal piping welds
RR-22	Technique for UT examination of welds in centrifugally cast piping and static-cast elbows
RR-23	Use of a single calibration block for examination of three sizes of centrifugally cast piping and three sizes of static-cast elbows
RR-31	Use of piping calibration blocks to examine thin-wall vessel welds

Relief Request No.	Examination Area
RR-35	Technique for volumetric exam of thin-wall piping.
RR-36	UT examination of thin-wall Class 2 piping
RR-37	UT examination of small-diameter Class 2 piping
RR-38	Subsection IWE
RR-40	Notch length in basic ultrasonic calibration blocks for examination of vessel welds
RR-59	Alternative pressure test requirement for welded repairs or installation of replacement items by welding on Class 1, 2, and 3.

1.12 Code Cases To Be Used During ISI

The guidance of the Code Cases listed in Regulatory Guide 1.147, Revision 4, and subsequent approved revisions, may be used during Inservice Inspections.

B-E, PRESSURE RETAINING PARTIAL PENETRATION WELDS IN VESSELS

Item No.	Parts Examined	Examination Requirements/ Figure No.	Examination Method[1]	Extent and Frequency of Examination: 1st Interval	Extent and Frequency of Examination: 2nd, 3rd, 4th Intervals	Relief Request	Comments
B4.10	Partial Penetration Welds						
B4.11	Vessel Nozzles	External Surfaces	VT-2	25% nozzles	Same as for 1st interval	RR-60	
B4.12	Control Rod Drive Nozzles	External Surfaces	VT-2	25% nozzles	Same as for 1st interval	RR-60	
B4.13	Instrumentation Nozzles	External Surfaces	VT-2	25% nozzles	Same as for 1st interval	RR-60	
	Pressurizer						
B4.20	Heater Penetration Welds	External Surfaces	VT-2	All nozzles	Same as for 1st interval	RR-60	

NOTES:

(1) The examinations shall be performed during conduct of the system hydrostatic test (IWB-5222).

B-H, INTEGRAL ATTACHMENTS FOR VESSELS

Item No.	Parts Examined[1]	Examination Requirements/ Figure No.	Examination Method	Extent and Frequency of Examination: 1st Interval	Extent and Frequency of Examination: 2nd, 3rd, 4th Intervals	Relief Request	Comments
	Reactor Vessel						
B8.10	Integrally Welded Attachments	IWB-2500-13, -14, and -15	PT/MT[4]	Weld[2]	Weld[2]	RR-52, 61	
	Pressurizer						
B8.20	Integrally Welded Attachments	IWB-2500-13, -14, and -15	PT/MT[4]	Weld[2]	Weld[2]	RR-10,16, 61	
	Steam Generator						
B8.30	Integrally Welded Attachments	IWB-2500-13, -14, and -15	N/A	N/A	N/A		N/A to VEGP.
	Heat Exchangers						
B8.40	Integrally Welded Attachments	IWB-2500-13, -14, and -15	N/A	N/A	N/A		N/A to VEGP.

B-H, (continued)

NOTES:

(1) Weld buildup on nozzles that is in compression under normal conditions and provides only component support is excluded from examination. Examination is limited to those integrally welded attachments that meet the following conditions:
(a) the attachment is on the outside surface of the pressure retaining component;
(b) the attachment provides component support as defined in NF-1110;
(c) the attachment base material design thickness is 5/8 in. or greater; and
(d) the attachment weld joins the attachment either directly to the surface of the vessel or to an integrally cast or forged attachment to the vessel.

(2) The extent of the examination includes essentially 100% of the length of the attachment weld at each attachment subject to examination.

(3) In case of multiple vessels of similar design, size, and service, the examination is limited to the attachment welds of one vessel. Applies only to Item No. B8.30 and B8.40.

(4) For the configuration shown in Fig. IWB-2500-14, a volumetric examination of volume A-B-C-D from one side (B-C) of the circumferential weld may be performed in lieu of the surface examination.

B-P, ALL PRESSURE RETAINING COMPONENTS

Item No.	Parts Examined	Test Requirements[3]	Examination Method[4]	Extent and Frequency of Examination: 1st Interval	Extent and Frequency of Examination: 2nd, 3rd, 4th Intervals	Relief Request	Comments
	Reactor Vessel						
B15.10	Pressure Retaining Boundary	System leakage test[1,7] (IWB-5221)	VT-2	Each refueling outage[5]	Each refueling outage[5]		
B15.11	Pressure Retaining Boundary	System hydro test[2] (IWB-5222)	VT-2	One test[6]	One test per interval[6]	RR-60	
	Pressurizer						
B15.20	Pressure Retaining Boundary	System leakage test[1,7] (IWB-5221)	VT-2	Each refueling outage[5]	Each refueling outage[5]		
B15.21	Pressure Retaining Boundary	System hydro test[2] (IWB-5222)	VT-2	One test[6]	One test per interval[6]	RR-60	
	Steam Generators						
B15.30	Pressure Retaining Boundary	System leakage test[1,7] (IWB-5221)	VT-2	Each refueling outage[5]	Each refueling outage[5]		

B-P, (continued)

Item No.	Parts Examined	Test Requirements[3]	Examination Method[4]	Extent and Frequency of Examination: 1st Interval	Extent and Frequency of Examination: 2nd, 3rd, 4th Intervals	Relief Request	Comments
	Steam Generator (Continued)						
B15.31	Pressure Retaining Boundary	System hydro test[2] (IWB-5222)	VT-2	One test[6]	One test per interval[6]	RR-60	
	Heat Exchangers						
B15.40	Pressure Retaining Boundary	System leakage test[1] [7] (IWB-5221)	N/A	N/A	N/A		N/A to VEGP.
B15.41	Pressure Retaining Boundary	System hydro test[2] (IWB-5222)	N/A	N/A	N/A		N/A to VEGP.
	Piping						
B15.50	Pressure Retaining Boundary	System leakage test[1] [7] (IWB-5221)	VT-2	Each refueling outage[5]	Each refueling outage[5]		
B15.51	Pressure Retaining Boundary	System hydro test[2] (IWB-5222)	VT-2	One test[6]	One test per interval[6]	RR-60	

B-P, CONTINUED

Item No	Parts Examined	Test Requirements	Examination Method[4]	Extent and Frequency of Examination: 1st Interval	Extent and Frequency of Examination: 2nd, 3rd, 4th Intervals	Relief Request	Comments
	Pumps						
B15.60	Pressure Retaining Boundary	System leakage test[1,7] (IWB-5221)	VT-2	Each refueling outage[5]	Each refueling outage[5]		
B15.61	Pressure Retaining Boundary	System hydro test[2] (IWB-5222)	VT-2	One test[6] per interval[6]	One test	RR-60	
	Valves						
B15.70	Pressure Retaining Boundary	System leakage test[1,7] (IWB-5221)	VT-2	Each refueling outage[5]	Each refueling outage[5]		
B15.71	Pressure Retaining Boundary	System hydro test[2] (IWB-5222)	VT-2	One test[6] per interval[6]	One test	RR-60	

