SOUTHERN NUCLEAR OPERATING COMPANY
MATERIALS AND INSPECTION SERVICES

PRESSURE TEST SECTION

FOURTH TEN-YEAR EXAMINATION PLAN

E. I. HATCH NUCLEAR PLANT

UNIT 2

VER	DATE	DESCRIPTION	SNC		
			PREP'D BY (M&IS)	REV'D BY (M&IS)	APPV. BY (M&IS)
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Hatch Unit 2 Third Ten-Year Examination Plan
Pressure Test Section
(Volume 6)

List of Effective Pages

Hatch Unit 2 Fourth Ten-Year Examination Plan
Volume 6

Distribution List

Manual Number	Manual Holder
1	Document Control

Note: One manual is provided to Site Document Control to meet requirements for life of plant QA Record. This manual is available electronically at: S:\Workgroups\SNC Southern Nuclear\Corporate\Technical Services\Inspection and Testing Services\Department Data\Approved M&IS Documents\Hatch\ISI

In addition, the site pressure test engineer and the ANII will be provided current copies of the Pressure Test Diagrams.

Edwin I. Hatch Nuclear Plant - Unit 2

System Pressure Test Plan
Examination Categories B-P, C-H, D-B

1.0 Code Applicability and Pressure Testing Interval

All pressure testing shall be performed in accordance with the ASME Section XI Code, 2001 Edition through 2003 Addenda, Subsections IWA-5000, IWB-5000, IWC-5000, IWD-5000, and in accordance with approved code cases, alternatives, and relief requests.

The 4th and current Inservice Inspection Interval begins 12/31/2005 and goes thru 12/31/2015.

2.0 General Criteria

Pressure testing shall be performed in accordance with site approved testing procedures. Table 1 of this section contains an itemized list of all required pressure tests and provides information relative to the requirements and test parameters for each. Table 2 of this section provides the test schedule for each test and will be updated periodically to reflect those tests that have been performed.

The boundaries of each test are identified on the Pressure Test Diagrams. A complete listing of the diagrams is included in Attachment 1 the Pressure Test Diagram Section.

Table 1 Parameters

TEST I.D./
DIAGRAM - Provides the test identification (e.g. 2B21-LT-1) and a list of the applicable pressure test diagrams.

ASME CODE
CATEGORY - The applicable ASME Section XI, 2001 Edition through 2003 Addenda, Code examination category.

ASME ITEM
NUMBER - The applicable ASME Section XI, 2001 Edition through 2003 Addenda, Code examination item number.

ASME TEST
TYPE - The Code required test type as defined in IWA-5211.

TEST
FREQUENCY- The Code required frequency for the performance of the test as defined in ASME Section XI, 2001 Edition through 2003 Addenda, Tables IWB-2500, IWC-2500 and IWD-2500.

TEST
PRESSURE - The Code required test pressure.

HOLD TIME - The Code required "Hold Time" applicable prior to performing the leakage examination.

TEST
PROCEDURE- The applicable pressure testing procedure(s) for performing the pressure test.

SURVEILLANCE
PROCEDURE- The applicable surveillance procedure(s) utilized in conjunction with the test procedure (if applicable).

REMARKS AND
REFERENCES - Information relative to test particulars.

Table 2 Parameters

TEST I.D. - The applicable test identification.

TEST TYPE - The Code required test type as defined in IWA-5211.

TEST
FREQUENCY- The Code required frequency for the performance of the test as defined in ASME Section XI, 2001 Edition through 2003 Addenda, Tables IWB-2500, IWC-2500 and IWD-2500.

PERIOD 1
PERIOD 2
PERIOD 3 - The ASME Section XI, period used to schedule the pressure test as defined by Tables IWB-2412-1, IWC-2412-1 and IWD-2412-1 (i.e. 3-years, 4-years, 3-years). Three ISI inspection periods make up one ISI inspection interval.

REMARKS/
NOTES - Information relative to test particulars.

3.0 Examination

The boundary for each pressure test defined in this section shall be visually examined while the subject boundary is at the required test pressure utilizing an approved VT-2 (as defined by ASME XI, IWA-2212) examination procedure. VT-2 personnel are to be qualified in accordance with the requirements of IWA-2300.

4.0 Testing Frequency

The frequency for performing each pressure test is established in Table 2. Each pressure test shall be performed in accordance with the schedule as defined in Table 2.

5.0 Examination and Acceptance Criteria

No evidence of leakage is allowed from welds or component bodies. The acceptance criteria of ASME Section XI, paragraph IWB-3522 shall also be considered when evaluating examination results. The applicable test procedures may also identify additional examination acceptance criteria.

