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ROCHESTER GAS & ELECTRIC CORPORATION GINNA STATION	EFFECTIVE DATE: January 1, 1980		
		SIGNATURE	DATE
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TITLE: APPENDIX B Ginna Station Inservice Inspection Program For the 1980-1989 Interval	REVIEWED BY:	C R Anderson	7/1/79
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Program Table of Contents

INTRODUCTION

Appendix B of this Quality Assurance Manual describes Ginna's Inservice Inspection Program for the 120 month inspection interval commencing January 1, 1980 and ending December 31, 1989. Included in this program are the following portions of systems and/or components:

- Quality Group A Components
- Quality Group B Components
- Quality Group C Components
- High Energy Piping Outside of Containment
- Steam Generator Tubing
- Reactor Coolant Pump Flywheels

Following the guidance of Reference 1, Section XI of the Code, Ginna's Inservice Inspection Program adheres to the requirements of Section 50.55a of the Code of Federal Regulations, Reference 2. This program, however, excludes the controls of the Authorized Nuclear Inspector, Enforcement Authority, Reporting Systems, and N-Stamp Symbol.

The Inservice Inspection Program for Quality Groups A, B and C components, as defined in Regulatory Guide 1.26, Reference 3, is controlled by Ginna's Quality Assurance Program for Station Operation. This same program which is also in compliance with the referenced Section XI, provides the most acceptable guidelines and latest techniques currently being utilized in the performance of an inservice inspection.

Repairs to Quality Groups A, B and C components shall be performed in accordance with the Owner's Design Specification and Construction Code of the component or system. Later editions of the Construction Code or ASME Section III, either in its entirety or portions thereof, can also be used. If repair welding can not be performed in accordance with these requirements, then Article 4000 of Reference 11 will be used.

As indicated in Rochester Gas and Electric's report, Reference 4, and Augmented Inservice Inspection Program for high energy piping outside of containment has been established. The inspection program provides for volumetric examination on all circumferential butt welds situated at design break locations or at discontinuity locations where probable failure could occur. Surveillance of these welds

can detect material changes in advance of a potential failure, thereby assuring that the design basis or consequential main steam or feedwater break will not occur.

The Inservice Inspection Program for steam generator tubes was developed to meet the guidance of Reference 5. At regular intervals, tubes within each leg of the steam generator are examined and evaluated for acceptable tube wall thickness.

The Inservice Inspection Program for reactor coolant pump flywheels was developed to meet the guidance of Reference 12. At the intervals suggested, the reactor coolant pump flywheel will be examined by either the volumetric or surface examination method, and evaluated to the specified acceptance criteria.

Identification is given in Section 9.0 of Ginna's Inservice Inspection Program for those areas which deviate from the requirements of Reference 1. Where applicable, currently approved edition and addendas of Section XI will be utilized for clarification and guidance. It is the intent of Rochester Gas and Electric Corporation to continually apply appropriate changes in the Code which improves the overall quality of Ginna's total Inservice Inspection Program.

PROGRAM

ISI 1.0 Scope and Responsibility

1.1 Components of Quality Groups A and B are listed in Tables ISI-1.1 and 1.2, respectively. Quality Group C components are identified in Appendix A of Ginna's Quality Assurance Manual. The specific components to be examined for each Quality Group shall be defined in the Examination Plans by title and/or number.

1.2 The Inservice Inspection Program for high energy piping outside of containment consists of main steam and feedwater piping welds is detailed in the Examination Plan for High Energy Piping.

1.3 The Inservice Inspection Program for steam generator tubes, which is outlined in this program, was developed to the guidance provided in Reference 5, is detailed in Ginna's station procedures.

1.4 The Inservice Inspection Program for reactor coolant pump flywheels, which is outlined in this program, was developed to the guidance provided in Reference 12, is detailed in Ginna's station procedures.

ISI 2.0 Inspection Intervals

2.1 The inservice inspection (ISI) intervals for Quality Group A components shall be ten year intervals of service commencing January 1, 1970. This program defines the ISI requirements for the second interval for Quality Group A components. The ten year examination plan shall describe the distribution of examinations within the inspection interval in accordance with IWB-2400 of Reference 1.

2.2 The inservice inspection intervals for Quality Group B components shall be ten year intervals of service commencing on January 1, 1970. This program defines the ISI requirements for the second interval for Quality Group B components. The ten year examination plan shall describe the distribution of examinations within the inspection interval in accordance with IWC-2400 of Reference 1.

2.3 The inservice inspection intervals for Quality Group C components shall be ten year intervals of service commencing on January 1, 1970. This program defines the ISI requirements for the second interval Quality Group C components. The ten year examination plan shall describe the distribution of examinations within the inspection interval in accordance with IWD-2400 of Reference 1.

2.4 The inservice inspection intervals for the high energy piping outside of containment shall be ten year intervals of service commencing May 1, 1973. The ten year examination plan shall describe the distribution of examinations within the inspection interval in accordance with the requirements of Reference 4.

2.5 The inservice inspection intervals for the examination of steam generator tubes shall not be more than 24 months. However, if over a nominal 2 year period (e.g., two normal fuel cycles) at least 2 examinations of the separate legs result in less than 10% of the tubes with detectable wall penetration (> 20%) and no signifcant (> 10%) further penetration of tubes with previous indications, the inspection interval of the individual legs may be extended to once every 40 months.

2.6 As permitted by IWA-2400 of Reference 1, the inservice inspection interval for Quality Groups A, B and C and high energy piping outside containment may be extended as necessary.