B-P, CONTINUED

NOTES:

(1) The pressure retaining boundary during the system leakage test shall correspond to the reactor coolant system boundary, with all valves in the normal position, which is required for normal reactor operation startup. The VT-2 examination shall, however, extend to and include the second closed valve at the boundary extremity.
(2) The pressure retaining boundary during the system hydrostatic test shall include all Class 1 components within the system boundary.
(3) System pressure tests of the reactor coolant system shall be conducted in accordance with IWA-5000. System pressure tests for repaired, replaced, or altered components shall be governed by IWA-5214(c).
(4) Visual examination of IWA-5240.
(5) The system leakage test (IWB-5221) shall be conducted prior to plant startup following each reactor refueling outage.
(6) The system hydrostatic test (IWB-5222) shall be conducted at or near the end of each inspection interval.
(7) A system hydrostatic test (IWB-5222) and the accompanying VT-2 examination are acceptable in lieu of the system leakage test (IWB-5221) and VT-2 examination.

C-A, PRESSURE RETAINING WELDS IN PRESSURE VESSELS

Item No.	Parts Examined	Examination Requirements/ Figure No.	Examination Method	Extent and Frequency of Examination: 1st Interval[3]	Extent and Frequency of Examination: 2nd, 3rd, 4th Intervals	Relief Request	Comments
C1.10	Shell Circumferential Welds	IWC-2500-1	UT	Welds[1] at gross structural discontinuity[2] only	Same as for 1st interval[4]	RR-29,30, 62	
C1.20	Head Circumferential Welds	IWC-2500-1	UT	Head-to-shell weld[1]	Same as for 1st interval[4]	RR-30,62	
C1.30	Tubesheet-to-Shell Weld	IWC-2500-2	UT	Tubesheet-to-shell weld[1]	Same as for 1st interval[4]	RR-29,30, 62	

NOTES:

(1) Includes essentially 100% of the weld length.
(2) Gross structural discontinuity is defined in NB-3213.2. Examples are junctions between shells of different thicknesses, cylindrical shell-to-conical shell junctions, shell (or head)-to-flange welds, and head-to-shell welds.
(3) In the case of multiple vessels of similar design, size, and service (such as steam generators, heat exchangers), the required examinations may be limited to one vessel or distributed among the vessels.
(4) The vessel areas selected for the initial examination shall be reexamined over the service lifetime of the component.

C-C, INTEGRAL ATTACHMENTS FOR VESSELS, PIPING, PUMPS, AND VALVES

Item No.	Parts Examined	Examination Requirements/ Figure No.	Examination Method	Extent and Frequency of Examination: 1st Interval	Extent and Frequency of Examination: 2nd, 3rd, 4th Intervals	Relief Request	Comments
	Pressure Vessels						
C3.10	Integrally Welded Attachments	IWC-2500-5	PT/MT	100% of required areas of each welded attachment [2] [3]	Same as for 1st interval [2] [3]	RR-61, 62	
	Piping						
C3.20	Integrally Welded Attachments	IWC-2500-5	PT/MT	100% of required areas of each welded attachment[4]	Same as for 1st interval[3]	RR-61	
	Pumps						
C3.30	Integrally Welded Attachments	IWC-2500-5	PT/MT	100% of required areas of each welded attachment [3] [4]	Same as for 1st interval[3] [4]	RR-30,61	

C-C, (continued)

Item No.	Parts Examined	Examination Requirements/ Figure No.	Examination Method	Extent and Frequency of Examination: 1st Interval	Extent and Frequency of Examination: 2nd, 3rd, 4th Intervals	Relief Request	Comments
	Valves						
C3.40	Integrally Welded Attachments	IWC-2500-5	N/A	N/A	N/A		N/A to VEGP.

NOTES:

(1) Examination is limited to those integrally welded attachments that meet the following conditions:
   (a) the attachment is on the outside surface of the pressure retaining component;
   (b) the attachment provides component support as defined in NF-1110;
   (c) the attachment base material design thickness is 3/4 in. or greater; and
   (d) the attachment weld joins the attachment either directly to the surface of the component or to an integrally cast or forged attachment to the component.
(2) In case of multiple vessels of similar design and service, the required examinations may be conducted on only one vessel. Where multiple vessels are provided with a number of similar attachments; the examination of the attachments may be distributed among the vessels.
(3) The areas selected for the initial examination shall be reexamined over the service lifetime of the component.
(4) Limited to attachments of those components required to be examined under Examination Categories C-F and C-G.

C-H, ALL PRESSURE RETAINING COMPONENTS

Item No.	Parts Examined[1]	Test[2] Required	Examination Method[3]	Extent and Frequency of Examination: Each Period[4]	Extent and Frequency of Examination: Each Interval[4]	Relief Request	Comments
	Pressure Vessels						
C7.10	Pressure Retaining Components	IWC-5221 test[8]	VT-2	Pressure retaining boundary[6,7]		RR-45	
C7.20	Pressure Retaining Components	IWC-5222 test	VT-2		Pressure retaining boundary[5,7]	RR-60	
	Piping						
C7.30	Pressure Retaining Components	IWC-5221 test[8]	VT-2	Pressure retaining boundary[6,7]		RR-46	
C7.40	Pressure Retaining Components	IWC-5222 test	VT-2		Pressure retaining boundary[5,7]	RR-44, 60	

C-H, (continued)

Item No.	Parts Examined[1]	Test[2] Required	Examination Method[3]	Extent and Frequency of Examination: Each Period[4]	Extent and Frequency of Examination: Each Interval[4]	Relief Request	Comments
	Pumps						
C7.50	Pressure Retaining Components	IWC-5221 test[8]	VT-2	Pressure retaining oundary[6 7]		RR-46	
C7.60	Pressure Retaining Components	IWC-5222 test	VT-2		Pressure retaining boundary[5 7]	RR-60	
	Valves						
C7.70	Pressure Retaining Components	IWC-5221 test[8]	VT-2	Pressure retaining boundary[6 7]		RR-46	
C7.80	Pressure Retaining Components	IWC-5222 test	VT-2		Pressure retaining boundary[5 7]	RR-44, 60	

