ENCLOSURE 2

ISPT PROGRAM PLAN

(NMP2-PT-008, REVISION 1)

NMP2-PT-008

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION UNIT 2

INSERVICE PRESSURE TESTING PROGRAM PLAN

SECOND TEN-YEAR INTERVAL

REVISION 1

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ATTACHMENTS

1. SUMMARY OF CHANGES

	Description of Change	Reason For Change
1.	LDCR 2-98-IST-001 Revision 1 and reissue.	Corrects errors in text, references, and wording; deletes relief request for Code Case N-416-1.
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2. INTRODUCTION

ASME Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components, provides the requirements for verifying safety system component operability and structural integrity. The Code separates these requirements into testing and examinations. The testing requirement include: pumps, valves, snubbers, and pressure testing. The examination requirement include: visual, surface, and volumetric. The unique requirement for performance of pressure testing is that a visual examination (VT-2) must be performed in conjunction with the pressure test. The visual examination method is not governed by the ISPT Program.

This program plan update for the second ten-year interval was prepared in accordance with the rules of ASME Boiler & Pressure Vessel Code, Section XI, 1989 Edition, to comply with NRC requirements 10 CFR 50.55a(g), NMP2 Technical Specifications, and USAR commitments.

The Second Ten-Year Interval for Nine Mile Point Unit 2 begins on April 5, 1998.

ASME Code, Section XI, 1989 Edition, pressure testing requirements can be simplified by identifying that Inservice Pressure Testing (ISPT) ASME Class boundaries should receive a pressure test for leakage tightness once each refueling outage (ASME Class 1) or once each 40-month period (ASME Class 2 and 3). Then once each interval (approximately 10 years), the ISPT ASME Class boundaries shall have their structural integrity verified by hydrostatic testing in conjunction with a VT-2 visual examination.

ASME Code, Section XI, 1989 Edition, pressure testing requirements for once each refueling outage (Class 1) or each 40-month period (Classes 2 and 3) are satisfied by scheduling and performing either a System Leakage Test (Class 1), or a System Inservice Test or System Functional Test (Classes 2 and 3).

ASME Code, Section XI, 1989 Edition, pressure testing requirements for once each interval are normally satisfied by scheduling and performing either a System Hydrostatic Test or System Pneumatic Test, unless relief has been granted.

Portions of piping that penetrate the containment are required to be designed to ASME Class 1 or 2. Penetrations that differ from the classification of the balance of the system do not change the overall system classification that determines the rules of Section XI (IWA-1320(d). As stated in IWA-1320(a)(1), (2), and (3), the rules of Section XI are applied to systems. Therefore, a non-safety related system which penetrates containment is not upgraded to an ASME Class system simply because of the containment penetration, and no pressure testing is required. In most cases, these penetrations are 10 CFR 50 Appendix J tested to verify containment integrity. For penetrations not in the Appendix J Program, an NRC–approved relief request or an entry in the exclusions/justifications table constitutes the basis for the exception. In addition, ASME Code Case N-522 (GPTRR-1) accepts Appendix J testing in lieu of Section XI pressure testing for those cases where, except for the containment penetration, the system is outside the scope of Section XI.

The ISPT Program Plan provides a detailed determination flow path (Attachment 3) to allow proper post maintenance testing following the disassembly of mechanical joints for a repair or replacement of the pressure boundary. It is the intent of this program plan to ensure that whenever pressure retaining material is replaced or the pressure retaining boundary is repaired that the mechanical joints are pressure tested and VT-2 examined since these activities could affect the fit-up of flanged surfaces. In addition, post–maintenance pressure testing is also required for the repair or replacement of a through–wall leak in a welded component.

A color code scheme using special Pressure Testing Diagrams (ISPT Drawings) has been developed to identify the individual System Leakage, Hydrostatic, Inservice, or Functional Test boundaries for ASME Class 1, 2 and 3 Systems. These drawings are considered part of the Pressure Testing Program Plan.

The ASME Committee has developed and approved ASME Code Cases that affect pressure testing. These Code Cases are alternatives to the existing code requirements. Therefore, NRC approval or endorsement in Regulatory Guide 1.147 is necessary for their use in accordance with 10 CFR 50.55a requirements. Nine Mile Point Unit 2 implementation of these Code Cases is discussed in Section 4.3 of this document.

Code Case N-416-1 allows the use of a System Leakage Test and NDE using the 1992 Edition of Section XI to satisfy the Hydrostatic/Pneumatic Test for welded repairs and replacements.

Code Case N-498-1 and N-498-2 allow the use of a System Leakage, Inservice, or Functional Test to satisfy the Hydrostatic/Pneumatic Test for the scheduled 10 year pressure test.

Code Case N-522 allows the use of 10 CFR 50 Appendix J to satisfy the requirement for pressure testing of containment penetrations when the balance of the system is outside the scope of Section XI.

2.1 Code Case N-416-1

The Issue: IWA-4000 requires a Hydrostatic Test after welded repairs or installation of replacement items by welding. This Code Case addresses alternatives to the IWA-4000 requirement.

The Response:

1. In lieu of performing the hydrostatic pressure test required by paragraph IWA-4000 for welded repairs or installation of replacement items by welding, a system leakage test may be used provided the following requirements are met:

   a) NDE shall be performed in accordance with the methods and acceptance criteria of the applicable Subsection of the 1992 Edition of Section III.

   b) Prior to or immediately upon return to service, a visual examination (VT-2) shall be performed in conjunction with a system leakage test, using

the 1989 Edition of Section XI in accordance with paragraph IWA-5000, at nominal operating pressure and temperature.

c) Use of this Case shall be documented on an NIS-2 Form.

Additional Requirements:

In its Safety Evaluation on ASME Code Case N-416-1, NRC imposed an additional requirement on the use of Code Case N-416-1. "Use of Code Case N-416-1 is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) provided that additional surface examinations are performed on the root (pass) layer of butt and socket welds on the pressure retaining boundary of Class 3 components when the surface examination method is used in accordance with Section III."

This additional requirement makes the Class 3 NDE requirement the same as the Class 1 and Class 2 NDE requirements for these welds on the pressure retaining boundary.

Clarification of System Leakage Test Requirement:

The System Leakage Test is specified in IWA-5000. The System Leakage Test performed to comply with Code Case N-416-1 shall comply with the requirements of IWA-5000, which are summarized as follows:

- The test pressure and temperature are specified in IWB-5000 (Class 1), IWC-5000 (Class 2), and IWD-5000 (Class 3).
- Holding Time for a System Leakage Test: no holding required after attaining test pressure and temperature conditions (IWA-5213)
- The pressurization test boundary shall be the one specified in the applicable Table in IWB-5000, IWC-5000, or IWD-5000.

2.2 Code Cases N-498-1 and N-498-2

1. Code Case N-498-1 requires that prior to performing the VT-2 visual examination, the system shall be pressurized to nominal operating pressure for at least 4 hours for insulated systems and 10 minutes for noninsulated systems. The only change in Code Case N-498-2 is that no hold time is required.
2. For Class 1 systems, establish a test boundary that extends to all Class 1 pressure retaining components within the system boundary. For Class 2 or 3 systems, establish a test boundary that extends to all Class 2 or 3 components required to operate or support the safety function up to and including the first normally closed valve, including a safety or relief valve, or valve capable of automatic closure when the safety function is required.
3. System must be at its nominal system operating pressure to satisfy the system leakage pressure test conditions. For Class 1 systems, the pressure must not be less than the nominal pressure associated with 100% rated reactor power and the temperature must not be lower than the minimum temperature for the associated pressure specified in the plant Technical Specifications.

4. The test instrument requirements of IWA-5260 are not applicable.

2.3 Code Case N-522

No special instructions or conditions other than 10 CFR 50 Appendix J are required for this Code Case.

3. DEFINITIONS

Alternative Examination	Alternative examination methods, a combination of methods, or newly developed techniques may be substituted for the methods specified in ASME Code, Section XI, provided the Inspector (ANII) is satisfied that the results are demonstrated to be equivalent or superior to those of the specified method [1989 Edition, Section XI, IWA-2240].
Authorized Nuclear Inservice Inspector (ANII)	A person who is employed and has been qualified by an Authorized Inspection Agency to verify that examinations, tests, and repairs (including those that do not include welding and brazing) are performed in accordance with the rules and requirements of ASME Code, Section XI [1989 Edition, Section XI, IWA-9000].
Component	An item in a nuclear power plant such as a vessel, pump, valve, or piping system [1989 Edition, Section XI, IWA-9000].
Identified Leakage	Leakage into collection systems, such as pump seal or valve packing leaks, that is captured and conducted to a sump or collecting tank, or leakage into the Containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of the leakage detection systems or not to be Pressure Boundary Leakage (NMP2 Technical Specification Definition 1.18).
Inservice Examination	Denotes the process of visual, surface, or volumetric examinations performed in accordance with ASME Code Section XI [1989 Edition, Section XI, IWA-9000].
Inservice Inspection	Methods and actions for assuring the structural and pressure-retaining integrity of safety-related nuclear power plant components in accordance with ASME Code Section XI [1989 Edition, Section XI, IWA-9000]
Inspection	Verification of the performance of examinations and tests by an Inspector [1989 Edition, Section XI, IWA-9000].
Leak Tightness	The ability of the component or component item to retain the fluid. This term is used to verify both structural pressure boundary material and non-structural pressure boundary material (e.g., packing, mechanical joints, gaskets, etc.) for leakage.

Pressure Boundary Leakage Leakage through a non-isolable fault in a reactor coolant system component body, pipe wall, or vessel wall (NMP2 Technical Specification Definition 1.30).

Pressure Retaining Material Material normally purchased to ASME Code, Section III specifications and having the proper identification stamping (i. e., valve may include body, bonnet, disc, seat, bolting, studs, stem, nuts or plugs; pump may include casing, shaft, bolting, studs, nuts, stuffing box, thrust ring, clips or plugs; pressure vessel may include shells, heads, nozzles, cladding, bolting, studs, or nuts; control rod drives may include housing, head, indicator tube, nuts or plugs, etc.) [Examples, USAR Section 5.0, Table 5.2-5].

Pressure Retaining Boundary : The component and component items used to maintain the system fluid inside the component. These items are the component items that require VT-2 visual examination during a system pressure test [1989 Edition, ASME Section XI, Tables IWB-2500-1, IWC-2500-1, and IWD-2500-1 Examination Category, Pressure Retaining Components]. A pressure retaining boundary component and component item includes:

Component	Component Item
Piping System	Piping and branch connections
Vessels	Vessel, upper & lower head, and flange surface
Pump	Casing , bonnet, and flanged surface
Valve	Body, bonnet, and flanged surface

Repair The process of restoring a non-conforming item by welding, brazing, or metal removal such that existing design requirements are met [1989 Edition, Section XI, IWA-9000].

Replacement	Replacement includes the addition of components, such as valves, and system changes, such as rerouting of piping, within the scope of ASME Code. Nonstructural pump and valve internals, except when the original equipment was constructed in accordance with a Construction Code or Code Case (i.e., see definition of pressure retaining material) are exempted from the replacement requirements of the above ASME Section XI Article except as follows: Prior to the return of the system to service, a preservice inspection (that is, an inspection prior to declaring the system "operable" in the Technical Specification meaning of "operable") is required for the item used for replacement, including the joints that connect that item to the system.[1]
Nominal Operating Pressure	Nominal operating pressure is applicable to the ASME Class 1 and is associated with 100% rated reactor power. For Class 2 and 3 systems and components, the nominal operating pressure is a pressure within the range of normal operating pressures for that system or component.
System Inservice Test Pressure	The pressure during system operation shall be acceptable as the system test pressure.
System Functional Test Pressure	The nominal operating pressure of the system functional test shall be acceptable as the system test pressure.
System Functional Pressure Test	A system functional test conducted to verify operability of systems (or components) not required to operate during normal plant operation while under system operating pressure [1989 Edition, Section XI, IWA-5211(b)].

[1] Although the pumps and valves covered by Section XI are outside the scope of the Pressure Test Program, Section XI, Replacements, continues with the following information pertaining to pumps and valves: Prior to returning a valve to service, a preservice test in accordance with the 1989 Edition of ASME Section XI, IWV-1000 [OM-10], is required if the replacement affected the valve performance parameters. During the first inservice test performed after a pump is put into service, a new set of reference values is required to be determined in accordance with the 1989 ASME Section XI, IWP-1000 [OM-6], for pumps whose performance parameters could be affected by the replacement.

System Hydrostatic Pressure Test	A *system hydrostatic test* conducted during a plant or system shutdown at a pressure above nominal operating pressure or system pressure for which overpressure protection is provided [1989 Edition, Section XI, IWA-5211(d)]. NMP2 uses Code Case N-498-1 in lieu of performing system Hydrostatic Pressure tests.
System Inservice Pressure Test	A system inservice test conducted to perform visual examination VT-2 while the system is in service under operating pressure [1989 Edition, Section XI, IWA-5211(c)].
System Leakage Pressure Test	A system leakage test conducted following the opening and re-closing of a component in a system after pressurization to nominal operating pressure [1989 Edition, Section XI, IWA-5211(a)]. No System Leakage Test shall be required if the work performed is only the disassembly and reassembly of mechanical joints (e.g., bolted connections, valve or pump packing, seats, seals, or gaskets) AND no repair or replacement is performed on any pressure retaining components (Reference: NMPC Memo No. PTP 89-032.)
System Pneumatic Pressure Test	A system pneumatic test conducted in lieu of a hydrostatic pressure test for components within the scope of IWC-and IWD-[1989 Edition, Section XI, IWA-5211(e)]. NMP2 uses Code Case N-498-1 in lieu of performing system hydrostatic pressure tests.
Visual Examination (VT-2) [IWA–5240]	The VT-2 visual examination shall be conducted to locate evidence of leakage from pressure retaining components, or abnormal leakage from components with or without leakage collection systems as required during the conduct of system pressure test or functional test.

VT–2 For Noninsulated Components [IWA-5241]

The VT-2 visual examination shall be conducted in accordance with IWA-5240. [1989 Edition, Section XI, IWA-2212].

(a) The visual examination VT-2 shall be conducted by examining the accessible external exposed surfaces of pressure retaining components for evidence of leakage.

(b) For components whose external surfaces are inaccessible for direct visual examination VT-2, only the examination of surrounding area (including floor areas or equipment surfaces located underneath the components) for evidence of leakage shall be required.

VT–2 For Insulated Components [IWA-5242]

(a) In systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for VT-2 visual examination.

For other insulated components, visual examination VT-2 may be conducted without the removal of insulation by examining the accessible and exposed surfaces and joints of the insulation. Essentially vertical surfaces of insulation need only be examined at the lowest elevation where leakage may be detectable. Essentially horizontal surfaces of insulation shall be examined at each insulation joint.

(b) When examining insulated components, the examination of surrounding area (including floor areas or equipment surfaces located underneath the components) for evidence of leakage, or other areas to which such leakage may be channeled, shall be required.

(c) Discoloration or residue on surfaces examined shall be given particular attention to detect evidence of boric acid accumulations from borated reactor coolant leakage.

VT–2 For Components With Leakage Collection Systems [IWA-5243]

Where leakages from components are normally expected and collected (such as valve stems, pump seals, or vessel flange gaskets) the visual examination VT-2 shall be conducted by verifying that the leakage collection system is operative.

VT–2 For Buried Components [IWA-5244]	Buried components requiring a visual examination shall receive the visual examination VT-2 as specified in IWA-5244.
VT–2 For Elevated Temperature Tests [IWA-5245]	Components requiring an elevated temperature visual examination shall receive the visual examination VT-2 as specified in IWA-5245.
VT–2 For Repaired or Replaced Components and Alteration of a System [IWA-5246]	The visual examination VT-2 following a repair or replacement of a component, or the alteration of a system, may be limited to the repaired or replaced components, or the altered portion of the system, but shall include any connection made to the existing system.

4. PROGRAM PLAN IMPLEMENTING DOCUMENTS

4.1 Implementing Documents

The NMP2 Inservice Pressure Testing Program is required to satisfy 10 CFR 50.55a(g). The 10 CFR 50.55a endorses and approves for use the ASME Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," the 1989 Edition, as the applicable Code Edition that specifies the inspection requirements.

4.2 Technical Specifications

NMP2 Technical Specifications for Section XI pressure testing are T/S 4.0.5 and T/S 3/4.4.8.

