NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

B2092

DOCKET NUMBER 50-305

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DESCRIPTION

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ENCLOSURE

Enclosed proposed amendment no. 25A, superceding no. 25, addresses the revision of the Tech Spec inservice inspection requirements to those requirements of the ASME Boiler and ~~XXX~~ Pressure Vessel code, Section XI.
2p+42p

PLANT NAME: Kewaunee Nuclear Power Plant
RBT 7/21/77

(40 cys encl rec'd)

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NRC FORM 195 (2-76)

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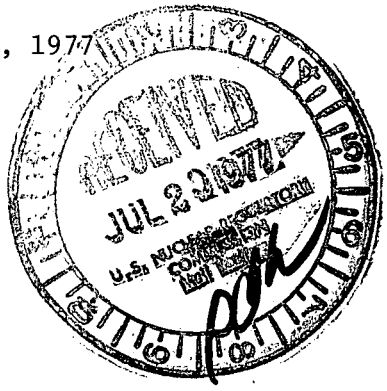
July 18, 1977



Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Gentlemen:

REF: Docket 50-305
Operating License DPR-43
Letter to the Director, Office of Nuclear Reactor Regulation, U. S. NRC from E. W. James, Wisconsin Public Service Corporation dated April 15, 1977

The referenced letter submitted to your office Proposed Amendment No. 25 to the Kewaunee Nuclear Power Plant Technical Specifications. This proposed amendment addresses the revision of the in-service inspection requirements for the Kewaunee Plant to the requirements of Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as specified by 10CFR50.55a(g).

A commitment to provide specific requests for relief from the ASME Code requirements as allowed by 10CFR50.55a(g)(6)(i) was also made by the referenced letter. Enclosed please find forty copies of Proposed Amendment No. 25A to the Kewaunee Nuclear Power Plant Technical Specifications which is intended to supersede Proposed Amendment No. 25. This revised amendment submittal includes a tabulation of all inspection requirements of Section XI of the ASME Code as applied to the Kewaunee Nuclear Power Plant. Explanation, and alternate testing is provided for those items for which relief is requested. Section XI sections omitted from these tables are not applicable to the Kewaunee Nuclear Power Plant.

The inservice inspection and testing programs outlined in the Proposed Amendment No. 25A Tables have been developed as a result of a design review. Should certain ASME Section XI Code requirements be discovered to

be impractical due to unforeseen reasons during the process of performing inspections or tests, relief will be requested from the specific Section XI Code requirements at that time as provided for in the proposed Technical Specifications.

Very truly yours,

E. W. James
Senior Vice President
Power Supply & Engineering

EWJ:sna
Enc.

Subscribed and Sworn to
Before Me This 18th Day
of July 1977

Notary Public, State of Wisconsin

My Commission Expires
Dec. 23, 1978

4.2 REACTOR COOLANT SYSTEM IN-SERVICE INSPECTION

Applicability

Applies to in-service structural surveillance of the reactor coolant system boundary and functional testing of safety related pumps and valves associated with the reactor coolant system.

Objective

To assure the continued integrity of the reactor coolant system boundary and performance of safety related mechanical equipment associated with the reactor coolant system.

Specification

4.2.1 Inservice inspection of ASME Code Class 1, Class 2 and Class 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10CFR50, Section 50.55a(g), except where such inspections are documented as being impractical and specific relief has been requested of the NRC pursuant to 10CFR50 Section 50.55a(g)(6)(i), Following formal response by the NRC to the relief request the inspection shall be in accordance with the relief as granted. Tables TS 4.2-1 through TS 4.2-3 specify the tests applicable to the Kewaunee Plant and the Code relief which has been granted.

4.2.2 Inservice testing of ASME Code Class 1, Class 2 and Class 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 10CFR50 Section 50.55a(g), except where nuclear safety would be compromised by such tests, specific Technical Specification requirements address performance testing of such equipment, or specific exemption has

been requested of the NRC pursuant to 10CFR50 Section 50.55a(g)(6)(i), Following formal response by the NRC to the relief request the testing shall be in accordance with the relief as granted. Tables TS 4.2-4 through 4.2-5 specify the tests applicable to the Kewaunee Plant and Code relief which has been granted.

Basis

The inspection program will be in accordance with the requirements of Section XI of ASME Code and applicable Addenda per the requirements of 10CFR50 Section 50.55a(g). The Examination requirements will be met to the extent practical through limitations on component configuration, accessibility and material composition.

The plant was not specifically designed to meet all the requirements of Section XI of the code; therefore, 100 percent compliance may not be feasible or practical. However, access for in-service inspection was considered during the design, and modifications have been made where practical to make provision for maximum access within the limits of the current plant design.

The Reactor Coolant System was initially free of gross defects, and the system has been designed such that gross faults or defects should not occur throughout the plant lifetime. The ten-year surveillance program will reveal possible fault areas before any leak develops, should such problems actually occur.

The inservice testing requirements of Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda were developed following commercial operation of the Kewaunee Plant. The Technical Specifications address specific testing requirements for safety related equipment including pumps and valves,

which were evaluated to be adequate by the NRC in granting the Operating License. The ASME Code does not take precedence over these established surveillance requirements of the Specifications and the methodology of those Technical Specification required tests.

Additional tests of equipment require to be listed by Section XI and applicable Addenda and not addressed in the Technical Specification shall not compromise nuclear safety. Specific exemption will be provided by the NRC for those component tests which are impractical, compromise safety, or whose performance would require modification of the facility which degrades overall safety or is not cost-effective in light of 10CFR50 Section 50.109(g) considerations.

Tables TS 4.2-1 through TS 4.2-5 identify the specific tests which are applicable to the Kewaunee Plant. The tables clarify the requirements of the inservice inspection program and tabulate the exceptions to Section XI of the ASME Boiler and Pressure Vessel Code. Each component to be inspected is addressed in the tables where the applicable safety class Code specification and examination method is addressed. Where specific relief from the Code requirement is necessary, the justification for relief and alternate inspection methods are included.

The following provide further clarification concerning the Class 1, 2, and 3 system inspection programs.

(a) Articles IWC-3000 and IWD-3000 entitled, "Evaluation of Examination Results" are in the course of preparation by the Code Committee and, as yet, are not avialable for use. The rules of IWA-3000 will be utilized where applicable. The evaluation of any indications detected during any inservice examinations will be made using the acceptance standards for materials and welds specified in the code under which the specific component was constructed for those components not constructed in accordance with the rules of Section III.