2.7 The inservice inspection intervals for the reactor coolant pump flywheel shall be approximately 10 year intervals of service commencing on January 1, 1970. For areas of high stress concentration at the bore and keyway, a reduced interval of approximately 3 years shall be applied. The ten year examination plan shall describe the distribution of examinations within the inspection interval in accordance with the requirements of Reference 12.

ISI 3.0 Extent and Frequency

3.1 Quality Group A components, as listed in Table ISI-1.1 shall be examined to the extent and frequency as required in Table IWB-2500 of Reference 1.

3.2 Quality Group B components, as listed in Table ISI-1.2, shall be examined to the extent and frequency as required in Table IWC-2500 of Reference 1.

3.3 Quality Group C components as described in the ten year examination plan shall be examined to the extent and frequency required in IWD-2400 and IWD-2600 of Reference 1.

3.4 High energy piping welds outside of containment shall be examined to the following extent and frequency:

3.4.1 During each period of the first inspection interval, all welds at design break locations and one-third of all welds at locations where a weld failure would result in unacceptable consequences, will be volumetrically examined.

3.4.2 During each period of succeeding intervals, one-third of all welds at design break locations and one-third of all welds at locations where a weld failure would result in unacceptable consequences, shall be volumetrically examined.

3.5 The extent and selection of steam generator tube examinations shall be as described in Sections C.4 and C.5 of Reference 1, with the interpretation that examination of all previously defective tubes ($\geq$ 20% detectable wall penetration) and up tp a maximum of two hundred previously defect-free tubes ($<$ 20% detectable wall penetration) is deemed sufficient in meeting the requirements of Reference 5.

3.5.1 In the event a primary to secondary leak exceeds technical specification limits, a limited number of tubes shall be examined at the next refueling outage.

3.5.2 In the event of a seismic occurance greater than that for which the plant is designed to continue operation, Reference 6, a special examination of a limited number of tubes shall be conducted.

3.5.3 In the event of a major steam line or feedwater line break, or a loss-of-coolant accident (LOCA) which imposes a significant pressure transient on the steam generators and requires actuation of the engineered safe-guards, a special examination of a limited number of tubes shall be conducted.

3.6 The reactor coolant pump flywheel, listed in Table ISI-1.1, shall be examined to the extent and frequency as required in Reference 12.

ISI 4.0 Examination Methods

4.1 Quality Groups A and B components shall be examined by the required visual, surface or volumetric methods. These examinations shall include one or a combination of the following: visual, liquid penetrant, magnetic particle, ultrasonic, eddy-current or radiographic examination. These methods, shall as a minimum, be in accordance with the rules of IWA-2000 of Reference 1.

4.1.1 Ultrasonic examinations shall be performed in accordance with the following:

4.1.1.1 For ferritic vessels with wall thickness of 2-1/2 inches or greater, an ultrasonic examination shall be conducted in accordance with the rules of Appendix I of Reference 1.

4.1.1.2 For ferritic piping systems, an ultrasonic examination shall be conducted in accordance with the rules of Appendix III of Reference 7.

4.1.1.3 For components other than those listed in 4.1.1.1 and 4.1.1.2, an ultrasonic examination shall be conducted in accordance with the rules of Article 5 of Reference 8.

4.1.1.4 All indications which produce a response greater than 50% of the reference level shall be recorded.

4.1.1.5 All indications which produce a response $\geq$ 100% of the reference level shall be investigated to the extent that the operator can evaluate the shape, identity, and location of all such reflectors in terms of the acceptance/rejection standards of IWA-3100 (b) of Reference 1. The length of reflectors shall be measured between points which give amplitudes equal to 100% of the reference level.

4.2 Quality Group C components shall be visually examined for leakage during a system pressure test.

4.3 High energy piping welds outside of containment shall be radiographically examined.

4.4 Steam generator tubes shall be examined by a volumetric method (e.g. eddy current) or alternative method which is acceptable.

4.5 Reactor coolant pump flywheels shall be examined by the required surface and volumetric methods, in accordance with the requirements of IWA-2200 of Reference 1.

ISI 5.0 Evaluation of Examination Results

5.1 The evaluation of nondestructive examination results shall be in accordance with Article IWB-3000 of Reference 1. All reportable indications shall be subject to comparison with previous data to aid in its characterization and in determining its origin.

5.2 Quality Group B Components

5.2.1 The evaluation of nondestructive examination results shall be in accordance with Article IWC-3000 of Reference 1. All reportable indications shall be subject to comparison with previous data to aid in its characterization and in determining its origin.

5.3 Quality Group C Components

5.3.1 The evaluation of the visual examination results shall be in accordance with Article IWA-5000 of Reference 1.

5.4 High Energy Piping

5.4.1 The evaluation of nondestructive examination results shall be in accordance with Reference 9.

5.5 Indications that were recorded in previous pre-service or inservice inspections and which were not characterized as propagating flaws are acceptable for continued service.

5.6 The evaluation of any corroded area shall be performed in accordance with Article IWA-5000 of Reference 11.

5.7 Steam Generator Tubes

5.7.1 The evaluation of nondestructive examination results shall be as follows:

5.7.1.1 Plant operation may resume when all tubes are within acceptable wall thickness criteria and the conditions of (a) or (b) are met:

(a) When less than 10 percent of previously defect-free tubes examined, (i.e. $<$ 20% of wall penetration) have developed detectable wall penetrations of greater than 20%, or

(b) When previously degraded tubes exhibit further wall penetration of $>$10%.

NOTE: An acceptable tube wall thickness is one which can sustain a LOCA in combination with a seismic occurrence, for which the plant is designed to continue operation, without a loss of function to Class 1 systems, Reference 8.