4.2.1 TECHNICAL SPECIFICATION 4.0.5 ASME CODE SURVEILLANCE REQUIREMENTS

Technical Specification 4.0.5, Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2 and 3 components, shall be applicable as follows:

Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i).

4.2.2 TECHNICAL SPECIFICATION 3/4.4.8 STRUCTURAL INTEGRITY

4.2.2.1 Technical Specification 3.4.8 Limiting Conditions for Operation

The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained in accordance with Technical Specification 4.4.8.

Applicability: Operational Conditions 1, 2, 3, 4 and 5.

Action:

a. With the structural integrity of any ASME Code Class 1 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) before increasing the reactor coolant system temperature more than 50°F above the minimum temperature required by NDT considerations.

b. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) before increasing the reactor coolant system temperature above 200°F.

c. With the structural integrity of any ASME Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) from service.

4.2.2.2 Technical Specification 4.4.8 Surveillance Requirements

No requirements other than T/S 4.0.5.

4.3 Inservice Inspection Requirements [10 CFR 50.55a(g)]

10 CFR 50.55a(g) details the inspection requirements for ASME Code, Section XI.

4.3.1 Section XI Edition Determination

NMP2 ISPT Program Plan and all supporting procedures are written to comply with the ASME Boiler and Pressure Code, Section XI (Subsections; IWA, IWB, IWC, and IWD) 1989 Edition, for the second 120 month interval. The second 120 month interval starts on April 5, 1998. This Program Plan and system pressure tests conducted during the second interval must comply with the requirements of the latest edition and addenda of the code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120 month inspection interval.

NOTE: The conformance to the pressure testing requirements in Subsection IWE is being met by the 10 CFR 50 Appendix J Program Plan.

4.3.2 Section XI Alternative Requirements

Where compliance to 1989 Edition of ASME Code, Section XI, requirements is not practical, NMPC will submit a formal application to the NRC (i.e., submittal of information to support determinations) requesting relief from pressure testing and/or visual examination be granted per 10 CFR 50.55a(g)(5)(iii). The commission evaluates determinations that code requirements are impractical and grants relief or imposes alternative requirements per 10 CFR 50.55a(g)(6)(i) or 10 CFR 50.55a(a)(3).

4.3.3 Code Case Acceptability

10 CFR 50.55a Codes and Standards Footnote 6 applies to ASME Code Cases. ASME Code Cases that have been determined suitable for use by the Commission staff are listed in NRC Regulatory Guide 1.147 "Inservice Inspection Code Case Acceptability - ASME Section XI Division 1". The use of other Code Cases may be authorized by the Director of the Office of Nuclear Reactor Regulation upon request pursuant to 10 CFR 50.55a(a)(3).

4.3.3.1 Acceptable Code Cases

During the first 120 month interval, the NRC staff authorized, pursuant to 10 CFR 50.55a(a)(3)(ii), the use of ASME Code Case N-416-1 and N-498-1. Use of ASME Code Case N-416-1 and N-498-1 at Nine Mile Point Unit 2 is authorized until such time as these Code Cases are published in a future revision of Regulatory Guide 1.147. At that time, if the Code Case is still required, all provisions of the Code Case with any limitations issued in the Regulatory Guide must be followed. (Reference NRC Safety Evaluation Reports dated October 18, 1994 and January 13, 1995).

For the second 120 month interval, Nine Mile Point Unit 2 is requesting use of ASME Code Cases N-498-2 and N-522. The justification for use of these Code Cases is contained in the individual relief requests.

4.3.4 SECTION XI SUBSEQUENT EDITION/ADDENDA

NMP2 may meet the examination of components and system pressure tests set forth in subsequent editions and addenda incorporated by 10 CFR 50.55a(b) subject to the limitations and modifications listed in paragraph (b) provided all related requirements of the respective edition/addenda are met and Commission approval is obtained. Any adopted latest edition/addenda of the code is identified in this Program Plan.

5. ISPT ASME CLASS BOUNDARIES

5.1 General Program Scope

The NMP2 ISPT Program Plan provides the ISPT ASME Class pressure boundaries using the guidelines provided within Regulatory Guide 1.26 and the 1989 Edition of ASME Code, Section XI. USAR Section 3.2.2, System Quality Group Classifications identifies the quality group classifications as defined in Regulatory Guide 1.26 and references USAR Table 3.2-1 for a tabulation of quality group classifications for each component under the heading of Quality Group Classification. The ISPT pressure testing boundaries do not necessarily comply with NMP2 design classification. General ASME Class or system specific exceptions are discussed in Section 5.3, 5.4, and 9.2 of this document. In addition, Engineering Report NER-2M-013 determines which portions of systems are included in the ISPT Boundary and which portions of systems are excluded from the ISPT boundary.

5.1.1 GENERAL CLASS BOUNDARY BREAK RULES:

a. ASME Section XI Pressure Test (ISPT) boundary terminates at the excess flow check valve for sensing line and tubing that penetrate the primary containment. (Reference ASME Sec. III, Subsection NA-1130(c) and NMPC Specification No. NMP2-C081A, Rev. 10, pg. 12 of 583 and BKS instrument installation).

b. For Class 1, 2 and 3 process piping except as stated above, the boundary terminates at the seat of the root valve for test, drain, and vent connections and for instrumentation (Reference ASME Sec. III, Subsection NA-1130(c) and NMPC Specification No. NMP2-C081A, Rev. 10, pg. 12 of 583 and BKS instrument installation).

c. The ASME Section XI Pressure test and the associated VT-2 examination boundary is the ASME Section III Class break unless there is a normally closed valve or valve capable of automatic closure within the boundary of Class 2 and 3. For Class 2 and 3 systems, where double valves are designed as an isolation boundary, the ISPT boundary shall extend up to and include the first normally closed valve or valve capable of automatic closure, if the system is capable of performing its intended safety function within the first isolation valve boundary. The boundary for open ended discharge lines will be the last shutoff valve.

d. The scope of ASME Section XI pressure testing includes Class 1, 2, and 3 systems. Therefore, Class 4 systems are exempt from ASME Section XI pressure testing and the boundary break will normally occur at the Class 1, 2, 3/Class 4 interface.

e. Atmospheric storage tanks included in the ISPT program, other than the main diesel fuel storage tanks, shall be tested at normal operating pressure (level) as part of the applicable system inservice or functional pressure test.

f. The main diesel fuel storage tanks will be pressure tested once every interval (10 years) in accordance with, and in satisfaction of Technical Specification Surveillance requirement 4.8.1.1.2.h.2. That test shall also serve to satisfy the interval pressure testing requirements contained in Section XI of the ASME Code of record for this plan, as was the case in the first interval.

g. ISPT class boundary break rules under Code Case N-498-1.

   (1) For Class 1 systems, the boundary subject to test pressurization must include all Class 1 pressure retaining components within the system boundary.

   (2) For Class 2 systems, the boundary subject to test pressurization must include all Class 2 components included in those portions of systems required to operate or support the safety system function up to and including the first normally closed valve, including a safety or relief valve, or valve capable of automatic closure when the safety function is required.

   (3) For Class 3 systems, the boundary subject to test pressurization must include all Class 3 components included in those portions of systems required to operate or support the safety system function up to and including the first normally closed valve, including a safety or relief valve, or valve capable of automatic closure when the safety function is required.

5.2 ASME Class 1

5.2.1 Reactor Coolant Pressure Boundary - Quality Group A Component [10 CFR 50.55a(c)]

Safety Class 1 components as defined in 10 CFR 50.2 are referred to as the reactor coolant boundary which means all those pressure-containing components of boiling water reactor such as vessels, piping, pumps and valves which are part of reactor coolant system or connected to the reactor coolant system.

ASME Class 1 components as defined in 10 CFR 50.55a(c) need not meet the requirements of Class 1 provided:

a. In the event of postulated failure of the component during normal reactor operation, the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system; or

b. The component is or can be isolated from the reactor coolant system by two valves in series (both closed, both open, or one closed and the other open). Each open valve must be capable of automatic actuation and, assuming the other valve is open, its closure time must be such that, in the event of postulated failure of the component during normal reactor operation, each valve remains operable and the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system only.

5.2.2 ASME CLASS 1 BOUNDARY BREAK RULES

The ISPT Reactor Coolant Pressure Boundary means all those pressure-containing components of boiling water-cooled nuclear power reactors, such as pressure vessels, piping, pumps and valves, which are part of the reactor coolant system, or connected to the reactor coolant system, up to and including any and all of the following:

a. The outermost Containment isolation valve in system piping which penetrates primary reactor Containment,

b. The second of two valves normally closed during normal reactor operation in system piping which does not penetrate primary reactor Containment,

c. The reactor coolant system safety and relief valves.

d. The first closed test, drain and vent valve.

5.2.3 SAFETY CLASS 1 VS ASME CODE CLASS 1

The ISPT Safety Class 1 agrees with the ASME Code Design Class 1; however, piping of 1 inch nominal pipe size or less which has been classified as Class 1 in the design specification may be designed in accordance with design requirements of ASME Section III, Division 1, Subsection NC (Reference ASME Section III, Division 1, Subsection NB-3630(d)(1)).

5.2.4 INSERVICE INSPECTION AND TESTING

USAR Section 5.2.4, In-service Inspection and Testing of Reactor Coolant Pressure Boundary, discusses the ISPT Program for the ASME Class 1 components.

5.2.5 CLASS 1 EXAMINATIONS

5.2.5.1 Category B-P, All Pressure Retaining Components

B15.10 - System Leakage Test: Reactor Vessel Pressure Retaining Boundary

Extent of Examination - The reactor vessel is routinely leak tested (at nominal operating pressure) via the Code system leakage test. The boundary subject to test pressurization during a system leakage test shall correspond to the reactor coolant system boundary, with all valves in the normal position, which is required for normal reactor startup.

Frequency of Examination - prior to plant startup following each reactor refueling outage.

B15.11 - System Hydrostatic Test: Reactor Vessel Pressure Retaining Boundary

Extent of Examination - The Code requires that the reactor vessel be leak tested using a system hydrostatic test at or near the end of each 10-year interval. NMPC uses ASME XI Code Case N-498-1, which allows the substitution of a system leakage test as an alternative to the 10-year system (elevated pressure) hydrostatic test. The boundary subject to test pressurization during this test shall include all Class 1 pressure retaining components within the system boundary.

Frequency of Examination - at or near the end of each 10-year interval, prior to reactor startup.

B15.20 - System Leakage Test: Pressurizers Pressure Retaining Boundary (Pressurized Water Reactors) - not applicable at NMP2.

B15.21 - System Hydrostatic Test: Pressurizers Pressure Retaining Boundary (Pressurized Water Reactors) - not applicable at NMP2.

B15.30 - System Leakage Test: Steam Generators Pressure Retaining Boundary (Pressurized Water Reactors) - not applicable at NMP2.

B15.31 - System Hydrostatic Test: Steam Generators Pressure Retaining Boundary (Pressurized Water Reactors) - not applicable at NMP2.

B15.40 - System Leakage Test: Heat Exchangers Pressure Retaining Boundary (Pressurized Water Reactors) - not applicable at NMP2.

B15.41 - System Hydrostatic Test: Heat Exchangers Pressure Retaining Boundary (Pressurized Water Reactors) - not applicable at NMP2.

B15.50 - System Leakage Test: Piping Pressure Retaining Boundary

Extent of Examination - The boundary subject to test pressurization during a system leakage test shall correspond to the reactor coolant system boundary, with all valves in the normal position, which is required for normal reactor startup.

Frequency of Examination - prior to plant startup following each reactor refueling outage

B15.51 - System Hydrostatic Test: Piping Pressure Retaining Boundary

Extent of Examination - The Code requires that the reactor coolant piping be leak tested using a system hydrostatic test at or near the end of each 10-year interval. NMPC uses ASME XI Code Case N-498-1, which allows the substitution of a system leakage test as an alternative to the 10-year system (elevated pressure) hydrostatic test. The boundary subject to test pressurization during this special system leakage shall extend to all Class 1 pressure retaining components within the system boundary.

Frequency of Examination - at or near the end of each 10-year interval, prior to reactor startup.

NOTE: At the conclusion of RFO5, during the first 10-year hydrostatic test of Category B-P's Item B15.51, a VT-2 examination was performed on most of the pressure retaining components in the reactor coolant pressure test boundary in accordance with ASME XI Code Case N-498-1. (A short length of Reactor Water Cleanup piping between a first and second isolation valve was not VT-2 examined[2].) Although that examination did not satisfy the Code Item B15.51 requirement for the first interval, it did satisfy minimal Examination Category B-P requirements for the third period of that interval. As a result, a VT-2 examination of the remaining length of Reactor Water Cleanup piping will be performed during the sixth refueling outage (RFO6). RFO6 is scheduled to begin in May of 1998, approximately one month after the end of the first 10-year interval, and well within the one (1) year allowance afforded for such situations by the Code in subparagraph IWB-2412*(b)*.

B15.60 - System Leakage Test: Pumps Pressure Retaining Boundary

Extent of Examination -The two reactor water recirculation pumps 2RCS*P1A and 2RCS*P1B are the only Class 1 pumps at NMP2. Each must be leak tested (at nominal operating pressure). The boundary subject to test pressurization during a system leakage test shall correspond to the reactor coolant system boundary, with all valves in the normal position, which is required for normal reactor startup.

Frequency of Examination - prior to plant startup following each reactor refueling outage

B15.61 - System Hydrostatic Test: Pumps Pressure Retaining Boundary

Extent of Examination - The Code requires that the reactor coolant piping be leak tested using a system hydrostatic test at or near the end of each 10-year interval. NMPC uses ASME XI Code Case N-498-1, which allows the substitution of a system leakage test as an alternative to the 10-year system (elevated pressure) hydrostatic test. The boundary subject to test pressurization during this special system leakage shall extend to all Class 1 pressure retaining components within the system boundary.

Frequency of Examination - at or near the end of each 10-year interval.

B15.70 - System Leakage Test: Valves Pressure Retaining Boundary

Extent of Examination - Valves must be leak tested (at nominal operating pressure). The boundary subject to test pressurization during a system leakage test shall correspond to the reactor coolant system boundary, with all valves in the normal position, which is required for normal reactor startup.

Frequency of Examination - prior to plant startup following each reactor refueling outage

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[2] A complete report of the particulars surrounding this occurrence can be found in NMPC Deviation/Event Report (DER) No. 2-96-2878.

B15.71 - System Hydrostatic Test: Valves Pressure Retaining Boundary

Extent of Examination - The Code requires that the reactor coolant piping be leak tested using a system hydrostatic test at or near the end of each 10-year interval. NMPC uses ASME XI Code Case N-498-1, which allows the substitution of a system leakage test as an alternative to the 10-year system (elevated pressure) hydrostatic test. The boundary subject to test pressurization during this special system leakage shall extend to all Class 1 pressure retaining components within the system boundary.

Frequency of Examination - at or near the end of each 10-year interval.

5.3 ASME Class 2

5.3.1 Quality Group B Components [10 CFR 50.55a(d)]

ASME Class 2 systems are those systems or portions of systems important to safety that are designed for emergency core cooling, post-accident containment heat removal, post-accident fission product removal, reactor shutdown or residual heat removal.

5.3.2 ASME Class 2 Boundary Break Rules

a. As stated in Section 5.1 of this document, the pressure retaining boundary includes those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required (Reference 1989 Edition of ASME Section XI Table IWC-2500-1, Exam Category C-H Note 7).

b. No components within the pressure retaining boundary above are exempt or excluded from the examination requirements, except as specified for repairs and replacements (Reference 1989 Edition of ASME Section XI Table IWC-2500-1, Exam Category C-H Note 4). This has been clarified by issuing color coded boundary drawings.

5.3.3 Non-ASME Additions to ISPT Safety Class 2

None.

5.3.4 Inservice Inspection and Testing

USAR Section 6.6, Inservice Inspection of Safety Class 2 and 3 Components, discusses the ISPT of Class 2 and 3 components. All ASME Class 2 and 3 components that require inservice inspection or testing, as defined in Section XI of the ASME Boiler and Pressure Vessel Code, are designed, fabricated, and erected with the objective of full compliance with the requirements of 10 CFR 50, Section 50.55a, Subparagraph (g). See USAR Table 3.2-1 for systems or portions of systems which are non-safety related but were designed, fabricated, and erected to ASME Class 2 or 3 requirements (optionally upgraded) and are not inservice inspected to the 1989 Edition of ASME Section XI in accordance with IWA-1320(e).