(b) Articles IWC-4000 and IWD-4000 entitled, "Repair Procedures" state that the rules of IWB-4000 shall apply. It is considered that the repair procedures outlined in IWB-4000 are inappropriate for the Class 2 and 3 components in this program and the rules of IWA-4000 will be applied.

(c) Requirements for the visual examination of Class 1 systems and components for evidence of leakage during the performance of a system pressure test following each refueling are identified by IWB-5200. Exception is taken to the implementation of these requirements on those portions of Class 1 systems which are contained between two check valves or where pressure applied to the reactor coolant system will be retained at the first valve in the line. The portions of systems affected by this limitation are:

(i) Cold leg injection from accumulators between check valves 8840A and B and 8841A and B and test line to valves 8824A and 8825B and RHR return line valve 8703.

(ii) Cold leg high head injection between check valves 8842A and B and SI 118-1 and 118-3.

(iii) Reactor Vessel injection between check valves 8844A and B and 8843A and B and SI 118-2 and 118-4.

(d) Subsections IWB and IWC contain differing requirements for the hydrostatic testing of Class 1 and Class 2 systems and components. The implementation of these requirements is impractical when the only means of pressurizing the Class 2 system is through the Class 1 system or when the boundary between the two systems is a check valve arranged for flow from Class 2 to the Class 1 system. Exception is taken to the performance of the hydrostatic test requirements as required by Article IWC-2412 (a) on those portions of the Class 2 systems identified below. Visual examination for evidence of leakage will be conducted on these portions of the systems at the system nominal operating pressure in accordance with the requirements of IWB-5221 for the adjoining Class 1 system.

(i) R. C. pump seal bypass line from the orifice to AOV 8145.

(ii) R. C. pump seal leak off line to manually operated valves 8148 A and B.

(iii) R. C. pump seal injection line from check valve CS 100-1 and 2 to manually operated valves CS 7-1 and 2.

(iv) Charging line control valve by-pass line from check valve CS 102-5 to manually operated valve CS 101-24.

(v) Letdown line from valve LCV 428 to orifice outlet valves 8140 A and B and 8141.

(vi) Pressurizer steam space sampling line from valve 9999A to SS13-5, pressurizer liquid space sampling line from valve 9999B to SS13-6 and loop sampling line from valve 9999C. to valve SS13-7.

The potential for inadvertent overpressurization of the reactor coolant system causes additional concerns on the advisability of pressurizing Class 2 systems to considerably higher pressures than the adjacent Class 1 system and relief is requested from implementing the hydrostatic test requirements of IWC-2412(a) on the CVCS system where such potential exists. The chemical and volume control charging, seal injection and letdown systems are in continuous operation during normal plant operation and are continuously monitored to ensure continued integrity and performance.

(e) The examination requirements for Class 3 systems and components included in Table TS 4.2-3 are in accordance with IWD-2410(c) which specifies that 100 percent of the components be examined as required by IWA-5240 and IWD-2600 either during normal operation or during system inservice testing. An additional requirement of IWD-2410(b) is for the examination of Class 3 systems and components for evidence of leakage during the performance of a system pressure test in accordance with IWD-5000. The code does not stipulate that certain amounts of these examination requirements be completed within each 40-month period such that the system pressure test requirements may be deferred until the end of the ten year inspection interval. However, it should be noted, that these system pressure tests when required are impractical in those systems, such as component cooling, service water, spent fuel pit cooling, and boric acid transfer and recirculation, which are in continuous operation during all modes of plant operation. The continuous functional operation serves to demonstrate the structural and leak-tight integrity of these systems. Visual examinations of these systems will be performed at normal operation pressures to verify leak-tightness.

Tables TS 4.2-4 and TS 4.2-5 provide a listing of the ASME Code Class 1, 2, and 3 pumps and valves subject to the testing requirements of Subsections IWP and IWV of the ASME Boiler and Pressure Vessel Code, 1974 Edition, and Addenda through Summer, 1975.

The tabulation of pumps identifies the pumps to be tested, pump code classes, parameters to be measured and test intervals.

Similarly the tabulation of valves identifies the valves to be tested, Valve code classes, Section XI Category as defined by IWV-2000, and test frequencies. In both tabulations, relief from the testing requirements of Section XI is requested in cases where these requirements have been determined to be impractical. Where relief is requested, specific information is provided which identifies the applicable code requirement, justification for the relief request, and testing method to be used as an alternative. The pump and valve testing programs have been reviewed to ensure that testing the component at the specified interval will not place the plant in an unsafe condition.

The requirements for pump performance as currently specified in other sections of the technical specification is that they reach the required developed head at miniflow. Relief is requested from pump performance parameters of head and flow from having to meet the allowable ranges of test quantities as defined in Table IWP-3100-2 with the substitution of the tolerances of being no less than 10 percent of the performance curve as allowed by IWP-3210.

The Kewaunee plant systems as designed and installed do not contain provisions for the measurement of seat leakage as required by IWV-3420(d) during the performance of the valve leak rate test. Relief is requested from meeting this requirement. Integrated leakage of the containment isolation systems will be measured, as required by 4.4a of the technical specification.

Where valve actuation or leak rate tests are currently covered and documented by existing requirements of the plant technical specifications, relief is requested from maintaining separate additional records to meet the requirements of IWV-6000.

Included in the tabulation of valves are normally closed check valves for which operation will be verified at each refueling outage. Operation will be verified by establishing flow in each individual line. Flow will be verified as allowed by IWV-3520(b)(2), either by observation of installed flow instrumentation or by observing that flow is established into the reactor coolant system when opened up for refueling.

Normally closed category A and B valves and normally closed check valves which cannot be exercised at three month intervals are identified as being operated at each refueling outage in accordance with the requirements of IWV-3410(b)(1) and IWV-3520(b).

The inservice inspection and testing programs outlined in the attached tabulations have been developed as a result of a design review. Should certain ASME Section XI Code requirements be discovered to be impractical due to unforeseen reasons during the process of performing inspections or tests, relief will be requested from the specific Section XI Code requirement at that time.

Radiation levels in certain areas or of certain components may be found to prohibit the access for operators or inspectors to perform the inspections or tests described in this program. If source strengths cannot be reduced such that the personnel dose per weld inspected is less than 0.25 Man Rem for Class 2 and 3 inspections, the inspection will not be performed. Additional relief will be requested from the specific Section XI Code requirements on Class 1 component and alternative examination or test requirements be proposed if radiation doses are determined to be excessive.

