3.9.6 Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints

This section describes the functional design and qualification provisions and inservice testing (IST) programs for safety-related pumps, valves, and dynamic restraints (snubbers). This includes both ASME Code, Section III, Class 1, 2, or 3 (Reference 1), and non-ASME Code safety-related pumps, valves, and snubbers. The provisions and programs described here verify that these components are in a state of operational readiness to perform their safety functions throughout the life of the plant.

The following GDC apply to this section:

- GDC 1 and 10 CFR 50.55a require, in part, that structures, systems, and components (SSC), which include pumps, valves, and dynamic restraints important to safety, be designed, fabricated, erected, constructed, and inspected to quality standards commensurate with the importance of the safety functions they perform. As noted in Section 3.1.1, the U.S. EPR Quality Assurance (QA) Program, which has been approved by the NRC (refer to Section 17.5), describes the recognized codes, standards, and design criteria that govern safety-related SSC. This program also confirms that these SSC are designed to quality standards commensurate with the safety functions they perform. Where applicable, design is in accordance with the codes required in 10 CFR 50.55a.

- GDC 2 requires, in part, that components important to safety be designed to withstand the effects of severe natural phenomena, combined with appropriate effects of normal and accident conditions, without a loss of capability to perform their safety functions. As noted in Section 3.1.1, safety-related SSC are designed either to withstand the effects of natural phenomena without loss of the capability to perform their safety functions, or to fail in a safe condition. Additional information on the seismic classifications of safety-related SSC is provided in Section 3.2.

- GDC 4 requires, in part, that components important to safety be designed to accommodate the effects of, and be compatible with, the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents. As noted in Section 3.1.1, safety-related SSC are designed to accommodate the effects of, and be compatible with, the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, which includes loss-of-coolant accidents. Additionally, the U.S. EPR design applies the leak-before-break methodology, as described in Section 3.6.3, to eliminate the dynamic effects of pipe rupture.

- GDC 14 requires that the reactor coolant pressure boundary (RCPB) be designed with an extremely low probability of abnormal leakage, rapidly propagating failure, and gross rupture. As noted in Section 3.1.2, the RCPB is designed to accommodate the system pressures and temperatures attained under the expected modes of plant operation, including anticipated transients, with stresses within applicable limits.

- GDC 15 requires that the reactor coolant system (RCS) be designed with sufficient margin of safety so that the design conditions of the RCPB are not exceeded during conditions of normal operation, including anticipated operational occurrences (AOO). As noted in Section 3.1.2, steady-state and transient analyses are performed to verify that the design conditions of the RCS and its associated auxiliary systems are not exceeded. These analyses address normal operations, including AOOs. Additionally, RCPB components have a sufficient margin of safety through the use of proven materials and design codes, proven fabrication techniques, nondestructive shop examination, and integrated hydrostatic testing of assembled components. Chapter 5 describes the RCS design.

- GDC 37 requires that the emergency core cooling system be designed to permit appropriate periodic pressure and functional testing to confirm the structural and leak-tight integrity of its components, as well as the operability and performance of the active components of the system. ISTs required by the ASME OM Code (Reference 2), as well as other preservice tests (PST) and ISTs for pumps and valves, demonstrate leak-tight integrity, operability, and performance. This testing specifically applies to safety-related pumps and valves in the emergency core cooling system and meets the requirements of GDC 37.

- GDC 40 requires that the containment heat removal system be designed to permit appropriate periodic pressure and functional testing to confirm the structural and leak-tight integrity of its components, as well as the operability and performance of the active components of the system. ISTs required by Reference 2, as well as other PSTs and ISTs for pumps and valves, demonstrate leak-tight integrity, operability, and performance. This testing specifically applies to safety-related pumps and valves in the containment heat removal system and meets the requirements of GDC 40.

- GDC 43 requires that the containment atmospheric cleanup system be designed to permit appropriate periodic pressure and functional testing to confirm the structural and leak-tight integrity of its components, as well as the operability and performance of the active components of the system, including pumps and valves. ISTs required by Reference 2, as well as other PSTs and ISTs for pumps and valves, demonstrate leak-tight integrity, operability, and performance. This testing specifically applies to safety-related pumps and valves in the containment atmospheric cleanup system and meets the requirements of GDC 43.

- GDC 46 requires that the cooling water system be designed to permit appropriate periodic pressure and functional testing to confirm the structural and leak tight integrity of its components, as well as the operability and performance of the active components of the system. ISTs required by Reference 2, as well as other PSTs and ISTs for pumps and valves, demonstrate leak-tight integrity, operability, and performance. This testing specifically applies to safety-related pumps and valves in the cooling water system and meets the requirements of GDC 46.

- GDC 54 requires that piping systems penetrating the primary reactor containment be provided with leak detection and isolation capabilities. These piping systems are designed with a capability to test the operability of the isolation valves periodically to determine if valve leakage is within acceptable limits. ISTs

required by Reference 2, as well as other PSTs and ISTs for pumps and valves, demonstrate leak-tight integrity, operability, and performance. This testing specifically applies to safety-related valves in systems that penetrate the primary containment and meets the requirements of GDC 54.

Other FSAR sections that interface with this section are:

- Section 3.2.2 addresses the classification system and quality group for pumps and valves.
- Section 3.9.2 addresses dynamic testing and analysis of safety-related pumps, valves, and snubbers.
- Section 3.9.3 addresses the structural design of safety-related pumps, valves, and snubbers.
- Section 3.10 addresses the seismic and dynamic qualification of safety-related pumps and valves.
- Section 3.11 addresses the environmental qualification of safety-related pumps and valves.
- Section 3.12 addresses the design and leak testing provisions of pressure retaining systems and components that interface with the reactor coolant system as part of the primary review responsibility for intersystem loss-of-coolant accidents.
- Section 3.13 addresses programs for ensuring bolting and threaded fastener adequacy and integrity.
- Section 5.2.2 addresses the valves specified for overpressure protection of the reactor coolant pressure boundary.
- Section 5.4.7 and Section 6.3 address residual heat remove and emergency core cooling systems piping, respectively that is connected to the reactor coolant system and is subject to thermally stratified flow, thermal striping, and/or thermal cyclic effects.
- Section 6.2.1.2 addresses the analyses of subcompartment differential pressures resulting from postulated pipe breaks.
- Section 6.2.4 and Section 6.2.6 address the containment isolation system and the overall containment leakage testing program, respectively.
- Section 9.2.1 addresses surveillance, testing, inspection, and maintenance programs of service water systems.
- Section 10.3 addresses the number and size of valves specified for the main steam supply system.
- Section 14.2 addresses preoperational and initial startup testing for systems that contain safety-related pumps, valves, and dynamic restraints.

- Section 17.6 describes the Maintenance Rule implementation for systems that contain safety-related pumps, valves, and dynamic restraints.

Reference 2 defines the IST scope by establishing the PST, IST, and examination of components to assess their operational readiness. The ASME OM Code identifies components subject to test examination, as well as testing responsibilities, methods, intervals, parameters to be measured and evaluated, criteria for evaluating results, corrective action, personnel qualification, and record keeping. These requirements apply to:

- Pumps and valves that are required to perform a specific function in bringing the reactor to a safe shutdown condition, maintaining the reactor in safe shutdown condition, or mitigating the consequences of an accident.

- Pressure relief devices that protect systems, or portions of systems, that perform one or more of the three functions described above.

- Dynamic restraints used in systems that perform one or more of these three functions, or that protect the integrity of the RCPB.

The initial testing program (ITP) is described in Section 14.2 and envelopes the PST program. Detailed test procedures are developed and conducted as a part of the initial plant startup program. These tests include parameters and acceptance criteria that can be used to establish and measure reference values for components in the IST program. These tests also include requirements for instrumentation range and accuracy. The IST program will evaluate results of preoperational testing to establish IST baseline values.

The IST program for pumps is addressed in Section 3.9.6.2, for valves in Section 3.9.6.3, and for snubbers in Section 3.9.6.4. The IST program also includes provisions for relief requests and requests for alternate testing methods, which are addressed in Section 3.9.6.5.

As described in Section 3.9.6.3, the IST program also incorporates operating experience.

A COL applicant that references the U.S. EPR design certification will submit the PST program and IST program for pumps, valves, and snubbers as required by 10 CFR 50.55a.

A COL applicant that references the U.S. EPR design certification will identify the implementation milestones and applicable ASME OM Code for the preservice and inservice examination and testing programs. These programs will be consistent with the requirements in the latest edition and addenda of the OM Code incorporated by reference in 10 CFR 50.55a on the date 12 months before the date for initial fuel load.

3.9.6.1 Functional Design and Qualification of Pumps, Valves, and Dynamic Restraints

IST of safety-related pumps, valves, and snubbers is performed in accordance with Reference 2 and applicable addenda, as required by 10 CFR 50.55a(f), and the guidance provided in RG 1.192 and NUREG-1482, Revision 1 (Reference 3). The ASME OM Code is incorporated by reference in 10 CFR 50.55a(b)(3). ASME OM Code Subsection ISTB defines the functional testing requirements for pumps. Subsection ISTC defines the functional testing requirements for valves, and Subsection ISTD defines the functional testing requirements for snubbers.

The functional design and qualification of safety-related pumps, valves, and snubbers is performed in accordance with ASME QME-1-2007 (Reference 12), as endorsed in RG 1.100, Rev. 3 with clarifications as described in Section 3.10.2.

In accordance with RG 1.206 and the acceptance criteria of SRP 3.9.6, functional design and qualification of pumps, valves, and snubbers includes the following:

- Safety-related pump, valve, and piping designs include provisions to allow testing of pumps and valves at the maximum flow specified in the plant accident analyses.
- Functional design and qualification of each safety-related pump and valve is performed such that each pump and valve is capable of performing its intended function for a full range of system differential pressure and flow, ambient temperatures, and available voltage (as applicable) under conditions ranging from normal operating to design-basis accident conditions.
- The provisions for the design and qualification of snubbers are provided in Section 3.9.3, Section 3.9.6.4, and the U.S. EPR Piping Analysis and Pipe Support Design Topical Report, Section 6.6 (Reference 6). Snubbers in safety-related systems include provisions to allow access for IST program activities (Section 3.9.6.4).
- The design and installation of safety and relief valves is described in Section 3.9.3.
- The seismic and dynamic qualification of mechanical and electrical is described in Section 3.10.
- Section 3.11 addresses the environmental qualification of safety-related pumps and valves.
- As required by GDC 14, safety-related valves that are part of the RCPB are designed and tested such that these valves will not experience any abnormal leakage, or increase in leakage, from their loading, as addressed in Section 3.10.
- As required by GDC 15 and in accordance with SRP 3.9.6, pumps, valves, and snubbers are designed with sufficient margin to demonstrate that the design conditions are not exceeded in accordance with Reference 2.

- Pump motors are designed to tolerate anticipated frequency and voltage variations due to degraded electrical power supply line conditions.

3.9.6.1.1 Additional Information on Design and Qualification of Valves

The ability of a valve to meet its design basis functional requirements (i.e., required capability) is verified during valve qualification testing as required by procurement specifications.