5.3.5 COMPONENTS SUBJECT TO EXAMINATION

ASME Class 2 components are classified in accordance with the criteria of Regulatory Guide 1.26. ASME Class 2 components will be inservice inspected in accordance with and to the extent required by the 1989 Edition of ASME XI, Subsection IWC-and Table IWC-2500-1 (except as noted in USAR Table 3.2-1).

5.3.6 CLASS 2 EXAMINATIONS

5.3.6.1 Category C-H, All Pressure Retaining Components

As reported in the Summary Report (IWA-6230) submittal to NRC for the fifth fuel cycle, the three pressure testing inspection periods in the first interval were different due to evolution of this Program throughout the first ten-year interval. The first period pressure testing requirements (Class 3 as well as Class 2) of Category C-H, were addressed in Revision 0 of the program; the second period requirements were addressed in Revisions 0, 1, and 2 of the program; and the third period was addressed in Revision 2 of the program. Each revision (and therefore each inspection period) required a different number of examinations as explained below.

In November of 1994 (during the second period of the first interval) NMP2 reported that 41 separate procedures addressed the periodic pressure testing requirements (Class 3 as well as Class 2) of Category C-H, and that all 41 had been performed in the first period. At that time, NMP2 also reported that 28 of those 41 procedures had been performed a second time, for second inspection period credit. NMP2 anticipated that the periodic testing requirements for that period would be met by the end of refuel outage number 4 (RFO4), and they were, with the completion of the last pressure test in December of 1994. However, subsequent to that completion, NMPC performed an internal review of the NMP2 Pressure Testing Program Plan and its implementing surveillance procedures.

That review revealed that although all piping systems were inspected, a small portion of the piping systems had not received walk-downs by personnel qualified to the VT-2 standard[3]. As a result, NMP2 wrote new/additional testing procedures, and performed them (for the second period). That program review and resulting procedure effort increased the total number of examinations from 41 to 153. Since NMP2 had completed only 100 of those additional examinations by August of 1995 (the eighth month of the third period), the second period was extended for this examination category (as allowed by the Code) to September 17, 1996. All second period examinations were again completed by September 17, 1996.

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[3] A report of the initial review may be found in NMPC Deviation/Event Report (DER) No. 2-94-2232. Identification of those portions lacking a VT-2 examination may be found in DER No. 2-95-0692.

In March, 1996, the First Ten-Year Pressure Testing Program Plan was revised again, and for the third period a total of 126 examinations were specified. Ninety of them were VT-2; 12 were alternate methodology examinations, as allowed by paragraph IWA-2240 of the ASME XI Code; and 24 were alternative requirement examinations, using approved relief requests.

With the exception that 10 Class 3 Service Water System examinations have been changed from functional tests to inservice tests (F1 to I3; F2 to I4; F3 to I5; F4 to I6; F5 to I7; F6 to I8; F7 to I9; F8 to I10; F9 to I11, and; F10 to I12), this Second Ten-Year Pressure Testing Program Plan contains the same 126 examinations.

C7.10 - System Pressure Test: Pressure Vessel Pressure Retaining Boundary

Extent of Examination - ASME Code Class 2 pressure vessels are pressure tested (at nominal operating pressure). The boundary subject to test pressurization shall include those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required.

Frequency of Examination - each of three 40-month inspection periods.

C7.20 - System Hydrostatic Test: Pressure Vessel Pressure Retaining Boundary

Extent of Examination - Pressure vessels are pressure tested (at nominal operating pressure) in accordance with Code Case N-498-1. The boundary subject to test pressurization shall include those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required.

Frequency of Examination - each inspection interval.

C7.30 - System Pressure Test: Piping Pressure Retaining Boundary

Extent of Examination - Piping is pressure tested (at nominal operating pressure). The boundary subject to test pressurization shall include those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required.

Frequency of Examination - each of three 40-month periods.

C7.40 - System Hydrostatic Test: Piping Pressure Retaining Boundary

Extent of Examination - Piping is pressure tested (at nominal operating pressure) in accordance with Code Case N-498-1. The boundary subject to test pressurization shall include those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required.

Frequency of Examination - each inspection interval.

C7.50 - System Pressure Test: Pumps Pressure Retaining Boundary

Extent of Examination - Pumps are pressure tested at nominal operating pressure. The boundary subject to test pressurization shall include those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required.

Frequency of Examination - each of three 40-month periods.

C7.60 - System Hydrostatic Test: Pumps Pressure Retaining Boundary

Extent of Examination - Pumps are pressure tested (at nominal operating pressure) in accordance with Code Case N-498-1. The boundary subject to test pressurization shall include those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required.

Frequency of Examination - each inspection interval.

C7.70 - System Pressure Test: Valves Pressure Retaining Boundary

Extent of Examination - Valves are pressure tested at nominal operating pressure. The boundary subject to test pressurization shall include those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required.

Frequency of Examination - each of three 40-month periods.

C7.80 - System Hydrostatic Test: Valves Pressure Retaining Boundary

Extent of Examination - Valves are pressure tested at nominal operating pressure in accordance with Code Case N-498-1. The boundary subject to test pressurization shall include those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required.

Frequency of Examination - each inspection interval.

5.4 ASME Class 3

5.4.1 Quality Group C Components [10 CFR 50.55a(e)]

ASME Class 3 systems are those systems or portions of systems important to safety that are not part of the reactor coolant pressure boundary or included in quality group B but part of cooling water systems designed for emergency core cooling, post accident heat removal, spent fuel storage heat removal, seal water systems, or are systems which support a reactor shutdown function.

5.4.2 ASME Class 3 Boundary Break Rules

a. As stated in Section 5.1.1 of this document, the pressure retaining 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.

b. There are no exemptions or exclusions from these requirements above except as specified for repairs and replacements.

5.4.3 Non-ASME Additions To ISPT Safety Class 3

None

5.4.4 Inservice Inspection and Testing

USAR Section 6.6, Inservice Inspection of Safety Class 2 and 3 components discusses the ISPT of Class 2 and 3 components. All ASME Class 2 and 3 components that require inservice inspection and/or testing, as defined in Section XI of the ASME Boiler and Pressure Vessel Code, are designed, fabricated, and erected with the objective of full compliance with the requirements of 10 CFR 50, Section 50.55a, Subparagraph (g). See USAR Table 3.2-1 for systems or portions of systems which are non-safety related but were designed, fabricated and erected to ASME Class 2 or 3 requirements (optionally upgraded) and are not inservice inspected to 1989 Edition of ASME Section XI in accordance with IWA-1320(e).

5.4.5 Components Subject to Examination

ASME Class 3 components are classified in accordance with the criteria of Regulatory Guide 1.26. ASME Class 3 components will be inservice inspected in accordance with and to the extent required by 1989 Edition of ASME XI, Subsection IWD-and Table IWD-2500-1 (except as noted in USAR Table 3.2-1).

5.4.6 CLASS 3 EXAMINATIONS

Section 5 of the Second Ten-Year Inservice Inspection Program Plan (NMP2-ISI-006) specifically excludes all Class 3 inservice inspection criteria from that document. Rather, NMPC addresses all Class 3 inservice inspection criteria in two other documents:

1) the NMP2 Component Support Program Plan, NMP2-IWF-007, and,

2) this document, the NMP2 Pressure Testing Program Plan, NMP2-PT-008.

This paragraph addresses the Class 3 inservice inspections referred to in the Second Ten-Year Inservice Inspection Program Plan (NMP2-ISI-006) and not addressed in the NMP2 Component Support Program Plan, Document No. NMP2-IWF-007.

5.4.6.1 Category D-A, Systems In Support Of Reactor Shutdown Function

Item D1.10 - Pressure Retaining Components

Extent of Examination - Pressure retaining components are pressure tested at nominal operating pressure. 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. Further, components are also pressure tested in accordance with Code Case N-498-1. The boundary subject to test pressurization during a system pressure test is 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.

Frequency of Examination - each of three 40-month periods.

5.4.6.2 Category D-B, Systems In Support Of Emergency Core Cooling, Containment Heat Removal, Atmosphere Cleanup, And Reactor Residual Heat Removal

Item D2.10 - Pressure Retaining Components

Extent of Examination - Pressure retaining components are pressure tested at nominal operating pressure. 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. Further, components are also pressure tested in accordance with Code Case N-498-1. The boundary subject to test pressurization during a system pressure test is 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.

Frequency of Examination - each of three 40-month periods.

5.4.6.3 Category D-C, Systems In Support Of Residual Heat Removal From Spent Fuel Storage Pool

Item D3.10 - Pressure Retaining Components

Extent of Examination - Pressure retaining components are pressure tested at nominal operating pressure. 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. Further, components are also pressure tested in accordance with Code Case N-498-1. The boundary subject to test pressurization during a system pressure test is 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.

Frequency of Examination - each of three 40-month periods.

It should be noted that Class 3 periodic pressure test status is reported with Category C-H in the NMP2 Summary Reports to NRC.

5.5 SUMMARY OF EXAMINATIONS

In summary, the 126 examination items are:

1)	CCP-I1	EXAMINATION BOUNDARY	21)	CSH-F1	EXAMINATION BOUNDARY
2)	CCP-I2	EXAMINATION BOUNDARY	22)	CSH-I1	EXAMINATION BOUNDARY
3)	CCP-I3	EXAMINATION BOUNDARY	23)	CSH-L1	EXAMINATION BOUNDARY
4)	CMS-F1	10CFR50 ALT EXM BNDRY	24)	CSH-L0	EXAMINATION BOUNDARY
5)	CMS-F2	10CFR50 ALT EXM BNDRY	25)	CSL-F1	EXAMINATION BOUNDARY
6)	CMS-F3	10CFR50 ALT EXM BNDRY	26)	CSL-L1	EXAMINATION BOUNDARY
7)	CMS-F4	10CFR50 ALT EXM BNDRY	27)	CSL-L0	EXAMINATION BOUNDARY
8)	CMS-F5	10CFR50 ALT EXM BNDRY	28)	DER-L00	EXAMINATION BOUNDARY
9)	CMS-F6	10CFR50 ALT EXM BNDRY	29)	EGA-I1	EXAMINATION BOUNDARY
10)	CMS-F7	10CFR50 ALT EXM BNDRY	30)	EGA-I2	EXAMINATION BOUNDARY
11)	CMS-F8	10CFR50 ALT EXM BNDRY	31)	EGA-I3	EXAMINATION BOUNDARY
12)	CMS-F9	10CFR50 ALT EXM BNDRY	32)	EGA-I4	EXAMINATION BOUNDARY
13)	CMS-F10	10CFR50 ALT EXM BNDRY	33)	EGA-I5	EXAMINATION BOUNDARY
14)	CMS-F11	10CFR50 ALT EXM BNDRY	34)	EGA-I6	EXAMINATION BOUNDARY
15)	CMS-F12	10CFR50 ALT EXM BNDRY	35)	EGF-F1	EXAMINATION BOUNDARY
16)	CMS-F13	10CFR50 ALT EXM BNDRY	36)	EGF-F2	EXAMINATION BOUNDARY
17)	CMS-F14	10CFR50 ALT EXM BNDRY	37)	EGF-F3	EXAMINATION BOUNDARY
18)	CMS-F15	10CFR50 ALT EXM BNDRY	38)	EGF-F4	EXAMINATION BOUNDARY
19)	CMS-F16	10CFR50 ALT EXM BNDRY	39)	EGF-F5	EXAMINATION BOUNDARY
20)	CMS-I1	EXAMINATION BOUNDARY	40)	EGF-F6	EXAMINATION BOUNDARY

41)	EGF-H1	EXAMINATION BOUNDARY	76)	IAS-I6	IWA-2240 ALT EXM BNDRY
42)	EGF-H2	EXAMINATION BOUNDARY	77)	ICS-F1	EXAMINATION BOUNDARY
43)	EGF-H3	EXAMINATION BOUNDARY	78)	ICS-F2	EXAMINATION BOUNDARY
44)	EGF-I1	EXAMINATION BOUNDARY	79)	ICS-F3	EXAMINATION BOUNDARY
45)	EGF-I2	EXAMINATION BOUNDARY	80)	ICS-I1	EXAMINATION BOUNDARY
46)	EGF-I3	EXAMINATION BOUNDARY	81)	ICS-L0	EXAMINATION BOUNDARY
47)	EGO-I1	EXAMINATION BOUNDARY	82)	ICS-L00	EXAMINATION BOUNDARY
48)	EGO-I2	EXAMINATION BOUNDARY	83)	ISC-L0	EXAMINATION BOUNDARY
49)	EGS-I1	EXAMINATION BOUNDARY	84)	MSS-L0	EXAMINATION BOUNDARY
50)	EGS-I2	EXAMINATION BOUNDARY	85)	MSS-L00	EXAMINATION BOUNDARY
51)	EGS-I3	EXAMINATION BOUNDARY	86)	RCS-L0	EXAMINATION BOUNDARY
52)	FWS-L0	EXAMINATION BOUNDARY	87)	RDS-F1	EXAMINATION BOUNDARY
53)	GSN-F1	IWA-2240 ALT EXM BNDRY	88)	RDS-L0	EXAMINATION BOUNDARY
54)	GSN-F2	IWA-2240 ALT EXM BNDRY	89)	RHS-F1	EXAMINATION BOUNDARY
55)	HCS-F1	10CFR50 ALT EXM BNDRY	90)	RHS-F2	EXAMINATION BOUNDARY
56)	HCS-F2	10CFR50 ALT EXM BNDRY	91)	RHS-F3	EXAMINATION BOUNDARY
57)	HCS-F3	10CFR50 ALT EXM BNDRY	92)	RHS-F4	EXAMINATION BOUNDARY
58)	HCS-F4	10CFR50 ALT EXM BNDRY	93)	RHS-F5	EXAMINATION BOUNDARY
59)	HCS-F5	10CFR50 ALT EXM BNDRY	94)	RHS-F6	EXAMINATION BOUNDARY
60)	HCS-F6	10CFR50 ALT EXM BNDRY	95)	RHS-F7	EXAMINATION BOUNDARY
61)	HCS-F7	10CFR50 ALT EXM BNDRY	96)	RHS-F8	EXAMINATION BOUNDARY
62)	HCS-F8	10CFR50 ALT EXM BNDRY	97)	RHS-L1	EXAMINATION BOUNDARY
63)	HCS-F9	EXAMINATION BOUNDARY	98)	RHS-L2	EXAMINATION BOUNDARY
64)	HCS-F10	EXAMINATION BOUNDARY	99)	RHS-L3	EXAMINATION BOUNDARY
65)	HVK-I1	EXAMINATION BOUNDARY	100)	RHS-L4	EXAMINATION BOUNDARY
66)	HVK-I2	EXAMINATION BOUNDARY	101)	RHS-L5	EXAMINATION BOUNDARY
67)	IAS-H1	IWA-2240 ALT EXM BNDRY	102)	RHS-L0	EXAMINATION BOUNDARY
68)	IAS-H2	IWA-2240 ALT EXM BNDRY	103)	RHS-L00	EXAMINATION BOUNDARY
69)	IAS-H3	IWA-2240 ALT EXM BNDRY	104)	RPV-L0	EXAMINATION BOUNDARY
70)	IAS-H4	IWA-2240 ALT EXM BNDRY	105)	SFC-I1	EXAMINATION BOUNDARY
71)	IAS-I1	IWA-2240 ALT EXM BNDRY	106)	SFC-I2	EXAMINATION BOUNDARY
72)	IAS-I2	IWA-2240 ALT EXM BNDRY	107)	SLS-F1	EXAMINATION BOUNDARY
73)	IAS-I3	IWA-2240 ALT EXM BNDRY	108)	SLS-F2	EXAMINATION BOUNDARY
74)	IAS-I4	IWA-2240 ALT EXM BNDRY	109)	SLS-F3	EXAMINATION BOUNDARY
75)	IAS-I5	IWA-2240 ALT EXM BNDRY	110)	SLS-I1	EXAMINATION BOUNDARY

111) SLS-L0 EXAMINATION BOUNDARY
112) SLS-L00 EXAMINATION BOUNDARY
113) SWP-I1 EXAMINATION BOUNDARY
114) SWP-I2 EXAMINATION BOUNDARY
115) SWP-I3 EXAMINATION BOUNDARY
116) SWP-I4 EXAMINATION BOUNDARY
117) SWP-I5 EXAMINATION BOUNDARY
118) SWP-I6 EXAMINATION BOUNDARY
119) SWP-I7 EXAMINATION BOUNDARY
120) SWP-I8 EXAMINATION BOUNDARY
121) SWP-I9 EXAMINATION BOUNDARY
122) SWP-I10 EXAMINATION BOUNDARY
123) SWP-I11 EXAMINATION BOUNDARY
124) SWP-I12 EXAMINATION BOUNDARY
125) WCS-L0 EXAMINATION BOUNDARY
126) WCS-L00 EXAMINATION BOUNDARY

6. PRESSURE TESTING REQUIREMENTS

6.1 General Requirements [IWA-5200]

System Pressure Tests requirements are delineated in 1989 Edition of ASME Section XI Article IWA-5000. System pressure test requirements for test condition holding time and test pressurization boundaries are discussed by ASME Class. The required test records are covered in Section 8 of this ISPT Program Plan, "Scheduling and Reporting."