6.0 Buried Piping

Portions of the HPCI, RCIC, SDPSW, PSW and RHRSW system piping are buried. IWA-5244 provides requirements for pressure testing of buried components. IWA-5244(b)(1) is applicable for the subject buried piping and requires either a test to determine the rate of pressure loss or a test that determines the change in flow between the ends of the buried piping. SNC is evaluating various test options for SDPSW, PSW and RHRSW buried piping sections and will formalize a test plan within the test frequency required by the ASME XI Code.

EDWIN I. HATCH NUCLEAR PLANT - UNIT 2
PRESSURE TEST LOGIC

General Pressure Test Logic Applications

Class 1

Table IWB-2500-1, Examination Category B-P, requires a system leakage test (IWA-5211(a)) each refueling outage. Once every 10-years, the system leakage test will extend to all Class 1 pressure containing components within the system boundary in accordance with IWB-5222(b).

Per ISI Alternative ISI-ALT-05, opening of the first isolation for 1" and under valves for the 10-year Class 1 leakage test is not required.

Class 2

IWC-2500-1, Examination Category C-H, requires a system leakage test conducted while the system is in operation, during a system operability test, or while the system is at test conditions using an external pressurization source. Class 2 components/piping not required to operate during normal plant operation are subject to a 10 minute hold time. Class 2 components/piping required to operate during normal plant operation are subject to no hold time, provided the system has been operating for at least 4 hours for insulated components and 10 minutes for non-insulated components.

The primary containment includes numerous penetrations provided with isolation valves for which the piping is classified as ASME Class 2 due to the guidance of NRC Regulatory Guide 1.26. The associated piping outside the boundary of the isolation valves does not provide any safety related function for reactor shutdown or residual heat removal. Therefore, the only safety related function of the penetration is to provide containment isolation. For these penetrations, the piping is exempt from periodic system pressure testing, and the leakage rate testing that is performed per 10CFR50 Appendix J ensures that the containment isolation boundary is adequately maintained.

Containment expansion bellows are not required to be pressure tested in accordance with ASME Section XI (e.g. X-7A). These bellows do not interface with process fluid and the only function is to maintain containment integrity. Therefore, only the requirements of Appendix J apply.

Per Code Case N-566-2, leakage at a bolted connection, in a system borated for the purpose of controlling reactivity (i.e. Standby Leakage Control), can be evaluated in lieu of removing and examining bolts provided that the leakage is stopped. If the leakage is not stopped, the connection can be evaluated to determine the structural integrity and consequences of continuing operation, and the effect on the system operability of continued leakage. Either evaluation is to determine the susceptibility of the bolting to corrosion and failure, and will include the following: the number and service age of the bolts, bolt and component material,

corrosiveness of the process fluid, leakage location and system function, leakage history at the connection or other system components, and visual evidence of corrosion at the assembled connection.

Main Steam Line Boundary (PT-26000 and PT-21012)

NRC Regulatory Guide 1.26, paragraph C.1.c, defines the boundary of the main steam piping for BWRs. The boundary extends from the outboard PCIV (2B21-F028s) up to but not including the turbine stop and bypass valves and connected piping out to the first valve that is either normally closed or capable of automatic closure during normal reactor operation.

RCIC System

No credit is taken in any of the accident analyses for the RCIC system except for the primary containment isolation function. However, due to a decision to maintain the integrity and operational readiness of the system, it is considered augmented for the application of ISI and IST. Therefore, pressure testing will be performed on the RCIC system using guidance from ASME Section XI. However, the development of relief requests is not required if specific Code requirements cannot be met.

Torus and Containment Spray Discharge

Testing of the open-ended portion of this piping is not required per IWC-5222(b).

Class 3 Table IWD-2500-1 requires a system leakage test conducted while the system is in operation, during a system operability test, or while the system is at test conditions using an external pressurization source.

SRV Discharge Piping to Suppression Pool

Testing of this open-ended discharge piping is not required per IWD-5240(b).

RHRSW To RHR Cross-Tie Connection (2E11-F075A(B) to 2E11F078A(B))

Per the System Evaluation Document (SED), RHRSW injection to the RPV is not within the design basis of Unit 2. Therefore, no safety related function is provided by this piping section and pressure testing is not required.

TEST I.D./ CODE CAT.	TEST JUSTIFICATION

The Pressure Test Diagrams should be used in conjunction with the below justifications.