5.7.1.2 If no more than 3 tubes have unaccpetable tube wall thickness and the criteria of 5.7.1.1 is otherwise met, plant operation may resume after corrective measures have been taken. When the above criteria is not met, the situation shall be immediately reported to the Commission. Plant operation may resume after corrective measures are taken. All abnormal degradation to steam generator tubes shall be reported with a Licensee Event Report (LER) in accordance with technical specification requirements.

ISI 6.0 Repair Requirements

6.1 Repair of Quality Groups A, B and C components shall be performed in accordance with the applicable Subsections of Reference 11.

6.2 Examinations associated with repairs or modifications shall meet the applicable design and inspection Code requirements as described in the following paragraphs:

6.2.1 Whenever Quality Groups A, B or C System modifications or repairs have been made which involve new strength welds on components greater than 2 inches diameter, the new welds shall receive both surface and 100 percent volumetric nondestructive examinations.

6.2.2 Whenever system modifications or repairs have been made which involve new strength welds on Quality Groups A, B or C components of 2 inches or less, a surface examination shall be performed.

6.3 Surface defects in Quality Groups A, B or C bolts, studs, nuts and ligaments may be removed by mechanical means provided the removal of that defect does not alter the basic configuration of the item. Bolts, studs and nuts that have defects that cannot be removed by mechanical means shall be replaced.

6.4 Repair of high energy piping welds outside of containment shall be performed in accordance with the applicable Code specified in Reference 11.

6.5 Repair of steam generator tubes that have unacceptable defects shall be performed by using a tube plugging technique.

6.6 Repair of reactor coolant pump flywheel that have unacceptable defects shall be performed in accordance with Reference 12.

ISI 7.0 System Pressure Testing

7.1 General Requirements

7.1.1 System pressure test shall be conducted in accordance with Article IWA-5000 of Reference 11.

7.1.2 Repairs of corroded areas shall be performed in accordance with Section 6.0 of this program.

7.2 Quality Group A Components

7.2.1 Whenever the reactor coolant system is closed after it has been opened, the system shall be leak tested to the requirements of Article IWB-5000 of Reference 11. Temperature and pressure requirements of Figure 3.1-1, Section 3.1 of Ginna's "Technical Specifications" shall not be exceeded.

7.2.2 At or near the end of each inspection interval, a hydrostatic pressure test shall be performed on the reactor coolant system components. This test shall be conducted in accordance with the requirements of Article IWB-5000 of Reference 11. Test pressures and temperatures shall be maintained for at least four hours prior to performing the visual examination. Section 3.1 of Ginna's "Technical Specification" shall not be exceeded.

7.3 Quality Group B Components

7.3.1 At or near the end of each inspection interval, a hydrostatic pressure test shall be performed on Quality Group B Systems and Components. This test shall be conducted in accordance with the requirements of Article IWC-5000 of Reference 11. When Quality Group A systems and components are also being pressurized, the pressure and temperature shall comply with the requirements of Paragraph 7.2.2 of this Appendix. This test temperature and pressure shall be maintained for at least 10 minutes prior to the performance of the visual examination.

7.4 Quality Group C Components

7.4.1 Quality Group C components shall have system pressure test in accordance with Article IWD-5000 of Reference 11.

ISI 8.0 Records and Reports

8.1 Records and reports developed from those examinations performed in accordance with this Appendix shall be maintained in accordance with Article IWA-6000 of Reference 11.

ISI 9.0 Exemptions

9.1 Quality Groups A, B and C components exemptions are identified in Attachment A to this Appendix. However, Paragraphs IWB-1220 and IWC-1220 of Reference 1 exempt certain components from examinations, where certain conditions are met. These exemptions will be applied to the components listed on Tables ISI-1.1 and 1.2 with the result that only those non-exempt components are listed herein.

REFERENCES

1. American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (B&PVC) Section XI "Rules for Inservice Inspection of Nuclear Power Plant Components", 1974 Edition through Summer 1975 Addenda.

2. Code of Federal Regulations, Title 10, Part 50, dated January 1, 1978.

3. Nuclear Regulatory Commission, Regulatory Guide 1.26, Revision 1, dated February 1976 "Quality Group Classifications and Standards for Water, Steam, and Radioactive Waste-Containing Components of Nuclear Power Plants".

4. Rochester Gas and Electric Corporation Report "Effects of Postulated Pipe Breaks Outside the Containment Building", dated October 29, 1973.

5. Nuclear Regulatory Commission, Regulatory Guide 1.83, Revision 1, dated July 1975, "Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes".

6. Ginna's Final Safety Analysis Report, Section 2.9.3.

7. ASME, B&PVC, Section XI, 1974 Edition through Summer 1976 Addenda.

8. ASME, B&PVC, Section V, 1974 Edition through Summer 1975 Addenda.

9. USAS B31.1.0 - 1967, "Power Piping".

10. ASME, B&PVC, Section III, 1974 Edition through Summer 1975 Addenda.

11. ASME, B&PVC Section XI, 1977 Edition through Summer 1978 Addenda.

12. Nuclear Regulatory Commission, Regulatory Guide 1.14, Revision 1, dated Auguset 1975, "Reactor Coolant Pump Flywheel Integrity".