Since the adoption and approval by ASME of Code Case N-498-2, the hydrostatic and pneumatic pressure test requirements for test condition holding time, test pressurization boundaries and gauges are no longer applicable and will not be discussed (reference: Relief Request GPTRR–2 and Code Case N-498-2). The visual examination (VT-2) requirements define the examination method and are documented in procedure NDEP-VT-2.01, ASME Section XI Visual Examination Procedure. The requirements for system pressure tests following repairs and replacements are covered in Section 7 of the ISPT Program Plan, "Repair and Replacement."

6.1.1 VISUAL EXAMINATION VT–2

A visual examination VT-2 shall be conducted in accordance with Section XI, Article IWA-2212, Article IWA-5240 and the definitions in Section 3 of this Program Plan. Table IWA-5210-1 provides the reference paragraphs for System Pressure Tests and Visual Examinations (VT-2) requirements.

6.1.2 CLASS 1

Table IWA-5210-1 directs us to Table IWB-2500-1, Category B-P for the Examination Category. Table IWB-2500-1 lists VT-2 as the Examination Method and IWB-3522 as the acceptance standard for all Category B-P Examinations.

Paragraph IWB-3522 lists the following standards for the Visual Examination, VT-2, performed on Category B-P Examinations:

The following relevant conditions[4] that may be detected during the conduct of system pressure tests shall require correction to meet the requirements of IWA-5250 prior to continued service:

(a) leakage from noninsulated components (IWA-5241). The acceptance criteria that established "leakage" are controlled in Engineering Specification M2-0002, "ASME Section XI System Pressure Testing Acceptance Criteria."

(b) leakage in excess of permissible levels defined by the Owner from components provided with leakage limiting devices (IWA-5243);

(c) leakage[5] from insulated components or inaccessible components that will require locating the leakage source (IWA-5242);

(d) areas of general corrosion of a component resulting from leakage [IWA5250(b)];

(e) discoloration or accumulated residues on surfaces of components, insulation, or floor areas that may be evidence of borated water leakage[5] [IWA-5242(c)];

(f) leakages or flow test results from buried components (IWA-5244) in excess of limits established by the Owner.

6.1.3 CLASS 2

Table IWA-5210-1 directs us to Table IWC-2500-1, Category C-H for the Examination Category. Table IWC-2500-1 lists VT-2 as the Examination Method and IWC-3516 as the acceptance standard for all Category C-H Examinations.

Paragraph IWC-3516, "Standards for Examination Category C-H, All Pressure Retaining Components," states, "These standards are in the course of preparation. The standards of IWB-3522 may be used."

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4 Relevant conditions are defined in IWA-9000; they do not include conditions that result in condensation on components, normal collection of fluid in sumps, and drips from open drains.

5 The leakage is the through-wall leakage that penetrates the pressure retaining membrane.

6.1.4 CLASS 3

Table IWA-5210-1 directs us to Table IWD-2500-1, Category D-A, D-B, and D-C for the Examination Category. Table IWD-2500-1 lists VT-2 as the Examination Method for pressure-retaining components, and IWD-3000 as the acceptance standard for all Category D-A, D-B, and D-C Examinations.

Article IWD-3000, "Acceptance Standards," states, "This Article is in the course of preparation. The rules of IWB-3000 may be used."

6.1.5 ACCEPTANCE CRITERIA

a. The Code-specified acceptance criteria for the Visual Examination, VT-2, are found in IWB-3522. These acceptance criteria apply to Classes 1, 2, and 3 pressure-retaining components.

b. The acceptance criteria for leakage in the System Pressure Test are documented in Engineering Specification M2-0002, "ASME Section XI System Pressure Testing Acceptance Criteria."

c. Pressure boundary material shall have no through–wall leakage.

6.1.6 CORRECTIVE MEASURES [IWA-5250]

(a) The source of leakage detected during the conduct of a system pressure test shall be located and evaluated by NMPC for corrective measures as follows:

(1) Buried components with leakage losses in excess of limits acceptable for continued service shall be repaired or replaced;

Note: Alternate Requirement per Relief Request GPTRR-3 follows:

(2) During the performance of a System Pressure Test required by Section XI in accordance with this Pressure Test Program Plan, if leakage occurs at a bolted connection, one of the bolts shall be removed, VT-3 examined, and evaluated in accordance with Pressure Test Relief Request GPTRR-3. The bolt selected shall be the one closest to the source of leakage. If the removed bolt shows evidence of degradation, all remaining bolting in the connection shall be removed, VT-3 examined, and evaluated in accordance with 1989 Edition of ASME Section XI, IWA-3100 (reference: Relief Request GPTRR–3 and ASME Section XI, IWA-5250(a), 1992 Edition). Repairs or replacements of components shall be performed in accordance with the 1989 Edition of ASME Section XI, IWA-4000 or IWA-7000, respectively.

(b) If boric acid residues are detected on components, the leakage source and the areas of general corrosion shall be located. Components with local areas of general corrosion that reduce the wall thickness by more than 10% shall be evaluated to determine whether the component may be acceptable for continued service or whether repair or replacement is required.

The acceptance criteria in Engineering Specification M2-0002, "ASME Section XI System Pressure Testing Acceptance Criteria," will govern the acceptability of the visual examination results.

The visual examination shall be declared unacceptable if:

i) there is evidence of through-wall leakage; or

ii) the leakage at any bolted connection exceeds the Fail Criterion in M2-0002.

iii) the observable local areas of external general corrosion exceed the criteria in Engineering Specification M2-0002.

If a visual examination is declared unacceptable, the pressure-retaining component or the bolted connection shall immediately be declared inoperable.

6.1.7 ALTERNATIVE EXAMINATION

Alternative Examination is defined in Section 3 of this Program Plan. The ISPT Program Plan recognizes Leakage Tests (that is, Leak Rate Testing) as an alternative to a VT-2 visual examination.

6.1.8 SYSTEM INTEGRITY LEAK RATE TEST METHOD

NMPC performs a System Integrity Leak Rate Test (SILRT) once every refueling outage on the ASME portion of the IAS System that supplies safety-related air to actuate the ADS valves and MSIVs. The SILRT pressurizes the piping to normal pressure or to the high pressure alarm set point. After the stabilization period, the gas pumped into the system to maintain pressure is recorded and an average leak rate is calculated.

The acceptance criterion for each procedure is set extremely low as established by: Plant Technical Specifications (for the ASME classified portion of the IAS supply to the ADS-SRVs) and NUREG/CR-5247 (for the ASME classified portion of the IAS supply to the MSIVs.)

The analyzed acceptance criteria are based on the maximum allowable leakage from IAS without an impact on the required system safety function.

In addition to the extremely low acceptance criterion and higher performance frequency, the SILRT procedure accounts for leakage through any mechanical joints such as flanges, seals, etc., that are not subject to snooping and VT-2 examination under the 1989 Edition of ASME Section XI Code requirements.

This alternate method to the 1989 Edition of ASME Section XI VT-2 examination is authorized per 1989 Edition of ASME Section XI, IWA-2240, is subject to the satisfaction of the ANII, and was documented in a letter to the Performance Group file. This alternate method was reviewed by the ANII for the first ten–year interval. (Reference: internal correspondence from Jim Burns to Unit 2 Performance Group file dated 8-22-96).

6.2 ASME Class 1 System Pressure Tests

6.2.1 Inspection Schedule

Paragraph IWB-2420, "Successive Inspections," specifies that, "The sequence of component examinations established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical." This Program Plan commits to follow the sequence of ASME Class 1 component examinations established during the first inspection interval, to the extent practical.

6.2.2 Tests To Be Performed

The pressure retaining components shall be tested at the frequency stated in Table IWB-2500-1, Examination Category B-P, and visually examined by VT-2:

(1) System Leakage Test, IWA-5211(a)

(2) System Hydrostatic Test, IWA-5211(d)

The system pressure tests and visual examinations shall be conducted in accordance with Article IWA-5000 and Article IWB-5000. Reactor coolant shall be used as the pressurizing medium.

6.2.3 Extent of Examination

a. "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." (Reference 1989 Edition of ASME Section XI Table IWB-2500-1, Category B-P, Note 1)

b. The boundary subject to test pressurization during a System Leakage Test [IWA-5211(a)] shall extend to the pressure retaining components within the system boundary containing pressurized reactor coolant under the plant mode of normal reactor startup.

c. The pressure retaining boundary during the system hydrostatic test shall include all ASME Class 1 components within the system boundary. (Reference 1989 Edition of ASME Section XI Table IWB-2500-1, Category B-P, Note 2)

6.2.4 TEST PRESSURE AND TEMPERATURE

6.2.4.1 System Leakage Test, IWB-5221

a. The system leakage test shall be conducted at a test pressure not less than the nominal operating pressure associated with 100% rated reactor power.

b. The system test pressure and temperature shall be attained at a rate in accordance with the heat-up limitations of the system.

c. 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. (Reference 1989 Edition of ASME Section XI, Table IWB-2500-1, Category B-P, Note 7)

6.2.4.2 System Hydrostatic Test, IWB–5222

The system hydrostatic test shall be conducted at a temperature and pressure permitted by IWB-5222, Table IWB-5222-1, and Nine Mile Point Unit 2 Technical Specifications.

A system leakage test (IWB-5221), to include all ASME Class 1 components within the system boundary, and the accompanying VT-2 examination may be conducted in lieu of a hydrostatic test (Reference Code Case N-498-1, GPTRR-1, and Code Case N-498-2).

6.2.4.3 Test Temperature, IWB–5230

The test temperature shall be consistent with IWB-5230 and Nine Mile Point Unit 2 Technical Specifications.

6.2.5 TEST CONDITION HOLDING TIMES

System Leakage Tests – No holding time is required after attaining test pressure and temperature conditions.

System Hydrostatic Tests – Interval-scheduled system hydrostatic tests have been eliminated by Code Case N-498-1, GPTRR-1, and Code Case N-498-2.

6.2.6 FREQUENCY

a. The system leakage Test (IWB-5221) shall be conducted prior to plant startup following each reactor refueling outage. (Reference 1989 Edition of ASME Section XI, Table IWB-2500-1, Category B-P, Note 5)

b. A system hydrostatic test shall be conducted at or near the end of each inspection interval. (Reference 1989 Edition of ASME Section XI, Table IWB-2500-1, Category B-P, Note 6)

6.3 ASME Class 2 System Pressure Tests

6.3.1 Inspection Schedule

Paragraph IWC-2420, "Successive Inspections," specifies that, "The sequence of component examinations established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical." This Program Plan commits to follow the sequence of ASME Class 2 component examinations established during the first inspection interval, to the extent practical.

6.3.2 Tests To Be Performed

The pressure retaining components within each system boundary shall be subjected to the following system pressure tests and visually examined by VT-2, as specified in Table IWC-2500-1, Examination Category C-H:

(1) a system pressure test conducted during a system functional test [IWA-5211(b)] of those systems (or components) not required to operate during normal plant operation but for which periodic system (or component) functional tests are performed to meet other requirements.

(2) a system pressure test conducted during a system inservice test [IWA-5211(a)] for those systems required to operate during normal plant operation.

(3) a system hydrostatic pressure test [IWA-5211(d)] for each system or portions of systems.

The system pressure tests and visual examinations shall be conducted in accordance with IWA-5000 and IWC-5000.

6.3.3 Extent of Examination

a. No components within the pressure retaining boundary are exempt or excluded from the examination requirements, except as specified in IWA-5214(c). (1989 Edition of ASME Section XI, Table IWC-2500-1, Category C-H, Note 4)

b. The pressure retaining boundary includes only those portions of the system required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve) or valve capable of automatic closure when the safety function is required. (1989 Edition of ASME Section XI, Table IWC-2500-1, Category C-H, Note 7)

6.3.4 Test Pressure

a. The nominal operating pressure of the system functional test shall be acceptable as the system test pressure.

b. The nominal operating pressure during system operation shall be acceptable as the test pressure for system inservice test.

c. A system hydrostatic test (IWC-5222) and accompanying VT-2 examination are acceptable in lieu of the system pressure test (IWC-5221).

d. The system hydrostatic test pressure shall comply with the requirements of IWC-5222, "System Hydrostatic Test."

e. A System Pressure Test (IWC-5221) and the accompanying VT-2 examination may be conducted in lieu of a hydrostatic test (Reference Code Case N-498-1, GPTRR-1, and Code Case N-498-2).

6.3.5 Test Condition Holding Times

a. *System Functional Tests* – Ten minute holding time required after attaining the system operating pressure.

b. *System Inservice Tests* – No holding time required, provided the system has been in operation for at least four hours.

c. *System Hydrostatic Tests* – In those instances where NMP2 performs the system hydrostatic test in lieu of using the alternative requirements of Code Case N-498-1 or Relief Request No. GPTRR-1 (Code Case N-498-2), the holding time after attaining test pressure and temperature conditions remains four hours for insulated systems (or portions thereof) and 10 minutes for noninsulated systems (or portions thereof) in accordance with IWA-5213*(d)*.

6.3.6 Frequency

a. The System Pressure Test during system functional tests and system inservice tests shall be conducted at least once every inspection period.

b. In those instances where NMP2 elects to perform the system hydrostatic test in lieu of the alternative requirements described in Code Case N-498-1 or Request for Relief No. GPTRR-1 (Code Case N-498-2), it shall be conducted at or near the end of each inspection interval or during the same inspection period of each inspection interval.

6.4 ASME Class 3 System Pressure Tests

6.4.1 Inspection Schedule

Paragraph IWD-2400, "Inspection Schedule," does not specify that the sequence of component examinations established during the first inspection interval be repeated during each successive inspection interval. This Program Plan nevertheless commits to follow the sequence of component examinations established during the first inspection interval, to the extent practical.

6.4.2 TESTS TO BE PERFORMED

The pressure retaining components within the boundary of each system specified in the Examination Categories of Table IWD-2500-1 shall be subjected to the following system pressure tests and visually examined by VT-2, as specified in Table IWD-2500-1 during the following tests:

(1) system inservice test, IWA-5211(c)

(2) system functional test, IWA-5211(b)

(3) system hydrostatic test, IWA-5211(d)

The system hydrostatic test shall be conducted in accordance with IWA-5000, as applicable. The contained fluid in the system shall serve as the pressurizing medium.

6.4.3 EXTENT OF EXAMINATION

a. 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. (1989 Edition of ASME Section XI, Table IWD-2500-1, Category D-A, D-B, and D-C, Note 1)

b. There are no exemptions or exclusions from these requirements except as specified in IWA-5214(c). (1989 Edition of ASME Section XI, Table IWD-2500-1, Category D-A, D-B, and D-C, Note 4)

6.4.4 TEST PRESSURE AND TEMPERATURE

a. The inservice operating pressure during system operation shall be acceptable as the system test pressure for the System Inservice Test.

b. The nominal operating pressure of the system functional test shall be acceptable as the system test pressure for the System Functional Test.

c. A system hydrostatic test (IWD-5223) and accompanying VT-2 examination are acceptable in lieu of the system pressure test (IWD-5220).

d. The system hydrostatic test pressure shall be consistent with the requirements of IWD-5223, System Hydrostatic Test.

e. A System Pressure Test (IWD-5220) and the accompanying VT-2 examination may be conducted in lieu of a hydrostatic test (Reference Code Case N-498-1, GPTRR-1, and Code Case N-498-2).

f. The system test temperature shall be consistent with the requirements of IWD-5230, Temperature.