Table TS 4.2-1

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 1 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
B1.1	B-A	Reactor Vessel	III-A	Upper to Intermediate Shell Course Circumferential Weld	Volumetric	No
B1.1	B-A			Intermediate to Lower Shell Course Circumferential Weld	Volumetric	No
B1.1	B-A			Lower Head to Shell Circumferential Weld	Volumetric	No
B1.2	B-B			Lower Head Ring to Disc Circumferential Weld	Volumetric	Yes - Note 1
B1.3	B-C			Flange to Vessel Weld	Volumetric	No
B1.3	B-C			Closure Head to Flange Weld	Volumetric	No
B1.4	B-D			Outlet Nozzle to Shell Welds (2)	Volumetric	No
B1.4	B-D			Inlet Nozzle to Shell Welds (2)	Volumetric	No
B1.4	B-D			SI Nozzle to Shell Welds (2)	Volumetric	No
B1.5	B-E			CRDM, Vent and In-Core Instrumentation penetrations and CRDM Seal Welds	Visual	No - Note 1
B1.6	B-F			Primary Nozzle to Safe-End Welds	Volumetric & Surface	No
B1.8	B-G-1			Closure Studs and Nuts	Volumetric & Surface	No

Table TS 4.2-1

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 1 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
B1.9	B-G-1			Vessel Flange Ligaments	Volumetric	No
B1.10	B-G-1			Closure Washers	Visual	No
B1.11	B-G-2			Conoseal Bolting	Visual	No
B1.12	B-H			Integrally Welded Supports	Volumetric	No - Note 2
B1.13	B-I-1			Closure Head Cladding	Visual and Surface	No - Note 3
B1.14	B-I-1			Vessel Cladding	Visual	No
B1.15	B-N-1			Vessel Interior Surfaces and Internals	Visual	No
B1.17	B-N-3			Core Support Structures	Visual	No
B1.18	B-O			Control Rod Drive Housings	Volumetric	No
B1.19	B-P			Exempted Components	Visual	No
B2.1	B-B	Pressurizer	III-A	Circumferential Shell Welds (3)	Volumetric	No
B2.1	B-B			Longitudinal Shell Welds (2)	Volumetric	No
B2.3	B-E			Heater Penetrations	Visual	No
B2.4	B-F			Nozzle to Safe-End Welds (6)	Surface and Volumetric	No

Table TS 4.2-1

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 1 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
B2.8	B-H			Integrally Welded Support	Volumetric	No
B2.9	B-I-2			Vessel Cladding	Visual	No
B2.10	B-P			Exempted Components	Visual	No
B2.11	B-G-2			Manway Bolting	Visual	No
B3.1	B-B	Steam Generators (2) (Primary Side)	III-A	Channel Head to Tubesheet Weld (2)	Volumetric	No
B3.3	B-F			Nozzle to Safe End Welds (4)	Volumetric & Surface	No
B3.8	B-I-2			Vessel Cladding	Visual	No - Note 3
B3.9	B-P			Exempted Components	Visual	No
B3.10	B-G-2			Manway Bolting	Visual	No
B4.1	B-F	Piping Pressure Boundary		Safe End to Pipe Welds	Volumetric & Surface	Yes - Note 4
B4.5	B-J			Circumferential and Longitudinal Pipe Welds	Volumetric	Yes - Notes 4, 5, and 6

Table TS 4.2-1
KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 1 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
B4.6	B-J			Branch Pipe Connection Welds Exceeding 6-inch Diameter	Volumetric	Yes - Note 10
B4.7	B-J			Branch Pipe Connection Welds 6-inch Diameter and Smaller	Surface	No
B4.8	B-J			Socket Welds	Surface	No
B4.9	B-K-1			Integrally Welded Supports	Volumetric	Yes - Note 7
B4.10	B-K-2			Support Components	Visual	No
B4.11	B-P			Exempted Components	Visual	No
B4.12	B-G-2			Pressure Retaining Bolting	Visual	No
B5.1	B-G-1	Reactor Coolant Pumps		Pressure Retaining Bolts (In place)	Volumetric	Yes - Note 8
B5.2	B-G-1			Pressure Retaining Bolting	Volumetric & Surface	Yes - Note 9
B5.3	B-G-1			Pressure Retaining Bolting	Visual	No
B5.5	B-K-2			Support Components	Visual	No
B5.6	B-L-1			Pump Casing Welds	Volumetric	Yes - Note 11
B5.7	B-L-2			Pump Casings	Visual	No

Table TS 4.2-1

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 1 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
B5.8	B-P			Exempted Components	Visual	No
B6.5	B-K-2			Support Components	Visual	No
B6.7	B-M-2			Valve Bodies	Visual	No
B6.8	B-P			Exempted Components	Visual	No
B6.9	B-G-2			Pressure Retaining Bolting	Visual	No
NA	NA			RC Pump Flywheel	Visual	NA

NOTES

1. The examination of these welds as required by IWB-2600 is restricted from inside the vessel by the locations of the adjacent incore instrumentation penetrations. This area will be subject to visual examination for any evidence of leakage during system pressure tests to the extent practical as allowed by radiation levels.

2. Reactor vessel supports are integral with the primary nozzles and the examination requirement of IWB-2600 is covered by Item B1.4. The attachment welds and the vessel wall base metal beneath the bracket supports will be examined to the extent practical utilizing ultrasonic techniques from inside the vessel when the core barrel is removed at the end of the ten year interval.

3. Radiation level may prohibit inspection of the vessel cladding. Visual inspection will be performed to extent practical.

4. The arrangements and details of the piping systems and components are such that some examinations as required by IWB-2600 are limited due to geometric configuration or accessibility. Generally, these limitations exist at pipe to fitting welds, where examination can only be fully performed from the pipe side, the fitting geometry limiting or even precluding examination from the opposite side. Welds having such restrictions will be examined to the extent practical.

5. In instances where the location of pipe supports or hangers restrict the access available for the examination of pipe welds as required by IWB-2600, examinations will be performed to the extent practical unless removal of the support is permissible without unduly stressing the system.

6. The 90 degree elbows in the crossover leg of the reactor coolant system are fabricated in two halves from austenitic stainless steel castings welded together by the electroslag process. The structure of the material is such that ultrasonic examinations cannot be performed as required by IWB-2600. These welds will be subject to visual examination during system pressure tests.

7. The piping system integrally welded supports are attached to the pipe by fillet welds. The configurations of such welds is such that examinations cannot be performed to the extent required by IWB-2600 and only the base material of the pipe wall can be examined by ultrasonic techniques. Surface examination will be performed on the integrally welded attachments to supplement the limited volumetric examination.

8. The reactor coolant pump seal housing bolts are of the socket head type and the configuration is such that ultrasonic examinations as required by IWB-2600 cannot be performed when the bolting is in place. Examinations will only be performed to the extent required by IWB-2600 when the seal housing is disassembled for maintenance.