TABLE ISI 1.1
QUALITY GROUP A
COMPONENTS, PARTS, AND METHODS OF EXAMINATION

ITEM No.	EXAMINATION CATEGORY TABLE IWB-2500	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Reactor Vessel	
B1.1	B-A	Longitudinal and circumferential shall welds in core region.	Volumetric
B1.2	B-B	Longitudinal and circurmferential welds in shell (other than those of Category B-A and B-C) and meridional and circumferential beam welds in bottom head and closure head (other than those of Category B-C).	Volumetric
B1.3	B-C	Vessel-to-flange and head-to-flange circumferential welds.	Volumetric
B1.4	B-D	Primary nozzle-to-vessel welds and nozzle inside tial welds.	Volumetric
B1.5	B-E	Vessel penetrations, including control rod drive and instrumentation penetrations.	Visual (IWA-5000)
B1.6	B-F	Nozzle-to-safe-end welds.	Volumetric and Surface
B6.10	B-G-1	Closure head nuts.	Surface
B6.20	B-G-1	Closure studs, in place.	Volumetric
B6.30	B-G-1	Closure studs, when removed.	Volumetric and Surface

TABLE ISI 1.1 (Cont'd)
COMPONENTS, PARTS, AND METHODS OF EXAMINATION

ITEM No.	EXAMINATION CATEGORY TABLE IWB-2500	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Reactor Vessel	
B6.40	B-G-1	Ligaments between stud holes.	Volumetric
B6.50	B-G-1	Closure Washers, bushings.	Visual
B7.10	B-G-2	Bolts, studs and nuts.	Visual
B8.10	B-H	Integrally-welded attachments.	Surface
B1.15	B-N-1	Vessel Interior.	Visual
B1.17	B-N-3	Core-support structures.	Visual
B1.18	B-O	Control rod drive housings.	Volumetric
B1.19	B-F	Exempted components.	Visual (IWA-5000)
		Pressurizer	
B2.1	B-B	Longitudinal and circumferential welds.	Volumetric
B2.2	B-D	Nozzle-to-vessel welds and nozzle-to-vessel radiused section.	Volumetric
B2.3	B-E	Heater penetrations.	Visual (IWA-5000)
B2.4	B-F	Nozzle-to-safe-end welds.	Volumetric and Surface

TABLE ISI 1.1 (Cont'd)
COMPONENTS, PARTS, AND METHODS OF EXAMINATION

ITEM No.	EXAMINATION CATEGORY TABLE IWB-2500	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Pressurizer	
B6.60	B-G-1	Bolts and studs, in plae.	Volumetric
B6.70	B-G-1	Bolts and studs, when removed.	Volumetric and Surface
B6.80	B-G-1	Bolting.	Visual
B8.20	B-H	Integrally-welded attachments.	Surface
B2.10	B-P	Exempted components.	Visual (IWA-5000)
B7.20	B-G-2	Bolts, studs, and nuts.	Visual
		Heat Exchangers and Steam Generators	
B3.1	B-B	Longitudinal and circumferential welds, including Tube sheet-to-head or shell welds on the primary side.	Volumetric
B3.2	B-D	Nozzle-to-head welds and nozzle inside radiused section on the primary side.	Volumetric
B3.3	B-F	Nozzle-to-safe-end welds.	Volumetric and Surface
B6.90	B-G-1	Bolts and studs, in place.	Volumetric

TABLE ISI 1.1 (Cont'd)
COMPONENTS, PARTS, AND METHODS OF EXAMINATION

ITEM No.	EXAMINATION CATEGORY TABLE IWB-2500	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Heat Exchangers and Steam Generators	
B6.100	B-G-1	Bolts and studs, when removed.	Volumetric and Surface
B6.110	B-G-1	Bolting.	Visual
B8.30, B8.40	B-H	Integrally-welded attachments.	Surface
B3.9	B-P	Exempted components.	Visual (IWA-5000)
B7.30, B7.40	B-G-2	Bolts, studs, and nuts.	Visual
		Piping Pressure Boundary	
B4.1	B-F	Safe-end to piping welds and safe-end in branch piping welds.	Volumetric and Surface
B6.150	B-G-1	Bolts and studs, in place.	Volumetric
B6.160	B-G-1	Bolts and studs, when removed.	Volumetric and Surface
B6.170	B-G-1	Bolting.	Visual
B4.5	B-J	Circumferential and longitudinal pipe welds.	Volumetric

TABLE ISI 1.1 (Cont'd)
COMPONENTS, PARTS, AND METHODS OF EXAMINATION

ITEM No.	EXAMINATION CATEGORY TABLE IWB-2500	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Piping Pressure Boundary	
B4.6	B-J	Branch pipe connection welds exceeding six inch diameter.	Volumetric
B4.7	B-J	Branch pipe connection welds six inch diameter and smaller.	Surface
B4.8	B-J	Socket welds.	Surface
B10.10	B-K-1	Integrally welded attachments.	Surface
B11.10	B-K-2	Component supports.	Visual
B4.11	B-P	Exempted components.	Visual (IWA-5000)
B7.50	B-G-2	Bolts, studs and nuts.	Visual
		Pump Pressure Boundary	
B6.180	B-G-1	Bolts and studs, in place.	Volumetric
B6.190	B-G-1	Bolts and studs, when removed.	Volumetric and Surface
B6.200	B-G-1	Bolting.	Visual
B10.20	B-K-1	Integrally-welded attachments.	Surface
B11.20	B-K-2	Component supports.	Visual

TABLE ISI 1.1 (Cont'd)
COMPONENTS, PARTS, AND METHODS OF EXAMINATION

ITEM No.	EXAMINATION CATEGORY TABLE IWB-2500	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Pump Pressure Boundary	
B5.6	B-L-1	Pump casing welds.	Volumetric
B5.8	B-P	Exempted components.	Visual
B7.60	B-G-2	Bolts, studs, and nuts.	Visual
----	---	Reactor Coolant Pump Flywheel.	Volumetric and Surface
		Valve Pressure Boundary	
B6.210	B-G-1	Bolts and studs, in place.	Volumetric
B6.220	B-G-1	Bolts and studs, when removed.	Volumetric and Surface
B6.230	B-G-1	Bolting.	Visual
B10.30	B-K-1	Integrally welded attachments.	Volumetric
B11.30	B-K-2	Component supports.	Visual
B6.6	B-M-1	Valve-body welds.	Volumetric
B6.8	B-P	Exempted components.	Visual (IWA-5000)
B7.70	B-G-2	Bolts, studs, and nuts.	Visual