D-A, SYSTEMS IN SUPPORT OF REACTOR SHUTDOWN FUNCTION

Item No.	Parts Examined	Test And Examination Requirements	Examination Method	Extent and Frequency of Examination: Each Period	Extent and Frequency of Examination: Each Interval	Relief Request	Comments
D1.10	Pressure Retaining Components[1]	IWA-5000/ IWD-5221[5]	VT-2	Pressure retaining boundary[4]		RR-49,50	
		IWA-5000/ IWD-5223[5]	VT-2		Pressure retaining boundary[2] [4]	RR-49,60	
D1.20	Integral Attachment-Component Supports and Restraints[3]	Figure IWD-2500-1	VT-3		Integral attachments	RR-61	
D1.30	Integral Attachment-Mechanical and Hydraulic Snubbers[3]	Figure IWD-2500-1	VT-3		Integral attachments	RR-61	
D1.40	Integral Attachment-Spring Type Supports[3]	Figure IWD-2500-1	VT-3		Integral attachments	RR-61	
D1.50	Integral Attachment-Constant Load Type Supports[3]	Figure IWD-2500-1	VT-3		Integral attachment	N/A to VEGP	

D-A, (continued)

Item No.	Parts Examined	Test And Examination Requirements	Examination Method	Extent and Frequency of Examination: Each Period	Extent and Frequency of Examination: Each Interval	Relief Request	Comments
D1.60	Integral Attachment-Shock Absorbers[3]	Figure IWD-2500-1	VT-3		Integral attachment		N/A to VEGP

NOTES:

(1) The system boundary extends up to and including the first normally closed valve or valve capable of automatic closure as required to perform the safety-related system function.
(2) The system hydrostatic test shall be conducted at or near the end of each inspection interval or during the same inspection period of each inspection interval for Inspection Program B.
(3) In the case of multiple components within a system of similar design, function, and service, the integral attachment of only one of the multiple components shall be examined. The integral attachments selected for examination shall correspond to those component supports selected by IWF-2510(b).
(4) There are no exemptions or exclusions from these requirements except as specified in IWA-5214(c).
(5) A system hydrostatic test (IWD-5223) and accompanying VT-2 examination are acceptable in lieu of the system pressure test (IWD-5221) and VT-2 examination.

D-B, SYSTEMS IN SUPPORT OF EMERGENCY CORE COOLING, CONTAINMENT HEAT REMOVAL, ATMOSPHERE CLEANUP, AND REACTOR RESIDUAL HEAT REMOVAL

				Extent and Frequency of Examination			
Item No.	Parts Examined	Test And Examination Requirements	Examination Method	Each Period	Each Interval	Relief Request	Comments
D2.10	Pressure Retaining Components[1]	IWA-5000/ IWD-5222[5]	VT-2	Pressure retaining boundary[4]		RR-50	
		IWA-5000/ IWD-5223[5]	VT-2		Pressure retaining boundary[2] [4]	RR-60	|
D2.20	Integral Attachment-Component Supports and Restraints[3]	Figure IWD-2500-1	VT-3		Integral attachment	RR-61	|
D2.30	Integral Attachment-Mechanical and Hydraulic Snubbers[3]	Figure IWD-2500-1	VT-3		Integral attachment	RR-61	|
D2.40	Integral Attachment-Spring Type Supports[3]	Figure IWD-2500-1	VT-3		Integral attachment	RR-61	|
D2.50	Integral Attachment-Constant Load Type Supports[3]	Figure IWD-2500-1	VT-3		Integral attachment	N/A to VEGP	|

D-B, (Continued)

Item No.	Parts Examined	Test And Examination Requirements	Examination Method	Extent and Frequency of Examination: Each Period	Extent and Frequency of Examination: Each Interval	Relief Request	Comments
D2.60	Integral Attachment-Shock Absorbers[3]	Figure IWD-2500-1	VT-3		Integral attachment		N/A to VEGP

NOTES:

(1) The system boundary extends up to and including the first normally closed valve or valve capable of automatic closure as required to perform the safety-related system function.
(2) The system hydrostatic test shall be conducted at or near the end of each inspection interval or during the same inspection period of each inspection interval for Inspection Program B.
(3) In the case of multiple components within a system of similar design, function, and service, the integral attachment of only one of the multiple components shall be examined. The integral attachments selected for examination shall correspond to those component supports selected by IWF-2510(b).
(4) There are no exemptions or exclusions from these requirements except as specified in IWA-5214(c).
(5) A system hydrostatic test (IWD-5223) and accompanying VT-2 examination are acceptable in lieu of the system pressure test (IWD-5222) and VT-2 examination.

D-C, SYSTEMS IN SUPPORT OF RESIDUAL HEAT REMOVAL FROM SPENT FUEL STORAGE POOL

				Extent and Frequency of Examination			
Item No.	Parts Examined	Test And Examination Requirements	Examination Method	Each Period	Each Interval	Relief Request	Comments
D3.10	Pressure Retaining Components[1]	IWA-5000/ IWD-5221[5]	VT-2	Pressure retaining boundary[4]		RR-50,53	
		IWA-5000/ IWD-5223[5]	VT-2		Pressure retaining boundary[2] [4]	RR-53,60	
D3.20	Integral Attachment-Component Supports and Restraints[3]	Figure IWD-2500-1	VT-3		Integral attachment	RR-61	
D3.30	Integral Attachment-Mechanical and Hydraulic Snubbers[3]	Figure IWD-2500-1	VT-3		Integral attachment	N/A to VEGP	
D3.40	Integral Attachment-Spring Type Supports[3]	Figure IWD-2500-1	VT-3		Integral attachment	N/A to VEGP	
D3.50	Integral Attachment-Constant Load Type Supports[3]	Figure IWD-2500-1	VT-3		Integral attachment	N/A to VEGP	

D-C, (Continued)

Item No	Parts Examined	Test And Examination Requirements	Examination Method	Extent and Frequency of Examination: Each Period	Extent and Frequency of Examination: Each Interval	Relief Request	Comments
D3.60	Integral Attachment-Shock Absorbers[3]	Figure IWD-2500-1	VT-3		Integral attachment		N/A to VEGP

NOTES:

(1) The system boundary extends up to and including the first normally closed valve or valve capable of automatic closure as required to perform the safety-related system function.
(2) The system hydrostatic test shall be conducted at or near the end of each inspection interval or during the same inspection period of each inspection interval for Inspection Program B.
(3) In the case of multiple components within a system of similar design, function, and service, the integral attachment of only one of the multiple components shall be examined. The integral attachments selected for examination shall correspond to those component supports selected by IWF-2510(b).
(4) There are no exemptions or exclusions from these requirements except as specified in IWA-5214(c).
(5) A system hydrostatic test (IWD-5223) and accompanying VT-2 examination are acceptable in lieu of the system pressure test (IWD-5221) and VT-2 examination.