3.9.6.1.1.1 Motor-Operated Valves (MOV) Design and Qualification

Requirements for qualification testing of motor-operated active valves are included in procurement specifications. Valve qualification testing measures valve actuator output capability. Actuator output capability is compared to the valve's required capability defined in procurement specifications, establishing functional margin; that is, that increment by which the MOV's actual output capability exceeds the capability required to operate the MOV under design basis conditions.

Design basis and required operating conditions are established for active safety-related MOVs. Based on the design conditions, the MOVs have a structural analysis performed to demonstrate their components are within the structural limits at the design conditions. The MOVs are designed for a range of conditions up to the design conditions, which includes fluid flow, differential pressure (including line break, if necessary), system pressure and temperature, ambient temperature, operating voltage range, and stroke time. The sizing of the motor operators on the valves consider diagnostic equipment accuracies, changes in output capability for increasing differential pressures and flow, and ambient temperature and reduction in motor voltage, control switch repeatability, friction variations, and other changes in parameters that could result in an increase in operating loads or a decrease in operator output.

The MOVs have a functional qualification performed to demonstrate by test or test and analysis the ability to operate over a range up to the design conditions. This functional qualification demonstrates the MOV capability during and after loads representative of the maximum seismic or vibratory event (as required to perform their intended function), demonstrate the valve sealing capability, demonstrate capability under cold and hot operating conditions, demonstrate capability under maximum pipe end loads, and demonstrate flow interruption and functional capability. The testing includes test data provided by the manufacturer, field test data, empirical data supported by testing or analysis of prototype tests of similar MOVs that support the qualification where similarity must be justified by technical data. The qualification is used for validating the required thrust and torque as applicable to operate the valve and the output capability of the motor operator.

Further information on MOVs is described in Section 3.9.6.3.1.

3.9.6.1.1.2 Other Power-Operated Valves (POV) Design and Qualification

Design basis and required operating conditions are established for POVs with an active safety-related function. POV assemblies include pneumatic-hydraulic-, air piston-, and solenoid-operated assemblies. POVs have a structural analysis performed to demonstrate their components are within the structural limits at the design conditions. POVs are designed to accept the maximum compression, tension, and torsional loads which the assembly is capable of producing in combination with other loads such as pressure, thermal, or externally applied loads. The maximum loading resulting from the design conditions and transients is evaluated in accordance with the ASME Code Section III, Class 1 design requirements. Packing adjustment limits are identified to reduce the potential for stem binding.

POVs have a functional qualification performed to demonstrate by test or test and analysis the ability to operate at the design conditions. Qualification testing of each size, type, and model is performed under a range of differential pressures and maximum achievable flow conditions up to the design conditions. This functional qualification will demonstrate the POVs capability during and after loads representative of the maximum seismic or vibratory event (as required to perform their intended function), demonstrate the valve sealing capability, demonstrate capability under cold and hot operating conditions, demonstrate capability under maximum pipe end loads and demonstrate flow interruption and functional capability. The testing includes test data from the manufacturer, field test data, empirical data supported by test, or analysis of prototype tests of similar power-operated valves that support qualification of the power-operated valve. Similarity must be justified by technical data. Solenoid-operated valves are verified to satisfy the applicable requirements for Class 1E components. Solenoid-operated valves are verified to perform their safety-related design requirements over a range of electrical power supply conditions including minimum and maximum voltage.

Further information on POVs is described in Section 3.9.6.3.2.

3.9.6.2 Inservice Testing Program for Pumps

This section describes the IST of pumps to assess their operational readiness, in compliance with ASME OM Code Subsections ISTA and ISTB. The program applies to pumps that are required to perform a specific function of bringing the reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of a DBA. Pumps that are designated as Class 1, 2, and 3, and non-class pumps that perform a safety-related function are included in the IST program.

Associated systems that contain pumps in the IST program include the necessary valving, instrumentation, test loops, fluid inventory, or other provisions to perform the required testing. Each pump is categorized as either a Group A or Group B pump.

A pump that meets both Group A and Group B pump definitions is categorized as a Group A pump. Group A pumps are operated continuously or routinely during normal operation, cold shutdown, or refueling operations. Group B pumps are in standby systems that are not operated routinely, except for testing. When a Group A test is required, a comprehensive test may be substituted. When a Group B test is required, a Group A or comprehensive test may be substituted. A PST may be substituted for an inservice test.

IST testing conforms to the following:

- IST frequency is established in accordance with requirements set forth by Reference 2, Subsections ISTA and ISTB.
- IST interval is determined by calendar years following placement of the unit into commercial service.
- IST intervals are established in compliance with the following:
  - Initial test interval is the 10 years following commencement of unit commercial service.
  - Successive test intervals are 10 years following the previous test interval.
- Each IST interval may be extended or decreased by as much as one year. Adjustments will not cause successive intervals to be altered by more than one year from the original pattern of intervals.
- For units that are out of service continuously for six months or more, the IST 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.

An initial set of reference values are established for each pump during the PST period or before implementing IST. Reference values are to be determined only when the equipment being tested is known to be operating acceptably. Following the PST, the IST commences when the pump is required to be operable to fulfill the required function. When a pump has been replaced, repaired, or has undergone maintenance that could affect the pump's performance, a new reference value will be determined or the previous value reconfirmed by an inservice test performed before the time it is returned to service or immediately if not removed from service. Deviations between the previous and new reference values are identified and analyzed. Verification that the new pump represents acceptable operation is documented. The plant corrective action program documents pump failures.

A list of pumps included in the IST program is provided in Table 3.9.6-1—Inservice Pump Testing Program Requirements. Parameters to be measured during IST program testing include pump speed (if required), discharge and differential pressures, flowrate,

and vibration at IST conditions, as required by ISTB-3000 for each specific pump category. Range and accuracy requirements for instruments used to measure pressure, flowrate, speed, vibration, and differential pressure are provided in Reference 2, Table ISTB-3510-1. Instrument accuracy, range, location, fluctuations, and frequency response range requirements are established in accordance with ISTB-3510. The specific testing requirements and acceptance criteria are identified in ISTB-5000. A COL applicant that references the U.S. EPR design certification will identify any additional site-specific pumps in Table 3.9.6-1 to be included within the scope of the IST program.

3.9.6.3 Inservice Testing Program for Valves

This section describes the IST of valves to assess their operational readiness, in compliance with Reference 2, Subsections ISTA and ISTC. The program applies to valves classified as ASME Code Class 1, 2, or 3 valves and non-ASME valves that perform a safety-related function. Additional information on MOVs, power-operated valves, and check valves is provided in Section 3.9.6.3.1, Section 3.9.6.3.2, and Section 3.9.6.3.3, respectively.

Valve testing requirements include exercise, leakage, and position verification. Other specific testing requirements for power-operated valves require stroke-time testing and may require diagnostic testing to determine valve operating conditions to verify operability under design-basis conditions. The IST requirement for measuring the stroke time for valves is performed in conjunction with a valve exercise inservice test. The stroke time test is not identified as a separate IST. IST program valves are classified as either active or passive. Active valves change obturator position to accomplish a specific function in shutting down a reactor to the safe-shutdown condition, maintaining the safe shutdown condition, or mitigating the consequences of an accident. Passive valves maintain obturator position and do not change the obturator position to accomplish the required safety functions. Passive valves are not included in the valve exercise testing.

Pre-conditioning of valves or their associated actuators or controls prior to IST testing undermines the purpose of IST testing and is not allowed. Pre-conditioning includes manipulation, pre-testing, maintenance, lubrication, cleaning, exercising, stroking, operating, or disturbing the valve to be tested in any way except as may occur in an unscheduled, unplanned, and unanticipated manner during normal operation.

The IST program complies with the requirements of Reference 2, Subsection ISTC. If a valve cannot be tested during normal operation, justification for testing during cold shutdown or a refueling outage is included in the test plan. The IST program incorporates nonintrusive techniques to periodically assess the degradation and performance of check valves (see Section 3.9.6.3.3).

Valves within the scope of the IST program are categorized as follows:

- Category A valves, for which seat leakage in the closed position is limited to a specific maximum amount to fulfill their required functions.
- Category B valves, for which seat leakage in the closed position is inconsequential to fulfill their required functions.
- Category C valves, which are self-actuating in response to some system characteristic to fulfill their required functions, such as pressure for relief valves or flow direction for check valves. Category C valves are addressed in Section 3.9.6.3.3 (check valves) and Section 3.9.6.3.6 (safety and relief valves).
- Category D valves, which are actuated by an energy source capable of only one operation, such as rupture disks or explosively actuated valves.

Category A and Category B valves are tested as follows:

- Valves are tested by full-stroke exercising during operation at power to the positions required to fulfill their functions. If full-stroke testing is not practical, testing may be limited to part-stroke exercising of the valves during operation at power and full-stroke exercising during cold shutdowns.
- If valve exercising is not practical during operation at power then the testing may be limited to full-stroke exercising of the valves during cold shutdowns. Valve exercising may be limited to part-stroke during cold shutdowns and full-stroke during refueling outages.
- Valve exercising is not required if the time period since the previous full-stroke exercise is less than three months and no activities that could change operating parameters have been performed. During extended shutdowns, valves that are required to be operable must remain capable of performing their intended safety function.
- Exercising valves during cold shutdown commences within 48 hours of achieving cold shutdown and continues until testing is complete or the plant is ready to return to operation at power.
- Valve testing required to be performed during a refueling outage is completed before returning the plant to operation at power.

Valve testing uses reference values determined from the results of PST or IST. These tests are performed under conditions as near as practical to those expected during the IST. Reference values are established only when the valve is known to be operating acceptably. When a valve or its control system has been replaced, repaired, or has undergone maintenance that could affect valve performance, a new reference value is determined or the previous value is reconfirmed by an inservice test. This test is performed before the valve is returned to service or immediately if the valve is not removed from service. Deviations between the previous and new reference values are

identified and analyzed. Verification that the new values represent acceptable operation is documented. The plant corrective action program documents valve failures.

A list of valves included in the IST program is provided in Table 3.9.6-2—Inservice Valve Testing Program Requirements. A COL applicant that references the U.S. EPR design certification will identify any additional site-specific valves in Table 3.9.6-2 to be included within the scope of the IST program. Valve test procedures and schedules are included in the test plan which is provided by the COL applicant.

3.9.6.3.1 Inservice Testing Program for Motor-Operated Valves

3.9.6.3.1.1 MOV Program Requirements and Guidance

In addition to the IST program requirements in the ASME OM Code incorporated by reference in 10 CFR 50.55a(f), 10 CFR 50.55(b)(3)(ii) requires establishment of a program to ensure that the safety-related MOVs continue to be capable of performing their design-basis safety functions. Accordingly, IST of ASME Section III Class 1, 2, and 3, and safety-related MOVs is performed in accordance with ISTC of Reference 2 and applicable addenda, as required by 10 CFR 50.55 a(f). Furthermore, ASME Code Case OMN-1, as accepted by the NRC staff with conditions in RG 1.192, is also used which provides an alternative method to MOV stroke-time testing that also satisfies the requirement in 10 CFR 50.55a to supplement the OM Code IST provisions with a program to ensure that safety-related MOVs continue to be capable of performing their safety functions.