TABLE ISI 1.2
QUALITY GROUP B
COMPONENTS, PARTS, AND METHODS OF EXAMINATION

ITEM No.	EXAMINATION CATEGORY TABLE IWC-2520	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Pressure Vessels	
C1.1	C-A	Circumferential butt welds.	Volumetric
C1.2	C-B	Nozzle-to-vessle welds.	Volumetric
C3.10	C-C	Integrally-welded support attachments.	Surface
C4.10	C-D	Bolts and studs.	Volumetric
C3.20	C-E	Component supports.	Visual
C3.30	C-E	Supports mechanical and hydraulic.	Visual
		Piping	
C2.1	C-F, C-G	Circumferential butt welds.	Volumetric
C2.2	C-F, C-G	Longitudinal weld joints in fittings.	Volumetric
C2.3	C-F, C-G	Branch pipe-to-pipe weld joints.	Volumetric
C4.20	C-D	Bolts and studs.	Volumetric
C3.40	C-E-1	Integrally welded support attachments.	Surface
C3.50	C-E-2	Component supports.	Visual
C3.60	---	Supports mechanical and hyraulic.	Visual

TABLE ISI 1.2 (Cont'd)
COMPONENTS, PARTS, AND METHODS OF EXAMINATION

ITEM No.	EXAMINATION CATEGORY TABLE IWC-2520	COMPONENTS AND PARTS TO BE EXAMINED	METHOD
		Pumps	
C3.1	C-F, C-G	Pump casing welds.	Volumetric
C4.30	C-D	Bolts and studs.	Volumetric
C3.20	C-E-1	Integrally welded support attachments.	Surface
C3.80	C-E-2	Component supports.	Visual
C3.90	---	Supports mechanical and hydraulic.	Visual
		Valves	
C4.1	C-F, C-G	Valve body welds.	Volumetric
C4.40	C-D	Bolts and studs.	Volumetric
C3.100	C-E-1	Integrally welded support attachments.	Surface
C3.110	C-E-2	Component supports.	Visual
C3.120	---	Supports mechanical and hydraulic.	Visual

Exemption I

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The Quality Group C components of the service water system provide the heat sink to various turbine and reactor auxiliary building components including various safety related heat exchangers. The service water system operates in all modes of reactor operation including cold shutdown and refueling.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition requires that the system be subjected to a visual examination under system operating conditions every three and one-third years and a system hydrostatic test at 1.1 times the system design pressure each ten year interval.

Rochester Gas and Electric believes that the hydrostatic test requirement for the service water system is impractical due to system design and therefore request for relief from this requirement is sought.

2. BASIS FOR RELIEF

The design of the system dictates the use of an open-ended well-pit pump, whose suction cannot be blanked off to permit a full system pressure test. The portion of the system downstream of the heat exchanger is also open-ended and cannot be hydrostatically tested. The remaining section of the system is only isolatable by means of butterfly valves which were not designed to provide a leaktight boundary. With the system as such it would be impractical to expect that leakages other than at the valves could be detected.

The ample margin in cooling capacity inherently provided by system design does not dictate the need for an essentially leaktight boundary. Since the system is in constant operation, its integrity is continually monitored. Thorough inspection of the system each period at the full operating pressure is adequate to detect any gross failures in the system without degrading system safety or availability.

3. ALTERNATIVE PROVISIONS

No alternate or augmented examinations or tests are necessary in this case.

Exemption II

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENT

The rules of Article 5 of Section V recommended that UT indications which produce a response greater than 20% of the reference level be investigated to the extent that the operator can evaluate the shape, identity, and location of all such reflectors in terms of the acceptance/rejection standards of Section XI.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda requires that the provisions of Article 5 of Section V shall apply if neither Appendix I or III of Section XI are applicable. However, in the 1977 Edition of Section XI, Summer 1978 Addenda, the rules of Article 5 of Section V were amended to only require investigation of UT indication which produce a response greater than 100% of reference level.

Rochester Gas & Electric concurs with the requirements of the later Code and Addenda and therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Rochester Gas & Electric will be adopting the requirements of IWA-2232 of Section XI of the 1977 Edition of Section XI, through the Summer 1978 Addenda. This is done pursuant to

10CFR50,55a, Paragraph (g)(4)(iv), which says "Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met."

Adopting the evaluation criterion of 100% of reference level is acceptable because:

a) Indication of this level found during examinations have been sufficiently reliable to detect flaws.

b) Rochester Gas & Electric has committed to record all indication greater than 50% of reference level, thereby establishing a permanent history which can be subsequently examined.

c) Rochester Gas & Electric's inspection history at Ginna has shown that the level of "noise" or "hash" in the UT response from examinations on Quality Groups A and B systems has typically been 20%-30% and 20%-40% of reference level, respectively.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are necessary in this case.

Exemption III

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The reactor vessel and associated closure head are cladded with stainless steel on the interior surfaces. Six patches each having a 36 square inch area were selected for examination in accessible locations of the reactor vessel shell and closure head. The pressurizer and steam generators also require a 36 square inch area to be accessible for examination.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through the Summer 1975 Addenda requires that the clad patches in the reactor vessel, pressurizer and steam generators be visually examined each interval. In addition, the closure head patches require visual plus a surface or

volumetric examination each interval. In the 1977 Edition of Section XI, Summer 1978 Addenda, the ASME Code had completely eliminated the examination categories B-I-1 and B-I-2.