6.4.5 TEST CONDITION HOLDING TIMES

a. *System Functional Tests* – Ten minute holding time required after attaining the system operating pressure.

b. *System Inservice Tests* – No holding time required, provided the system has been in operation for at least four hours.

c. *System Hydrostatic Tests* – In those instances where NMP2 elects to perform the system hydrostatic test rather than the alternative requirements of Code Case N-498-1 or Relief Request GPTRR-1 (Code Case N-498-2), the holding time after attaining test pressure and temperature conditions remains at 4 hours for insulated systems and 10 minutes for noninsulated systems in accordance with to IWA-5213*(d)*.

6.4.6 FREQUENCY

a. The pressure retaining components in Examination Category D-A shall receive a System Inservice Test at least once each inspection period.

b. The pressure retaining components in Examination Category D-B shall receive a System Functional Test at least once each inspection period.

c. The pressure retaining components in Examination Category D-C shall receive a System Inservice Test at least once each inspection period.

d. In those instances where NMP2 elects to perform the system hydrostatic test rather than the alternative requirements of Code Case N-498-1, Relief Request GPTRR-1 (Code Case N-498-2), it shall be conducted at or near the end of each inspection interval or during the same inspection period of each inspection interval.

7. REPAIR AND REPLACEMENT

7.1 General Requirement

When a repair or replacement is performed on component or component parts within the design ASME Class, the rules of pressure testing of the 1989 Edition of ASME Section XI are used to satisfy the pressure testing post maintenance requirement. Use of other documents may be authorized by the NRC in accordance with 10 CFR 50.55a(a)(3)(ii).

No pressure test will be required if:

- only disassembly and re-assembly of mechanical joints of a component are involved, AND
- no repair or replacement of the component was involved.

For example, a relief valve is removed from the system by disassembly of its intake flange. Its set pressure is adjusted, and it is replaced in the system. In this case, no pressure test is required. However, if the relief valve is replaced with a *different* relief valve, or if the relief valve is repaired, then a pressure test would be required.

A bolt removed, inspected, and replaced in accordance with the Corrective Measures described in Section 6 of this Program Plan does not require a pressure test.

7.1.1 APPLICABILITY OF CODE CASE N-416-1 TO REPAIR AND REPLACEMENT

NMP2 has received approval from the NRC to use ASME Code Case N-416-1 as an alternative to a hydrostatic pressure test for welded repairs or installation of replacement items by welding for the Code Class 1, 2, and 3 systems.

Code Case N-416-1 permits the use of a system pressure test in lieu of the hydrostatic test for welded repairs or installation of replacement items by welding for the Code Class 1, 2, and 3 systems.

Additionally, NDE shall be performed in accordance with the methods and acceptance criteria of the applicable subsection of the 1992 Edition of Section III.

In its Safety Evaluation on ASME Code Case N-416-1, the NRC imposed an additional requirement on the use of Code Case N-416-1. "Use of Code Case N-416-1 is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) provided that additional surface examinations are performed on the root (pass) layer of butt and socket welds on the pressure retaining boundary of Class 3 components when the surface examination method is used in accordance with Section III."

The Code Case Reply requires that "***Prior to or immediately upon return to service***, a visual examination (VT-2) shall be performed in conjunction with a system leakage test, using the 1992 Edition of Section XI, in accordance with IWA-5000, at nominal operating pressure and temperature."

In its implementation of this requirement, Nine Mile Point Unit 2 shall perform the applicable system pressure test and the visual examination (VT-2) prior to or immediately upon returning the system to service and declaring it operable.

The System Leakage Test is specified in IWA-5000. The System Leakage Test performed to meet the requirements of Code Case N-416-1 shall comply with the requirements of IWA-5000, which are summarized as follows:

- The test pressure and temperature are specified in IWB-5000 (Class 1), IWC-5000 (Class 2), and IWD-5000 (Class 3).
- The pressurization test boundary shall be the one specified in the applicable Table in IWB-5000, IWC-5000, or IWD-5000.

7.1.2 DISPOSITIONS OF REPAIR AND REPLACEMENT

A repair or replacement shall be dispositioned in accordance with the guidance provided in NIP–IIT–01, ASME Section XI Programs.

7.1.2.1 Repair Evaluation

Repair evaluation requirements are addressed in NIP–IIT–01, Requirements for Developing ASME Section XI Work Plans.

7.1.2.2 Replacement Evaluation

Replacement evaluation requirements are addressed in NIP–IIT–01, Requirements for Developing ASME Section XI Work Plans.

7.2 Repair Post Maintenance Test

7.2.1 REPAIR

a. Repair is defined in Section 3 of the ISPT Program. After repairs by welding on the pressure retaining boundary, a pressure testing shall be performed in accordance with Section XI, IWA-5000 or, paragraph 7.1.1 of this Program Plan.

b. The following may be exempted from the *system hydrostatic tests*:

(1) cladding repairs

(2) heat exchanger tube plugging

(3) piping, pump, and valve repairs that do not penetrate through the pressure boundary

(4) pressure vessel repairs where the repaired cavity does not exceed 10% of the minimum design wall thickness

(5) component connections, piping, and associated valve repairs that are NPS[6] 1 and smaller

(6) tube-to-tubesheet repair welds where such welds are made on the cladding.

c. Repairs made in accordance with the procedures of IWA-4510, IWA-4520, or IWA-4530 shall not be exempted from the system hydrostatic test, or, if invoked in lieu of the system hydrostatic test, the alternative proposed and authorized, as noted in the letter of 10-18-94, L. B. Marsh, USNRC to B. R. Sylvia, NMPC.

d. For post maintenance test of a repair, the following must be satisfied:

(1) the test boundary shall be extended to the affected component or component part requiring post maintenance test,

(2) a 10 minute hold for non-insulated components or a four hour hold for insulated components shall be satisfied (Code Case N-416-1),

(3) the pressure test shall be conducted at operating pressure, or when pressurized to nominal operating pressure (and temperature for Class 1 Systems) (Code Case N-416-1).

e. Test pressurization boundary is the repaired component and its disassembled bolted connections, if applicable. If the component and its bolted connections, if applicable, is isolable within a portion of the system, only that portion needs to be pressure tested.

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6 NPS (*Nominal Pipe Size*) — a designation assigned for the purpose of convenient specification of pipe size. The actual inside and outside dimensions are listed in applicable ANSI Standards.

7.2.2 EXAMPLES

The following are examples of post maintenance test required for repairs. The System Pressure Test Flow Path (Attachment 3) should be referenced in the determination of post maintenance test.

7.2.2.1 Example No. 1

Event:	The Outboard MSIV (MSS*AOV7A) was identified to have a through wall leak during the performance of a LLRT (local leak rate test) for 10 CFR 50 Appendix J. A repair by welding was performed using a Work Order (WO) and corrected this condition.
Determination:	Using the System Pressure Test Flow Path the following logic would be applied.
Step 1:	**Post maintenance test**, Work per WO or Modification is classified as a Retest.
Step 2:	**Yes**, component is within the design ASME Class boundary.
Step 3:	**Yes**, Work meets the definition of a Repair on the pressure retaining boundary.
Step 4:	**No**, ISPT paragraph 7.2.1, Repair, does not exempt the component.
Step 5:	**No**, Work activity requires more than disassembly of mechanical joints.
Conclusion:	Perform a ASME Class 1 system leakage test as described in ISPT paragraph 6.2.3.1. This pressure test satisfies the ASME Class 1 System Hydrostatic Pressure Test requirements In Accordance With Code Case N-416-1.

7.2.2.2 Example No. 2

Event:	The Reactor Coolant Recirculation Pump Thrust Ring was removed to eliminate an indication which would be considered a defect. This work was performed by a WO requiring both grinding and welding.
Determination:	Using the System Pressure Test Flow Path the following logic would be applied.
Step 1:	**Post Maintenance Test**, Work per WO is classified as a post maintenance test.
Step 2:	**Yes**, Component is within the design ASME Class boundary.
Step 3:	**No**, A RCS thrust ring is not part of the pressure retaining boundary as defined in ISPT Section 3.0.
Conclusion:	ASME Code Pressure Test not required.
Important:	Reference ASME Code, Section XI, **Interpretation No. XI-1-86-13R** which comes to the same conclusion for pressure boundary opening and closing following a non-Section XI repair.

7.3 Replacement Post Maintenance Test

7.3.1 REPLACEMENT

The test pressurization boundary shall include the replaced component (and its disassembled bolted connections, if applicable.) If the component (and its bolted connections, if applicable) is isolable within a portion of the system, only that portion need be pressure tested.

The following items are exempt from the requirements of Article IWA-7000, (reference IWA-7400, Exemptions):

(1) gaskets

(2) instruments

(3) electrical conducting and insulating material

(4) piping, valves, and fittings NPS 1 and smaller, except that materials and primary stress levels shall be consistent with the requirements of the applicable construction code.

The following items and parts are exempt from the requirements of Article IWA-7000, except that the requirements of IWA-7530 (Preservice Inspection) shall be met:

(1) nonstructural pump and valve internals, except when the original equipment was constructed in accordance with a Construction Code or Code Case

(2) pump seal package and valve packing

7.3.2 EXAMPLES

7.3.2.1 Example No. 1

Event:	The SWP Pump "2A" Discharge Check Valve SWP*V240A cover requires replacement using a certified spare from the warehouse.
Determination:	Using the System Pressure Test Flow Path the following logic would be applied.
Step 1:	**Retest**, Work per WO or Modification is classified as a Retest.
Step 2:	**Yes**, component part is within the design ASME Class boundary.
Step 3:	**Yes**, Work meets the definition of a Replacement and does affect the pressure retaining material.
Step 4:	**No**, ISPT paragraph 7.3.1, Replacement, does not exempt the component or component part.
Step 5:	**Yes**, Work activity only required disassembly of mechanical joints.
Step 6:	**No**, SWP is not ASME Class 1.
Step 7:	**Yes**, SWP is ASME Class 3.
Conclusion:	Perform a ASME Class 3 System Inservice Test or ASME Class 3 Functional Test (ISPT paragraph 6.4). This pressure test satisfies the ASME Class 3 System Hydrostatic Pressure Test requirements in accordance with Code Case N-416-1.

7.3.2.2 Example No. 2

Event:	The RCS Reactor Recirculation Pump requires replacement of four of the cover to bowl studs with no disassembly required. Four certified spare studs are used as replacements per WO.
Determination:	Using the System Pressure Test Flow Path the following logic would be applied.
Step 1:	**Post Maintenance Test**, Work per WO or Modification is classified as a post maintenance test.
Step 2:	**Yes**, Component part is within the design ASME Class boundary.
Step 3:	**Yes**, Work meets the definition of a Replacement and <u>does</u> affect pressure retaining material.
Step 4:	**No**, Replacement of studs is <u>not</u> exempt from pressure testing in accordance with ISPT paragraph 7.3.1
Conclusion:	ASME Code Pressure Test is required.

7.3.2.3 Example No. 3

Event:	The WCS Reactor Vessel Bottom Head Drain Isolation Valve (2WCS*MOV102) disk requires replacement. A certified disk (i.e., stamped) is used as a replacement and installed per a WO.
Determination:	Using the System Pressure Test Flow Path the following logic would be applied.
Step 1:	**Post Maintenance Test**, Work per WO or Modification is classified as a post maintenance test.
Step 2:	**Yes**, component part is within the ISPT Boundary.
Step 3:	**Yes**, Work meets the definition of a Replacement and does affect the pressure retaining material.
Step 4:	**No**, ISPT paragraph 7.3.1, Replacement, does not exempt the component or component part.
Step 5:	**Yes**, Work activity only required disassembly of mechanical joints.
Step 6:	**Yes**, WCS is ASME Class 1.
Conclusion:	Perform a ASME Class 1 System Leakage Test, (ISPT paragraph 6.2.3.1).

8. SCHEDULING AND REPORTING

8.1 Scheduling

8.1.1 INSPECTION PROGRAM B

Nine Mile Point Unit 2 is using Inspection Program B (IWA-2432) of the 1989 Edition of ASME XI.

The Nine Mile Point Unit 2 position regarding allowable overlapping time between inspection periods is up to one year. That is, a subsequent period may start even though some tests are not yet performed for the previous period).

8.1.2 INSPECTION INTERVAL

a. The Second Inspection Interval starts on April 5, 1998 and lasts for ten (10) years. This inspection interval is then followed by a Third and Fourth Inspection Interval.

b. The inspection interval may be decreased or extended by as much as one (1) year. Adjustments shall not cause successive intervals to be altered by more than one year from the original pattern of intervals. (reference: 1989 Edition of ASME Section XI, IWA-2430(d)).

c. In addition to item b above, for power units that are out of service continuously for 6 months or more, the inspection interval during which the outage occurred may be extended for a period equivalent to the outage and the original pattern of intervals extended accordingly for successive intervals. (reference: 1989 Edition of ASME Section XI IWA-2430(e)).

8.1.3 INSPECTION PERIOD

a. The Second Inspection Interval under Inspection Program B consists of a sequence of 3 equal 40-month periods. [1989 Edition of ASME Section XI Table IWB-2412-1, Table IWC-2412-1 and Table IWD-2412-1]

b. The Second Ten-Year Inspection Interval consists of three 40-month Inspection Periods. The inspection periods for the second ten-year interval are as follows:

	Begins	Ends
First period	April 5, 1998	August 4, 2001
Second period	August 5, 2001	December 4, 2004
Third period	December 5, 2004	April 4, 2008

8.2 Reporting

8.2.1 COMPLETED PRESSURE TEST

a. NIS-1 Form, Owner's Report for Inservice Inspections, is used to report scheduled pressure tests conducted since the previous summary report (Reference ASME Section XI, IWA-6220(d)).

b. Summary Report Submittal is to be within 90 days of the completion of the inservice inspection (i.e., date returned to commercial power) conducted during a refueling outage (Reference ASME Section XI, IWA-6230).

8.2.2 POST-MAINTENANCE PRESSURE TEST

NIS-2 Form, Owner's Report for Repairs or Replacements, is used to report Post-Maintenance pressure tests (Reference ASME Section XI, IWA-6220(d)).

9. ISPT ASME CLASS BOUNDARY DRAWINGS

9.1 General Information

The ISPT ASME Class Boundary Drawings are derived from the plant P&IDs and their control and upgrade will be controlled with the similar level of importance. Attachment 1, ISPT drawing listing identifies the drawings which pertain to ISPT ASME Class Boundaries. The ISPT boundaries are used to identify the scope of Inservice Pressure Testing at NMP2 and are not used to change the Design ASME Class. The ISPT Boundaries are used to identify the scope of pressure test requirements and the design ASME Class is used to identify Post-Maintenance pressure test requirements.

9.2 Drawing Legend

The ISPT ASME Class Drawings use a color code scheme and one semi-circle shaped flag with specific test identifiers within the flag to allow determination of Pressure test breaks. The color code for ISPT ASME Class 1 systems is magenta, for ISPT ASME Class 2 is blue and for ISPT ASME Class 3 is green. All ISPT flags and leading lines are in red. All items shown in black are exempted from ISPT program requirements.

9.2.1 General Class Break Identifiers

- ISPT ASME Class 1 (Quality Group A) - ASME Sec. III Class 1 - Magenta Color
- ISPT ASME Class 2 (Quality Group B) - ASME Sec. III Class 2 - Blue Color
- ISPT ASME Class 3 (Quality Group C) - ASME Sec. III Class 3 - Green Color

9.2.2 Exceptions

a. Class break flags will not be used to identify ASME Class breaks for test, drain, and vent connection valves. The ASME Class breaks occur at the first normally-closed valve for ASME Class 2 and 3 connections making the piping downstream of the valve ISPT exempt.

b. Piping that branches off ASME Class 1 and is one inch nominal pipe size or smaller is designated ASME Class 2; however, it is tested and VT-2 examined with ASME Class 1 (Reference Section 5.2 of the program plan).

c. Class breaks flags will not be normally shown on system safety or relief valves which relieve to the design safety class 4 (non-ASME) systems. The ASME Class 2 or 3 valve boundary is at the valve making the exhaust piping ISPT exempt.

d. Class break flags will not be used to identify ASME Class breaks for excess flow check valves. The ASME Class break occurs at the excess flow check valve.

9.2.3 TEST BREAKS

This flag will be semi-circular and will distinguish the ISPT test breaks for a system. Each system may have more than one type of pressure test being performed and multiple tests of the same type of test. If multiple tests of the same type are being performed they will be numbered sequentially.