The IST program also incorporates the guidance of NUREG-1482, Revision 1 (Reference 3). Periodic verification of safety-related MOVs incorporates the guidance of Generic Letter 96-05 (Reference 4) which supersedes Generic Letter 89-10 (Reference 5) and its supplements with regard to MOV periodic performance verification. The MOV testing program also incorporates the recommendations from the Joint Owners Group (JOG) MOV Periodic Verification (Reference 9).

The PST program for MOVs is conducted in accordance with ISTC 3100 under conditions as near as practical to those expected during subsequent IST.

3.9.6.3.1.2 Description of MOV Testing Program

Code Testing of MOVs

IST of an MOV relies on diagnostic techniques that assess valve performance under actual loading. Periodic testing per Reference 2, Subsection ISTC, ASME Code Case OMN-1, as accepted in RG 1.192, and Reference 4 is conducted under adequate differential pressure and flow conditions to demonstrate that the MOV continues to perform its safety function to open and close, as applicable, during design-basis

conditions. MOVs that fail to meet their respective acceptance criteria are declared inoperable.

Safety-related MOV functions are used to determine the type of required IST and PST. These functions include:

- Active or active-to-fail for fulfillment of a safety-related function.
- RCPB isolation function.
- Containment isolation function.
- Maximum seat leakage (in the closed position) for fulfillment of a safety-related function.
- Safety-related remote-position-indication function.

Retesting MOVs to verify functionality is required after valve or valve-actuator maintenance. The extent of retesting depends upon the type of maintenance performed. MOV testing is incorporated into the initial plant startup test program (refer to Section 14.2). Containment isolation valve (CIV) leak rate test frequency is addressed in Section 6.2.6.

MOVs are tested in accordance with the Reference 2 and the guidance of Reference 3, including the following:

- Remote position-indication tests: Valves with position indicators that are included in the IST program are observed locally during valve exercising to verify that the indicators are operating correctly. Where local observation is not practical, other methods are used to verify correct valve position indicator operation.
- Leakage tests: Safety-related valves with seat leakage limits are tested to verify that leakage does not exceed allowable limits. This testing includes valves that isolate piping and lines that penetrate containment; these valves are tested in accordance with 10 CFR 50, Appendix J. Most valves are tested individually as a part of the Type C testing, depending on the valve function and configuration.
- Exercise tests: Safety-related MOVs are exercised periodically, and generally undergo full-stoke exercise testing quarterly. Measuring stroke time is not a separate inservice test, but is done as part of periodic testing. If it is impractical to exercise a valve during plant operation, the valve may be full-stroke tested during cold shutdowns. Valves that operate during normal plant operation and at a frequency that satisfies exercising requirements need not be additionally exercised, provided that IST-required observations are made at intervals no greater than that specified in the IST plan.

A list of MOVs included in the IST program is provided in Table 3.9.6-2—Inservice Valve Testing Program Requirements.

Non-Code Testing of MOVs

The MOV testing program incorporates the Joint Owners' Group (JOG) Motor-Operated Valve (MOV) Periodic Verification (PV) Program (Reference 9, Reference 14, and Reference 15) to address Generic Letter 96-05, (Reference 4).

Operability testing relies on non-intrusive diagnostic techniques. These tests are conducted in either static or dynamic conditions in accordance with Reference 9.

Testing is performed to confirm that an adequate margin exists in MOV capabilities. These tests include verification that the MOV achieves maximum required torque or thrust, as applicable. The tests include consideration of diagnostic equipment inaccuracies, degraded voltages, control switch repeatability, load-sensitive MOV behavior, and the margin for degradation. These tests also indicate hard seat-contact and verify that the tests performed do not exceed the allowable structural and under-voltage motor capability limits for the individual parts of the MOV.

3.9.6.3.1.3 Testing Frequency

The interval between testing to demonstrate continued design basis capability does not exceed five years or three refueling outages, whichever is longer. Longer design-basis verification intervals may be justified through implementation of ASME Code Case OMN-1, as accepted in RG 1.192. Test frequency is also specified and evaluated each refueling outage based on data trends as a result of testing. Frequency for periodic testing is in accordance with Reference 9.

3.9.6.3.1.4 Acceptance Criteria

Acceptance criteria for successful completion of the PST and IST of MOVs includes the following:

- Consistent with the safety function, the valve fully opens and/or the valve fully closes or both. Diagnostic equipment indicates hard seat contact.
- The testing demonstrates adequate margin with respect to the design basis, including consideration of diagnostic equipment inaccuracies, degraded voltage, control switch repeatability, load sensitive MOV behavior, and margin for degradation.
- The maximum torque and/or thrust (as applicable) achieved by the MOV, allowing sufficient margin for diagnostic equipment inaccuracies and control switch repeatability, does not exceed the allowable structural and undervoltage motor capability limits for the individual parts of the MOV.

3.9.6.3.2 Inservice Testing Program for Power-Operated Valves Other Than MOVs

3.9.6.3.2.1 Power-Operated Valves, Other Than MOV, Program Requirements and Guidance

Power-operated valves, other than MOVs, include valves actuated by solenoid, hydraulic, or pneumatic operators. In accordance with the IST program requirements in the ASME OM Code incorporated by reference in 10 CFR 50.55a(f), IST of ASME Code, Section III, Class 1, 2 and 3 safety-related power-operated valves is performed in accordance with ISTC of Reference 2 and applicable addenda, as required by 10 CFR 50.55 a(f). The power-operated valve IST program incorporates industry and regulatory experience and INPO operating experience and information gained through analysis, design, maintenance, and testing of the valves within specific safety-related systems. Specifically, the power-operated valve test program incorporates the guidance of Regulatory Issue Summary 2000-03 (Reference 10) that incorporates the lessons learned from MOV analysis and tests in response to GL 96-05 (Reference 4), GL 89-10 (Reference 5), and the JOG air-operated valve program (Reference 11).

3.9.6.3.2.2 Description of Power-Operated Valve, Other Than MOV, Testing Program

Code Testing of Power-Operated Valves, Other Than MOVS

Safety-related power-operated valves are subject to operational readiness testing in accordance with the requirements stated in the ASME OM Code. IST of valves assesses operational readiness including actuating, stroke timing, fail safe, and verification of position indicating systems. The ability of power-operated valves to perform their design-basis functions is verified either before installation or as part of preoperational testing performed during the initial plant startup test program, as described in Section 14.2.

When the margin between component capability and design-basis requirements have not been previously determined due to different valve design features, materials, or operating parameters, then dynamic testing will be performed to determine these margins. This includes verification that solenoid-operated valves continue to be capable of performing their design-basis safety functions.

Solenoid-operated valves are also tested to confirm the valve moves to its energized position and is maintained in that position, and to confirm that the valve moves to the appropriate fail position when de-energized.

A list of power-operated valves included in the IST program is provided in Table 3.9.6-2—Inservice Valve Testing Program Requirements.

Non-Code Testing of Power-Operated Valves, Other Than MOVs

Although the design basis capability of active, safety-related power-operated valves is verified as part of the design and qualification process, power-operated valves that perform an active safety function are tested again after installation in the plant, as required, to ensure valve setup is acceptable to perform their required functions, consistent with valve qualification. These tests, which are typically performed under static (no flow or pressure) conditions, also document the baseline performance of the valves to support maintenance and trending programs. During the testing, critical parameters needed to ensure proper valve setup are measured. Depending on the valve and actuator type, these parameters include seat load, running torque or thrust, valve travel, actuator spring rate, bench set and regulator supply pressure. Uncertainties associated with performance of these tests and use of the test results (including those associated with measurement equipment and potential degradation mechanisms) are addressed appropriately. Uncertainties are considered in the specification of acceptable valve setup parameters or in the interpretation of the test results (or a combination of both). Uncertainties affecting both valve function and structural limits are addressed. Installed solenoid-operated valves are tested using Class 1E electrical power supply voltage and current to verify they remain capable of performing their required safety function during design-basis accident conditions.

Additional testing is performed as part of the air-operated valve program, which includes the elements for an air-operated valve program as identified in Reference 11. The air-operated valve program incorporates the attributes for a successful power-operated valve long-term periodic verification program, as discussed in Reference 10 by incorporating lessons learned from previous nuclear power plant operations and research programs as they apply to the periodic testing of air-operated valves and other power-operated valves included in the IST program. For example, lessons learned addressed in the air-operated valve program include:

- Setpoints for air-operated valves are defined based on current vendor information or valve qualification diagnostic testing, such that the valve is capable of performing its design-basis function(s).

- Periodic static testing is performed to identify potential degradation, unless those valves are periodically cycled during normal plant operation under conditions that meet or exceed the worst case operating conditions within the licensing basis of the plant for the valve, which would provide adequate periodic demonstration of air-operated valve capability. If required based on valve qualification or operating experience, periodic dynamic testing is performed to re-verify the capability of the valve to perform its required functions.

- Sufficient diagnostics are used to collect relevant data (e.g., valve stem thrust and torque, fluid pressure and temperature, stroke time, operating and/or control air pressure, etc.) to verify the valve meets the functional requirements of the qualification specification.

- Test frequency is specified, and is evaluated each refueling outage based on data trends as a result of testing. Frequency for periodic testing is in accordance with References 11 and 13, with a minimum of five years (or three refueling cycles) of data collected and evaluated before extending test intervals.

- Safety-related air operated valves are assigned the highest category according to Reference 11.

- Post-maintenance procedures (which are the responsibility of the COL applicant as described in Section 17.6) include appropriate instructions and criteria to demonstrate baseline testing is re-performed as necessary when maintenance on a valve, valve repair, or replacement has the potential to affect valve functional performance.

- Guidance is included to address lessons learned from other valve programs in procedures and training specific to the AOV program.

- Documentation from AOV testing, including maintenance records and records from the corrective action program, are retained and periodically evaluated as a part of the AOV program.

- The attributes of the AOV testing program described above, to the extent that they apply to and can be implemented on other safety-related power-operated valves, such as electro-hydraulic valves, are applied to those other power-operated valves.

3.9.6.3.3 Inservice Testing Program for Check Valves

Check valve testing requires verification that obturator movement is in the direction required for the valve to perform its safety function. For check valves that perform a safety function in the open and closed directions, the valve is tested by initiating flow and observing whether or not the obturator moves to the full-open position. During flow conditions, the obturator moves to and maintains contact with the backseat without fluctuating, while allowing the flowrate and maximum differential pressure across the valve to remain within acceptable design limits for the system. When flow ceases or reverses, the obturator moves to the valve seat to fulfill the test requirements.

For valves that have a safety function in only the open direction, the valve is exercised by initiating flow and observing whether or not the obturator moves to the full-open position. Check valves that have a safety function in only the closed direction are exercised by initiating flow and observing whether or not the obturator moves to at least the partially open position. When flow ceases or reverses, the obturator moves to the valve seat.