2B21-LT-1 (B-P)	Table IWB-2500-1 specifies a Class 1 system leakage test per IWB-5220 prior to plant startup after each refueling outage. Test 1B21-LT-1 satisfies the system leakage test requirement and is performed at the pressure which corresponds to 100% rated reactor power (1045 psig) each refueling outage. The pressure boundary corresponds to that with all valves in the position required to support normal reactor startup, and the examination boundary extends out to the second normally closed valve in accordance with IWB-5222(a). This test is required prior to each reactor startup following a refueling outage per Table IWB-2500 Note 2. No hold time applies.
2B21-10LT-1 (B-P)	This test is the same as 2B21-LT-1 except that the pressure boundary extends out to all Class 1 pressure containing components within the system boundary in accordance with IWB-5222(b). No hold time applies.
2B21-LT-2 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. The instrument lines outboard of the Class 1 EFCVs are inservice during normal plant operation. The boundary extends to but does not include the associated instrument(s). Therefore, performance of this test each inspection period during normal operation satisfies the requirements of IWC-5220. No hold time is required for this piping provided that the system has been in operation for 4-hours for insulated components and 10-minutes for un-insulated components.
2C11-LT-1 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. 2C11-LT-1 is required once each inspection period and is performed at a pressure corresponding to nominal reactor operating pressure to satisfy the requirements of IWC-5220. This test is performed in conjunction with the Class 1 System Leakage Test. A 10-minute hold time is required.
2C41-LT-1 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. The pump suction piping is at nominal operating pressure at all times when the SBLC system is considered operable. Therefore, performance of this test each inspection period while SBLC is considered operable satisfies the requirements of IWC-5220. A 10-minute hold time is required.
2C41-LT-2A (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. The piping and components are subjected to leakage testing at nominal operating pressure quarterly in conjunction with pump IST and/or Technical Specification operability testing. Performance of a leakage test (10 minute hold time) each inspection period satisfies the pressure test requirements of IWC-5220.

2C41-LT-2B (C-H)	Same logic and justification as for test 2C41-LT-2A.
2C41-LT-3 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. There are no system functional/surveillance tests applicable to this piping and SBLC is not inservice during normal operation. This test requires a hydro pump to pressurize. Performance of leakage test 2C41-LT-3 each inspection period satisfies the pressure test requirements of IWC-5220. This test must be performed during a refueling outage. A 10-minute hold time is required.
2E11-LT-1A (C-H)	Table IWC-2500-1 specifies a leakage test each inspection period. Leakage test 2E11-LT-1A is performed in conjunction with surveillance testing of the 2E11-C002A pump or when this pump is in the shutdown cooling or suppression pool cooling mode of operation. Performance of 2E11-LT-1A during each inspection period satisfies the pressure test requirements of IWC-5220. No hold time is required for this piping provided that the system has been in operation for 4-hours for insulated components and 10-minutes for un-insulated components.
2E11-LT-1B (C-H)	Same logic and justification as for test 2E11-LT-1B.
2E11-LT-1C (C-H)	Same logic and justification as for test 2E11-LT-1C.
2E11-LT-1D (C-H)	Same logic and justification as for test 2E11-LT-1D.
2E11-LT-2 (C-H)	Table IWC-2500-1 specifies a leakage test each inspection period. Leakage test 2E11-LT-2 is performed when RHR is in the shutdown cooling mode of operation. Performance of 2E11-LT-2 during a refueling outage each inspection period satisfies the pressure test requirements of IWC-5220. No hold time is required for this piping provided that the system has been in operation for 4-hours for insulated components and 10-minutes for un-insulated components.
2E11(SW)-LT-1A (D-B)	Table IWD-2500-1 requires Class 3 piping and component pressure testing per IWD-5221 each inspection period. Performance of this pressure test during each inspection period satisfies the pressure test requirements of IWD-5221. This test is performed during refueling outage during RHR shutdown cooling. No hold time is required for this piping provided that the system has been in operation for 4-hours for insulated components and 10-minutes for un-insulated components.

2E11(SW)-LT-1B (D-B)	Same logic and justification as for test 2E11(SW)-LT-1A.
2E11(SW)-LT-1C (D-B)	Same logic and justification as for test 2E11(SW)-LT-1A.
2E11(SW)-LT-1D (D-B)	Same logic and justification as for test 2E11(SW)-LT-1A.
2E21-LT-1A (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. Leakage test 2E21-LT-1A is performed in conjunction with surveillance testing of the 2E21-C001A pump. Performance of 2E21-LT-1A during each inspection period satisfies the pressure test requirements of IWC-5220. A 10-minute hold time is required.
2E21-LT-1B (C-H)	Same logic and justification as for test 2E21-LT-1A.
2E41-LT-1 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. The steam line to the HPCI Turbine isolation valve (2E41-F001) is pressurized to nominal operating pressure at all times when HPCI is considered operable. Therefore, performance of leakage test 2E41-LT-1 each inspection period satisfies the pressure testing requirements of IWC-5220. A 10-minute hold time is required.
2E41-LT-2 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. HPCI system operation time during leakage testing is limited by allowable suppression pool water temperatures and testing using a test pump is impractical. Therefore, performance of leakage test 2E41-LT-2 each period will satisfy the pressure test requirements of IWC-5220. This test is performed during HPCI surveillance testing. A 10-minute hold time is required.
2E41-LT-3 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. HPCI system operation time during leakage testing is limited by allowable suppression pool water temperatures. Therefore, performance of leakage test 2E41-LT-3 each period will satisfy the pressure test requirements of IWC-5220. This test is performed during HPCI surveillance testing. The pump suction piping testing can be performed at any time the system is operable. The buried portion of the pump suction piping is performed using a pressure decay test. A 10-minute hold time is required.