6.0 RELIEF REQUESTS

6.1 Scope

The following relief requests have been prepared from information determined in support of inspection activities (including preservice inspection) at VEGP Unit 1.

Relief Request No.	Examination Area
RR-1	Relief Request Withdrawn
RR-2	Mechanized exam of reactor vessel lower shell-to-bottom head weld
RR-3	Mechanized exam of reactor vessel lower shell longitudinal welds
RR-4	Mechanized exam of reactor vessel meridional welds
RR-5	Mechanized exam of reactor vessel bottom head circumferential welds
RR-6	Volumetric exam of reactor vessel flange ligament areas
RR-7	Volumetric exam of reactor vessel closure head welds
RR-8	Mechanized exam of elbow-to-reactor vessel safe-end welds
RR-9	Class 1 bolting, greater than 2-in. diameter
RR-10	Pressurizer integrally welded attachments
RR-11	Visual exam of reactor vessel supports
RR-12	Volumetric exam of pressurizer welds
RR-13	Relief request withdrawn

Relief Request No.	Examination Area
RR-14	Volumetric exam of pressurizer surge-nozzle-to-vessel weld
RR-15	Volumetric exam of pressurizer surge-nozzle inner radius
RR-16	Pressurizer integrally welded attachments
RR-17	Volumetric exam of steam generator nozzle-to-elbow welds
RR-18	Section XI, Appendix III for austenitic and dissimilar metal piping welds
RR-19	Volumetric examination of steam generator channel head-to-tube sheet weld
RR-20	Volumetric exam of Class 1 piping welds
RR-21	Volumetric exam of Class 1 branch pipe connection welds
RR-22	Volumetric exam of cast piping and elbows
RR-23	Cast piping calibration block
RR-24	Volumetric exam of reactor coolant pump nozzle-to-elbow and nozzle-to-pipe welds
RR-25	UT calibration block for reactor coolant pump nozzle-to-pipe welds
RR-26	Volumetric exam of SA 376 piping welds
RR-27	Visual exam of Class 1 pump and valve internals
RR-28	Inner radius exam of steam generator outlet nozzle
RR-29	Volumetric exam of steam generator secondary side welds
RR-30	Volumetric and surface exam of Class 2 vessel welds
RR-31	Use of piping calibration blocks to examine thin-wall vessels

Relief Request No.	Examination Area
RR-32	Volumetric exam of RHR heat exchanger nozzle inner radius
RR-33	Relief request withdrawn
RR-34	Volumetric exam of Class 2 piping welds
RR-35	Technique for volumetric exam of thin-wall piping
RR-36	Volumetric exam of Class 2 thin-wall piping
RR-37	Volumetric exam of small-diameter Class 2 piping
RR-38	Subsection IWE
RR-39	Mechanized volumetric examination of pressure-retaining shell and head welds in the reactor vessel outside the beltline region
RR-40	Notch length in basic ultrasonic calibration blocks for examination of vessel welds
RR-41	Calibration blocks for reactor vessel nozzle-to-safe-end welds
RR-42	Volumetric examination of nozzle inner radius section for steam generator inlet and outlet nozzles
RR-43	VT-4 visual examination of snubbers
RR-44	Class 2 piping hydrostatically tested to Class 1 requirements
RR-45	Relief request withdrawn
RR-46	System pressure test on Class 2 components

Relief Request No.	Examination Area
RR-47	Relief request withdrawn
RR-48	Relief request withdrawn
RR-49	System pressure test on Class 3 vertical pit type pumps
RR-50	System pressure test on Class 3 components
RR-51	Relief Request Withdrawn
RR-52	Reactor Vessel integrally welded attachments
RR-53	Class 3 hydrostatic test on Spent Fuel Cooling and Purification
RR-54	Relief request withdrawn conditionally
RR-55	Intentionally blank
RR-56	Intentionally blank
RR-57	Intentionally blank
RR-58	Intentionally blank
RR-59	Alternative pressure test requirement for welded repairs or installation of replacement items by welding on Class 1, 2, and 3 (Reference ASME Code Case N-416-1)
RR-60	Alternative rules for 10-Year System hydrostatic testing for Class 1, 2, and 3 systems (Reference ASME Code Case N-498-1)
RR-61	Alternative rules for the selection and examination of Class 1, 2, and 3 integrally welded attachments (Reference ASME Code Case N-509)
RR-62	Selected Class 2 components be excluded from surface and volumetric examinations as allowed by 1989 Addenda through 1992 Edition of ASME Section XI

VEGP-1

RR-22

Component or Relief Area

Volumetric examination of pressure-retaining welds in centrifugally-cast stainless steel piping and static-cast stainless steel elbows made of SA 351-CF8A material in the Reactor Coolant System.

Requirement from which Relief is Requested

ASME Code Section XI, Article III - 4420 requires that the examination shall be performed using sufficiently long examination beam path to provide coverage of the required examination volume in two beam-path directions. The examination shall be performed from two sides of the weld, where practicable or from one side of the weld as a minimum. Article III - 4430 requires that the angle beam examination for reflectors transverse to the weld shall be performed on the weld crown on a single scan path to examine the weld root by one-half V-path in two directions along the weld. Article III-2430 requires that manual scanning shall be done at twice (+6dB) the primary reference level as a minimum. A meaningful ultrasonic examination cannot be accomplished on the cast stainless steel using conventional shear-wave techniques. Since a 1/2-node examination using a refracted 45° longitudinal wave was found to be the superior technique, relief is requested from the above requirements.

Basis for Relief

The cast SA-351, CF8A material contains a banded microstructure that consists of a duplex grain size ranging from extremely coarse to very fine. This irregular grain structure causes significant attenuation and some angular variations during a typical shear-wave ultrasonic examination. A better technique was developed wherein a 1.0 inch dual-element focused transducer, utilizing a 45° refracted longitudinal wave with a frequency of 1.0 Mhz was used. During calibration, the primary reference level is set using side-drilled holes. Scanning is possible only at the primary reference level due to excessive noise associated with the higher gain levels and the metallurgical structure of the material. A demonstration using this technique was performed for Region II of the NRC and was determined to be a conservative method of detecting ID reflectors. (Reference NRC report numbers 50-425/85-24 and 50-425/85-25).

Alternate Examination

A refracted-longitudinal wave ultrasonic examination, which is a 1/2 node examination, will be performed. Scanning will be done at the primary reference level. The Code-required surface examination will be performed on all welds.