The U.S. EPR design incorporates provisions to permit safety-related check valves to be tested for performance in both the forward and reverse flow directions. Check valve testing includes observations of a direct indicator or other positive means, such as changes in system pressure, flowrate, level, temperature, seat leakage, testing, or

nonintrusive testing results. Acceptance criteria for this testing consider the specific system design and valve application. For example, a valve's safety function may require obturator movement in both open and closed directions. A mechanical exerciser may be used to operate a check valve for testing. Where a mechanical exerciser is used, acceptance criteria are provided for the force or torque required to move the check valve's obturator. Exercise tests also detect missing, sticking, or binding obturators.

As noted in Subsection ISTC-5221 of Reference 2, if these test methods are impractical, or if sufficient flow cannot be achieved or verified, a sample disassembly examination program verifies valve obturator movement. In accordance with Subsection ISTC-5221 of Reference 2 and the guidance of Reference 3, the sample disassembly examination program groups check valves by category of similar design (manufacturer, size, model number and materials), application, and service condition, including valve orientation, and requires a periodic examination of one valve from each group.

During the disassembly process, the full-stroke motion of the obturator is verified and verification is performed that the internals of the valve are structurally sound (i.e., no loose or corroded parts). Also, if the disassembly is to verify the full-stroke capability of the valve, the disk is manually exercised. While the valve is in a partially disassembled condition the valve internals are inspected and the condition of the moving parts evaluated. Nondestructive examination is performed on the hinge pin to assess wear, and seat contact surfaces are examined to verify adequate contact. Full-stroke motion of the obturator is re-verified immediately prior to completing reassembly. At least one valve from each group is disassembled and examined at each refueling outage, and the valves in each group are disassembled and examined at least once every eight years. A condition monitoring program may be established to modify testing or disassembly inspection periods when sufficient operating data have been collected for a valve type. The condition monitoring program is prescribed by post-maintenance program or ASME OM Code Appendix II requirements for each equipment type. Before returning to service, valves disassembled for examination or valves that received maintenance that could affect their performance are exercised with a full or part stroke. Details and bases of the sampling program are documented and recorded in the test plan.

When operating conditions, valve design, valve location, or other considerations prevent direct observation or measurements by use of conventional methods to determine adequate check valve function, diagnostic equipment and nonintrusive techniques are used to monitor internal conditions. Nonintrusive techniques include acoustic, ultrasonic, magnetic, and x-ray technologies, that are used to measure valve-operating parameters (e.g., fluid flow, disk position, disk movement, and disk impact forces). Nonintrusive techniques also detect valve degradation. Diagnostic equipment and techniques used for valve operability determinations are verified as effective and

accurate under the PST program. Testing is performed, to the extent practical, under normal operation, cold shutdown, or refueling conditions applicable to each check valve. Testing includes effects created by sudden starting and stopping of pumps, if applicable, or other conditions, such as flow reversal. When maintenance that could affect valve performance is performed on a valve in the IST program, post-maintenance testing is conducted prior to returning the valve to service.

Preoperational testing is performed during the ITP (refer to Section 14.2) to verify that valves are installed in a configuration that allows correct operation, testing, and maintenance. Preoperational testing verifies that piping design features accommodate check valve testing requirements. Tests also verify disk movement to and from the seat and determine, without disassembly, that the valve disk positions correctly, fully opens or fully closes as expected, and remains stable in the open position under the full spectrum of system design-basis fluid flow conditions. Additional information on leak rate testing is provided in Section 6.2.6.

A list of check valves included in the IST program is provided in Table 3.9.6-2.

3.9.6.3.4 Pressure Isolation Valve Leak Testing

Pressure isolation valves (PIV) are the two normally closed valves, in series, within the RCPB that isolate the RCS from an attached low-pressure system. PIVs are classified as A or A/C in accordance with the provisions of Subsection ISTC-1300 of Reference 2. PIV seat leakage rate tests are conducted in accordance with Subsection ISTC-3630, which specifies a PIV leakage limit of 0.5 gpm per inch of nominal valve diameter up to 5 gpm maximum for each PIV. PIV leakage tests are described further in the Technical Specifications.

A list of PIVs included in the IST program is provided in Table 3.9.6-2.

3.9.6.3.5 Containment Isolation Valve Leak Testing

CIVs are leak tested in accordance with 10 CFR 50, Appendix J. Additional information on CIVs is provided in Sections 6.2.4 and 6.2.6.

A list of CIVs included in the IST program is provided in Table 3.9.6-2. Section 6.2.4 also contains a list of CIVs.

3.9.6.3.6 Inservice Testing Program for Safety and Relief Valves

Safety and relief valves protect systems that are required to provide a safety function. Stroke tests are performed for dual-function safety and relief valves. Safety and relief valve tests are conducted in accordance with Appendix I to Reference 2. Power-operated relief valves subject to the IST program are tested in accordance with Subsection ISTC-5100 for Category B valves and Subsection ISTC-5240 for Category C

valves. Using test equipment, including gages, transducers, load cells, and calibration standards, to determine valve set-pressure is acceptable if the overall combined accuracy does not exceed ±one percent of the indicated (measured) set pressure.

A list of safety and relief valves included in the IST program is provided in Table 3.9.6-2.

3.9.6.3.7 Inservice Testing Program for Manually Operated Valves

Manual valves are exercised at least every two years. Exercise of a manual valve includes a complete cycle from fully open to fully closed.

A list of manual valves included in the IST program is provided in Table 3.9.6-2.

3.9.6.3.8 Inservice Testing Program for Explosively Actuated Valves

The U.S. EPR does not use explosively actuated valves.

3.9.6.4 Inservice Testing Program for Dynamic Restraints

Safety-related systems inside and outside of containment may experience dynamic effects under various accident conditions, including seismic events and DBAs. Snubbers are attached to these systems to reduce these dynamic effects in areas where rigid supports are unacceptable. As noted in Section 6.6 of Reference 6, snubber supports for piping systems allow free thermal movements, while restraining movements due to dynamic loadings.

Snubbers are designed to meet the requirements of Reference 2. The criteria for the size and location of the snubbers are further described in Section 6.6 of Reference 6, which also identifies the type of information to be provided in the design specification, as well as the design and analysis considerations that enable the snubbers to activate correctly for their design loadings. For example, snubber lockup velocity is designed so that the snubber does not lock up under routine static and thermal loading. Section 3.9.2 addresses dynamic testing and analysis of safety-related pumps, valves, and dynamic restraints. The IST program for snubbers complies with all these provisions, including the guidance provided by RG 1.192.

A COL applicant that references the U.S. EPR design certification will provide a table identifying the safety-related systems and components that use snubbers in their support systems, including the number of snubbers, type (hydraulic or mechanical), applicable standard, and function (shock, vibration, or dual-purpose snubber). For snubbers identified as either a dual-purpose or vibration arrester type, the COL applicant shall indicate whether the snubber or component was evaluated for fatigue strength. Per the ASME Code, Section III, Subsection NF, fatigue evaluation is not required for shock snubbers.

Snubbers are procured components and specific snubber suppliers are selected in accordance with the COL applicant's approved quality assurance program, established in accordance with 10 CFR 50, Appendix B. Records of supplier information are maintained in the COL applicant's record management system.

3.9.6.4.1 Snubber Installation

The snubber supplier provides manufacturer recommendations for snubber installation. These recommendations include operating requirements (e.g., operation in compression or retraction modes), accommodation of vertical movement, and the designated first natural frequency (a specific Hertz value). Snubbers are installed using the manufacturer recommendations and installation instructions, which provide guidance on the storage, handling, installation, and adjustments of each of the required snubbers. The installation instructions contain the snubber settings for hot and cold conditions, as well as additional location-specific information that may be needed for the installation. Installation drawings provide the location of the snubber and the orientation on the pipe, or the relationship to an associated component. The pipe support design specification requires that hydraulic snubbers be equipped with a level indicator for observation of fluid level in the snubber.

The final installation of the snubber is an iterative process. The snubber's spring constant specified by the snubber supplier for a given load capacity is compared against the spring constant from the piping system model. Other pipe support components (e.g., pipe clamp, pipe extensions) and the auxiliary structural steel stiffness values are considered in the model and structural analysis. If the snubber location and support direction are confirmed and the spring constants are the same, then installation can proceed. If the spring constants do not agree, additional analysis is required to confirm the snubber load requirements. This iteration continues until the snubber load capacities and spring constants are reconciled.

The U.S. EPR design incorporates provisions that allow ready access for maintenance, inspection, and testing of components. The correct installation and operation of snubbers is confirmed as part of the ITP described in Section 14.2. This program includes visual inspections, hot and cold position measurements, and documenting thermally induced component movement that occurs during plant startup.

3.9.6.4.2 Snubber Examination and Testing Program

Snubber PST and IST are performed in accordance with the ASME OM Code Subsection ISTD (Reference 2). The overall PST and IST intervals are as defined in the administrative requirements (in Subsection ISTA) of the code. The specific examination and testing intervals are in accordance with Subsection ISTD, as described below.

Visual Examination

Snubbers are visually examined to identify impaired function caused by physical damage, leakage, corrosion, or degradation from environmental exposure or operating conditions. External features that may affect operability are also examined. Visual inspections are conducted in accordance with the requirements of the ASME Code, Section XI (Reference 7) for VT-3 examinations. A maintenance inspection checklist is used to describe the examination requirements. The intervals for visual examination are in accordance with NRC-accepted Code Case OMN-13 (RG 1.192).

Snubber examination requirements include the following:

- The snubber load, rating, location, orientation, position setting, and configuration (e.g., attachments and extensions) are in accordance with design drawings and specifications.
- Installation records (based on physical examinations) provide verification that the snubbers are installed according to the design drawings and their specifications meet the requirements.
- Adequate swing clearance is provided to allow snubber movement.
- Testing systems used for functional testing of snubbers determine compression loads and spring/hydraulic conditions.

Functional Testing

Preservice functional testing is performed on snubbers prior to initial plant operation. This testing may be performed at the manufacturer's facility. Inservice functional testing is performed over the test plan intervals specified in Reference 2. Snubbers are tested in their installed location or removed and bench tested. Snubbers are tested in their as-found condition and the test parameters are selected so that the snubbers are tested to the fullest extent practicable.

Functional tests for snubbers are performed to verify the following:

- Activation is within the specified range of velocity or acceleration in tension and in compression.
- Release rate, when applicable, is within the specified range in tension and in compression. Snubbers specifically required not to displace under continuous load withstand load without displacement.
- For mechanical snubbers, the drag force is within specified limits in tension and in compression.
- For hydraulic snubbers, the drag force is within specified limits in tension and in compression (if required to verify correct assembly).

Unacceptable Snubbers

Generic Letter 90-09 (Reference 8) states that a snubber is considered unacceptable if it fails the acceptance criteria of the visual inspection. For an unacceptable snubber, an engineering evaluation determines if the snubber has adversely affected components in the system to which it is attached. Unacceptable snubbers will be adjusted, repaired, modified, or replaced and then retested.

Repair or Replacement of Snubbers

Snubbers that are maintained or repaired by removing or adjusting a snubber part that can affect the results of tests are examined and tested in accordance with the applicable code requirements before being returned to service.