9.2.4 TEST BREAK IDENTIFIERS

- L = System Leakage Test
- L0 = Multiple System Leakage Test performed during each refueling outage.
- L00 = Multiple System Leakage Test performed during ten (10) year interval pressure test.
- I = System Inservice Test
- F = System Functional Test
- EX = Exemption to Testing
- GEX = General Exemption to Testing
- H = Ten year test for Inboard MSIV Expansion tanks & EGF main storage tanks.

9.2.5 EXEMPTIONS

The following exemptions (EX) are used within the program:

1. **GEX1** - General exemption based on boundary rules established in Section 5.
2. **GEX2** - 10 CFR 50 Appendix J with specific penetrations being identified. Reference USAR Table 3.2-1 Note 42 and Note 46, IWA-1320(a) and (d) and Code Case N-522 for additional information.
3. **EX1** - The compressor 2ICS-C1 and the gland seal isolation valves 2ICS-V2000, V2001, V2004 and V2006 at the ICS turbine, governing valve and the trip throttle valve, are non-safety related. The piping in between is ASME Section III, Class 2. Reference ISPT-35B. The purpose of the gland seal system is to preclude steam leakage from the turbine and valve seals. The compressor and gland seal isolation valves are non-safety related and failure of the gland seal system would not affect the function of the ICS turbine.

   Conclusion: The gland seal system is considered non-safety related and ISPT exempt.
4. **EX2** - Air start, fuel transfer, lubricating oil, and jacket water cooling systems.

   Reg. Guide 1.26 states that Group C quality standards should be applied to... piping, pumps and valves... that are part of cooling water and seal water systems or portions of these systems important to safety that are designed for functioning of components and systems important to safety, such as reactor coolant pumps,

diesels, and control room. Therefore, only the jacket water systems would seem to apply to Regulatory Guide 1.26.

The Standard Review Plan (NUREG 0800) states that the essential portions of the air start, fuel transfer, jacket water and lubricating oil systems should be Quality Group C. However, the NRC has recognized in NUREG 1047 that some portions of these systems are not ASME Section III as required. Engine-mounted piping is in accordance with ANSI B31.1 or DEMA standards and meet seismic requirements.

The Division I/II air start piping, including the air receivers, from the supply check valves upstream of the air receivers to and including the flex hose connections to the engine is ASME Section III, Class 3. The air skid and the SWEC supplied piping between the air skid and the flex hose has N-5 certification. The Division III air start piping is non-ASME except for the air receivers and the SWEC supplied piping between the air skid and the engine connections, which are ASME Section III, Class 3. SWEC supplied exhaust piping is ASME Section III, Class 3.

Conclusion: For Division I and II the air receivers up to and including the flex hose supplied by SWEC are included in the ISPT boundary Reference ISPT104A. For Division III, the air receivers up to and including valves 2EGA*V31A/B, V29A/B and Flex hoses EJ2/EJ4 are included in the ISPT boundary Reference ISPT104A.

The fuel transfer piping for the Division I, II, and III diesel generators is ASME Section III, Class 3 from the storage and day tanks to the engine skid-mounted piping connections. The fuel transfer piping, including the tanks and pumps, has N-5 certification. The fuel oil storage tanks and fuel oil day tanks vent and overfill piping does not see pressure or flow and are exempted from ISPT.

Conclusion: The fuel transfer piping including the tanks extending to the non-ASME vendor-supplied piping are included in the ISPT boundary (Reference ISPT 104B/C).

The Division I/II jacket water auxiliary skid-mounted piping, including the intercoolers, up to the engine mounted connections conform to the requirements of ASME Section III, Class 3 to the maximum extent practicable. This piping has no N-5 certification. The Division III jacket water piping is designed in accordance with ANSI B31.1, except for the jacket water heat exchanger which is ASME Section III, Class 3.

Conclusion: The Division I/II jacket water piping including Intercoolers, Jacket water coolers and standpipe are included in the ISPT boundary. The Division III jacket water heat exchanger is also included in the ISPT boundary. (Reference ISPT 104D).

The Division I/II lubricating oil auxiliary skid-mounted piping up to the engine mounted connections conform to the requirements of ASME Section III, Class 3 to

the maximum extent practicable. This piping has no N-5 certification. The Division III lubricating oil piping is designed in accordance with ANSI B31.1.

Conclusion: The Division I/II lubricating oil skid-mounted piping is included in the ISPT boundary (Reference ISPT 104E).

5. **EX3** - GE Specification 23A5491 states that the Scram Discharge Volume (SDV) is ASME III, Class 2 through the first valve on the HCU and the insert/withdraw lines are ASME III, Class 2 from the drive flange through the first valve on the HCU. The ISPT Program Plan states that the ASME Section XI pressure test boundary is the ASME Section III class break unless there is a normally closed valve or valve capable of automatic closure within the boundary.

   Conclusion: Based on the GE Specification, the scram accumulator and the N_2 piping that is supplied as part of the hydraulic control unit are exempted from the ISPT. The HCU boundary valves are 2RDS*V112 for the SDV and, valves 2RDS-V101 and -V102 for the reactor vessel. These valves define the ASME class break as described above and there are no normally closed valves or valves capable of automatic closure inside these valves. Reference ISPT-30B.

6. **EX4**- Portions of ISC piping, for Post Accident Sampling, from the Reactor Vessel to the first shutoff valve is designed as ASME Code Class 2. These portions are exempt from ISPT because the Post Accident Sampling System and associated piping are designed Quality Group D. Reference USAR Table 3.2-1. Reference ISPT 28C, Isolation valves 2ISC*SOV119/120.

   Conclusion: The ISPT boundary extend to the excess flow check valves 2ICS*EFV23 and 24.

7. **EX5** - The containment purge system (CPS) inside the drywell is designed as an optionally upgraded Class 3 system (IWA-1320(b)). That upgrade does not affect the classification of the system as non-safety related, and it remains exempt from ISPT, since it is non-safety-related. This portion of the system shall be maintained as required by ASME Code Class 3, except that ASME XI inservice pressure testing per IWA-5211(c) is not required and post repair/replacement testing per IWA-5214(e) shall be satisfied by performing an inservice leak test. Reference ISPT 61A, Note 11, USAR Table 3.2-1, Note 50.

   Conclusion: The portions of the CPS system that penetrate the drywell, including the inside and outside isolation valves, and the intervening piping are exempt from the ISPT.

8. **EX6** - The reactor building ventilation system (HVR) is designed, fabricated and installed in accordance with the ASME III class 3 requirements, but designated safety class 4. "N-5" certification will not be required for those components since they only fulfill the function of ductwork and ductwork accessories. Reference ISPT-52H, and USAR Table 3.2-1, Note 40.

   Conclusion: The HVR system is exempt from the ISPT.

9. **EX7** - RDS Control Rod Drive Seal Flow inside Containment is designed as ASME Code class 2. However, it is exempted from ISPT since the RCS pumps provide only a passive safety-related function to maintain the RCS pressure boundary. They do not provide an active safety function, and seal flow is only required for pump operation. Additional justification is USAR Table 3.2-1, Note 25. Reference ISPT 29B/C.

   Conclusion: RDS seal flow piping inside containment is exempt from the ISPT.

10. **EX8** - Drywell floor and equipment drains DFR/DER are designed as ASME Code class 2. They are exempt because they were optionally upgraded due to their location (inside drywell) [reference IWA-1320(e)]. The drywell floor and equipment drains serve no safety function. Reference USAR Table 3.2-1, Note 46. Reference ISPT 63E/67A.

    Conclusion: These portions of piping are exempt from the ISPT.

11. **EX9** - Nuclear Boiler Head Seal Leakage Sensing Instrumentation monitors between the reactor vessel head seals. The Leakage Sensing Instrumentation piping was designed as ASME Code class 2. However, this piping is exempted because the leakage sensing instrumentation piping will not see system pressure unless there is a seal failure. The RPV head seal meets the intent of the boundary break in accordance with paragraph 5.3.2.a of this Program Plan. Reference ISPT 67A.

    Conclusion: RPV seals leakage sensing tubing are exempt from the ISPT.

12. **EX10** -MSS Main Steam Lines from its outer isolation valve up to and including the turbine stop valve including all branch lines 2½ inches in diameter and larger, up to and including the first valve were augmented designed as ASME class 2 for NDE purposes but designated as ISPT exempt. Reference USAR Section 5.2.4.8 Inservice Inspection Commitment and USAR Table 3.2-1 for the power conversion system. The system is group classification "D".

    Conclusion: The MSS System from its outer isolation valves up to and including the turbine stop valves are exempted from ISPT requirements. Reference ISPT 1F.

13. **EX11** - All GTS system piping (class 2) valves, fittings and expansion joints are designed, fabricated and installed in accordance with the ASME III, class 2 requirements. However, "N-5" certification was not required because these components only fulfill the function of ductwork and ductwork accessories.

    Conclusion: All GTS components are exempted from the ISPT program testing. Reference USAR Table 3.2-1, Note 40.

14. **EX12** - Reactor Water Cleanup System (WCS) portions are designed ASME Code class 3. However, they are exempted from ISPT because these portions of WCS were designed ASME Code class 3 but not required to be designed seismic. Systems designed with the intention of being non-seismic (Seismic Category - NA) are classified Quality Assurance NA and not in the scope of ASME Code, Section XI. Reference USAR Table 3.2-1 Reactor Water Cleanup System section and Note 35, plus SRP NUREG-0800, Section 5.4.8 Reactor Water Cleanup System Part II.3 for additional information.

    Conclusion: These above portions of WCS are exempt from the ISPT.

15. **EX13** - Instrument Air (IAS) non-ADS and inboard MSIVs closing supply air inside Containment are being optionally designed class 3 due to their locations inside the containment. Reference ISPT No. 19D Note 8, No. 19E Note 9 and No. 19F Note 10 for additional information.

    Conclusion: These portions of piping are exempt from the ISPT.

16. **EX14** - Instrument Air Piping to the non-ADS accumulators up to, and including the solenoids and drain connection are not considered safety related. The function of the power (relief mode) operator is not a safety function, however, may be used to help reduce challenges to the safety (spring) mode of the SRVs. Reference ISPT 19E and 19F.

    Conclusion: These portions of piping are exempt from the ISPT.

17. **EX15** - Instrument Air (IAS) Reactor Bldg. receiver TK3 supply air inside Containment is designed class 3 due to the location inside the containment. Reference P&ID No. 19G Note 11 for additional information.

    Conclusion: These portions of piping are exempt from the ISPT.

18. **EX16** - Instrument & Service Air (IAS) MSIV air accumulator blowout tanks downstream of the rupture disks for outboard MSIVs are designed class 3 for seismic qualification purpose but designated ISPT exempt. The expansion tanks for the inboard MSIVs shall remain ISPT safety class and included in the ISPT boundary. (Reference Internal Correspondence from L. A. Schiavone to S. Leonard File Code No. SM2-M91-0052, dated February 26, 1991).

10. RELIEF REQUESTS

10.1 General Requirements

Where compliance with ASME Code, Section XI, requirements is not practical, NMPC will submit an application to the NRC requesting relief in accordance with 10 CFR 50.55a(g)(5)(iii). The commission evaluates determinations that code requirements are impractical and grants relief or imposes alternative requirements in accordance with 10 CFR 50.55a(g)(6)(i).

10.2 Periodic Review

The relief requests contained in this program plan shall be reviewed for continued applicability as well as potential withdrawal on a periodic basis[7].

The review cycles shall correspond with the generation of the ASME XI or required Summary Report; that is, on a refueling outage basis. The review shall consider such factors as system safety classification, Codes, and regulatory changes.

10.3 Relief Requests

Relief requests fall into two broad categories: general relief requests and system specific relief requests. General relief requests are used when the relief request applies to multiple systems or multiple Code class components such as Class 2 containment penetrations in non-safety related systems. Specific relief requests are used to provide relief for specific systems.

The format for General Relief Requests is as follows:

GPTRR-Y where:

GPTRR = General Pressure Testing Relief Request;

Y = Sequential Number

The format for Specific Relief Requests is as follows:

XXX-PTRR-Y where:

XXX = System Designation

PTRR = Pressure Testing Relief Request

Y = Sequential Relief Request Number in any System

Nine Mile Point Unit 2 is requesting general relief to use ASME Code Cases N-498-2 (GPTRR-1) and N-522 (GPTRR-2) for the second ten-year interval.

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7 This requirement is derived from the disposition to NMPC Deviation/Event Report #1-93-0308. This DER stated that NMP1 Second Ten Year Program Plan was deficient in the area of relief request submittal/review. The disposition requires this Program Plan to be revised to incorporate requirement for the periodic review of relief requests.

ASME Code Cases N-416-1, N-498-1, and N-522 are currently included in the draft revision of NRC Regulatory Guide 1.147. During the first ten-year interval, NRC approved the use of ASME Code Cases N-416-1 and N-498-1. [Approval of Code Case N-416-1 dated October 18, 1994, and Approval of Code Case N-498-1 dated January 13, 1995].

Nine Mile Point Unit 2 is also seeking NRC approval to use Section XI IWA-5250 from the 1992 Edition of ASME in lieu of Section XI IWA-5250 from the 1989 Edition of ASME (GPTRR-3).

Specific Relief Requests CMS-PTRR-1 (originally RR-IWC-7 in the first 10-year Program Plan) and HCS-PTRR-1 for the NMP2 Nuclear Power Station are being submitted to the NRC for the second ten-year Inservice Pressure Test Program. These relief requests were granted to NMP2 for the first ten-year interval. [Approval of Relief Request RR-IWC-7 dated October 16, 1991 and Approval of Relief Request HCS-PTRR-1 dated September 4,1996].

General Relief Request No. GPTRR-1 (ASME Code Case N-498-2)

Components: Class 1, 2, and 3 Systems

Code Class: 1, 2, and 3

Examination Requirement: Table IWB-2500-1, Category B-P (Class 1), Table IWC-2500-1, Category C-H (Class 2), and Table IWD-2500-1, Categories D-A, D-B, and D-C (Class 3)

Basis for Relief: Relief is requested from ASME Section XI, Table IWB-2500-1, Category B-P (Class 1), Table IWC-2500-1, Category C-H (Class 2), and Table IWD-2500-1, Categories D-A, D-B, and D-C (Class 3), as allowed by 10 CFR 50.55a(g)(5). Performance of a hydrostatic test once per 10 year interval does not provide an increase in the level of quality or safety because system integrity can be determined by performance of a system leakage test. Performance of a hydrostatic test would require significant setup time, resources, and radiation dose since the hydrostatic pressure is higher than the nominal system operating pressure. In addition, special equipment would be required such as test pumps and gauges and special test lineups. The performance of hydrostatic testing is estimated at over $250,000 per ten-year interval. Thus, this relief request also meets the requirements of 10 CFR 50.55a(a)(3)(ii) in that hydrostatic testing of Class 1, 2, and 3 systems would result in an economic hardship without a compensating increase in quality or safety.

Piping components are designed for a number of loadings that would be postulated to occur under the various modes of plant operation. Hydrostatic testing only subjects the piping components to a small increase in pressure over the design and therefore does not significantly challenge the pressure boundary integrity. Hydrostatic pressure is primarily a means to enhance leakage detection during the examination of components under pressure, rather than solely a means to determine the structural integrity of the components. Industry experience indicates that leaks are not being discovered as a result of hydrostatic test pressures. Leaks, in most cases, are found when the system is at normal operating pressure and are often identified during system walkdowns by plant operators.

General Relief Request No. GPTRR-1 (ASME Code Case N-498-2)

Alternate Examination:

In lieu of ASME Section XI, Table IWB-2500-1, Category B-P (Class 1), Table IWC-2500-1, Category C-H (Class 2), and Table IWD-2500-1, Categories D-A, D-B, and D-C (Class 3), ASME Code Case N-498-2 **shall** be used. This Code Case requires a visual examination (VT-2) in conjunction with system leakage test at nominal operating pressure and temperature.

General Relief Request No. GPTRR-2 (ASME Code Case N-522)

Components: Class 2 Containment Penetrations

Code Class: 2

Examination Requirement: Table IWC-2500-1, Category C-H (Class 2)

Basis for Relief: Relief is requested from ASME Section XI, Table IWC-2500-1, Category C-H (Class 2) as allowed by 10 CFR 50.55a(g)(5) for piping that penetrates the containment vessel, when the piping and isolation valves that are part of the containment system are Class 2 but the balance of the piping system is outside the scope of Section XI. Performance of the required visual examinations and pressure testing does not increase the level of quality and safety because the system integrity is demonstrated during 10 CFR 50 Appendix J "Type C" testing. The only function of the Class 2 piping and isolation valves in non-Code Class systems is to provide containment isolation. Performance of system pressure testing would be a duplication of already existing 10 CFR 50 Appendix J testing. In addition, relief is also requested for those penetrations that have approved exemptions from Appendix J Type C testing when the normal system operating pressure is in excess of the containment design basis accident pressure. For example, the Reactor Recirculation Hydraulic Flow Control lines penetrating containment are ASME Class 2 but the remainder of the system is non-ASME. NMP2 has an approved exemption from the testing requirements of 10 CFR50 Appendix J since the lines are in service at approximately 1015 psig. Leakage would be evident through indication on the hydraulic control units and erratic performance.