This page intentionally left blank

VEGP-1

RR-23

Component or Relief Area

A single calibration block made from centrifugally-cast 29-inch inside diameter (ID) and 2.45-inch nominal wall piping was used to examine centrifugally cast piping and statically cast elbows as follows:

Component Diameter	Nominal Thickness	Measured Thickness
27-1/2"(Cold Leg)	2.32" to 2.69"	2.44" to 3.19"
29" & 31"(Hot Leg)	2.45" to 3.63"	2.48" to 3.54"
31"(Intermediate Leg)	2.60" to 3.63"	2.60" to 3.49"

Requirement from which Relief is Requested

Subparagraph III-3410, Appendix III of ASME Section XI requires that basic calibration blocks shall be made from material of the same nominal diameter and nominal wall thickness or pipe schedule as the pipe to be examined. Relief is requested from this requirement for main loop piping in the primary reactor coolant system.

Basis for Relief

The single calibration block described above was fabricated from a dropout of actual piping installed at VEGP. Due to its compatibility with the materials being examined and the issues associated with examining cast stainless steel, it was determined during preservice and the first inservice inspection interval to use this one calibration block for multiple examinations. Relief Request RR-23 was therefore submitted as part of Revision 1 to the VEGP Inservice Inspection Program.

The original version of RR-23 specified 27-1/2" diameter components with nominal thicknesses ranging from 2.32" to 2.35", 29" diameter components with a nominal thickness ranging from 2.45" to 2.48", and 31" diameter components with nominal thicknesses ranging from 2.60" to 2.62". Relief was subsequently granted for the three diameters and thickness ranges in an NRC letter dated November 26, 1991 from David J. Lange (NRC) to W. G. Hairston, III (GPC).

Following completion of the Interval 1 ISI examinations for these components, it was determined that the thicknesses of approximately 12 components (particularly elbows) exceeded those previously delineated in RR-23. After this determination, a review was performed by GPC to ensure that previous examinations were satisfactory. A sensitivity demonstration was performed in the presence of an NRC Region II representative using the 2.45" thick calibration block and a 3.00" thick calibration block. Results of the demonstration were acceptable and it was acknowledged that the examinations performed on these components were being conducted in a conservative manner. GPC has concluded that re-examination of these components during Interval 1 (using a thicker block) would not provide any appreciable increase in safety. Correspondingly, it is estimated that to build scaffolding, remove and subsequently replace insulation, and to examine these welds would result in an additional 3 to 4 Rem of exposure were the affected components re-examined.

Alternate Examination

Examinations were conducted as described above.

Implementation Schedule

All inspections for Interval 1 have been completed, therefore, no further action is anticipated. During Interval 2, examinations are anticipated to be conducted using the 2.45" thick block and the 3.00" thick block in conjunction with the provisions of Code Case N-461. Additional relief, if needed, will be sought at that time.

(continued)

Attachment 1

Identification No.	Code Category	Description	Minimum Percentage Examined	Restriction
11201-005-8	B-J	31" Elbow to Reactor Coolant Pump Nozzle	90%	100% exam from elbow side, 80% exam from nozzle side
11201-006-8	B-J	31" Elbow to Reactor Coolant Pump Nozzle	90%	100% exam from elbow side, 80% exam from nozzle side
11201-007-8	B-J	31" Elbow to Reactor Coolant Pump Nozzle	90%	100% exam from elbow side, 80% exam from nozzle side
11201-008-8	B-J	31" Elbow to Reactor Coolant Pump Nozzle	90%	100% exam from elbow side, 80% exam from nozzle side
11201-009-1	B-J	27.5" Reactor Coolant Pump Nozzle to Pipe	75%	100% exam from pipe side, 50% exam from nozzle side
11201-010-1	B-J	27.5" Reactor Coolant Pump Nozzle to Pipe	75%	100% exam from pipe side, 50% exam from nozzle side
11201-011-1	B-J	27.5" Reactor Coolant Pump Nozzle to Pipe	75%	100% exam from pipe side, 50% exam from nozzle side
11201-012-1	B-J	27.5" Reactor Coolant Pump Nozzle to Pipe	75%	100% exam from pipe side, 50% exam from nozzle side

VEGP-1

RR-30

Component or Relief Area

Volumetric and/or surface examination of pressure-retaining welds in Class 2 vessels (or components). Specific examination identifications are shown in Attachment 1 to this relief request.

Requirement from which Relief is Requested

Item Nos. C1.10, C1.20, and C1.30, Category C-A, Table IWC-2500-1 of ASME Section XI require volumetric examination of pressure-retaining welds in Class 2 pressure vessels. Applicable examination volumes are shown in Fig. IWC-2500-1 and -2 and includes 100% of the weld length. Item No. C2.21, Category C-B, requires volumetric and surface examination of pressure-retaining nozzle welds in Class 2 vessels. Applicable examination volume and area are shown in Fig. IWC-2500-4 and includes 100% of the weld length. Item No. C3.30, Category C-C, requires surface examination of pressure-retaining integrally welded attachments in Class 2 pumps. Item No. C6.10, Category C-G, requires surface examination of pressure-retaining welds in Class 2 pumps. The examination area is shown in Fig. IWC-2500-5 and IWC-2500-8 and includes 100% of the weld length. Actual examinations and their extent of coverage are listed in Attachment 1. (See RR-31).

Basis for Relief

Access limitations are due to geometric configuration of the welded areas. Flanges and supports restrict coverage of required examination volume and areas. The actual restriction for each weld is shown in Attachment 1.

Alternate Examination

The maximum percentage possible of the required ultrasonic examination will be performed. The Code-required surface examination will be performed on the Boron Injection Tank. Also, the Code-required surface examination will be performed to the extent possible on the Safety Injection Pump.

RR-30

(continued)

Attachment 1

Identification No.	Code Category	Item No.	Description	Minimum Percentage Examined	Restriction
(REGENERATIVE HEAT EXCHANGER)					
11208-E6-001-W01	C-A	C1.30	Head to Tube Sheet Weld	94%	94% Code exam done from head side of weld - weldolet
11208-E6-001-W02	C-A	C1.30	Tube Sheet to Shell Weld	93%	93% Code exam done from shell side of weld - weldolet
11208-E6-001-W09	C-A	C1.30	Tube Sheet to Shell Weld	93%	93% Code exam done from shell side of weld - weldolet
11208-E6-001-W10	C-A	C1.30	Tube Sheet to Head Weld	94%	94% Code exam done from head side of weld - weldolet
(EXCESS LETDOWN HEAT EXCHANGER)					
11208-E6-002-W01	C-A	C1.20	Unit Flange to Channel Head Weld	45%	45% Code exam done from channel head side of weld -4 instrumentation lines interfere.
(LETDOWN HEAT EXCHANGER)					
11208-E6-003-W03	C-A	C1.20	Vessel Head to Head Flange	29%	29% Code exam done from head side - Flange bolting interferes.
(LETDOWN REHEAT HEAT EXCHANGER)					
11208-E6-007-W03	C-A	C1.10	Vessel Flange to Vessel Shell	84%	84% Code exam done from head side - welded identification plate.