Service Life Monitoring

The service of snubbers is evaluated at least once each fuel cycle, and increased or decreased if warranted. This evaluation is based on technical data from representative snubbers that have been in service in the plant or on other information related to service life. If the evaluation indicates that service life will be exceeded before the next scheduled system or plant outage, then one of the following actions occurs:

- The snubber is replaced.
- The snubber is reconditioned.
- A technical justification is documented for extending the service life.

3.9.6.5 Relief Requests and Alternative Authorizations to the OM Code

If it is determined that compliance with the requirements of the ASME OM Code (Reference 2) is impractical, relief is requested from the code in accordance with 10 CFR 50.55a. These relief requests identify the applicable code requirements, justify the relief request, and provide alternate testing methods.

3.9.6.6 References

1. ASME Boiler and Pressure Vessel Code, Section III, “Rules for Construction of Nuclear Facility Components,” The American Society of Mechanical Engineers, 2004 edition.

2. ASME OM Code, “Code for Operation and Maintenance of Nuclear Power Plants,” The American Society of Mechanical Engineers, 2004 edition.

3. NUREG-1482, Revision 1, “Guidelines for Inservice Testing at Nuclear Power Plants,” U.S. Nuclear Regulatory Commission, January 2005.

4. Generic Letter 96-05, "Periodic Verification of Design Basis Capability of Safety-Related Motor-Operated Valves," U.S. Nuclear Regulatory Commission, September 18, 1996.

5. Generic Letter 89-10, "Safety-Related Motor-Operated Valve testing and Surveillance," U.S. Nuclear Regulatory Commission, June 28, 1989.

6. ANP-10264NP-A, Revision 0, "U.S. EPR Piping Analysis and Pipe Support Design Topical Report," AREVA NP Inc., November 2008.

7. ASME Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," The American Society of Mechanical Engineers, 2004 edition.

8. Generic Letter 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions," U.S. Nuclear Regulatory Commission, May 14, 1990.

9. MPR-2524-A, "Joint Owners Group (JOG) Motor Operated Valve Periodic Verification Program Summary," MPR Associates, November 2006.

10. Regulatory Issue Summary 2000-03, "Resolution of Generic Safety Issue 158: Performance of Safety-Related Power-Operated Valves Under Design Basis Conditions," March 15, 2000.

11. Joint Owners Group Air Operated Valve Program Document, Revision 1, December 13, 2000.

12. ASME QME-1-2007, "Qualification of Active Mechanical Equipment Used in Nuclear Power Plants," 2007 edition.

13. Eugene V. Imbro (NRC) to Mr. David J. Modeen, Nuclear Energy Institute, Comments On Joint Owners' Group Air Operated Valve Program Document, October 8, 1999.

14. Ho K. Nieh (NRC) to Frederick P. Schiffley (PWR Owners Group) and Joseph E. Conen (BWR Owners Group), Final Safety Evaluation on Joint Owners' Group Program on Motor-Operated Valve Periodic Verification (TAC Nos. MC2346, MC2347, and MC2348), September 25, 2006.

15. Thomas B. Blount (NRC) to Dennis Buschbaum (PWR Owners Group) and Doug Coleman (BWR Owners Group), Final Supplement to Safety Evaluation for Joint Owners' Group Motor-Operated Value Periodic Verification Program.

Table 3.9.6-1—Inservice Pump Testing Program Requirements
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Pump Identification[1]	Description	Pump Type[2]	ASME Code Class[3]	ASME OM Code Group[4]	Testing and Frequency[9]				
					Rotational Speed[5]	Pump Discharge Pressure[6]	Differential Pressure[7]	Flowrate	Vibration[8]
30FAK11AP001	Fuel Pool Cooling Pump – Train 1, Pump 1	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30FAK12AP001	Fuel Pool Cooling Pump – Train 1, Pump 2	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30FAK21AP001	Fuel Pool Cooling Pump – Train 2, Pump 3	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30FAK22AP001	Fuel Pool Cooling Pump – Train 2, Pump 4	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30FAL02AP001	SFP Makeup Pump	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30LAS11AP001	Emergency Feedwater Pump – Train 1	C	3	B	N/A	N/A	Q/2Y	Q/2Y	2Y
30LAS21AP001	Emergency Feedwater Pump – Train 2	C	3	B	N/A	N/A	Q/2Y	Q/2Y	2Y
30LAS31AP001	Emergency Feedwater Pump – Train 3	C	3	B	N/A	N/A	Q/2Y	Q/2Y	2Y
30LAS41AP001	Emergency Feedwater Pump – Train 4	C	3	B	N/A	N/A	Q/2Y	Q/2Y	2Y

Table 3.9.6-1—Inservice Pump Testing Program Requirements
Sheet 2 of 3

Pump Identification[1]	Description	Pump Type[2]	ASME Code Class[3]	ASME OM Code Group[4]	Testing and Frequency[9]				
					Rotational Speed[5]	Pump Discharge Pressure[6]	Differential Pressure[7]	Flowrate	Vibration[8]
30JDH10AP001	Boron Injection Pump	PD	2	B	N/A	2Y	Note 7	Q/2Y	2Y
30JDH40AP001	Boron Injection Pump	PD	2	B	N/A	2Y	Note 7	Q/2Y	2Y
30JND10AP001	MHSI Pump – Train 1	C	2	B	N/A	N/A	Q/2Y	Q/2Y	2Y
30JND20AP001	MHSI Pump – Train 2	C	2	B	N/A	N/A	Q/2Y	Q/2Y	2Y
30JND30AP001	MHSI Pump – Train 3	C	2	B	N/A	N/A	Q/2Y	Q/2Y	2Y
30JND40AP001	MHSI Pump – Train 4	C	2	B	N/A	N/A	Q/2Y	Q/2Y	2Y
30JNG10AP001	LHSI Pump – Train 1	C	2	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30JNG20AP001	LHSI Pump – Train 2	C	2	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30JNG30AP001	LHSI Pump – Train 3	C	2	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30JNG40AP001	LHSI Pump – Train 4	C	2	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30QKA10AP107	Safety Chilled Water – Train 1	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30QKA20AP107	Safety Chilled Water – Train 2	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30QKA30AP107	Safety Chilled Water – Train 3	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30QKA40AP107	Safety Chilled Water – Train 4	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30KAA10AP001	CCWS Train 1	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30KAA20AP001	CCWS Train 2	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30KAA30AP001	CCWS Train 3	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30KAA40AP001	CCWS Train 4	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y

Table 3.9.6-1—Inservice Pump Testing Program Requirements
Sheet 3 of 3

Pump Identification[1]	Description	Pump Type[2]	ASME Code Class[3]	ASME OM Code Group[4]	Testing and Frequency[9]				
					Rotational Speed[5]	Pump Discharge Pressure[6]	Differential Pressure[7]	Flowrate	Vibration[8]
30XJN10AP100A	Fuel Transfer Pump A	PD	3	B	N/A	2Y	Note 7	N/A	N/A
30XJN10AP100B	Fuel Transfer Pump B	PD	3	B	N/A	2Y	Note 7	N/A	N/A
30XJN10AP120	Auxiliary Fuel Pump	PD	3	B	N/A	2Y	Note 7	N/A	N/A
30PEB10AP001	ESWS Train 1	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30PEB20AP001	ESWS Train 2	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30PEB30AP001	ESWS Train 3	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y
30PEB40AP001	ESWS Train 4	C	3	A	N/A	N/A	Q/2Y	Q/2Y	Q/2Y

Notes:

1. The U.S. EPR subscribes to the Kraftwerks Kennzeichen System (KKS) for coding and nomenclature of SSC.
2. Centrifugal (C) or Positive Displacement (PD).
3. ASME Code Class as determined by quality groups from RG 1.26.
4. ASME Code Group A or B as defined in ASME OM Code 2004, Subsection ISTB 2000.
5. Variable speed pumps only.
6. Discharge pressure is a required parameter for positive displacement pumps only.
7. Differential pressure is not a required parameter for positive displacement pumps.
8. Displacement or velocity.
9. Tests and their frequency are in accordance with the ASME OM Code, Subsection ISTB.

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30FAK10AA001	FPC to SFP Isolation	GT	MO	3	B	A	O/C	ET ST PI	Q Q 2Y	
30FAK10AA004	FPC to SFP Isolation Bypass	GB	MA	3	B	A	O/C	ET PI	Q 2Y	
30FAK11AA001	FPC Pump, 30FAK11AP001, Suction Isolation	GT	MA	3	B	P	O	PI	2Y	
30FAK12AA001	FPC Pump, 30FAK12AP001, Suction Isolation	GT	MA	3	B	P	O	PI	2Y	
30FAK11AA002	FPC Pump, 30FAK11AP001 Discharge Check	CK	SA	3	C	A	O	ET	Q	
30FAK11AA003	FPC Pump, 30FAK11AP001 Discharge Isolation	GT	MA	3	B	P	O	PI	2Y	
30FAK12AA002	FPC Pump, 30FAK12AP001 Discharge Check	CK	SA	3	C	A	O	ET	Q	
30FAK12AA003	FPC Pump, 30FAK12AP001 Discharge Isolation	GT	MA	3	B	P	O	PI	2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30FAK10AA002	FPC Hx, 30FAK10AC001 Outlet Isolation	GT	MA	3	B	P	O	PI	2Y	
30FAK20AA001	FPC to SFP Isolation	GT	MO	3	B	A	O/C	ET ST PI	Q Q 2Y	
30FAK20AA004	FPC to SFP Isolation Bypass	GB	MA	3	B	A	O/C	ET PI	Q 2Y	
30FAK21AA001	FPC Pump, 30FAK21AP001, Suction Isolation	GT	MA	3	B	P	O	PI	2Y	
30FAK22AA001	FPC Pump, 30FAK22AP001, Suction Isolation	GT	MA	3	B	P	O	PI	2Y	
30FAK21AA002	FPC Pump, 30FAK21AP001 Discharge Check	CK	SA	3	C	A	O	ET	Q	
30FAK21AA003	FPC Pump, 30FAK21AP001 Discharge Isolation	GT	MA	3	B	P	O	PI	2Y	
30FAK22AA002	FPC Pump, 30FAK22AP001 Discharge Check	CK	SA	3	C	A	O	ET	Q	
30FAK20AA002	FPC Hx, 30FAK20AC001 Outlet Isolation	GT	MA	3	B	P	O	PI	2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30FAK22AA003	FPC Pump, 30FAK22AP001 Discharge Isolation	GT	MA	3	B	P	O	PI	2Y	
30FAL12AA001	Reactor Pool Purification and Transfer Inner CIV	GT	MO	2	A	A	C	ET ST LT PI	CS CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30FAL12AA002	Reactor Pool Purification and Transfer Outer CIV	GT	MO	2	A	A	C	ET ST LT PI	CS CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30FAL15AA003	Reactor Pool Purification and Transfer Inner CIV	CK	SA	2	A/C	A	C	ET LT PI	CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30FAL15AA002	Reactor Pool Purification and Transfer Outer CIV	GT	MO	2	A	A	C	ET ST LT PI	CS CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30FAL10AA001	RB Pool Reactor Cavity Isolation	PL	MA	3	A	P	C	ET LT PI	5Y 2Y 2Y	Used to isolate non-safety downstream piping