Alternate Examination: In lieu of ASME Section XI, Table IWC-2500-1, Category C-H (Class 2) for piping that penetrates the containment, when the piping and isolation valves are Class 2 but the remainder of the system is outside the scope of Section XI, ASME Code Case N-522 **shall** be used. This Code Case requires Appendix J Type C testing of the containment isolation. For those penetrations that have an approved exemption from Appendix J requirements, system performance and system walkdowns during normal system operation will be used to identify leakage.

General Relief Request No. GPTRR-3

Components:	Class 1, 2, and 3 Systems
Code Class:	1, 2, and 3
Examination Requirement:	IWA-5250(a)(2)
Basis for Relief:	Relief is requested from ASME Section XI, IWA-5250(a)(2), as allowed by 10 CFR 50.55a(g)(5). Removal of all bolting when leakage occurs at a bolted connection does not provide an increase in the level of quality or safety because evidence of degradation can be determined by removing the one bolt closest to the source of leakage. If the removed bolt has evidence of degradation, then all remaining bolts would be removed, VT-3 examined, and evaluated in accordance with IWA-3100. Immediate removal of all bolting would require significant additional time, resources, and radiation dose. The NRC's Safety Evaluation of Code Case N-416-1 states that, "The corrective actions with respect to removal of bolts from leaking bolted connections has been relaxed in the 1992 Edition of ASME Section XI, but [nevertheless] use of this change has been accepted by the staff in previous Safety Evaluations."
Alternate Examination:	In lieu of ASME Section XI, IWA-5250(a)(2), the 1992 Edition of ASME Section XI, IWA-5250(a) (2) shall be used. Thus, if leakage occurs at a bolted connection, the bolt closest to the source of leakage shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. If the removed bolt has evidence of degradation, all remaining bolts shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100.

Specific Relief Request No. CMS-PTRR-1

Component(s):

A. Class 2 components, outside Containment, of the Containment Monitoring System (CMS) which monitor drywell and suppression pool air space atmospheres for hydrogen/oxygen concentration.

B. Class 2 primary containment penetrations for the CMS System, Z60A, B, C, D, E, F, G, H: Z61B, C, E, F.

Code Class:

2

Examination Requirements:

IWA-5240, Performance of visual examination during functional and pneumatic system pressure tests.

Basis for Relief:

A. Relief is requested from ASME Section XI, IWA-5240, as allowed by 10 CFR 50.55a(g)(5). Performance of the required visual examinations does not provide an increase in the level of quality or safety because system integrity will be determined by performance of leakage rate testing to Appendix "J" requirements in lieu of ASME Section XI examinations. The components monitoring the hydrogen and oxygen concentration, including approximately 1000 ft. of piping, are heat traced and insulated. Performance of the required visual examinations entails removing the insulation and heat tracing for every functional and pneumatic test and the application and removal of leak detection fluid. Disposal of the fluid, the wipes used in fluid removal, and damaged insulation and heat tracing is a significant radwaste impact.

The activities associated with these examinations would result in plant life exposure to personnel of approximately 78 man-rem. This constitutes a hardship in terms of radwaste disposal, resources commitment, and in maintaining personnel doses ALARA.

B. Relief is requested from ASME Section XI, IWA-5240, as allowed by 10 CFR 50.55a(g)(5). Performance of the required visual examination does not provide an increase in the level of safety or quality because containment penetration integrity will be determined by performance of leakage rate testing to Appendix J (Type C) requirements in lieu of ASME Section XI examinations.

Specific Relief Request No. CMS-PTRR-1

The subject containment penetrations were built to ASME Code Class 2 rules as required by ASME III Sub NE-1110(c).

The primary Containment structure was also designed, fabricated, and examined to these rules, and is tested to Appendix J (Type A) requirements.

Testing the subject penetrations consistent with the testing requirements of the Containment structure assures that the overall Containment integrity is maintained commensurate with the appropriate level of safety and quality.

Alternate Examination(s):

A. The integrity of traced and insulated components outside containment shall be determined and monitored by performing leakage rate testing in accordance with the Nine Mile Point Unit 2 Appendix J Testing Program. Leakage which exceeds the Appendix J acceptance criteria and cannot be reduced to acceptable levels will be assumed to be pressure boundary leakage and a visual examination per IWA-5240 will be performed.

B. The integrity of the subject penetrations shall be determined by performing leakage rate testing in accordance with the Nine Mile Point Unit 2 Appendix J Testing Program.

Specific Relief Request No. HCS-PTRR-1

Components:

A. Class 2 components of the Hydrogen Recombiner System (HCS) outside containment

B. Class 2 primary containment penetrations for HCS System, Z55 A and B, Z56 A and B, Z57 A and B

Code Class: 2

Examination Requirements: IWA-5240, Performance of VT-2 visual examination during inservice pressure tests for components "A" and "B" above.

Basis for Relief:

A. Relief is requested from ASME Section XI, IWA-5240, as allowed by 10 CFR 50.55a(g)(5). The HCS includes several hundred feet of uninsulated piping in potentially contaminated overhead areas and approximately 250 ft. of insulated piping for personnel protection. Performance of the required visual examinations entails the removal of insulation for each functional test and the application and removal of leak detection fluid.

Disposal of the fluid, the wipes used in fluid removal, and damaged insulation is a significant radwaste impact.

The activities associated with these examinations would result in plant life exposure to personnel of approximately 6.5 man-rem. This constitutes a hardship in terms of radwaste disposal, resource commitment, and in maintaining personnel doses ALARA.

B. Relief is requested from ASME Section XI IWA-5240 as allowed by 10 CFR 50.55a(g)(5). Performance of the required visual examination does not provide an increase in the level of safety or quality because containment penetration integrity will be determined by performance of leakage rate testing to Appendix J (Type C) test method in lieu of ASME Section XI examinations.

The subject containment penetrations were built to ASME Code Class 2 rules as required by ASME III Sub NE-1110(c).

Specific Relief Request No. HCS-PTRR-1

The primary containment structure was also designed, fabricated, and examined to these rules, and is tested to Option B of Appendix J (Type A) requirements.

Testing the subject penetrations consistent with the testing requirements of the containment structure assures that the overall containment integrity is maintained commensurate with the appropriate level of safety and quality.

Alternate Examinations(s):

A. The structural integrity of HCS components outside containment shall be determined and monitored in accordance with Appendix "J" test method. Leakage which exceeds the Appendix "J" acceptance criteria and cannot be reduced to acceptable levels will be assumed to be pressure boundary leakage and a visual examination per IWA-5240 will be performed.

B. The structural integrity of the subject penetrations shall be determined by performing leakage rate testing in accordance with Appendix J requirements.

C. In addition to the proposed alternate examination above, the Class 2 components of the Hydrogen Recombiner System (HCS) shall be subject to an inspection under pressure at least every 40 months. The inspection will consist of a walkdown of the accessible portions of the HCS outside of primary containment to determine by visual and audible observation the structural integrity and condition of the system. Accessible portions of the HCS are defined as those portions of the system which do not require the erection of scaffolding, do not require the removal of insulation, nor constitute a hardship in maintaining radiological doses as low as reasonably achievable (ALARA) to perform an inspection.

11. REFERENCES

1. Code of Federal Regulation (Title 10, Energy)
   - 10 CFR 50.2(v), Reactor Coolant Pressure Boundary definition.
   - 10CFR36, Technical Specifications.
   - 10 CFR 50.55a, Codes and Standards.
   - 10 CFR 50.55a(b), Approved ASME Boiler and Pressure Vessel Code approved for incorporation by reference by the Director of the Federal Register.
   - 10 CFR 50.55a(a)(3), Proposed alternatives to the ASME Code requirements conditions of approval.
   - 10 CFR 50.55a(c), Reactor Coolant Pressure Boundary scope.
   - 10 CFR 50.55a(d), Quality Group B components scope.
   - 10 CFR 50.55a(e), Quality Group C components scope.
   - 10 CFR 50.55a(g), Inservice Inspection requirements.
   - 10 CFR 50.55a Footnote 6, ASME Code Cases that have been determined suitable for use by the Commission.
   - 10 CFR 50.55a Footnote 9, Guidance for quality group classifications of components.
   - 10 CFR 50 Appendix A, General Design Criteria for Nuclear Power Plants.
   - 10 CFR 50 Appendix B, Quality Assurance Criteria for Nuclear Power Plants.
   - 10 CFR 50 Appendix J, Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactor.
2. Regulatory Guide 1.26, Quality Group Classifications and Standards for Water-, Steam-, and Radiological-Waste-Containing Components of Nuclear Power Plants.
3. Regulatory Guide 1.147, Inservice Inspection Code Case Acceptability ASME Section XI Division 1.

4. Documents pertaining to the establishment of the Unit Two commercial operation date:
   - New York Public Service Commission Opinion No. 89–37(C) effective March 14, 1991, establishing April 5, 1988 as the commercial operation date.
   - Internal memo date May 20, 1991, from G D Wilson to M A Egap transmitting the PSC Opinion and confirming the April 5, 1988 date.
   - Internal memo dated May 22, 1991, from A G Vierling to NMP2 ISI/IST File confirming the April 5, 1988 date.
   - Internal memo dated July 16, 1997, from Gail M. Ahern to Gary D. Wilson confirming the April 5, 1988 date.
5. NUREG-0800, Section 3.2.2, Standard Review Plan for Review of Safety Analysis Reports for Nuclear Power Plants.
6. NUREG-0800, Section 5.2.4, Standard Review Plan for Review of Reactor Coolant Pressure Boundary Inservice Inspection and Testing.
7. NUREG-0800, Section 5.4.8, Standard Review Plan for Review of Reactor Water Cleanup System..
8. NUREG-0800, Section 6.6, Standard Review Plan for Review of Inservice Inspection of Class 2 and 3 components.
9. NUREG-1047, Safety Evaluation Report related to the operation of Nine Mile Point Nuclear Station Unit No.2 [Sections; 3.2.2 System Quality Group Classification, 5.2.1 Compliance with Code and Standards, 5.2.4 Reactor Coolant Pressure Boundary Inservice Inspection and Testing, 5.4.8 Reactor Water Cleanup System, and 6.6 Inservice Inspection of Class 2 and 3 Components].
10. NMP2 Technical Specifications
11. NMP2 Updated Safety Analysis Report
12. American Society of Mechanical Engineers (ASME): Boiler and Pressure Vessel Code, Section XI, Rules for Inservice Inspection of Nuclear Power Components, 1989 Edition and 1992 Edition.
13. NMPC Memo PTP-89-032, dated June 5, 1989, from Ken Thomas to Distribution; Subject: Pressure Test Requirements for Post-Maintenance Test
14. ASME Code Case N-416-1
15. ASME Code Case N-498-1
16. ASME Code Case N-498-2
17. ASME Code Case N-522
18. SER by the Office of Nuclear Reactor Regulation on ASME Code Case N-416-1 for NMPC Nine Mile Point Nuclear Station Unit 1 and 2 dated October 18, 1994.

19. SER by the Office of Nuclear Reactor Regulation on ASME Code Case N-498-1 for NMPC Nine Mile Point Nuclear Station Unit 1 and 2 dated January 13, 1995.
20. NDD-IIT, Inservice Inspection and Testing
21. NIP–IIT–01, ASME Section XI Programs
22. NDEP-VT-2.01, ASME Section XI Visual Examination Procedure.
23. DER No. 2-94-2232, NMP2 Pressure Testing Ten Year Inservice Inspection Program Plan Review.
24. American Society for Nondestructive Test/American Society for Metals Nondestructive Testing Handbook (Second Edition) Volume One Leak Testing.
25. Internal correspondence from J. A. Neyhard to NMP2 Tech. Support file code #NMP90805 dated March 15, 1995, pertaining to the use of Halogen testing method as an alternative to VT-2.
26. Nuclear Engineering Report NER-2M-013, Rev. 0 dated 2/26/96, "Determination of the Inservice Pressure Test Boundary Inclusion/Exclusion Justification".
27. USNRC Safety Evaluation of the ISI Program for pressure testing, Nine Mile Point 2 Relief Request HCS-PTRR-1 (TAC No. M95095) dated September 4, 1996
28. Internal correspondence from Jim Burns to NMP2 Tech Support, file code #NMP 90844 dated August 23, 1996.
29. M2-0002, ASME Section XI System Pressure Testing Acceptance Criteria

ATTACHMENT 1
ISPT DRAWING LIST

ATTACHMENT 1.0 ISPT DRAWING LISTING

System Abbreviation	ISPT Drawing Nos.
MSS	1A, 1B, 1C, 1D, 1E, 1F, and 1J
FWS	6B
CWS	10D, SWP portion only
SWP	11A through 11J; 11L, 11M, 11P, and 11Q
CCP	13A through 13E
IAS	19D through 19G; 19J, 19L, and 19M
AAS	20E
ISC	28A through 28C
RCS	29A through 29C
RDS	30B and 30C
RHS	31A through 31G
CSL	32A
CSH	33A and 33B
ICS	35A through 35D
SLS	36A
WCS	37A and 37B
SFC	38A through 38C
FPW	43G
HVR	52H
HVK	53A
CPS	61A
HCS	62A and 62B
DFR	63C and 63E
DER	67A
LMS	81A

ATTACHMENT 1.0 ISPT DRAWING LISTING

System Abbreviation	ISPT Drawing Nos.
CMS	82A and 82B
EGA	104A
EGF	104B and 104C
EGS	104D
EGO	104E
GSN	105B
TIP	EM-38A and 38C, "Arrangement, Neutron Monitoring System"
RPV	REV-2, "Reactor Assembly," REVC-1, "Plan of Bottom Head Penetration," REVN-1, "CRD Hydraulic System Return Nozzle," and REV N18-1, "N-18 Nozzle Assembly."