9. This examination, to the extent required by IWB-2600, will only be performed when the pump is disassembled for maintenance purposes or at the end of the 10 year interval when disassembly is undertaken for the performance of pump casing examinations.

10. The geometric configuration of the weld surface prevent ultrasonic examinations from being performed to the extent required by IWB-2600. Examinations will be performed to the extent practical from the pipe and nozzle surfaces adjacent to the weld. Surface examination of the weld will be performed to supplement the volumetric examination.

11. One of the two pumps in the Kewaunee plant has a pump casing weld. Volumetric examinations as required by IWB-2600 will be attempted utilizing radiographic techniques. The success of these examinations will be dependent upon the availability of high energy gamma sources and the level of background radiation. Internal fittings in the pump may also provide restriction to the extent of examination that can be performed.

Table TS 4.2-2
KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 2 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
C1.1	C-A	Letdown Heat Exchanger (Tube Side)	III-C	Head to Shell Weld	Volumetric	No
C1.1	C-A			Shell to Flange Weld	Volumetric	No
C1.3	C-C			Integrally Welded Supports	Surface	No
C1.1	C-A	Regenerative Heat Exchanger	III-C	Head to Shell Welds (6)	Volumetric	Yes - Note 5
C1.1	C-A			Shell to Tubesheet Welds (6)	Volumetric	Yes - Note 5
C1.1	C-A	Residual Heat Exchangers (2) (Tube Side)	III-C	Head to Shell Welds	Volumetric	No
C1.1	C-A			Shell to Flange Welds	Volumetric	No
C1.2	C-B			Nozzle to Vessel Welds	Volumetric	Yes - Note 1
C1.3	C-C			Integrally Welded Supports	Surface	No
C1.4	C-D			Tubesheet Flange Bolting	Visual & Volumetric	No

Table TS 4.2-2

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 2 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
C1.1	C-A	Seal Water Return Filter	III-C	Cover Weldment to Shell Weld	Volumetric	Yes - Note 2
C1.1	C-A			Head to Shell Weld	Volumetric	Yes - Note 2
C1.3	C-C			Integrally Welded Supports	Surface	No
C1.1	C-A	Volume Control Tank	III-C	Upper Head to Shell Weld	Volumetric	No
C1.1	C-A			Lower Head to Shell Weld	Volumetric	No
C1.3	C-C			Integrally Welded Supports	Surface	No
C1.4	C-D			Manway Bolting	Visual & Volumetric	No
C1.1		Charging Pump Surge Vessel	VIII Div. 1	Head to Shell Welds (2)	Volumetric	No
C1.1	C-A	Seal Water Injection Filter (2)	III-C	Shell to Flange Weld Head to Shell Weld	Volumetric Volumetric	No No
C1.3	C-C			Integrally Welded Supports	Surface	No
C1.4	C-D			Tubesheet Flange Bolting	Visual & Volumetric	No

Table TS 4.2-2

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 2 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
C1.1	C-A	Steam Generators (2) (Shell Side)	III-A	Upper Head to Shell Weld	Volumetric	No
C1.1	C-A			Upper Shell to Transition Weld	Volumetric	No
C1.1	C-A			Transition to Lower Shell Weld	Volumetric	No
C.1.	C-A			Lower Shell to Stub Barrel Weld	Volumetric	No
C1.1	C-A			Stub Barrel to Tubesheet Weld	Volumetric	No
C1.2	C-B			Steam Outlet Nozzle to Shell Weld	Volumetric	No
C1.2	C-B			Feedwater Inlet Nozzle to Shell Weld	Volumetric	No
C1.4	C-D			Manway Bolting	Visual & Volumetric	No
C1.1	C-A	Reactor Coolant Filter	III-C	Cover Weldment to Shell Weld	Volumetric	Yes - Note 2
C1.1	C-A			Head to Shell Weld	Volumetric	Yes - Note 2
C1.3	C-C			Integrally Welded Supports	Surface	No

Table TS 4.2-2

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 2 COMPONENTS

TABLE IWB-2600 ITEM NO.	TABLE IWB-2500 EXAMINATION CATEGORY	SYSTEM OR COMPONENT	CODE APPLICABLE TO CONSTRUCTION	AREA TO BE EXAMINED	EXAMINATION REQUIREMENT	SECTION XI CODE RELIEF REQUESTED
C2.1	C-F; C-G	Piping Systems		Circumferential Butt Welds	Volumetric	Yes - Notes 3 & 4
C2.2	C-F; C-G			Longitudinal Weld Joints in Fittings	Volumetric	No
C2.3	C-F; C-G			Branch Pipe to Pipe Welds	Volumetric	Yes - Note 3
C2.4	C-D			Pressure Retaining Bolting	Visual & Volumetric	No
C2.5	C-E-1			Integrally Welded Supports	Surface	No
C2.6	C-E-2			Support Components	Visual	No
C3.2	C-D	Residual Heat Removal Pumps (2)		Pressure Retaining Bolting	Visual & Volumetric	No
C3.4	C-E-2			Support Components	Visual	No
C3.2	C-D	Charging Pumps (3)		Pressure Retaining Bolting	Visual & Volumetric	No
C3.4	C-E-2			Support Components	Visual	No
C4.2	C-D			Pressure Retaining Bolting	Visual & Volumetric	No
C4.4	C-E-2			Support Components	Visual	No

NOTES

1. The nozzle to vessel welds of the residual heat exchangers are covered by a reinforcement ring and are not accessible for examination as required by IWC-2600. The geometric configuration is such that alternative NDE methods cannot be substituted.

2. The thickness of the materials utilized for the construction of this component (0.165 to 0.185 inches) is such that meaningful results could not be expected with ultrasonic examination as required by IWC-2600. Surface and visual examination of these welds will be performed as an alternative method.

3. The arrangement and details of the Class 2 piping systems and components were designed and fabricated before the examination requirements of Section XI of the Code were formalized and some examinations as required by IWC-2600 are limited or not practical due to geometric configuration or accessibility. Generally these limitations exist at all fitting to fitting welds such as elbow to tee, elbow to valve, reducer to valve, etc. where geometry and sometimes surface conditions preclude ultrasonic coupling or access for the required scan length. The limitations exist to a lesser degree at pipe to fitting welds, where examination can only be fully performed from the pipe side, the fitting geometry limiting or even precluding examination from the opposite side. Welds having such restrictions will be examined to the extent practical.