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30FAL10AA002	RB Pool Internals Compartment Isolation	PL	MA	3	P	P	C	ET LT PI	5Y 2Y 2Y	Used to isolate non-safety downstream piping
30FAL10AA003	RB Pool ILCO Isolation	PL	MO	3	P	P	C	LT PI	2Y 2Y	Used to isolate non-safety downstream piping
30FAL10AA004	RB Pool Transfer Compartment Isolation	PL	MA	3	A	P	C	ET LT PI	5Y 2Y 2Y	Used to isolate non-safety downstream piping
30FAL10AA005	RB Pool Isolation	PL	MA	3	B	P	C	ET PI	5Y 2Y	Used to isolate non-safety downstream piping
30FAL11AA002	RB Pool Isolation Check	CK	SA	3	A	A	C	ET LT PI	Q 2Y 2Y	Used to isolate non-safety downstream piping

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30FAL16AA003	RB Pool Isolation	DI	MA	3	A	P	C	ET LT PI	5Y 2Y 2Y	Used to isolate non-safety downstream piping
30FAL20AA002	FB Pool Transfer Compartment Isolation	DI	MA	3	A	A	C	ET LT PI	5Y 2Y 2Y	Used to isolate non-safety downstream piping
30FAL20AA003	FB Pool CLP Isolation	DI	MA	3	A	A	C	ET LT PI	5Y 2Y 2Y	Used to isolate non-safety downstream piping
30FAL20AA004	RB Pool Isolation	DI	MA	3	A	A	C	ET LT PI	5Y 2Y 2Y	Used to isolate non-safety downstream piping
30FCJ05AA001	Fuel Transfer Tube Valve	GT	MA	3	A	P	C	ET LT PI	CS 2Y 2Y	
30GHC74AA002	Demineralized Water Inside CIV	GB	MO	2	A	A	C	ET ST LT PI	CS CS 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30GHC74AA001	Demineralized Water Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	CS CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30JAA10AA501	RPV High Point Vent (PIV)	GB	MO	1	A	P	C	LT PI	2Y 2Y	Pressure Isolation Valve
30JAA10AA502	RPV High Point Vent (PIV)	GB	MO	1	A	P	C	LT PI	2Y 2Y	Pressure Isolation Valve
30JDH10AA191	EBS Pump Discharge Safety Valve	RV	SA	2	C	A	C	ET PI	10Y 2Y	
30JDH40AA191	EBS Pump Discharge Safety Valve	RV	SA	2	C	A	C	ET PI	10Y 2Y	
30JDH10AA006	Extra Boration System Loop 1 and 2 Outside CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JDH40AA006	Extra Boration System Loop 3 and 4 Outside CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JDH10AA007	Extra Boration System Loop 1 and 2 Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JDH40AA007	Extra Boration System Loop 3 and 4 Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30JDH10AA015	EBS RCS Isolation Valve	GB	MO	1	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30JDH20AA015	EBS RCS Isolation Valve	GB	MO	1	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30JDH30AA015	EBS RCS Isolation Valve	GB	MO	1	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30JDH40AA015	EBS RCS Isolation Valve	GB	MO	1	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30JDH20AA194	EBS Thermal Relief Valve	RV	SA	2	C	A	C	ET PI	10Y 2Y	
30JDH30AA194	EBS Thermal Relief Valve	RV	SA	2	C	A	C	ET PI	10Y 2Y	
30JEB10AA191	RCP Thermal Barrier Cooling Water Relief	RV	SA	3	A/C	A	O/C	ET LT	10Y 10Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JEB20AA191	RCP Thermal Barrier Cooling Water Relief	RV	SA	3	A/C	A	O/C	ET LT	10Y 10Y	
30JEB30AA191	RCP Thermal Barrier Cooling Water Relief	RV	SA	3	A/C	A	O/C	ET LT	10Y 10Y	
30JEB40AA191	RCP Thermal Barrier Cooling Water Relief	RV	SA	3	A/C	A	O/C	ET LT	10Y 10Y	
30JEF10AA191	Pressurizer Safety Relief	RV	PA/SO	1	A/C	A	O/C	ET LT	5Y 5Y	
30JEF10AA192	Pressurizer Safety Relief	RV	PA/SO	1	A/C	A	O/C	ET LT	5Y 5Y	
30JEF10AA193	Pressurizer Safety Relief	RV	PA/SO	1	A/C	A	O/C	ET LT	5Y 5Y	
30JEF10AA004	Primary Depressurization System (PDS) (PIV)	GT	MO	1	A	P	C	LT PI	2Y 2Y	Pressure Isolation Valve
30JEF10AA005	PDS (PIV)	GB	MO	1	A	P	C	LT PI	2Y 2Y	Pressure Isolation Valve
30JEF10AA006	PDS (PIV)	GT	MO	1	A	P	C	LT PI	2Y 2Y	Pressure Isolation Valve

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JEF10AA007	PDS (PIV)	GB	MO	1	A	P	C	LT PI	2Y 2Y	Pressure Isolation Valve
30JEF10AA501	Pressurizer Vacuum Pump/ nitrogen Isolation (PIV)	GB	MO	1	A	P	C	LT PI	2Y 2Y	Pressure Isolation Valve
30JEF10AA502	Pressurizer Vacuum Pump/ nitrogen Isolation (PIV)	GB	MO	1	A	P	C	LT PI	2Y 2Y	Pressure Isolation Valve
30JEWO1AA005	RCP Seal Injection Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JEW01AA006	RCP Seal Injection Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30JEW50AA021	RCP Seal Leakoff to KTA Isolation Valve	GB	MO	3	B	A	O	LT	2Y	
30JEW50AA191	RCP Seal Leakoff Relief Valve	RV	SA	3	C	A	O	ET LT	10Y 10Y	
30JEW50AA001	RCP Seal Leakoff Inside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JEW50AA002	RCP Seal Leakoff Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMM10AA006	Containment Inflating/deflating (Test Line) Inside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMM23AA001	Leak Off (Inside Containment To Annulus) Inside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMM21AA010	Leak Off (Outside Containment To Annulus) Inside CIV	GB	MA	2	A	P	C	ET LT PI	CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMM30AA001	Pressure Measurement Inside CIV	GB	MA	2	A	P	C	ET LT PI	CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMM10AA007	Containment Inflating/ Deflating (Test Line) Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMM23AA002	Leak Off (Inside Containment To Annulus) Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JMM21AA002 - AA008	Leak Off (Outside Containment To Annulus) Outside CIV	GB	MA	2	A	P	C	ET LT PI	CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMM30AA003	Pressure Measurement Outside CIV	GB	MA	2	A	P	C	ET LT PI	CS 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMQ40AA001	SAHRS Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMQ41AA001	SAHRS Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMQ41AA002	SAHRS Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JMQ42AA001	SAHRS Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMQ42AA002	SAHRS Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JMQ43AA001	SAHRS Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JMQ43AA002	SAHRS Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JNA10AA001	RHR 1st RCPB Isolation Valve (PIV)	GT	MO	1	A	A	O/C	ET LT PI	CS 2Y 2Y	Pressure Isolation Valve
30JNA10AA002	RHR 2nd RCPB Isolation Valve CIV (PIV)	GB	MO	1	A	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JNA10AA003	RHR Outside CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNA10AA009	RHR 1st RCPB Bypass Check Valve (PIV)	CK	SA	2	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNA10AA101	LHSI Heat Exchanger Bypass Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNA10AA191	RHR Suction Line Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNA20AA001	LHSI/RHR Suction Line/RHR Train 2 (PIV)	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	Pressure Isolation Valve
30JNA20AA002	LHSI/RHR Suction Line/RHR Train 2 Inside CIV (PIV)	GB	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNA20AA003	LHSI/RHR Suction Line/RHR Train 2 Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNA20AA009	LHSI/RHR Suction Line/RHR Train 2 (PIV)	Ck	SA	2	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNA20AA101	LHSI/RHR Train 2 Hx Bypass	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30JNA20AA191	LHSI/RHR Suction Line/RHR Train 2 Overpressure Protection	RV	SA	2	C	A	C	ET PI	10Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNA30AA001	LHSI/RHR Suction Line/RHR Train 3 (PIV)	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	Pressure Isolation Valve
30JNA30AA002	LHSI/RHR Suction Line/RHR Train 3 Inside CIV (PIV)	GB	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNA30AA003	LHSI/RHR Suction Line/RHR Train 3 Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNA30AA009	LHSI/RHR Suction Line/RHR Train 3 (PIV)	Ck	SA	2	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNA30AA101	LHSI/RHR Train 3 Hx Bypass	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30JNA30AA191	LHSI/RHR Suction Line/RHR Train 3 Overpressure Protection	RV	SA	2	C	A	C	ET PI	10Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNA40AA001	LHSI/RHR Suction Line/RHR Train 4 (PIV)	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	Pressure Isolation Valve
30JNA40AA002	LHSI/RHR Suction Line/RHR Train 4 Inside CIV (PIV)	GB	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNA40AA003	LHSI/RHR Suction Line/RHR Train 4 Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNA40AA009	LHSI/RHR Suction Line/RHR Train 4 (PIV)	Ck	SA	2	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNA40AA101	LHSI/RHR Train 4 Hx Bypass	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30JNA40AA191	LHSI/RHR Suction Line/RHR Train 4 Overpressure Protection	RV	SA	2	C	A	C	ET PI	10Y 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNA30AA004	LHSI Heat Exchanger Bypass Isolation Valve on Purification Line to CVCS	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNA40AA004	LHSI Heat Exchanger Bypass Isolation Valve on Purification Line to CVCS	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNA30AA006	LHSI Heat Exchanger Bypass Check Valve on Purification Line to CVCS	CK	SA	2	C	A	C	ET LT	Q RF	
30JNA40AA006	LHSI Heat Exchanger Bypass Check Valve on Purification Line to CVCS	CK	SA	2	C	A	C	ET LT	Q RF	
30JNA30AA103	LHSI Heat Exchanger Bypass Throttle Valve on Purification Line to CVCS	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNA40AA103	LHSI Heat Exchanger Bypass Throttle Valve on Purification Line to CVCS	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JND10AA001	MHSI Suction Isolation Valve	GB	MA	2	A	P	O	ET LT PI	5Y 2Y 2Y	
30JND10AA002	MHSI Outside CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JND10AA003	MHSI 2nd RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JND10AA004	MHSI Small Miniflow Line Isolation Valve	GB	MO	2	A	A	O	ET LT PI	Q 2Y 2Y	
30JND10AA005	MHSI Large Miniflow Line Isolation Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JND10AA007	MHSI Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JND10AA103	MHSI Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JND20AA001	MHSI Suction Isolation Valve	GB	MA	2	A	P	O	ET LT PI	5Y 2Y 2Y	
30JND20AA002	MHSI Outside CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JND20AA003	MHSI 2nd RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JND20AA004	MHSI Small Miniflow Line Isolation Valve	GB	MO	2	A	A	O	ET LT PI	Q 2Y 2Y	
30JND20AA005	MHSI Large Miniflow Line Isolation Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JND20AA007	MHSI Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JND20AA103	MHSI Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JND30AA001	MHSI Suction Isolation Valve	GB	MA	2	A	P	O	ET LT PI	5Y 2Y 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JND30AA002	MHSI Outside CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JND30AA003	MHSI 2nd RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JND30AA004	MHSI Small Miniflow Line Isolation Valve	GB	MO	2	A	A	O	ET LT PI	Q 2Y 2Y	
30JND30AA005	MHSI Large Miniflow Line Isolation Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JND30AA007	MHSI Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JND30AA103	MHSI Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JND40AA001	MHSI Suction Isolation Valve	GB	MA	2	A	P	O	ET LT PI	5Y 2Y 2Y	
30JND40AA002	MHSI Outside CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JND40AA003	MHSI 2nd RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JND40AA004	MHSI Small Miniflow Line Isolation Valve	GB	MO	2	A	A	O	ET LT PI	Q 2Y 2Y	
30JND40AA005	MHSI Large Miniflow Line Isolation Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JND40AA007	MHSI Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JND40AA103	MHSI Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG10AA192	LHSI Discharge Line Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG10AA001	LHSI Suction Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG10AA003	LHSI Radial Miniflow Line Check Valve	CK	SA	2	C	A	C	ET LT PI	Q 2Y 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG10AA004	LHSI Tangential Miniflow Line Check Valve	CK	SA	2	C	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG10AA006	LHSI 2nd RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG10AA009	LHSI Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JNG10AA010	LHSI Cross-Connect Isolation Valve	GT	MO	2	A	P	O/C	ET LT PI	Q 2Y 2Y	
30JNG10AA011	LHSI Cross-Connect Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	
30JNG10AA012	Cross-Connect Bypass Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	
30JNG10AA060	LHSI Outside Main CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNG10AA061	LHSI Outside Bypass CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG10AA102	LHSI Heat Exchanger Main Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG10AA103	LHSI Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG12AA002	LHSI Hot Leg Injection Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	
30JNG12AA001	LHSI Hot Leg Injection Isolation Valve	GB	MO	2	A	A	O/C	ET LT PI	Q RF 2Y	LT per 10 CFR 50, Appendix J
30JNG13AA101	Accumulator Depressurization Control Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG13AA002	Accumulator Filling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	
30JNG13AA003	Accumulator Filling Line Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG13AA005	SIS 1st RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG13AA006	Accumulator-Nitrogen Distribution Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG13AA007	Accumulator-Nitrogen Distribution Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG13AA008	Accumulator Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG13AA009	Accumulator Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG13AA197	Accumulator Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG13AA502	Accumulator Depressurization Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG15AA001	Dead Leg Pressurization Valve	GB	MO	1	A	A	C	ET LT PI	CS 2Y 2Y	
30JNG15AA002	RCS Suction Line Pressurization Valve	GB	MO	1	A	A	C	ET LT PI	CS 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG15AA003	Dead Leg Pressure Bypass Isolation Valve (PIV)	GB	MO	2	A	A	C	ET LT PI	CS 2Y 2Y	Pressure Isolation Valve
30JNG15AA004	Dead Leg Pressure Control Isolation Valve (PIV)	GB	MO	1	A	A	C	ET LT PI	CS RF 2Y	Pressure Isolation Valve
30JNG15AA005	Dead Leg Pressurization Bypass Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG20AA192	LHSI Discharge Line Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG20AA001	LHSI Suction Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG20AA003	LHSI Radial Miniflow Line Check Valve	CK	SA	2	C	A	C	ET LT PI	Q 2Y 2Y	
30JNG20AA004	LHSI Tangential Miniflow Line Check Valve	CK	SA	2	C	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG20AA006	LHSI 2nd RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG20AA009	LHSI Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JNG20AA010	LHSI Cross-Connect Isolation Valve	GT	MO	2	A	P	O/C	ET LT PI	Q 2Y 2Y	
30JNG20AA011	LHSI Cross-Connect Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	
30JNG20AA060	LHSI Outside Main CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNG20AA061	LHSI Outside Bypass CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNG20AA102	LHSI Heat Exchanger Main Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG20AA103	LHSI Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG22AA002	LHSI Hot Leg Injection Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG22AA001	LHSI Hot Leg Injection Isolation Valve	GB	MO	2	A	A	O/C	ET LT PI	Q RF 2Y	LT per 10 CFR 50, Appendix J
30JNG23AA002	Accumulator Filling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	
30JNG23AA006	Accumulator-Nitrogen Distribution Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG23AA002	Accumulator Filling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	
30JNG23AA003	Accumulator Filling Line Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG23AA003	Accumulator Filling Line Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG23AA005	SIS 1st RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG23AA005	SIS 1st RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG23AA006	Accumulator-Nitrogen Distribution Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG23AA007	Accumulator-Nitrogen Distribution Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG23AA007	Accumulator-Nitrogen Distribution Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG23AA008	Accumulator Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG23AA008	Accumulator Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG23AA009	Accumulator Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG23AA009	Accumulator Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG23AA101	Accumulator Depressurization Control Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG23AA101	Accumulator Depressurization Control Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG23AA197	Accumulator Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG23AA197	Accumulator Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG23AA502	Accumulator Depressurization Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG23AA502	Accumulator Depressurization Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG25AA001	Dead Leg Pressurization Valve	GB	MO	1	A	A	C	ET LT PI	CS 2Y 2Y	
30JNG25AA002	RCS Suction Line Pressurization Valve	GB	MO	1	A	A	C	ET LT PI	CS 2Y 2Y	
30JNG25AA003	Dead Leg Pressure Bypass Isolation Valve (PIV)	GB	MO	2	A	A	C	ET LT PI	CS 2Y 2Y	Pressure Isolation Valve
30JNG25AA004	Dead Leg Pressure Control Isolation Valve (PIV)	GB	MO	1	A	A	C	ET LT PI	CS RF 2Y	Pressure Isolation Valve