ATTACHMENT 2
ISPT SYSTEMS
INDIVIDUAL TEST LISTINGS

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
MSS	1	L0	RPV Class 1 Leakage Test (RO)
		L00	RPV Class 1 Leakage Test Boundary
			Extension (10 yr.)
		EX10	Main Steam Lines from its outer Isolation Valve
			up to, and including turbine stop valves
FWS	6	L0	RPV Class 1 Leakage Test (RO)
CWS	10	GEX1	Exempted per Rules in Section 5 (For Class 3 portions of Service Water Lines shown on this drawing)
SWP	11	I1	Service Water "A" Header Inservice Test
		I2	Service Water "B" Header Inservice Test
		I3	Service Water Pump "1A" Inservice Test
		I4	Service Water Pump "1B" Inservice Test
		I5	Service Water Pump "1C" Inservice Test
		I6	Service Water Pump "1D" Inservice Test
		I7	Service Water Pump "1E" Inservice Test
		I8	Service Water Pump "1F" Inservice Test
		I9	Service Water RHS HX "A" Inservice Test
		I10	Service Water RHS HX "B" Inservice Test
		I11	Service Water Condenser Pump "2A" Inservice Test
		I12	Service Water Condenser Pump "2B" Inservice Test
CCP	13	GEX2	10 CFR 50, Appendix J Penetration
		I1	RX Building. Closed Loop Cooling SFC "A" Heat Exchanger
		I2	RX Building. Closed Loop Cooling SFC "B" Heat Exchanger

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
		I3	RX Building. Closed Loop Cooling RHS Pump "A, B, C" and seal cooler
IAS/SAS	19	I1	Instrument Air "A" Supply Header Inside Containment Inservice Test
		I2	Instrument Air "B" Supply Header Inside Containment Inservice Test
		I3	Inboard MSIV Accumulators
		I4	Instrument Air "A" Supply Header Outside Containment Inservice Test
		I5	Instrument Air "B" Supply Header Outside Containment Inservice Test
		I6	Main Steam Isolation Valves Accumulators (steam tunnel)
		H1	Expansion Tank #49
		H2	Expansion Tank #50
		H3	Expansion Tank #51
		H4	Expansion Tank #52
		GEX2	10 CFR 50, Appendix "J" penetration
		EX13	Non-ADS Supply Air Inside Containment
		EX14	Instrument Air Supply Piping to the Non-ADS Accumulators
IAS/SAS	19	EX15	Instrument Air for Drywell Vacuum Breakers Inside Containment
		EX16	Instrument Air Accumulator Blowout Tanks for Outboard MSIVs
AAS	20	GEX2	10 CFR 50. Appendix "J" Penetration
ISC	28	L0	RPV Class 1 Leakage Test (RO)
		GEX2	10 CFR 50, Appendix "J" Penetration
		EX4	Post Accident Sampling Piping

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
RCS	29	L0	RPV Class 1 Leakage Test (RO) and 10 CFR 50, Appendix J Penetration
		GEX2	10 CFR 50, Appendix "J" Penetration
		EX7	RDS Control Rod Drive Seal Inside Containment
		EX8	Drywell Floor and Equipment Drains
RDS	30	L0	RPV Class 1 Leakage Test (RO)
		F1	CRD Mechanisms and SDV Functional during a RX Scram or Inservice during a RPV Leakage Test
		EX3	Scram Accumulators and N2 Supply Piping
RHS	31	L0	RPV Class 1 Leakage Test (RO)
		L00	RPV Class 1 Leakage Test Boundary Extension (10 yr.)
		L1	RHS Class 1 Leakage Test during PIV Leak Testing of MOV24A (RO or 10 yr.)
		L2	RHS Class 1 Leakage Test during PIV Leak Testing of MOV24B (RO or 10 yr.)
		L3	RHS Class I Leakage Test during PIV Leak Testing of MOV24C (RO or 10 yr.)
RHS	31	L4	RHS Class 1 Leakage Test during PIV Leak Testing of MOV113 (RO or 10 yr.)
		L5	RHS Class 1 Leakage Test during RPV Leakage Test using Hydro Pump at V64 (RO)
		F1	RHS Loop "A" Functional Test
		F2	RHS Loop "B" Functional Test
		F3	RHS Loop "C" Functional Test
		F4	RHS Piping between MOV15A and MOV25A

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
		F5	RHS Loop "A" Steam Condensing Mode Steam Side Functional Test
		F6	RHS Loop "B" Steam Condensing Mode Steam Side Functional Test
		F7	RHS Common Shutdown Cooling Piping Functional Test
		F8	RHS Piping between MOV15B and MOV25B
CSL	32	L0	RPV Class 1 Leakage Test (RO)
		L1	CSL Class 1 Leakage Test during PIV Leak Testing of MOV104 (RO or 10 yr.)
		F1	CSL Suction and Discharge Piping Functional Test
CSH	33	L0	RPV Class 1 Leakage Test (RO)
		L1	CSH Class 1 Leakage Test during PIV Leak Testing of MOV107 (RO or 10 yr.)
		I1	Excess flow Check Valve Piping Water Portion
		F1	CSH Suction Discharge Piping Functional Test
		GEX2	10 CFR 50, Appendix "J" Penetration
ICS	35	L0	RPV Class 1 Leakage Test (RO)
		L00	RPV Class 1 Leakage Test Boundary Extension (10 yr.)
		L5(RHS)	RHS Class 1 Leakage Test during RPV Leakage Test using Hydro Pump at V64 (RO)
		I1	ICS Steam Supply Plant at Power Inservice Test
		F1	ICS Suction and Discharge Piping Functional Test

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
		F2	ICS Suction Line from Suppression Pool to Valves MOV136, V28 & V220 Functional Test
		F3	ICS Suppression Pool Flow Return
		EX1	ICS Gland Seal Exempt
SLS	36	L0	RPV Class 1 Leakage Test (RO)
		L00	RPV Class 1 Leakage Test Boundary Extension (10 yr.)
		I1	SLS Storage Tank, Suction Lines & Instrumentation Inservice Test
		F1	SLS Loop "A" and partial Loop "B" Piping Functional Test
		F2	SLS Loop "B" Discharge Piping Functional Test
		NOTE:	If performance of F3 is to satisfy the retest for a repair, the test must be conducted during operation at nominal operating pressure, or when pressurized to nominal operating pressure (Code Case N–416–1).
		F3	SLS Class 2 Common Injection Piping Functional Test during Injection Flow Verification
WCS	37	L0	RPV Class 1 Leakage Test (RO)
		L00	RPV Class 1 Leakage Test Boundary Extension (10 yr.)
		EX12	Reactor Water Cleanup System Exempt
SFC	38	I1	SFC Loop "A" and Common Suction Supply From Surge tanks and return Inservice Test
		I2	SFC Loop "B" and common suction supply from surge tank and return Inservice Test
		GEX2	10 CFR 50, Appendix "J" Penetration
FPW	43	GEX2	10 CFR 50, Appendix J Penetration

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
HVR	52	EX6/EX11	Ductwork Exempt
HVK	53	I1	HVK Control Bldg. Chilled Water Loop "A" Inservice Test
		I2	HVK Control Bldg. Chilled Water Loop "B" Inservice Test
CPS	61A	EX5	CPS Piping Exempt
		GEX2	10 CFR 50, Appendix J Penetration
HCS	62		
		NOTE:	With the exception of F9 & F10 (the water spray portions), the following specified function pressure testing of the HCS system is addressed within Relief Request HCS-PTRR-1.
HCS	62	F1	HCS Hydrogen Recombiner Loop "A" Functional Test
		F2	HCS Hydrogen Recombiner Loop "B" Functional Test
HCS	62	F3	HCS Containment Penetration Z56A Functional Test Between MOV3A & MOV6A
		F4	HCS Containment Penetration Z56B Functional Test Between MOV3B & MOV6B
		F5	HCS Containment Penetration Z57A Functional Test Between MOV2A & MOV5A
		F6	HCS Containment Penetration Z57B Functional Test Between MOV2B & MOV5B
		F7	HCS Containment Penetration Z55A Functional Test Between MOV1A & MOV4A

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
		F8	HCS Containment Penetration Z55B Functional Test Between MOV1B & MOV4B
		F9	HCS Hydrogen Recombiner "A" Water Spray Cooler Functional Test
		F10	HCS Hydrogen Recombiner "B" Water Spray Cooler Functional Test
DFR	63	EX8	Drywell Floor and Equipment Drain Exempt
		GEX2	10 CFR 50, Appendix "J" Penetration
DER	67	L00	RPV Class 1 Leakage Test Boundary Extension (10 years)
		EX8	Drywell Floor and Equipment Drains Exempt
		EX9	Seals Leakage Sensing Instrumentation Exempt
		GEX2	10 CFR 50, Appendix J Penetration
LMS	81	GEX2	10 CFR 50, Appendix J Penetration
CMS	82	I1	Suppression Pool Penetrations Z340-1 and Z342-1
		NOTE:	Functional pressure testing of the CMS Hydrogen/Oxygen Monitoring System is addressed within relief request RR-IWA-7. VT-2 visual examination is not required during performance of 10 CFR 50, Appendix J testing for the following functional tests;
		F1	CMS Hydrogen/Oxygen "A" Analyzer Functional Test
		F2	CMS Hydrogen/Oxygen "B" Analyzer Functional Test
		F3	CMS Radiation Monitor 10A Functional Test

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
		F4	CMS Radiation Monitor 10B Functional Test
		F5	CMS Containment Penetration Z60A Functional Test Between SOV60A & SOV61A
		F6	CMS Containment Penetration Z60E Functional Test Between SOV60B & SOV61B
		F7	CMS Containment Penetration Z60B Functional Test Between SOV24A & SOV24C
		F8	CMS Containment Penetration Z60F Functional Test Between SOV24B & SOV24D
		F9	CMS Containment Penetration Z60C Functional Test Between SOV62A & SOV63A
		F10	CMS Containment Penetration Z60G Functional Test Between SOV62B & SOV63B
		F11	CMS Containment Penetration Z60D Functional Test Between SOV32A & SOV33A
		F12	CMS Containment Penetration Z60H Functional Test Between SOV32B & SOV33B
CMS	82	F13	CMS Containment Penetration Z61B Functional Test Between SOV26A & SOV26C
		F14	CMS Containment Penetration Z61E Functional Test Between SOV26B & SOV26D
		F15	CMS Containment Penetration Z61C Functional Test Between SOV34A & SOV35A

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
		F16	CMS Containment Penetration Z61F Functional Test Between SOV34B & SOV35B
		GEX2	10 CFR 50, Appendix "J" Penetrations
EGA	104A	I1	EGA Standby Diesel Generator (EG1) Division 1 Starting Air 1A Inservice Test
		I2	EGA Standby Diesel Generator (EG1) Division 1 Starting Air 2A Inservice Test
		I3	EGA Standby Diesel Generator (EG3) Division Starting Air 1B Inservice Test
		I4	EGA Standby Diesel Generator (EG3) Division 2 Starting Air 2B Inservice Test
		I5	EGA High Pressure Core Spray Diesel Generator(EG2) Division 3 Starting Air 3 Inservice Test
		I6	EGA High Pressure Core Spray Diesel Generator(EG2) Division 3 Starting Air 4 Inservice Test
		EX2	Portions of Air Start and Diesel Generator Piping exempt
EGF	104B,C	F1	EGF Standby Diesel Generator (EG1) Division 1 including fuel oil day tank, piping and Transfer Pump 1A Functional Test
		F2	EGF Standby Diesel Generator (EG1) Division 1 Fuel Oil Transfer Pump 1C Functional Test
		F3	EGF Standby Diesel Generator (EG3) Division 2 including fuel oil day tank piping and Fuel Oil Transfer Pump 1B Functional Test
		F4	EGF Standby Diesel Generator (EG3) Division 2 Pump 1D Functional Test

ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
		F5	EGF High Pressure Core Spray Diesel Generator(EG2) Division 3 including fuel oil day tank, piping and Fuel Oil Transfer Pump 2A Functional Test
		F6	EGF High Pressure Core Spray Diesel Generator(EG2) Division 3 Transfer Pump P2B Functional Test
		I1	EGF Standby Diesel Generator (EG1) Division 1 Fuel Oil Test
		I2	EGF Standby Diesel Generator (EG3) Division 2 Fuel Oil Test
		I3	EGF High Pressure Core Spray Diesel Generator(EG2) Division 3 Fuel Oil Test
		H1	Fuel Oil Storage Tank Division 1 Hydrostatic Test is met by performing Technical Specification Surveillance 4.8.1.1.2.h.2
		H2	Fuel Oil Storage Tank Division 2 Hydrostatic test is met by performing Technical Specification Surveillance 4.8.1.1.2.h.2
		H3	Fuel Oil Storage Tank Division 3 Hydrostatic test is met by performing Technical Specification. Surveillance 4.8.1.1.2.h.2
EGS	104D	I1	EGS Standby Diesel Generator (EG1) Division 1 Aux. Skid Jacket Water Including Standpipe Test
		I2	EGS Standby Diesel Generator (EG3) Division 2 Aux. Skid Jacket Water including standpipe Test
		I3	EGS High Pressure Core Spray Diesel Generator(EG2) Division 3 Jacket Water Heat Exchanger Test
		EX2	Jacket Water Piping Exempt

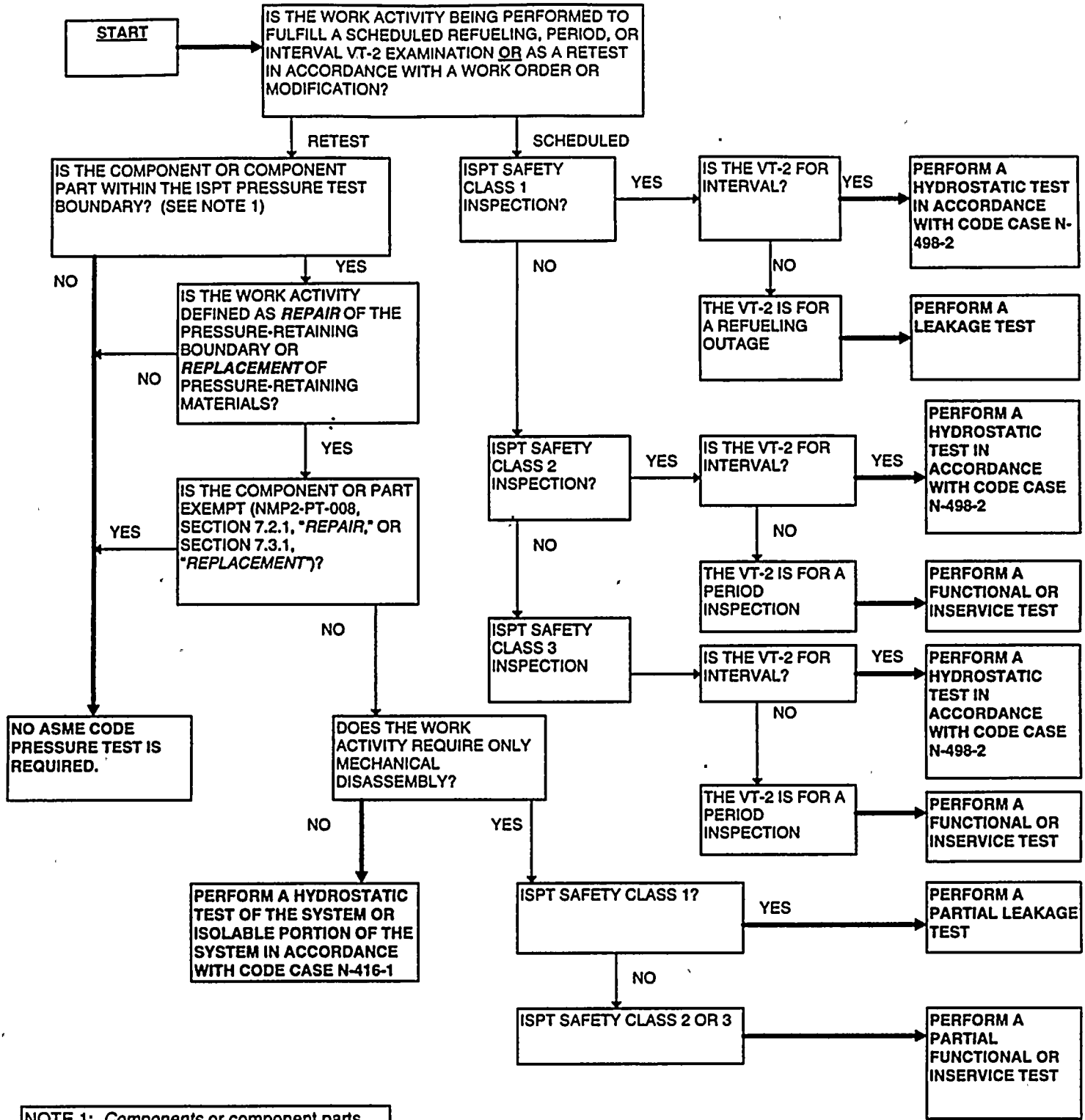
ATTACHMENT 2.0 ISPT SYSTEMS INDIVIDUAL TEST LISTING

The following descriptive boundaries are also shown on color coded ISPT drawings.

System	ISPT Dwg.	Tests	Description
EGO	104E	I1	EGS Standby Diesel Generator (EG1) Division 1 Aux. Skid Lube Oil Test
		I2	EGS Standby Diesel Generator (EG3) Division 2 Aux. Skid Lube Oil Test
GSN	105	F1	GSN Nitrogen Supply "A" Header Functional Test
		F2	GSN Nitrogen Supply "B" Header Functional Test
		GEX2	10 CFR 50, Appendix J Penetration
TIP	EM-38	GEX2	10 CFR 50, Appendix "J" Penetration
RPV	REV2	L0	RPV Class 1 Leakage Test (RO)
RPV	REVN-1	L0	CRD Return Nozzle Class 1 Leakage Test (RO)
RPV	REVC-1	L0	RPV Bottom head Penetration Class 1 Leakage Test (RO)
RPV	REVN18-1	L0	N18 Nozzle Assembly Class 1 leakage Test (RO)

ATTACHMENT 3
SYSTEM PRESSURE TEST FLOW PATH

System Pressure Test Flow Path



NOTE 1: *Components* or component parts designed ASME Section III Class 1, 2, or 3 and not part of the ISPT Program Plan scope may be tested in accordance with this Program Plan.

ATTACHMENT 4
NRC SERs and CODE CASES

Contents