4. In instances where the location of pipe supports or hangers restrict the access available for the examination of pipe welds as required by IWC-2600, examinations will be performed to the extent practical unless removal of the support is permissible without unduly stressing the system.

5. The location of support members may prevent ultrasonic examinations being performed to the extent required by IWC-2600. Examination will be performed to the extent practical unless support components can be removed to provide additional access.

Table TS 4.2-3

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 3 COMPONENTS

SYSTEM	COMPONENT DESCRIPTION/IDENTIFICATION		CODE APPLICABLE TO CONSTRUCTION	METHOD OF EXAMINATION	SECTION XI CODE RELIEF REQUESTED
Component Cooling	Pumps	APCC1 1A APCC2 1B		Visual/Operating Pressure	No
	Heat Exchangers (Shell Side)	AHCC1 1A AHCC2 1B	VIII	Visual/Operating Pressure	No
	Seal Water Heat Exchanger (Shell Side)	AHSW	VIII	Visual/Operating Pressure	No
	Letdown Heat Exchanger (Shell Side)	AHNR	VIII	Visual/Operating Pressure	No
	RHR Heat Exchangers (Shell Side)	AHRS1 (1A) AHRS2 (1B)	VIII	Visual/Operating Pressure	No
	Surge Tank	ATCS 1	VIII	Visual/Operating Pressure	No
	Excess Letdown Heat Exchangers (Shell Side)	AHEL 1A AHEL 1B	VIII	Visual/Operating Pressure	No
	R. C. Pump Oil Coolers	PCPC 1A PCPC 1B		Visual/Operating Pressure	No
	Containment Spray Pump Gland Coolers	1A 1B		Visual/Operating Pressure	No
	Safety Injection Pump Coolers	APSI 1A APSI 1B		Visual/Operating Pressure	No

Table TS 4.2-3

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 3 COMPONENTS

SYSTEM	COMPONENT DESCRIPTION/IDENTIFICATION		CODE APPLICABLE TO CONSTRUCTION	METHOD OF EXAMINATION	SECTION XI CODE RELIEF REQUESTED
Component Cooling	RHR Pump Shaft Seal Heat Exchangers	APRH1 1A APRH2 1B		Visual/Operating Pressure	No
	Piping			Visual/Operating Pressure	No
	Hangers and Supports			Visual	No
Service Water	Pumps	1A1 1A2 1B1 1B2		Visual/Operating Pressure	No
	Strainers	1A1 1A2 1B1 1B2		Visual/Operating Pressure	No
	Diesel Generator Heat Exchangers	1A 1B		Visual/Operating Pressure	No
	Component Cooling Heat Exchangers (Tube Side)	1A 1B		Visual/Operating Pressure	No
	Spent Fuel Pool Heat Exchanger (Shell Side)		VIII	Visual/Operating Pressure	No
	Safety Injection Pump Coolers	APSI 1A APSI 1B		Visual/Operating Pressure	No

Table TS 4.2-3

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 3 COMPONENTS

SYSTEM	COMPONENT DESCRIPTION/IDENTIFICATION		CODE APPLICABLE TO CONSTRUCTION	METHOD OF EXAMINATION	SECTION XI CODE RELIEF REQUESTED
Service Water	Containment Fan Coil Units	1A 1B 1C 1D		Visual/Operating Pressure	No
	Piping			Visual/Operating Pressure	No
	Hangers and Supports			Visual	No
Containment Spray	Spray Additive Stand Pipe		B31.1	Visual/Operating Pressure	No
	Supports			Visual	No
Auxiliary Feed Water	Motor Driven Pumps	1A 1B		Visual/Operating Pressure	No
	Turbine Driven Pump			Visual/Operating Pressure	No
	Supports			Visual	No
Spent Fuel Pool Cooling	Pumps	1A 1B		Visual/Operating Pressure	No
	Heat Exchanger (Tube Side)		III C	Visual/Operating Pressure	No
	Piping		B31.1	Visual/Operating Pressure	No

Table TS 4.2-3

KEWAUNEE NUCLEAR PLANT
INSERVICE INSPECTION PROGRAM
ASME CODE CLASS 3 COMPONENTS

SYSTEM	COMPONENT DESCRIPTION/IDENTIFICATION		CODE APPLICABLE TO CONSTRUCTION	METHOD OF EXAMINATION	SECTION XI CODE RELIEF REQUESTED
Spent Fuel Pool Cooling	Hangers and Supports			Visual	No
Chemical and Volume Control	Boric Acid Tanks	ATBA 1A ATBA 1B		Visual/Operating Pressure	No
	Boric Acid Filter	FLBA	III C	Visual/Operating Pressure	No
	Boric Acid Transfer Pumps	APBA 1A APBA 1B		Visual/Operating Pressure	No
	Component Supports			Visual	No
Auxiliary Steam	Piping		B31.1	Visual/Operating Pressure	No

Table TS 4.2-4
KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 PUMPS

PUMP IDENTIFICATION	PUMP DESCRIPTION	ASME CODE CLASS	MEASURED PARAMETERS	TEST INTERVAL	SECTION XI CODE RELIEF REQUESTED
APSI 1A	High Head Safety	2	1. Speed (if variable)	NA	No
APSI 1B	Injection Pumps		2. Inlet Pressure (Pi)	Monthly	No - Note 7
			3. Outlet Pressure (Po)	Monthly	No
			4. Differential Pressure (Pi-Po)	Monthly	No
			5. Flow Rate	Note 4	No
			6. Vibration Amplitude	Refueling	Yes - Note 3
			7. Bearing Temperature	Note 5	Yes
			8. Lubricant Level or Pressure	Monthly	No
APRHI 1A	Residual Heat	2	1. Speed (if variable)	NA	No
			2. Inlet Pressure (Pi)	Monthly	No
			3. Outlet Pressure (Po)	Monthly	No
			4. Differential Pressure (Pi-Po)	Monthly	No
			5. Flow Rate	Note 4	No
			6. Vibration Amplitude	Refueling	Yes - Note 3
			7. Bearing Temperature	Note 1	Yes
			8. Lubricant Level or Pressure	Note 1	Yes
1A	Auxiliary Feed	3	1. Speed (if variable)	NA	No
1B	Water (Motor Driven)		2. Inlet Pressure (Pi)	Monthly	No
			3. Outlet Pressure (Po)	Monthly	No
			4. Differential Pressure (Pi-Po)	Monthly	No
			5. Flow Rate	Note 4	No