Rochester Gas and Electric believes the earlier examinations are impractical since it offers no real means of checking pressure vessel integrity. Therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Analysis has shown that flaws which initiate in the pressure vessel cladding, at locations other than nozzles, do not propagate through the clad-base metal interface. Therefore, their existence does not pose a threat to pressure vessel integrity. The nozzle inner radii areas will be volumetrically examined to detect the presence of flaws which may have propagated into the base material.

Performing these examinations only constitutes a needless exposure of personnel to radiation with no compensatory increase in safety. Rochester Gas & Electric therefore, will not perform the above mentioned examinations in the remaining inspection intervals.

3. ALTERNATIVE PROVISIONS

No alternate or augmented examinations are necessary in this case.

Exemption IV

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

This relief request addresses the Section XI examination categories concerning pressure retaining bolting, that is, B-G-1 and B-G-2. Category B-G-1 in the 1974 Edition of Section XI, Summer 1975 Addenda covers bolting two-inches in diameter and greater and category B-G-2 covers bolting less than two-inches in diameter. However, in the 1977 Edition of Section XI, Summer 1978 Addenda, the bolting exactly two-inches in diameter is shifted from category B-G-1 to B-G-2 by revision of the category definition.

Rochester Gas & Electric concurs with the category definition of the later Code and Addenda and therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Rochester Gas & Electric will be adopting the requirements of Section XI of the 1977 Edition of Section XI through the Summer 1978 Addenda for examination categories B-G-1 and B-G-2. This is done pursuant to 10CFR50.55a Paragraph (g)(4)(iv) which says "Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met."

Adoption of this exemption has a minimal impact, since it includes only a small percentage of the Quality Group A bolting and will in no way effect plant safety margins.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are necessary in this case.

Exemption V

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda requires that pressure retaining components within each system boundary be visually examined while subjected to system pressure tests. These test requirements are not only an important part of the inservice inspection, but also demand clarity in their application.

Rochester Gas & Electric feels the earlier hydrostatic test requirements are not as definitive as the later Edition and Addenda of Section XI, and for this reason believes misinterpretation and/or misapplication could occur. Request for relief from the earlier requirement is therefore sought.

2. BASIS FOR RELIEF

Rochester Gas & Electric will be adopting the requirements of Article-5000 of Section XI, 1977 Edition through Summer 1978 Addenda. This is done pursuant to 10CFR50.55a, Paragraph (g)(4)(iv) which says, "Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met." By adopting the more current rules, Ginna's inservice inspection program invokes a greater margin of safety by applying a clear and definitive Code.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are necessary in this case.

Exemption VI

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

Ginna has three Quality Group A valves which will require a visual examination of their internals. These valves are in the safety injection system and the residual heat removal system.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through the Summer 1975 Addenda requires that valves exceeding four-inches in diameter be examined visually during each inspection interval. Specifically, the area of examination includes valve internal pressure boundary surfaces.

Rochester Gas & Electric, believes that this visual examination adds little or no value to the overall safety of the plant and subjects plant personnel to unnecessary radiation exposure. Therefore, a request for relief from this requirement is sought.

2. BASIS FOR RELIEF

This basis for relief request is founded on the following two points:

1) to complete the subject examination, unnecessary expenditures of man-hours and man-rem are required with essentially no compensating increase in plant safety, and

2) the structural integrity afforded by valve casing material utilized will not significantly degrade over the lifetime of the valve.

Based on data compiled from a plant similar in age and design to Ginna, it is expected that approximately 100 man-hours and 5 man-rem exposure would be required to disassemble, inspect, and reassemble these valves. Performing this visual examination under such adverse conditions, high dose rates (30-40 R/hr), and poor as-cast surface conditions, realistically provides little additional information as to the valve's casing integrity.

The valves material, a high strength cast stainless steel (ASTM A351-CF8), is widely used in the nuclear industry and has performed extremely well. The presence of some delta ferrite (typically 5% or more) substantially increases resistance to intergranular stress corrosion cracking. The delta ferrite also helps the material to resist pitting corrosion in chloride containing environments.

Rochester Gas & Electric feels that adequate safety margins are inherent in the basic valve design and that the public's health and safety will not be adversely effected by not performing a visual examination of the valve internal pressure boundary surfaces.

3. ALTERNATIVE PROVISIONS

As stated above, Rochester Gas & Electric does not believe that the visual examination required each ten year interval is warranted. However, as standard maintenance practice dictates, when these valves are disassembled for maintenance purposes, a visually examination of the internals and internal pressure boundary surfaces will be performed, to the extent practical.

Exemption VII

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

In each of the two 27.5 inch inside diameter recirculation loops, Ginna has a Quality Group A reactor coolant pump. The function of these two pumps is to provide forced circulation through the core during normal reactor operation.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through the Summer 1975 Addenda requires that one of these recirculation pumps be examined visually during each inspection interval. Specifically, the area of examination includes all pump internal pressure boundary surfaces.

Rochester Gas & Electric believes that this visual examination adds little or no increase to the overall safety of the plant and subjects plant personnel to unnecessary radiation exposure. Therefore, a request for relief from this requirement is sought.

2. BASIS FOR RELIEF

The basis for this relief request is founded on the following two points:

1) to complete the subject examination, large expenditures of man-hours and man-rem are required with essentially no compensating increase in plant safety, and

2) the structural integrity afforded by pump casing material utilized will not significantly degrade over the lifetime of the pump.