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG25AA005	Dead Leg Pressurization Bypass Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG30AA192	LHSI Discharge Line Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG30AA001	LHSI Suction Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG30AA003	LHSI Radial Miniflow Line Check Valve	CK	SA	2	C	A	C	ET LT PI	Q 2Y 2Y	
30JNG30AA004	LHSI Tangential Miniflow Line Check Valve	CK	SA	2	C	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG30AA006	LHSI 2nd RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG30AA009	LHSI Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30JNG30AA010	LHSI Cross-Connect Isolation Valve	GT	MO	2	A	P	O/C	ET LT PI	Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG30AA011	LHSI Cross-Connect Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	
30JNG30AA060	LHSI Outside Main CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNG30AA061	LHSI Outside Bypass CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNG30AA102	LHSI Heat Exchanger Main Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG30AA103	LHSI Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG32AA002	LHSI Hot Leg Injection Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	
30JNG32AA001	LHSI Hot Leg Injection Isolation Valve	GB	MO	2	A	A	O/C	ET LT PI	Q RF 2Y	LT per 10 CFR 50, Appendix J
30JNG33AA002	Accumulator Filling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG33AA002	Accumulator Filling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	
30JNG33AA003	Accumulator Filling Line Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG33AA003	Accumulator Filling Line Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG33AA005	SIS 1st RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG33AA005	SIS 1st RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG33AA006	Accumulator-Nitrogen Distribution Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG33AA006	Accumulator-Nitrogen Distribution Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG33AA007	Accumulator-Nitrogen Distribution Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG33AA007	Accumulator-Nitrogen Distribution Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG33AA008	Accumulator Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG33AA008	Accumulator Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG33AA009	Accumulator Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG33AA009	Accumulator Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG33AA101	Accumulator Depressurization Control Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG33AA101	Accumulator Depressurization Control Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG33AA197	Accumulator Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG33AA197	Accumulator Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG33AA502	Accumulator Depressurization Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG33AA502	Accumulator Depressurization Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG35AA001	Dead Leg Pressurization Valve	GB	MO	1	A	A	C	ET LT PI	CS 2Y 2Y	
30JNG35AA005	Dead Leg Pressurization Bypass Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG35AA002	RCS Suction Line Pressurization Valve	GB	MO	1	A	A	C	ET LT PI	CS 2Y 2Y	
30JNG35AA003	Dead Leg Pressure Bypass Isolation Valve (PIV)	GB	MO	2	A	A	C	ET LT PI	CS 2Y 2Y	Pressure Isolation Valve
30JNG35AA004	Dead Leg Pressure Control Isolation Valve (PIV)	GB	MO	1	A	A	C	ET LT PI	CS RF 2Y	Pressure Isolation Valve

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG40AA192	LHSI Discharge Line Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG40AA001	LHSI Suction Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG40AA003	LHSI Radial Miniflow Line Check Valve	CK	SA	2	C	A	C	ET LT PI	Q 2Y 2Y	
30JNG40AA004	LHSI Tangential Miniflow Line Check Valve	CK	SA	2	C	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG40AA006	LHSI 2nd RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG40AA007	SAHRS-IRWSTS 1st Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	
30JNG40AA008	SAHRS-IRWSTS 2nd Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	
30JNG40AA009	LHSI Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG40AA010	LHSI Cross-Connect Isolation Valve	GT	MO	2	A	P	O/C	ET LT PI	Q 2Y 2Y	
30JNG40AA011	LHSI Cross-Connect Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	
30JNG40AA012	Cross-Connect Bypass Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	
30JNG40AA060	LHSI Outside Main CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNG40AA061	LHSI Outside Bypass CIV	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30JNG40AA102	LHSI Heat Exchanger Main Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG40AA103	LHSI Control Valve	GB	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG42AA002	LHSI Hot Leg Injection Check Valve	CK	SA	2	C	A	O/C	ET LT	CS 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG42AA001	LHSI Hot Leg Injection Isolation Valve	GB	MO	2	A	A	O/C	ET LT PI	Q RF 2Y	LT per 10 CFR 50, Appendix J
30JNG43AA002	Accumulator Filling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	
30JNG43AA002	Accumulator Filling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q 2Y 2Y	
30JNG43AA003	Accumulator Filling Line Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG43AA003	Accumulator Filling Line Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG43AA005	SIS 1st RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG43AA005	SIS 1st RCPB Isolation Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG43AA006	Accumulator-Nitrogen Distribution Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG43AA006	Accumulator-Nitrogen Distribution Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG43AA007	Accumulator-Nitrogen Distribution Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG43AA007	Accumulator-Nitrogen Distribution Check Valve	CK	SA	2	C	P	C	ET LT	CS 2Y	
30JNG43AA008	Accumulator Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG43AA008	Accumulator Isolation Valve	GT	MO	2	A	A	O/C	ET LT PI	Q 2Y 2Y	
30JNG43AA009	Accumulator Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG43AA009	Accumulator Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG43AA101	Accumulator Depressurization Control Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG43AA101	Accumulator Depressurization Control Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG43AA197	Accumulator Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG43AA197	Accumulator Safety Relief Valve	RV	SA	2	C	A	O	ET PI	10Y 2Y	
30JNG43AA502	Accumulator Depressurization Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG43AA502	Accumulator Depressurization Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30JNG45AA001	Dead Leg Pressurization Valve	GB	MO	1	A	A	C	ET LT PI	CS 2Y 2Y	
30JNG45AA002	RCS Suction Line Pressurization Valve	GB	MO	1	A	A	C	ET LT PI	CS 2Y 2Y	
30JNG45AA003	Dead Leg Pressure Bypass Isolation Valve (PIV)	GB	MO	2	A	A	C	ET LT PI	CS 2Y 2Y	Pressure Isolation Valve
30JNG45AA004	Dead Leg Pressure Control Isolation Valve (PIV)	GB	MO	1	A	A	C	ET LT PI	CS RF 2Y	Pressure Isolation Valve