Table TS 4.2-4

KEWAUNEE NUCLEAR PLANT

INSERVICE TEST PROGRAM

ASME CODE CLASS 1, 2 AND 3 PUMPS

PUMP IDENTIFICATION		PUMP DESCRIPTION	ASME CODE CLASS	MEASURED PARAMETERS	TEST INTERVAL	SECTION XI CODE RELIEF REQUESTED
	1A	Auxiliary Feed	3	6. Vibration Amplitude	Refueling	Yes - Note 3
	1B	Water (Motor Driven)		7. Bearing Temperature	Refueling	No
				8. Lubricant Level or Pressure	Monthly	No
	1A1	Service Water	3	1. Speed (if variable)	NA	No
	1A2			2. Inlet Pressure (Pi)	Note 2	Yes
	1B1			3. Outlet Pressure (Po)	Note 2	Yes
	1B2			4. Differential Pressure (Pi-Po)	Note 2	Yes
				5. Flow Rate	Note 2	Yes
				6. Vibration Amplitude	Monthly	No
				7. Bearing Temperature	Refueling	No
				8. Lubricant Level or Pressure	Note 6	Yes
APCC1	1A	Component Cooling	3	1. Speed (if variable)	NA	No
APCC2	1B			2. Inlet Pressure (Pi)	Monthly	No
				3. Outlet Pressure (Po)	Monthly	No
				4. Differential Pressure (Pi-Po)	Monthly	No
				5. Flow Rate	Monthly	No
				6. Vibration Amplitude	Monthly	No
				7. Bearing Temperature	Note 1	Yes
				8. Lubricant Level or Pressure	Monthly	No

KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 PUMPS

PUMP IDENTIFICATION	PUMP DESCRIPTION	ASME CODE CLASS	MEASURED PARAMETERS	TEST INTERVAL	SECTION XI CODE RELIEF REQUESTED
1A	Containment Spray		1. Speed (if variable)	NA	No
1B			2. Inlet Pressure (Pi)	Monthly	No - Note 7
			3. Outlet Pressure (Po)	Monthly	No
			4. Differential Pressure (Pi-Po)	Note 1	Yes
			5. Flow Rate	Note 4	Yes
			6. Vibration Amplitude	Refueling	Yes - Note 3
			7. Bearing Temperature	Note 1	Yes
			8. Lubricant Level or Pressure	Monthly	No

NOTES

1. There is no instrumentation to monitor this operating parameter in the plant system as designed and constructed.

2. The service water pumps are vertical design with no means of direct inlet pressure measurement as required by IWP-4200. Inlet pressure to these pumps will be established by reference to the level of water above the pump suction. Due to the demands of dependent systems, the individual testing of service water pumps as required by IWP-3400(a) would jeopardize safe plant operation. The plant design does not incorporate any flow measurement instrumentation or means for measuring individual pump discharge pressure. Correct performance of these pumps can only be assessed on their continued ability to perform the function for which they were installed.

3. This pump is not in operation under normal plant conditions and is usually operated for the monthly inservice testing only. Vibration amplitude monitoring under these conditions is meaningless. In addition to specified refueling interval measurement of vibration amplitude this pump will receive normal operator surveillance during operation to ensure that abnormal vibration is not occurring.

4. Under the operating mode in which these pumps will be tested, the system will have fixed resistance. As allowed by footnote 1 of Table IWP-3100-1, this parameter will not be recorded.

5. The bearing oil cooling system for this pump is in turn cooled by the service water system. The system is not temperature stabalized and meaningful results would not be expected by recording this parameter.

6. This pump is of vertical design and the bearings are submersed in water. This parameter cannot be recorded.

7. The water level in the reservoir supplying the pump may be used to determine suction pressure at the pump.

Table TS 4.2-5

KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
SI-22A SI-22B SI-21A SI-21B	8840A 8840B 8841A 8841B	C	1	12-inch Check Accumulator Discharge to Cold Legs	Note 1	NA	
SI-20A SI-20B	8800A 8800B	B	2	12-inch MOV Accumulator Outlet	Note 11	NA	Yes - IWV-3410
SI-13A SI-13B	8842A 8842B	C	1	6-inch Check HHSI to Cold Legs	Note 2	NA	
SI-12A SI-12B	SI-118-1 SI-118-3	C	1	2-inch Check HHSI to Cold Legs	Note 2	NA	
SI-11A SI-11B	8801A 8801B	B	2	2-inch MOV HHSI to Cold Legs	Note 11	NA	Yes - IWV-3410
SI-16A SI-16B	SI-118-2 SI-118-4	C	1	2-inch Check HHSI to Reactor Vessel Core Flooding	Note 2	NA	
SI-15A SI-15B	8802A 8802B	B	2	2-inch MOV HHSI to Reactor Vessel Core Flooding	Each Refueling	NA	
SI-9A	8806A	A	2	3-inch MOV HHSI Pump Discharge	Note 11	Note 9	Yes - IWV-3410 & 3420
SI-9B	8806B	A	2	3-inch MOV HHSI Pump Discharge	Each Refueling	Note 9	Yes - IWV-3420
SI-6A SI-6B	8812A 8812B	C	2	4-inch Check HHSI Pump Discharge	Note 2	NA	

Table TS 4.2-5
KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
SI-5A SI-5B	8807A 8807B	B	2	6-inch MOV HHSI Pump Suction	Every 3 Months	NA	
SI-4A SI-4B	8808A 8808B	B	2	12-inch MOV RWST Supply to HHSI System	Every 3 Months	NA	
SI-2A SI-2B	8809A 8809B	B	2	8-inch MOV Boric Acid Supply to SI Pumps	Every 3 Months	NA	
SI-3	8809C	B	2	8-inch MOV Boric Acid Supply to SI Pumps	Note 11	NA	Yes - IWV-3410
SI-351A SI-351B	8804A 8804B	B	2	12-inch MOV Containment Sump Recirculation to RHR	Every 3 Months	NA	
SI-350A SI-350B	8805A 8805B	A	2	12-inch MOV Containment Sump Recirculation to RHR	Every 3 Months	Note 9	Yes - IWV-3420
RHR-300A RHR-300B	8816A 8816B	B	2	6-inch MOV HHSI Pump Suction from RHR System	Each Refueling	NA	
SI-300A SI-300B	8810A 8810B	B	2	10-inch MOV RWST Supply to RHR Pumps	Every 3 Months	NA	
SI-301A SI-301B	8811A	C	2	10-inch Check RWST Supply to RHR Pumps	Note 2	NA	
RHR-1A RHR-1B	8702A 8702B	B	1	8-inch MOV RHR Take-off from Hot Legs	Note 4	NA	