2E41-LT-4 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. The pump suction piping from the suppression pool is pressurized to the static head pressure of the suppression pool water level during normal operation. Therefore, performance of leakage test 2E41-LT-4 each inspection period satisfies the pressure testing requirements of IWC-5220. A 10-minute hold time is required.
2E51-LT-1 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. This steam line is pressurized to nominal operating pressure when RCIC is operating. Performance of leakage test 2E51-LT-1 each inspection period is adequate to ensure pressure boundary integrity for this portion of the RCIC system since it is considered augmented for ISI. A 10-minute hold time applies.
2E51-LT-2 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. RCIC system operation time during leakage testing is limited by allowable suppression pool water temperatures. Therefore, performance of a leakage test 2E51-LT-2 each inspection period is adequate to ensure pressure boundary integrity for this portion of the RCIC system since it is considered augmented for ISI. This test is performed during RCIC surveillance testing. The pump suction piping testing can be performed at any time the system is operable. The buried portion of the pump suction piping is performed using a pressure decay test. A 10-minute hold time applies.
2E51-LT-3 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. The pump suction piping from the suppression pool is pressurized to the static head pressure of the suppression pool water level during normal operation. Therefore, performance of leakage test 2E51-LT-3 each inspection period is adequate to ensure pressure boundary integrity for this portion of the RCIC system since it is considered augmented for ISI. A 10-minute hold time is required.
2E51-LT-4 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. The turbine steam supply piping is pressurized up to the turbine admission valve (2E51-F045) whenever the RCIC system is considered operable. This test is performed in conjunction with 2N11-LT-1 during startup when the reactor is at low power. Therefore, performance of leakage test 2E51-LT-4 each inspection period when the reactor is at a rated temperature and pressure is adequate to ensure pressure boundary integrity for this portion of the RCIC system since it is considered augmented for ISI. A 10-minute hold time is required.

2G51-LT-1 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. This piping is under nominal operating pressure at all times. Performance of 2G51-LT-1 at any time satisfies the leakage test requirements of IWC-5220. No hold is applicable.
2N11-LT-1 (C-H)	Table IWC-2500-1 specifies a system leakage test each inspection period. The Main Steam Piping is inservice during normal power operation. Test 2N11-LT-1 satisfies the leakage test requirements and is performed at nominal system operating pressure once each period. This test is performed during reactor start up while reactor is at low power. No hold time is required for this piping provided that the system has been in operation for 4-hours for insulated components and 10-minutes for un-insulated components.
2P41-LT-1A (D-B)	Table IWD-2500-1 requires Class 3 piping and component pressure testing per IWD-5221. Performance of test 2P41-LT-1A each inspection period satisfies the requirements of IWD-5221. No hold time is required for this piping provided that the system has been in operation for 4-hours for insulated components and 10-minutes for un-insulated components.
2P41-LT-1B (D-B)	Same logic and justification as 2P41-LT-1A.
2P41-LT-2 (D-B)	Table IWD-2500-1 requires Class 3 piping and component pressure testing per IWD-5221. Performance of test 2P41-LT-2 each inspection period satisfies the requirements of IWD-5221. This piping section is pressurized during the standby diesel service water pump inservice test. A 10-minute hold time is required.
2P41-LT-3 (D-B)	Table IWD-2500-1 requires Class 3 piping and component pressure testing per IWD-5221. Performance of test 2P41-LT-2 each inspection period satisfies the requirements of IWD-5221. This piping section is not pressurized during any system function test or during any normal mode of system operation. This test will be performed in conjunction with 2P41-LT-1A or 2P41-LT-1B by opening the applicable isolation valves during pressurization of the subject piping. A 10-minute hold time is required.