RR-30

(continued)

Attachment 1

Identification No.	Code Category	Item No.	Description	Minimum Percentage Examined	Restriction
(DISCHARGE PULSATION DAMPENER)					
11208-V4-002-W01	C-A	C1.10	Hemi-Head to Hemi-Head Weld	89%	Support Interference
(BORON INJECTION TANK)					
11204-V6-001-W01	C-B	C2.21	Nozzle to Head Weld	50%	100% Exam from head side - 0% from nozzle side
11204-V6-001-W02	C-A	C1.20	Head to Shell Weld	38%	76% exam from head side due to supports - 0% from shell side due to taper
11204-V6-001-W03	C-A	C1.20	Head to Shell Weld	50%	100% exam from head side - 0% from shell side due to taper
11204-V6-001-W04	C-B	C2.21	Nozzle to Head Weld	50%	100% exam from head side - 0% from nozzle side
(SAFETY INJECTION PUMP)					
11204-P6-003-W02	C-G	C6.10	Pump Casing to Suction Nozzle Weld	66%	Pump supports prevent access to required area
(CENTRIFUGAL CHARGING PUMP)					
11208-P6-002-W03	C-C	C3.30	Integrally Welded Pump Support Bracket	70%	Pump supports prevent access to required area
11208-P6-002-W05	C-C	C3.30	Integrally Welded Pump Support Bracket	70%	Pump supports prevent access to required area

VEGP-1

RR-43

Component or Relief Area

Article IWF-5000 of ASME Section XI outlines the inservice test requirements for hydraulic and mechanical type snubbers.

Requirement from which Relief is Requested

The schedule for the testing of snubbers is described in Article IWF-5000. In addition, personnel performing these tests are to be qualified to both VT-3 and VT-4 visual examination requirements. Relief is requested from using Article IWF-5000 and qualified VT-4 visual examination personnel.

Basis for Relief

Instead of using Article IWF-5000, the on-going testing program per the pre-ITS (Improved Technical Specifications) Plant Technical Specifications will be performed. The snubber testing requirements currently found in the VEGP Plant Technical Specifications are being relocated to a licensee-controlled document as allowed by the NRC Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors as noticed in the Federal Register 58 FR 39132 dated July 22, 1993. The snubber testing program for VEGP and its requirements remain unchanged even though the existing VEGP Plant Technical Specifications are being converted to the Westinghouse Improved Standard Technical Specifications-style as issued by the NRC in NUREG-1431 dated September 28, 1992. Other than the location where the snubber testing program and its requirements are documented, e.g., the Updated Final Safety Analysis Report (UFSAR), Technical Requirements Manual, etc., the snubber testing program remains unchanged for VEGP, i.e., it is designed to demonstrate the functional integrity of the snubbers and is, at least, equivalent to the requirements of Article IWF-5000.

The functional testing of the snubbers will be performed by trained personnel using a detailed procedure. In addition, the required VT-3 examination will be performed using qualified personnel.

VEGP-1

RR-43

(continued)

Alternate Examination

As noted above, the existing snubber testing program will continue to be performed regardless of where the program and its requirements are documented due to the conversion of the existing Plant Technical Specifications to the Improved Standard Technical Specifications-style. The Improved Technical Specifications for VEGP are expected to go into effect in 1996 contingent upon NRC approval. Once the Improved Standard Technical Specifications-style of Plant Technical Specifications are approved for VEGP, the snubber testing program and its requirements will be relocated to a licensee-controlled document such as the UFSAR, Technical Requirements Manual, etc. Otherwise, the snubber testing program as currently performed remains unchanged.

This page intentionally left blank

Component or Relief Area

All ASME Class 1, 2, and 3 piping and components.

Requirement From Which Relief is Requested

Paragraph IWA-4400(a) of the 1983 Edition of ASME Section XI with Addenda through Summer 1983 requires that a system hydrostatic test be performed in accordance with IWA-5000 after a welded repair on a pressure-retaining boundary. Relief is requested from performing this Code-required post-repair/replacement hydrostatic pressure test on Class 1, 2, and 3 welds. Alternative examinations are proposed.

Basis for Relief

Georgia Power Company (GPC) has determined that hydrostatically testing post-repair/installation welds represents a hardship with little benefit. Hardships are generally encountered with the performance of hydrostatic testing performed in accordance with the Code. For example, since hydrostatic test pressure would be higher than nominal operating pressure, hydrostatic pressure testing frequently requires significant effort to set up and perform. The need to use special equipment and the need for individual valve lineups can cause the testing to impact maintenance/refueling outage schedules.

Piping components are designed for a number of loadings that would be postulated to occur under the various modes of plant operation. Section XI hydrostatic testing only subjects the piping components to a small increase in pressure over the design pressure and, therefore, does not present a significant change to pressure boundary conditions. Accordingly, hydrostatic pressure testing is primarily regarded as a means to enhance leakage detection during the examination of components under pressure, rather than solely as a measure to determine the structural integrity of the components.

The ASME Subcommittee Working Group on Pressure Testing concluded that no additional benefit is gained by conducting the existing system hydrostatic tests in place of the alternate rules which require a leak test at nominal operating pressure. The conclusion of the group was that hydrostatic testing does not necessarily verify structural integrity and, in fact, the slightly higher test pressures currently called for in the Code could result in operational difficulties as well as extended outages and increased costs.

Industry experience has demonstrated that leaks are not discovered as a result of hydrostatic test pressures propagating a pre-existing flaw through-wall. This experience

(continued)

Basis for Relief (continued)

indicates that leaks in most cases are being found when the system is at normal operating pressure. This is mainly due to the fact that hydrostatic pressure testing is infrequently performed, while system leakage tests at normal operating pressures are conducted a minimum of once each maintenance/refueling outage for Class 1 systems, and each 40-month inspection period for Class 2 and 3 systems. In addition, leaks may be identified during system walkdowns by plant operators.

Georgia Power Company has determined that the nondestructive examinations and their associated acceptance criteria provide assurance of the structural integrity of the weld. The proposed alternative examinations will provide reasonable assurance that unallowable flaws are not present in the subject welds. Consequently, an acceptable level of quality and safety will be achieved and public health and safety will not be endangered by allowing the proposed alternative examination in lieu of the Code requirement.