Table TS 4.2-5

KEWAUNEE NUCLEAR PLANT

INSERVICE TEST PROGRAM

ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
RHR-2A RHR-2B	8701A 8701B	B	1	8-inch MOV RHR Take-off from Hot Legs	Note 4	NA	
RHR-3A RHR-3B	8710A 8710B	C	2	8-inch Check RHR Pump Suction from Hot Legs	Note 5	NA	
RHR-5A RHR-5B	8712A 8712B	C	2	8-inch Check RHR Pump Discharge	Note 5	NA	
RC Over-pressure Relief		C	2	4-inch Relief Valve RHR Pump Suction for RC Overpressure Protection	Note 6	NA	
RHR-8A RHR-8B	HCV 624 HCV 625	B	2	8-inch AO Butterfly Valve RHR Heat Exchanger Outlet	Note 4	NA	
RHR-101	FCV 626	B	2	6-inch AO Butterfly Valve RHR Heat Exchanger By-pass	Note 4	NA	
RHR-400A RHR-400B		B	2	ICS Pump Supply on Recirculation	Each Refueling	NA	
NG-107	8820	A	2	1-inch AOV N_2 Supply to Accumulators	Every 3 Months	Note 7	
SI-204	SI 1-7	A	2	3/4-inch Manually Operated Valve SI Test Line	Note 8	Note 9	Yes - IWV-3410 & 3420
SI-304A SI-304B	8844A 8844B	C	1	6-inch Check Low and High Head SI to RV Core Flooding	Note 2	NA	

Table TS 4.2-5

KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
SI-303A SI-303B	8843A	C	1	6-inch Check Low Head Injection to RV	Note 2	NA	
SI-302A SI-302B	8803A 8803B	A	2	6-inch MOV Low Head Injection to RV	Each Refueling	Note 9	Yes - IWV-3420
RHR-11	8703	A	1	10-inch MOV RHR Return to Cold Leg	Note 4	Note 9	Yes - IWV-3420
SI-312	8831	C	2	3/4-inch Safety Low Head Injection to PRT	Note 6	NA	
PR-3A PR-3B	8010A 8010B	C	1	6-inch Pressurizer Safety Relief to PRT	Note 6	NA	
MG-(R)-513 MG-(R)-512	8025 8026	A	2	3/8-inch AOV PRT Vent to Gas	Every 3 Months	Note 7	
NG-302	8028	A	2	3/4-inch AOV N_2 Supply to PRT	Every 3 Months	Note 7	
MU-1010-1	8029	A	2	2-inch AOV Reactor Make-up Water to PRT	Every 3 Months	Note 7	
LD-6	8147	A	2	2-inch AOV Letdown to Letdown Heat Exchanger	Refueling	Note 7	
LD-4A LD-4B LD-4C	8140A 8140B 8141	B	2	2-inch AOV Outlet from Letdown Orifices	Every 3 Months	NA	

Table TS 4.2-5
KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
CVC-212 CVC-211	8100A 8100B	A	2	3-inch MOV RC Pump Seal Return	Each Refueling	Note 7	
CVC-205B CVC-205A	CS100-1 CS100-2	A	1	2-inch Check Valve R.C. Pump Seal Injection	Each Refueling	Note 7	
CC-400A CC-400B	9411A 9411B	B	3	10-inch MOV Component Cooling Water to RHR Heat Exchangers	Note 4	NA	
CC-601A CC-601B	9401A 9401B	A	3	4-inch MOV Component Cooling Supply to RC Pump Coolers	Each Refueling	Note 9	Yes - IWV-3420
CC-612A CC-612B	9402A 9402B	A	3	4-inch MOV Component Cooling Return from RC Pump Coolers	Each Refueling	Note 9	Yes - IWV-3420
CC-653	9451	A	3	3-inch MOV Component Cooling Return from Excess Letdown Heat Exchanger	Every 3 Months	Note 9	Yes - IWV-3420
CC-651	9454	AC	3	3-inch Check Component Cooling Supply to Excess Letdown Heat Exchanger	Note 2	Note 9	Yes - IWV-3420
RC-403	SS13-5	A	2	3/8-inch AOV Pressurizer Steam Space Sample	Every 3 Months	Note 7	
RC-413	SS13-6	A	2	3/8-inch AOV Pressurizer Liquid Space Sample	Every 3 Months	Note 7	
RC-423	SS13-7	A	2	3/8-incy AOV RC Hot Leg Sample	Every 3 Months	Note 7	

Table TS 4.2-5
KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
MG(R)-503 MG(R)-504	9159A 9159B	A	2	3/8-inch AOV RCDT Vent to Gas Analyzer	Every 3 Months	Note 7	
MG(R)-509 MG(R)-510	9160A 9160B	A	2	1-inch AO Diaphragm Valve RCDT to Vent Header	Every 3 Months	Note 7	
RC-507 RC-508	9170A 9170B	A	2	3-inch AO Diaphragm Valve RCDT Pump Discharge	Every 3	Note 7	
MG(R)-134 MG(R)-135	9182A 9182B		2	3-inch AO Diaphragm Valve Containment Sump Pump Discharge	Every 3 Months	Note 7	
SW-900A SW-900B SW-900C SW-900D	SW-6-1 SW-6-3 SW-6-5 SW-6-7	A	2	8-inch Manually Operated Valve Service Water Supply to Reactor Containment Fan Cooler	Each Refueling	Note 9	Yes - IWV-3420
SW-903A SW-903B SW-903C SW-903D	SW10-1 SW-102 SW-103 SW-104	A	2	8-inch MOV Service Water Return from RCFC Units	Every 3 Months	Note 9	
SW-6010	SW66-1	A	2	2-inch Manually Operated Globe Valve Service Water to Hose Connections	Note 8	Note 7	Yes - IWV-3410
SW-3A SW-3B	SW17-1 SW17-2	B	3	24-inch AO Gate Valve Service Water Pump Discharge Interconnect	Every 3 Months	NA	
SW-4A SW-4B	SW18-1 SW18-2	B	3	24-inch AO Gate Valve Service Water to the Turbine Building	Each Refueling	NA	