EDWIN I. HATCH NUCLEAR PLANT - UNIT 2
PRESSURE TEST DIAGRAMS

The Pressure Test Diagrams were developed utilizing the ISI Boundary Diagrams as the initial scope for which pressure testing requirements were applied. The diagrams are numbered with the same number as the corresponding ISI Boundary Diagram and the P&ID, except pressure test diagrams have a "PT" prefix, boundary diagrams have a "HB" prefix and P&IDs have a "H" prefix. The pressure test diagrams are color coded to provide the applicable boundary for each test and must be used with the Test Tables and Test Schedule to determine all of the particular requirements for any test. The Pressure Test Diagrams are maintained by the M&IS Department as part of the ISI Plan document.

The M&IS Department will compare the Pressure Test Diagrams against the ISI Boundary Diagrams periodically to determine the impact of plant changes on the scope of pressure testing. The M&IS Department will update the pressure test diagrams in conjunction with ISI Plan updates as appropriate. Since there is always some delay in the update process for the ISI Boundary Diagrams, which are changed in conjunction with P&ID revisions, the test diagrams should be compared to the latest revision of the corresponding P&ID prior to use. If the test diagram is different from the latest P&ID, the test diagram can still be utilized to determine the pressure test scope provided that the responsible Test Engineer reconciles the differences applicable to the test boundary.

Hatch Document Control is included on controlled distribution of the Pressure Test Diagrams to satisfy long term document retention requirements. The pressure test diagrams are maintained independently from the ISI plan and revision control is provided by the index drawing listing. The pressure test index drawing PT-20000 lists all drawings and current revision numbers.

Attachment 1 provides an itemized listing of the Unit 2 Pressure Test Diagrams. See diagram PT-20000 for the latest issued revision of pressure test diagrams.

ATTACHMENT 1

Diagram #	Diagram Title
PT-20000	Pressure Test Diagram Drawing Index
PT-21012	Main Steam Pressure Test Diagram
PT-21033	Turbine Building Service Water System Pressure Test Diagram
PT-21035	Turbine Building Service Water System Pressure Test Diagram
PT-21039	RHR Service Water System Pressure Test Diagram
PT-21074	Diesel Engine and Fuel Oil System Pressure Test Diagram
PT-26000	Nuclear Boiler System Pressure Test Diagram (Sheet 1)
PT-26001	Nuclear Boiler System Pressure Test Diagram (Sheet 2)
PT-26003	Reactor Recirculation System Pressure Test Diagram (Sheet 1)
PT-26006	Control Rod Drive System Pressure Test Diagram (Sheet 1)
PT-26007	Control Rod Drive System Pressure Test Diagram (Sheet 2)
PT-26009	Standby Liquid Control System Pressure Test Diagram
PT-26014	RHR System Pressure Test Diagram (Sheet 1)
PT-26015	RHR System Pressure Test Diagram (Sheet 2)
PT-26016	Fission Products Monitoring System Pressure Test Diagram
PT-26018	Core Spray System Pressure Test Diagram
PT-26019	Jockey Pump System & Process Flow Diagram for the RHR and Core Spray System Pressure Test Diagram
PT-26020	HPCI System Pressure Test Diagram (Sheet 1)
PT-26021	HPCI System Pressure Test Diagram (Sheet 2)
PT-26023	RCIC System Pressure Test Diagram (Sheet 1)
PT-26024	RCIC System Pressure Test Diagram (Sheet 2)
PT-26026	Radwaste System Pressure Test Diagram
PT-26036	Reactor Water Clean-up System Pressure Test Diagram
PT-26039	Fuel Pool Cooling System Pressure Test Diagram
PT-26042	Torus Drainage & Purification System Pressure Test Diagram
PT-26046	Reactor & Radwaste Building Condensate Storage & Transfer System Pressure Test Diagram
PT-26047	Demineralized Water System Pressure Test Diagram
PT-26048	Primary Containment Atmosphere H_2 & O_2 Analyzer System Pressure Test Diagram
PT-26050	Plant Service Water System Pressure Test Diagram (Sheet 1)
PT-26051	Plant Service Water System Pressure Test Diagram (Sheet 2)
PT-26055	Reactor Building Closed Cooling Water System Pressure Test Diagram
PT-26057	Primary Containment Integrated Leak Rate Test P&ID Pressure Test Diagram
PT-26058	Reactor & Radwaste Building Service Air System Pressure Test Diagram
PT-26066	Drywell Pneumatic System Pressure Test Diagram
PT-26068	Post LOCA Hydrogen Recombiner System Pressure Test Diagram