Based on the data compiled from a plant similar in age and design to Ginna, it is expected that approximately 1000 man-hours and 50 man-rem exposures would be required to disassemble, inspect, and reassemble one pump. Performing this visual examination under such adverse conditions, high dose rates (30-40 R/hr), and poor as-cast surface condition, realistically provides little additional information as to the pump's casing integrity.

The reactor coolant pump casing material, a high strength cast stainless steel (ASTM A351-CF8), is widely used in the nuclear industry and has performed extremely well. The presence of some delta ferrite (typically 5% or more) substantially increases resistance to intergranular stress corrosion cracking. The delta ferrite also helps this material resist pitting corrosion in chloride containing environments.

Rochester Gas & Electric feels that adequate safety margins are inherent in the basic pump design and that the public's health and safety will not be adversely effected by not performing a visual examination of the pump internal pressure boundary surfaces.

3. ALTERNATIVE PROVISIONS

As stated above, Rochester Gas & Electric does not believe that the visual examination required each ten year interval is warranted. However, as standard maintenance practice dictates, when a pump of this type is disassembled for maintenance purposes a visual examination of the pump internals and internal pressure boundary surfaces will be performed, to the extent practical.

Exemption VIII

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda, Categories C-C and C-E requires a surface examination be performed on 100% of the vessel supports and 10% of the supports for piping, pumps, and valves. In the 1977 Edition of Section XI, Summer 1978 Addenda, the Code requires 100% of the required areas for each support attachment be examined.

Rochester Gas & Electric believes that the later Edition and Addendas of Section XI provides more assurance of the overall structural integrity of Ginna's Quality Group B systems. Therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Rochester Gas & Electric will be adopting the requirements of Categories C-C and C-E of Section XI, 1977 Edition through Summer 1978 Addenda. This is done pursuant to 10CFR50.55a, Paragraph (g)(4)(iv) which says, "Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met." By adopting the more current rules, Ginna's inservice inspection program provides greater assurance for system integrity.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are necessary in this case.

Exemption IX

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda requires that repairs be made either to ASME Section XI or the Code applicable to the construction of the component. However, in the 1977 Edition of Section XI, Summer 1978 Addenda, the Code allows the user to apply later Edition of the Construction Code or ASME Section III, either in its entirety or portions thereof.

Rochester Gas & Electric feels the earlier repair rules are not as definitive nor adaptable as the later Edition and Addenda of Section XI, and believes that by adapting the later repair rules Ginna's system can be assured of greater integrity. Therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Rochester Gas & Electric will be adopting the requirements of Article-4000 of Section XI, 1977 Edition through Summer 1978 Addenda. This is done pursuant to 10CFR50.55a, Paragraph (g)(4)(iv) which says, "Portions of editions or addenda may be used provided that all related requirements of the respective

editions or addenda are met." By adopting the more current rules, Ginna's inservice inspection program invokes a more definitive and adaptable repair program thereby ensuring greater integrity to safety related systems.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are necessary in this case.

Exemption X

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The ASME Boiler and Pressure Vessel Code, Section XI 1974 Edition through Summer 1975 Addenda Category C-D requires that 10% of the pressure retaining bolting exceeding one inch in diameter be nondestructively examined. In the 1977 Edition of Section XI, Summer 1978 Addenda, the Code requires that 100% of the pressure retaining bolting exceeding two inches in diameter be nondestructively examined.

Rochester Gas & Electric believes that the later Edition and Addendas of Section XI provides more assurance of the overall structural integrity of Ginna's Quality Group B systems. Therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Rochester Gas & Electric will be adopting the requirements of Category C-D of Section XI, 1977 Edition through Summer 1978 Addenda. This is done pursuant to 10CFR50.55a, Paragraph (g)(4)(iv) which says, "Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met." By adopting the more current rules, Ginna's inservice inspection program provides greater assurance for system integrity.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are necessary in this case.

Exemption XI

1. IDENTIFICATION OF COMPONENTS AND IMRPACTICAL CODE REQUIREMENTS

The ASME Boiler and Pressure Vessel Code, Section XI 1974 Edition through Summer 1975 Addenda, Category B-K-1 requires that 25% of weld length of the integrally welded external supports be volumetrically examined. In the 1977 Edition of Section XI, Summer 1978 Addenda, the Code requires that 100% of weld length of the integrally welded external supports be examined.

Rochester Gas & Electric believes that the later Edition and Addendas of Section XI provides more assurance of the overall structural integrity of Ginna's Quality Group A systems. Therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Rochester Gas & Electric will be adopting the requirements of Category B-K-1 of Section XI, 1977 Edition through Summer 1978 Addenda. This is done pursuant to 10CFR50.55a, Paragraph (g) (4) (iv) which says, "Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met." By adopting these more current rules, Ginna's inservice inspection program provides greater assurance for system integrity.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are necessary in this case.

Exemption XII

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda requires that arrangements be made with an Authorized Inspection Agency to provide inspection services. In addition, the Code requires that certain administrative functions be performed by the "Enforcement Authority" and "Authorized Inspector".

Rochester Gas & Electric's Ginna Nuclear Generating Plant is located in the state of New York. This state has not endorsed ASME Codes and therefore does not provide administrative organization and controls such as "Enforcement Authority", "Authorized Inspector" and "Reporting Systems". However, Ginna Station's Quality Assurance Program does provide for these administrative control requirements. Therefore, Rochester Gas & Electric request that Ginna's Station Quality Assurance Program be used in lieu of Code administrative functions.