Alternative Examinations

Georgia Power Company proposes to perform alternative examinations delineated in ASME Code Case N-416-1, with augmented exams for Class 3 piping and components, in lieu of Code-required hydrostatic tests. These alternative examinations are as follows:

1. Perform nondestructive examinations in accordance with the methods and acceptance criteria of the applicable subsection of the 1992 Edition of ASME, Section III.

2. Perform a VT-2 visual examination of the welds in conjunction with the system leakage test using the 1992 Edition of ASME Section XI.

3. Perform surface examinations on the root pass layer of butt and socket welds on the pressure-retaining boundary of Class 3 piping and components.

4. The nondestructive examinations and pressure tests shall be documented on an Owner's Report for Repairs or Replacements, Form NIS-2.

(continued)

Implementation Schedule

Because of the benefits which can be derived from the use of ASME Code Case N-416-1, with augmented examinations as delineated above, GPC wishes to implement this relief request immediately. The actions, i.e., alternative examinations, proposed by GPC are consistent with those required of Beaver Valley as approved by the NRC. Because immediate use of Relief Request RR-59 is desired, GPC requests that the NRC grant interim approval of RR-59 pending its full review and approval of this relief request.

Component or Relief Area

Class 1, 2, and 3 systems subject to hydrostatic testing.

Requirement From Which Relief is Requested

Tables IWB-2500-1, IWC-2500-1, and IWD-2500-1 of the 1983 Edition of ASME Section XI with Addenda through Summer 1983 require system hydrostatic and leakage testing as shown below. The Code requires system hydrostatic testing once per 10-year interval at or near the end of the interval.

ASME Examination Category B-E, Item B4.11, B4.12, B4.13 and B4.20,

ASME Examination Category B-P, Item B15.11, B15.21, B15.31, B15.51, B15.61 and B15.71,

ASME Examination Category C-H, Item C7.20, C7.40, C7.60 and C7.80,

ASME Examination Category D-A, Item D1.10,

ASME Examination Category D-B, Item D2.10, and

ASME Examination Category D-C, Item D3.10.

Relief is requested from performing the Code-required hydrostatic tests. Alternative examinations are proposed.

Basis for Relief

Georgia Power Company (GPC) has determined that hydrostatic tests represent a hardship with little benefit. Hardships are generally encountered with the performance of hydrostatic testing performed in accordance with the Code. For example, since hydrostatic test pressure would be higher than nominal operating pressure, hydrostatic pressure testing frequently requires significant effort to set up and perform. The need to use special equipment and the need for individual valve lineups can cause the testing to impact maintenance/refueling outage schedules.

Piping components are designed for a number of loadings postulated to occur under the various modes of plant operation. Section XI hydrostatic testing only subjects the piping components to a small increase in pressure over the design pressure and, therefore, does

(continued)

Basis for Relief (continued)

not present a significant change to pressure boundary conditions. Accordingly, hydrostatic pressure testing is primarily regarded as a means to enhance leakage detection during the examination of components under pressure, rather than as a measure to determine the structural integrity of the components.

The ASME Subcommittee Working Group on Pressure Testing concluded that no additional benefit is gained by conducting the existing system hydrostatic tests in place of the alternate rules which require a leak test at nominal operating pressure. The conclusion of the group was that Section XI hydrostatic testing does not verify structural integrity and, in fact, the slightly higher test pressures currently called for in the Code could result in operational difficulties as well as extended maintenance/refueling outages and increased costs.

Industry experience has demonstrated that leaks are not discovered as a result of hydrostatic test pressures propagating a preexisting flaw through wall. This experience indicates that leaks in most cases are being found when the system is at normal operating pressure. This is largely due to the fact that hydrostatic pressure testing is infrequently performed while system leakage tests at nominal operating pressures are conducted a minimum of once each refueling outage for Class 1 systems, and each 40-month inspection period for Class 2 and 3 systems. In addition, leaks may be identified during system walkdowns by plant operators.

The use of Code Case N-498, "Alternative Rules for 10-Year System Hydrostatic Testing for Class 1 and 2 Systems", was previously approved by the NRC in Regulatory Guide 1.147, Revision 11. The alternative rules for Code Class 1 and 2 in Code Case N-498-1 are unchanged from N-498. Code Case N-498-1 added an alternative to the 10-year system hydrostatic tests required for Class 3 Systems by Table IWD 2500-1, Categories D-A, D-B, or D-C to the Class 1 and 2 alternatives included in Code Case N-498. Code Case N-498 was found to be acceptable because the alternative provided adequate assurance and because compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality or safety.

Georgia Power Company has determined that the alternative rules of ASME Code Case N-498-1 provide reasonable assurance of the structural integrity of the Code system. Consequently, an acceptable level of quality and safety will be achieved and public health and safety will be maintained by allowing the proposed alternative examination as an option to the Code requirement.

(continued)

Alternative Examinations

Georgia Power Company proposes to perform an alternative examination delineated in Code Case N-498-1 as an option to performing Code-required hydrostatic tests. Code Case N-498-1 requires that a VT-2 visual examination be performed in conjunction with system pressure test at nominal operating pressure.

Implementation Schedule

Because of the benefits which can be derived from the use of ASME Code Case N-498-1, GPC wishes to implement this relief request immediately. The actions, i.e., alternative examinations, proposed by GPC are consistent with those required of the Beaver Valley and Farley plants as approved by the NRC. Because immediate use of Relief Request RR-60 is desired, GPC requests that the NRC grant interim approval of RR-60 pending full review and approval of this relief request.

Components or Relief Area

All ASME Class 1, 2, and 3 Integrally Welded Attachments included within the scope of the ISI Program. Specifically, these include the following:

ASME Examination Category B-H, Items B8.10 and B8.20 for Vessels,

ASME Examination Category C-C, Items C3.10, C3.20 and C3.30 for Vessels, Piping, and Pumps,

ASME Examination Category D-A, Items D1.20, D1.30 and D1.40 for Systems In Support Of Reactor Shutdown,

ASME Examination Category D-B, Items D2.20, D2.30 and D2.40 for Systems In Support Of ECC, CHR, Atmosphere Cleanup, and Reactor RHR, and

ASME Examination Category D-C, Item D3.20 for Systems In Support Of RHR and SF Storage Pool.

Requirement From Which Relief is Requested

Table IWB-2500-1, Examination **Category B-H**, Items B8.10 and B8.20 in the 1983 Edition of ASME Section XI with Addenda through Summer 1983 require a volumetric or surface examination of the integrally welded attachments that meet certain conditions as noted in the subject table. Table IWC-2500-1, Examination **Category C-C**, Items C3.10, C3.20 and C3.30 of that same Code edition/addenda require a surface examination of the integrally welded attachments that meet certain conditions as noted in the subject table. Table IWD-2500-1, Examination **Category D-A**, Items D1.20, D1.30, D1.40; Examination **Category D-B**, Items D2.20, D2.30, D2.40; and Examination **Category D-C**, Item D3.20 of that same Code edition/addenda require a visual examination of the integrally welded attachments that meet certain conditions as noted in the subject table.