Diagram #	Diagram Title
PT-26077	Primary Containment Valve & Equipment Drainage System Pressure Test Diagram
PT-26079	Drywell to Torus Differential Pressure System Pressure Test Diagram
PT-26080	Primary Containment Chilled Water System Pressure Test Diagram (Sheet 1)
PT-26081	Primary Containment Chilled Water System Pressure Test Diagram (Sheet 2)
PT-26083	Nitrogen Inerting System Pressure Test Diagram
PT-26084	Primary Containment Purge & Inerting System Pressure Test Diagram
PT-26189	Nuclear Boiler System Pressure Test Diagram (Sheet 3)
PT-26384	Post Accident Reactor Coolant and Containment Atmosphere Sampling System Pressure Test Diagram
PT-26993	Neutron Monitoring System Pressure Test Diagram
PT-28001	Reactor Protection System Pressure Test Diagram
PT-28023	Drywell Pneumatic System Pressure Test Diagram

Note: A portion of the Unit 2 pressure test scope is shown on Unit 1 Pressure Test Diagram PT-11600 which is part of the Unit 1 ISI Plan.

HNP-2 PRESSURE TEST PLAN
TABLE 1 - TEST DESCRIPTIONS

TEST I.D./ DIAGRAM	ASME CODE CATEGORY	ASME ITEM NUMBER	ASME TYPE TEST	TEST FREQUENCY	TEST PRESSURE	HOLD TIME	TEST PROCEDURE	SURVEILLANCE PROCEDURE (1)	REMARKS AND REFERENCES
2B21-LT-1 PT-26000 PT-26001 PT-26003 PT-26006 PT-26009 PT-26014 PT-26015 PT-26018 PT-26020 PT-26023 PT-26036 PT-26077 PT-26189 PT-26384	B-P	B15.10	SYSTEM LEAKAGE TEST	EACH REFUELING OUTAGE	(2)	NONE	42IT-TET-006-2	NA	IWA-5211(a) IWB-5220 IWB-5222(a)
2B21-10LT-1 PT-26000 PT-26001 PT-26003 PT-26006 PT-26009 PT-26014 PT-26015 PT-26018 PT-26020 PT-26023 PT-26036 PT-26077 PT-26189 PT-26384	B-P	B15.10	10-YEAR SYSTEM LEAKAGE TEST	ONCE EVERY 10-YEARS IN ACCORDANCE WITH PREVIOUSLY SET SCHEDULE (6)	(2)	NONE	42IT-TET-006-2	NA	IWA-5211(a) IWB-5220 IWB-5222(a) IWB-5222(b) ISI-ALT-05
2B21-LT-2 PT-26000 PT-26001 PT-26003 PT-26006 PT-26018 PT-26020 PT-26023 PT-26189 PT-26384	C-H	C7.10	SYSTEM LEAKAGE TEST	EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	NA	IWA-5211(a) IWC-5220 NOTE 8

HNP-2 PRESSURE TEST PLAN
TABLE 1 - TEST DESCRIPTIONS

TEST I.D./ DIAGRAM	ASME CODE CATEGORY	ASME ITEM NUMBER	ASME TYPE TEST	TEST FREQUENCY	TEST PRESSURE	HOLD TIME	TEST PROCEDURE	SURVEILLANCE PROCEDURE (1)	REMARKS AND REFERENCES
2C11-LT-1 PT-26006 PT-26007	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-006-2	NA	IWA-5211(a) IWC-5220
2C41-LT-1 PT-26009	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(10)	10 MIN	42IT-TET-004-0	NA	IWA-5211(a) IWC-5220
2C41-LT-2A PT-26009	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-C41-002-2	IWA-5211(a) IWC-5220
2C41-LT-2B PT-26009	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-C41-002-2	IWA-5211(a) IWC-5220
2C41-LT-3 PT-26009	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-003-0	NA	IWA-5211(a) IWC-5220
2E11-LT-1A PT-26015 PT-26019 PT-26068	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SV-E11-001-2 34SO-E11-010-2	IWA-5211(a) IWC-5220
2E11-LT-1B PT-26014 PT-26015 PT-26019 PT-26039 PT-26068	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SV-E11-001-2 34SO-E11-010-2	IWA-5211(a) IWC-5220
2E11-LT-1C PT-26015	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD	(4)	(7)	42IT-TET-004-0	34SV-E11-001-2 34SO-E11-010-2	IWA-5211(a) IWC-5220
2E11-LT-1D PT-26014	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SV-E11-001-2 34SO-E11-010-2	IWA-5211(a) IWC-5220
2E11-LT-2 PT-26014 PT-26015 PT-26039	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SO-E11-010-2	IWA-5211(a) IWC-5220