2. BASIS FOR RELIEF

Rochester Gas & Electric's program for the inservice inspection, governed by the R. E. Ginna Station Quality Assurance Manual, contains the requirements and responsibilities for implementation of the program and procedures. The procedures have been prepared and approved by the responsible organizations within Rochester Gas & Electric, (i.e., Ginna Station, Engineering, General Maintenance, Electric Meter and Laboratory and Purchasing).

Approved procedures will be implemented to control the standards for examination evaluation. These procedures include the identifications of the organization performing the inspection, description of the method of inspection to be used, acceptance and rejection criteria, and requirements for providing evidence of completion and certification of the inspection activity.

In addition, procedures are developed by Ginna Station to prescribe the disposition of nonconformances. The procedures implemented for the repairs, the retest procedures and the test results will be reviewed by the Plant Operating Review Committee. The members of this committee include technically qualified staff personnel.

Examination techniques have been established in accordance with written requirements and incorporated into written procedures. Qualifications for nondestructive test personnel are in compliance with Regulatory Guide 1.58 "Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel".

Records and reports of the inservice inspection will be developed and maintained by Rochester Gas & Electric and include such items as examination plans and schedules, examination of results and corrective actions.

The functions of the ASME authorized inspector, namely their reviews and verifications, will be performed by personnel of the Hartford Steam Boiler Inspection and Insurance Company. The qualifications of the inspectors, inspections specialists and inspection agency are in compliance with the Code.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are required in this case.

Exemption XIII

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda, Article-6000 stipulates rules for records and reports of Class 1, 2 and 3 components of nuclear power plants. These rules have subsequently been revised to add clarity and guidance to the Code.

Rochester Gas & Electric feels the earlier rules of Article-6000 are not as definitive as the rules of the 1977 Edition through Summer 1978 Addenda. They believe that by adopting the later "Records and Reports" rules, Ginna's overall Inservice Inspection Program can be of better quality. Therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Rochester Gas & Electric will be adopting the requirements of Article-6000 of Section XI, 1977 Edition through Summer 1978 Addenda. This is done pursuant to 10CFR50.55a, Paragraph (g) (4) (iv) which says, "Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met." By adopting the more current rules, Ginna's inservice inspection program invokes more coherent rules in maintaining examination and test data.

3. ALTERNATIVE PROVISIONS

No alternative or augmented examinations are necessary in this case.

Exemption XIV

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

A hold-up tank in the waste disposal system for Ginna provides a means of storing contaminated water which has been used in the operation of a nuclear power plant. The waste disposal system may be required to function in all modes of reactor operation including cold shutdown and refueling.

The ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda, requires that the system be subjected to a visual examination under system operating conditions every three and one-third years and a system hydrostatic test at 1.1 times the sytem design pressure each ten year interval.

Rochester Gas & Electric believes that hydrostatically testing the rad-waste hold-up tanks puts Ginna's plant in an unsafe condition and therefore a request for relief from this requirement is sought.

2. BASIS FOR RELIEF

The design of the waste disposal system is such that contaminated water is stored in a hold-up tank until such time that the level of contamination is below the limits for discharge. At this time the hold-up tanks may be reavailable for use by emptying the stored liquid.

Several important systems within the chemical volume and control system drain into the waste disposal system hold-up tanks. These are the volume and control tank drains, reactor coolant letdown system, reactor coolant drain tank discharge, and the demineralizer system drains.

If a utility was to hydrostatically test this tank by filling them with water, the hold-up tank would be rendered useless. The plant would then be potentially put into an unsafe condition for any abnormal plant function and if startup occurred without hold-up tanks being available.

Since this hold-up tank constantly store liquid, any degradation of the tank material would show up prior to it becoming a problem.

3. ALTERNATIVE PROVISIONS

A visual examination shall be performed once every 3 1/3 years to verify continued structural integrity.

Exemption XV

1. IDENTIFICATION OF COMPONENTS AND IMPRACTICAL CODE REQUIREMENTS

This relief request addresses the Section XI examination categories B-A and B-D for the pressure retaining welds in the and reactor vessel including the nozzle to vessel welds. Categories B-A and B-B of the 1974 Edition of Section XI, Summer 1975 Addenda requires only a partial examination of the pressure retaining welds in the reactor vessel. However, in the 1977 Edition of Section XI, Summer 1978 Addenda, requires 100% of the weld to be inspected. Also, in the 1974 Edition of Section XI, Summer 1975 Addenda the nozzle to vessel weld category B-D are required to be inspected by dividing the inspection up over the interval which is impractical because only a nozzle bore examination can be performed on two nozzles out of four, the 1977 Edition of Section XI, Summer 1978 Addenda allows for the nozzle to vessel welds to be differed to the end of the inspection interval.

Rochester Gas and Electric concurs with the category requirements as defined of the later Code and Addenda and therefore, a request for relief from the earlier requirement is sought.

2. BASIS FOR RELIEF

Rochester Gas and Electric will be adopting the requirements of Section XI of the 1977 Edition of Section XI through the Summer 1978 Addenda for examination categories B-A and B-D. This is done pursuant to 10CFR 50.55a paragraph (g)(4)(iv) which says "portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met.

During the first inpection interval 100% of the reactor vessel welds including the nozzle to vessel welds were completed. This request is in keeping with the policy of performing 100% of all welds in the reactor vessel each inspection interval. As well as being a practical approach when examining the nozzle to vessel welds so that the required examinations from two directions may be performed at the same time.

Adoption of this exemption applies more current rules to Ginna's inservice inpection program providing greater assurance for system integrity.

3. ALTERNATIVE PROVISIONS

No alternative or argumented examanination are necessary in this case.