Relief is requested from performing the Code-required volumetric, surface, or visual examination on those Integral Attachments required by the above referenced tables.

Basis for Relief

On November 25, 1992, ASME issued Code Case N-509 which approved a set of alternative rules for the selection and examination of Class 1, 2 and 3 Integrally Welded Attachments, Section XI, Division 1. The Code Case provides an alternative sampling which will retain

Basis for Relief (continued)

an acceptable level of quality and safety for Class 1, 2, and 3 integrally welded attachments. Since approval was granted by ASME, the alternative requirements should be technically acceptable for determining flaws. By implementing the alternative examinations, cost savings, personnel radiation dose, and outage time can be realized by Georgia Power Company (GPC) at Vogtle Electric Generating Plant, Unit 1. A VEGP-1 study was performed by Southern Nuclear Operating Company (SNC) on behalf of GPC that compared the number of integrally welded attachment examinations required under the present ASME Section XI scope versus the number of integrally welded attachment examinations required under ASME Code Case N-509. That study is shown in Attachment 1 to this relief request and shows that at least 10% of the present ASME Section XI integrally welded attachment scope for piping will be examined when the subject code case is implemented.

Alternative Examinations

Georgia Power Company proposes that the following examinations be performed in lieu of the Code-required volumetric, surface, or visual examination on those integrally welded attachments required by Table IWB-2500-1, IWC-2500-1, or IWD-2500-1 in the 1983 Edition, Summer 1983 Addenda of ASME Section XI:

Surface Examinations:

Those integrally welded attachments as specifically noted in ASME Code Case N-509,

ASME Examination Category B-K, Integral Attachments for Class 1 Vessels, Piping, Pumps, and Valves, and

ASME Examination Category C-C, Integral Attachments for Class 2 Vessels, Piping, Pumps, and Valves.

Visual Examinations:

ASME Examination Category D-A, Integral Attachments for Class 3 Vessels, Piping, Pumps, and Valves.

Attachment 1

VOGTLE ELECTRIC GENERATING PLANT
ASME CODE CASE N-509 STUDY
UNIT 1

Integrally Welded Attachment Examinations Required For Piping

	Class 1	Class 2	Class 3	Total
Present Scope	**0**	**103**	**329**	**432**
N-509 Scope	**0**	**9**	**37**	**46**
Exams Saved	**0**	**94**	**292**	**386**

NOTES

1. ASME Code Case N-509 was approved on November 25, 1992 but has not yet been included in NRC Regulatory Guide 1.147.

2. Class 1, 2, and 3 component supports shall be selected for examination in accordance with IWF of the 1989 Edition w/1990 Addenda of Section XI to the ASME Boiler and Pressure Vessel Code.

3. The 1989 Edition w/1990 Addenda of Section XI to the ASME Boiler and Pressure Vessel Code is essentially ASME Code Case N-491 contained in NRC Regulatory Guide 1.147, Revision 10.

4. Except for selection of component supports for examination, all references to ASME Section XI within the code case shall be from the edition and addenda specified in the owners ISI program.

5. Table 2500-1 in ASME Code Case N-509 uses Examination Category B-K for Class 1 integrally welded attachments in place of Examination Categories B-H and B-K-1 of IWB and Examination Category C-C for Class 2 integrally welded attachments in the place of Examination Category C-C of IWC. It also uses Examination Category D-A for Class 3 integrally welded attachments in the place of Examination Categories D-A, D-B, and D-C of IWD.

6. The base metal design thickness exemption is lost for Class 1 and 2 integrally welded attachments.

VEGP-1

RR-62

Component or Relief Area

Relief is requested from the surface and volumetric examination requirements of vessels and their connections in piping 4" nominal pipe size (NPS) and smaller in systems other than Residual Heat Removal (RHR), Emergency Core Cooling (ECC), and Containment Heat Removal (CHR) systems or portions thereof. Specifically, the following components are involved:

Regenerative Heat Exchanger (Tag No. 1-1208-E6-001)
Excess Letdown Heat Exchanger (Tag No. 1-1208-E6-002)
Letdown Heat Exchanger (Tag No. 1-1208-E6-003)
Letdown Reheat Heat Exchanger (Tag. No. 1-1208-E6-007)
Discharge Dampener (Tag No. 1-1208-V4-002)

Requirement from which Relief is Requested

Relief is requested to exclude the components cited above from the surface and volumetric examinations as required by Table IWC-2500-1, Examination Category C-A (Items C1.10, C1.20, and C1.30) and Examination Category C-C (Item C3.10) as allowed in IWC-1220, "Components Exempt From Examination", in the 1989 Edition, 1989 Addenda through the 1992 Edition of ASME Section XI.

Basis for Relief

Subarticle IWC-1220 of the 1989 Addenda of ASME Section XI allowed the exemption of selected components from the surface and volumetric examination requirements of IWC-1220. The 1992 Edition of ASME Section XI also includes these exemptions in IWC-1220. These exemptions will be allowed when the newer Addenda and Editions of the Code are authorized in 10CFR50.55a. Georgia Power Company (GPC) sees no benefit in performing examinations on components which the Code has determined can be exempted. The other requirements in the Code are therefore acceptable to assure an acceptable level of safety or quality. It is impractical to perform examinations which do not provide a compensating increase in the level of safety or quality.

These added exemptions would apply to several components which are in high dose rate areas. The most significant of these components is the regenerative heat exchanger. A conservative whole body dose in the range of one to two Rem is a reasonable estimate for examining the regenerative heat exchanger. The dose rate surveys for the regenerative heat exchanger indicate a contact dose rate of two to three Rem/hour and a dose rate at

Basis for Relief (continued)

eighteen inches away from the heat exchanger of one to one-and-one-half (1 to 1-1/2) Rem/hour. The estimated stay time to perform the Code-required examinations on the regenerative heat exchanger is one hour. Such exposure is contrary to the principles of ALARA to perform examinations on components without a compensating increase in the level of safety or quality. For the reasons discussed above, GPC has determined that implementation of the Code requirements is impractical.

Alternate Examination

These exemptions exclude the applicable vessels from the surface and volumetric examinations required by IWC-2500. The remainder of the Code-required examinations (i.e., pressure tests) would be performed to assure that an acceptable level of safety and quality is maintained for the applicable components.