HNP-2 PRESSURE TEST PLAN
TABLE 1 - TEST DESCRIPTIONS

TEST I.D./ DIAGRAM	ASME CODE CATEGORY	ASME ITEM NUMBER	ASME TYPE TEST	TEST FREQUENCY	TEST PRESSURE	HOLD TIME	TEST PROCEDURE	SURVEILLANCE PROCEDURE (1)	REMARKS AND REFERENCES
2E11(SW)-LT-1A PT-26015 PT-21039	D-B	D2.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SV-E11-004-2 34SO-E11-010-2	IWA-5211(a) IWD-5221
2E11(SW)-LT-1B PT-26014 PT-21039	D-B	D2.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SV-E11-004-2 34SO-E11-010-2	IWA-5211(a) IWD-5221
2E11(SW)-LT-1C PT-21039	D-B	D2.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SV-E11-004-2 34SO-E11-010-2	IWA-5211(a) IWD-5221
2E11(SW)-LT-1D PT-21039	D-B	D2.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SV-E11-004-2 34SO-E11-010-2	IWA-5211(a) IWD-5221
2E21-LT-1A PT-26015 PT-26018 PT-26019	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-E21-001-2	IWA-5211(a) IWC-5220
2E21-LT-1B PT-26018 PT-26042 PT-26019	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-E21-001-2	IWA-5211(a) IWC-5220
2E41-LT-1 PT-26020	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD	(4)	10 MIN	42IT-TET-004-0	NA	IWA-5211(a) IWC-5220
2E41-LT-2 PT-26020 PT-26021	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-E41-002-2	IWA-5211(a) IWC-5220
2E41-LT-3 PT-26020 PT-26021 PT-26046	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-E41-002-2	IWA-5211(a) IWC-5220

HNP-2 PRESSURE TEST PLAN
TABLE 1 - TEST DESCRIPTIONS

TEST I.D./ DIAGRAM	ASME CODE CATEGORY	ASME ITEM NUMBER	ASME TYPE TEST	TEST FREQUENCY	TEST PRESSURE	HOLD TIME	TEST PROCEDURE	SURVEILLANCE PROCEDURE (1)	REMARKS AND REFERENCES
2E41-LT-4 PT-26020	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	NA	IWA-5211(a) IWC-5220
2E51-LT-1 PT-26023 PT-26024	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-E51-002-2	IWA-5211(a) IWC-5220
2E51-LT-2 PT-26023 PT-26024 PT-26046 PT-26014 PT-26015	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-E51-002-2	IWA-5211(a) IWC-5220
2E51-LT-3 PT-26023	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	NA	IWA-5211(a) IWC-5220
2E51-LT-4 PT-26023 PT-26024	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	NA	IWA-5211(a) IWC-5220
2G51-LT-1 PT-26042	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	NA	42IT-TET-004-0	NA	IWA-5211(a) IWC-5220
2N11-LT-1 PT-26000 PT-21012	C-H	C7.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34GO-OPS-001-2	IWA-5211(a) IWC-5220
2P41-LT-1A PT-21033 PT-21035 PT-21039 PT-21074 PT-26050 PT-26080 PT-11609	D-B	D2.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SO-P41-001-2	IWA-5211(a) IWD-5221

HNP-2 PRESSURE TEST PLAN
TABLE 1 - TEST DESCRIPTIONS

TEST I.D./ DIAGRAM	ASME CODE CATEGORY	ASME ITEM NUMBER	ASME TYPE TEST	TEST FREQUENCY	TEST PRESSURE	HOLD TIME	TEST PROCEDURE	SURVEILLANCE PROCEDURE (1)	REMARKS AND REFERENCES
2P41-LT-1B PT-21033 PT-21035 PT-21039 PT-21074 PT-26050 PT-26039 PT-26051 PT-11609	D-B	D2.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	(7)	42IT-TET-004-0	34SO-P41-001-2	IWA-5211(a) IWD-5221
2P41-LT-2 PT-21033 PT-11600 PT-11638	D-B	D2.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SV-P41-003-2	IWA-5211(a) IWD-5221
2P41-LT-3 PT-26039 PT-26050	D-B	D2.10	SYSTEM LEAKAGE TEST	ONCE EACH PERIOD (5)	(4)	10 MIN	42IT-TET-004-0	34SO-P41-001-2	IWA-5211(a) IWD-5221

HNP-2 PRESSURE TEST PLAN
TABLE 1 - NOTES

NOTES:

(1) THIS REFERENCE IS EITHER A SYSTEM SURVEILLANCE PROCEDURE OR A SYSTEM OPERATING PROCEDURE THAT IS USED TO PRESSURIZE THE PIPING AND COMPONENTS TO NORMAL OPERATING PRESSURE WHICH IS EQUIVALENT TO THE REQUIRED TEST PRESSURE.

(2) TEST PRESSURE IS EQUAL TO THAT PRESSURE WHICH CORRESPONDS TO 100% RATED REACTOR POWER (i.e. 1045 psig).