Table TS 4.2-5

KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
SW-601A SW-601B SW-510	SW54-1 SW54-2 SW54-3	B	3	3-inch MOV Service Water to Auxiliary Feed Pumps	Every 3 Months	NA	
BT-2A BT-3A BT-2B BT-3B	SD27-1 SD27-2 SD27-3 SD27-4	B	2	2-inch MOV Steam Generator Blowdown	Every 3	NA	
MS-1A MS-1B	SD24-1 SD24-2	C	2	30-inch AO Main Steam Isolation Valve	Each	NA	
MS-2A MS-2B	SD25-1 SD25-2	B	2	3-inch MOV Main Steam Stop By-pass	Each Refueling	NA	
MS-100A MS-100B	SD26-1 SD26-2	B	2	3-inch MOV Steam to Turbine Driven Auxiliary Feed Pump	Every 3 Months	NA	
BT-31B BT-32B BT-31A BT-32A	SS14-1 SS14-2 SS14-3 SS14-4	B	2	3/8-inch AOV Steam Generator Blowdown Sample	Every 3 Months	NA	
SA-471 SA472	SA30-1 SA30-2	A	2	2-inch Manually Operated Globe Valve Service Air to Containment	Note 8	Note 7	Yes - IWV-3410
SD-1A1 SD-1A2 SD-1A3 SD-1A4 SD-1A5	SD 23-1 SD 23-2 SD 23-3 SD 23-4 SD 23-5	B	2	6-inch Mainsteam Safety Relief	Note 6	NA	

Table TS 4.2-5
KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
SD-1B1 SD-1B2 SD-1B3 SD-1B4 SD-1B5	SD 23-6 SD 23-7 SD 23-8 SD 23-9 SD 23-10						
IA-101	SA 23-1	A	2	1-inch AOV Instrument Air to Containment	Each Refueling	Note 7	
AS-32	RBV 20-3	A	2	1-inch SOV Containment Air Sample Return	Every 3 Months	Note 7	
AS-1 AS-2	RBV 20-1 RBV 20-2	A	2	1-inch SOV Containment Air Sample to Analyzer	Every 3 Months	Note 7	
RBV-4 RBV-3	RBV 4-1 RBV 4-2	A	2	36-inch AOV Reactor Containment Purge Exhaust Duct	Each Refueling	Note 7	
RBV-1 RBV-2	RBV 4-3 RBV 4-4	A	2	36-inch AOV Reactor Containment Vent and Purge Supply	Each Refueling	Note 7	
VB-10A VB-10B	RBV 2-1 RBV 2-2	A	2	18-inch AOV Containment Vacuum Breaker	Each Refueling	Note 7	
FW-12A FW-12B	F7-1 F7-2	B	2	16-inch MOV Main Feedwater to Steam Generators	Each Refueling	NA	
AFW-4A AFW-4B	F15-1 F15-2	B	2	4-inch Check Auxiliary Feedwater to Steam Generators	Note 4	NA	

Table TS 4.2-5

KEWAUNEE NUCLEAR PLANT
INSERVICE TEST PROGRAM
ASME CODE CLASS 1, 2 AND 3 VALVES

VALVE IDENTIFICATION		SECTION XI CATEGORY PER IWV-2000	ASME CODE CLASS	VALVE DESCRIPTION/FUNCTION	TEST FREQUENCY		SECTION XI CODE RELIEF REQUESTED
OPS#	FSAR#				EXCERCISE	LEAKAGE	
ICS-8A ICS-8B	ICS4-5 ICS4-6		2	6-inch Check Spray Lines to Headers	Note 12	Note 9	Yes - IWV-3420 & 3520
ICS-5A ICS-6A ICS-5B ICS-6B	ICS6-1 ICS6-2 ICS6-3 ICS6-4	B	2	6-inch MOV Spray Pump Discharge to Headers	Each Refueling	NA	
ICS-3A ICS-3B	ICS3-1 ICS3-2	C	2	6-inch Check Spray Pump Suction	Each Refueling	NA	
CI-1003	ICS 22-1	C	2	2-inch Check Spray Additive to Spray Pump Suction	Note 10	NA	Yes - IWV-3520
CI-1001A CI-1001B	ICS 21-1 ICS 21-2	B	3	2-inch AOV Spray Additive to Spray Pumps	Each Refueling	NA	
RBV 14-1 RBV 14-2	RBV 14-1 RBV 14-2	A	2	2-inch MOV Containment Pressurization	Every 3 Months	Note 7	
RBV 14-3 RBV 14-4	RBV 14-3 RBV 14-4	A	2	2-inch MOV Hydrogen Control System Containment Air Sample to Gas Analyzer	Every 3 Months	Note 7	
RBV 16-1 RBV 16-2	RBV 16-1 RBV 16-2	A	2	1-inch AOV Hydrogen Control System Annulus Air Sample to Gas Analyzer	Every 3 Months	Note 7	
RBV 15-1 RBV 15-2	RBV 15-1 RBV 15-2	A	2	3/8-inch AOV Hydrogen Control System Containment Air Sample to Gas Analyzer	Every 3 Months	Note 7	

NOTES

1. Valves are actuated each refueling outage in accordance with the requirements of 4.5b-2 of the plant technical specification.

2. Operation of this normally closed check valve will be verified each refueling outage. Operation will be verified by establishing and observing flow through the individual line.

3. The leak tightness of valves in systems open to the containment atmosphere is established during the performance of the Type A containment leak test in accordance with 4.4a of the plant technical specification. Exception is taken to the performance of leak tests at the frequency required by IWV-3420.

4. Operation of this power operated valve will be verified during periodic use of the system for the cold shutdown of the reactor. Operation will be verified by observing that normal system flow is established. Failure is reportable under the Technical Specifications.

5. Operation of this normally closed check valve will be verified during the periodic use or performance test of the system. Operation will be verified by observing that normal system flow is established. Failure is reportable under the Technical Specifications.

6. Testing of safety relief valves will be in accordance with the requirements of IWV-3500.

7. The leak tightness and operability of these valves is established during the performance of the Type C isolation valve leak test at each refueling as required by 4.4 of proposed amendment 23 to the plant technical specification.

8. This is a manually operated valve which remains in a closed position during normal plant operation and is not required to function, other than provide containment isolation, to safely shut down the reactor or mitigate the consequence of an accident. Exception is taken to the performance of exercising tests as required by IWV-3410.

9. There is no provision in the plant systems as designed and installed to perform leak testing of these valves as required by IWV-3420 and relief is requested from meeting this requirement. These systems are utilized to mitigate the consequences of an accident and are designed to remain intact under post LOCA conditions and, in effect, are an extension of the containment. Surveillance will be performed in accordance with the Technical Specifications addressing Appendix J testing of these systems.

10. Verification of the operation of this valve cannot be achieved without introducing highly corrosive spray additive into the system. Exception is taken to exercising this valve.

11. Valves are administratively locked open in accordance with the requirements of amendment 9 to the plant technical specification. Testing of these valves will be initiated if the administrative control of the Technical Specification is lifted.

12. The performance of these normally closed check valves cannot be verified without introducing spray into the containment and relief is requested from the performance of this test.