(3) DELETED

(4) NOMINAL SYSTEM OPERATING PRESSURE.

(5) EACH ISI PERIOD AS DEFINED BY ASME XI (i.e. 3-years, 4-years, 3-years).

(6) EACH 10-YEAR ISI INTERVAL AS DEFINED BY ASME XI.

(7) NO HOLD TIME IS REQUIRED FOR THIS PIPING PROVIDED THAT THE SYSTEM HAS BEEN IN OPERATION FOR 4-HOURS FOR INSULATED COMPONENTS AND 10-MINUTES FOR UN-INSULATED COMPONENTS.

(8) BOUNDARY EXTENDS FROM THE CLASS 1 EFCV ON EACH LINE OUT TO BUT NOT INCLUDING THE ASSOCIATED INSTRUMENT(S).

(9) DELETED

(10) TEST PRESSURE IS EQUAL TO THE STATIC HEAD WITH THE STORAGE TANK (2C41-A001) FILLED TO THE MINIMUM LEVEL REQUIRED BY THE TECHNICAL SPECIFICATIONS.

HNP-2 PRESSURE TEST PLAN
TABLE 2 – TEST SCHEDULE

TEST I.D.	TEST TYPE	TEST FREQUENCY	PERIOD 1	PERIOD 2	PERIOD 3	REMARKS/NOTES
2B21-LT-1	LEAKAGE	EACH OUTAGE	X(2007)	X(2011)	X(2013) X(2015)	Note 1
2B21-10LT-1	10-YEAR LEAKAGE	EACH INTERVAL	X(3rd Interval)2009			Note 4
2B21-LT-2	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2C11-LT-1	LEAKAGE	EACH PERIOD	X	X	X	NA
2C41-LT-1	LEAKAGE	EACH PERIOD	X	X	X	NA
2C41-LT-2A	LEAKAGE	EACH PERIOD	X	X	X	NA
2C41-LT-2B	LEAKAGE	EACH PERIOD	X	X	X	NA
2C41-LT-3	LEAKAGE	EACH PERIOD	X	X	X	NA
2E11-LT-1A	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2E11-LT-1B	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2E11-LT-1C	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2E11-LT-1D	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2E11-LT-2	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2E11(SW)-LT-1A	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2E11(SW)-LT-1B	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2E11(SW)-LT-1C	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2E11(SW)-LT-1D	LEAKAGE	EACH PERIOD	X	X	X	Note 2

HNP-2 PRESSURE TEST PLAN
TABLE 2 – TEST SCHEDULE

TEST I.D.	TEST TYPE	TEST FREQUENCY	PERIOD 1	PERIOD 2	PERIOD 3	REMARKS/NOTES
2E21-LT-1A	LEAKAGE	EACH PERIOD	X	X	X	NA
2E21-LT-1B	LEAKAGE	EACH PERIOD	X	X	X	NA
2E41-LT-1	LEAKAGE	EACH PERIOD	X	X	X	NA
2E41-LT-2	LEAKAGE	EACH PERIOD	X	X	X	NA
2E41-LT-3	LEAKAGE	EACH PERIOD	X	X	X	NA
2E41-LT-4	LEAKAGE	EACH PERIOD	X	X	X	NA
2E51-LT-1	LEAKAGE	EACH PERIOD	X	X	X	Note 3
2E51-LT-2	LEAKAGE	EACH PERIOD	X	X	X	Note 3
2E51-LT-3	LEAKAGE	EACH PERIOD	X	X	X	Note 3
2E51-LT-4	LEAKAGE	EACH PERIOD	X	X	X	Note 3
2G51-LT-1	LEAKAGE	EACH PERIOD	X	X	X	NA
2N11-LT-1	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2P41-LT-1A	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2P41-LT-1B	LEAKAGE	EACH PERIOD	X	X	X	Note 2
2P41-LT-2	LEAKAGE	EACH PERIOD	X	X	X	NA
2P41-LT-3	LEAKAGE	EACH PERIOD	X	X	X	NA

HNP-2 PRESSURE TEST PLAN
TABLE 2 – TEST SCHEDULE

NOTES:

1. Leakage Test 2B21-LT-1 is required to be performed after each refueling outage.

2. No hold time prior to performing leakage inspection provided system has been in operation for at least 4 hours.

3. The RCIC System is considered as "augmented" and ASME XI is used as guidance only for pressure testing applications.

4. Test 2B21-10LT-2 was performed in 1989 which was 10-years after commercial operation (9/5/79). Unit 2 ISI Program was updated early, but pressure tests were maintained on the original 10-year interval frequency. Test is required to be performed every 10-years.