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG45AA005	Dead Leg Pressurization Bypass Check Valve (PIV)	CK	SA	1	A/C	A	O/C	ET LT	CS 2Y	Pressure Isolation Valve
30JNG10AA601	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG20AA601	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG30AA601	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG40AA601	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG10AA602	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG20AA602	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG30AA602	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNG40AA602	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG10AA603	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG20AA603	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG30AA603	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG40AA603	LHSI Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG13AA602	Accumulator Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG23AA602	Accumulator Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG33AA602	Accumulator Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNG43AA602	Accumulator Sampling Line Isolation Valve	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNK10AA001	IRWST 3-Way Isolation Valve	GB	MO	2	A	A	O	ET LT PI	Q RF 2Y	
30JNK20AA001	IRWST 3-Way Isolation Valve	GB	MO	2	A	A	O	ET LT PI	Q RF 2Y	
30JNK30AA001	IRWST 3-Way Isolation Valve	GB	MO	2	A	A	O	ET LT PI	Q RF 2Y	
30JNK40AA001	IRWST 3-Way Isolation Valve	GB	MO	2	A	A	O	ET LT PI	Q RF 2Y	
30JNK10AA009	1st CVCS Suction Isolation Valve From IRWST	GB	MO	2	A	A	O	ET LT PI	Q RF 2Y	
30JNK11AA009	1st SAHRS Suction Isolation Valve from IRWST	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30JNK10AA010	SIS-IRWST Miniflow Line Check Valve	CK	SA	2	C	A	O/C	ET	CS	
30JNK11AA010	SIS-IRWST Miniflow Line Check Valve	CK	SA	2	C	A	O/C	ET	CS	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30JNK10AA011	SIS-IRWST Miniflow Line Check Valve	CK	SA	2	C	A	O/C	ET	CS	
30JNK11AA011	SIS-IRWST Miniflow Line Check Valve	CK	SA	2	C	A	O/C	ET	CS	
30JNK10AA045	Annulus Region Drain Line Isolation Valve (CVCS Suction Line)	GB	MA	2	A	P	C	LT PI	2Y 2Y	
30JNK11AA045	Annulus Region Drain Line Isolation Valve (SAHRS Suction Line)	GB	MA	2	A	P	C	LT PI	2Y 2Y	
30JNK10AA013	2nd CVCS Suction Isolation Valve From IRWST	GB	MO	2	A	A	C	ET LT PI	Q RF 2Y	
30KAA10AA004	CCW Hx (KAA10 AC001) Outlet Check Valve	CK	SA	3	C	A	O	ET	Q	
30KAA10AA006	Quick Closing Valve for KAA10 to Common1B	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAA10AA010	Quick Closing Valve for Common1B to KAA10	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA10AA027	Isolation Valve for Demin Water to CCW TRN10	DI	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KAA10AA032	Quick Closing Valve for Common1A to KAA10	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA10AA033	Quick Closing Valve for KAA10 to Common1A	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA10AA112	Bypass Control Valve for KAA10 AC001	BF	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA12AA005	CCW Isolation Valve for LHSI HX 1	BF	MO	3	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30KAA12AA012	Check Valve Downstream LHSI HX 10	CK	SA	3	C	A	O	ET	Q	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAA20AA004	CCW Hx (KAA20 AC001) Outlet Check Valve	CK	SA	3	C	A	O	ET	Q	
30KAA20AA006	Quick Closing Valve for KAA20 to Common1B	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA20AA010	Quick Closing Valve for Common1B to KAA20	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA20AA027	Isolation Valve for Demin Water to CCW TRN20	DI	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KAA20AA032	Quick Closing Valve for Common1A to KAA20	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA20AA033	Quick Closing Valve for KAA20 to Common1A	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA20AA112	Bypass Control Valve for KAA20 AC001	BF	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAA22AA005	CCW Isolation Valve for LHSI HX 2	BF	MO	3	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30KAA22AA012	Check Valve Downstream LHSI HX 20	CK	SA	3	C	A	O	ET	Q	
30KAA22AA013	CCW Isolation Valve to LHSI PP20 Seal Cooler	DI	MO	3	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30KAA22AA014	Check Valve Downstream LHSI PP 20	CK	SA	3	C	A	O	ET	Q	
30KAA22AA101	3 Way Control Valve for QKA20 AC002	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30KAA30AA004	CCW Hx (KAA30 AC001) Outlet Check Valve	CK	SA	3	C	A	O	ET	Q	
30KAA30AA006	Quick Closing Valve for KAA30 to Common2B	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAA30AA010	Quick Closing Valve for Common2B to KAA30	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA30AA027	Isolation Valve for Demin Water to CCW TRN30	DI	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KAA30AA032	Quick Closing Valve for Common2A to KAA30	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA30AA033	Quick Closing Valve for KAA30 to Common2A	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA30AA112	Bypass Control Valve for KAA30 AC001	BF	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA32AA005	CCW Isolation Valve for LHSI HX 3	BF	MO	3	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30KAA32AA012	Check Valve Downstream LHSI HX 30	CK	SA	3	C	A	O	ET	Q	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAA32AA013	CCW Isolation Valve to LHSI PP30 Seal Cooler	DI	MO	3	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30KAA32AA014	Check Valve Downstream LHSI PP 30	CK	SA	3	C	A	O	ET	Q	
30KAA32AA101	3 Way Control Valve for QKA30 AC002	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30KAA40AA004	CCW Hx (KAA40 AC001) Outlet Check Valve	CK	SA	3	C	A	O	ET	Q	
30KAA40AA006	Quick Closing Valve for KAA40 to Common2B	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA40AA010	Quick Closing Valve for Common2B to KAA40	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA40AA027	Isolation Valve for Demin Water to CCW TRN40	DI	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAA40AA032	Quick Closing Valve for KAA40 to Common2A	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA40AA033	Quick Closing Valve for Common2A to KAA40	BF	HO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA40AA112	Bypass Control Valve for KAA40 AC001	BF	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30KAA42AA005	CCW Isolation Valve for LHSI HX 4	BF	MO	3	A	A	O	ET ST LT PI	Q Q 2Y 2Y	
30KAA42AA012	Check Valve Downstream LHSI HX 40	CK	SA	3	C	A	O	ET	Q	
30KAB10AA192	RV Downstream Common 1B	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KAB80AA015	Supply Isolation Operational Chilled Water Users	BF	HO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAB80AA016	Supply Isolation Operational Chilled Water Users	BF	HO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KAB80AA019	Return Isolation Operational Chilled Water Users	BF	HO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KAB80AA020	Return Common 1B	CK	SA	3	C	A	C	ET	Q	
30KAB30AA049	RCP Thermal Barrier 1 and 2 Supply Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB30AA050	Supply Thermal Barrier 1 and 2 Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30KAB30AA051	RCP Thermal Barrier 1 and 2 Return Inside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB30AA052	RCP Thermal Barrier 1 and 2 Return Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAB30AA191	RV Downstream Thermal Barrier 1 and 2	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KAB40AA001	Supply KLA / KT Users Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB40AA002	Supply Common 1B Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30KAB40AA006	Return KLA / KT Users Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB40AA012	Return KLA / KT Users Inside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB40AA194	RV Downstream Cont. HVAC	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KAB60AA013	Supply KBA, RCP 1 and 2 Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB60AA014	Supply RCP 1and 2 Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAB60AA018	Return KBA, RCP 1 and 2 Inside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB60AA019	Return KBA, RCP 1 and 2 Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB60AA191	RV Return CVCS HP CL1	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KAB10AA193	RV Downstream FPCS HX1	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KAB20AA192	RV Downstream Common 2B	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KAB30AA054	Supply Thermal Barrier 3 and 4 Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30KAB30AA055	RCP Thermal Barrier 3 and 4 Return Inside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB30AA056	RCP Thermal Barrier 3 and 4 Return Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAB30AA053	RCP Thermal Barrier 3 and 4 supply Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB30AA192	RV Downstream TH BARR 3 and 4	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KAB70AA013	Supply KBA, RCP 3 and 4 Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB70AA014	Supply RCP 3 and 4 Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30KAB70AA018	Return KBA, RCP 3 and 4 Inside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB70AA019	Return KBA, RCP 3 and 4 Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KAB70AA191	RV Return CVCS HP CL2	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KAB50AA001	Supply Isolation Nuclear Auxiliary and Radwaste Buildings	BF	HO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KAB50AA004	Return Isolation Nuclear Auxiliary and Radwaste Buildings	BF	HO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KAB50AA006	Supply Isolation Nuclear Auxiliary and Radwaste Buildings	BF	HO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KAB50AA008	Return Common 2B	CK	SA	3	C	A	C	ET	Q	
30KAB20AA193	RV Downstream FPCS HX2	RV	SA	3	C	A	O/C	ET LT	10Y 10Y	
30KBA10AA001	Reactor Coolant Pressure Boundary Isolation Valve	GB	MO	1	B	A	C	ET PI	Q 2Y	
30KBA10AA002	RC Pressure Boundary Isolation Valve	GB	MO	1	B	A	C	ET PI	Q 2Y	
30KBA14AA012	Letdown Line Check Valve	CK	SA	3	C	A	C	ET	Q	
30KBA14AA191	Letdown Line Relief Valve	RV	SA	3	C	A	C	ET LT	10Y 10Y	
30KBA14AA002	CVCS Letdown Inside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KBA14AA003	CVCS Letdown Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KBA21AA001	Boron Dilution Valve	GB	MO	3	B	A	C	ET PI	Q 2Y	
30KBA21AA009	Boron Dilution Valve	GB	MO	3	B	A	C	ET PI	Q 2Y	
30KBA25AA017	Boron Dilution Valve	GB	MO	3	B	A	C	ET PI	Q 2Y	
30KBA34AA002	CVCS Charging Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KBA34AA003	CVCS Charging Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30KBA34AA191	Charging Line Relief Valve	RV	SA	3	C	A	O	ET LT	10Y 10Y	
30KBA35AA001	Pressurizer Auxiliary Spray Isolation Valve	GB	MO	3	B	A	C	ET PI	Q 2Y	
30KBA35AA002	Pressurizer Auxiliary Spray Check Valve	CK	SA	1	A/C	A	C	ET LT PI	Q 2Y 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KBA34AA012	Charging Line Isolation Valve	GB	MO	3	B	A	C	ET PI	Q 2Y	
30KBA34AA018	RC Pressure Boundary Check Valve	CK	SA	1	C	A	C	ET	Q	
30KBA34AA019	RC Pressure Boundary Check Valve	CK	SA	1	C	A	C	ET	Q	
30KBA34AA020	RC Pressure Boundary Check Valve	CK	SA	1	C	A	C	ET	Q	
30KBA34AA021	RC Pressure Boundary Check Valve	CK	SA	1	C	A	C	ET	Q	
30KLA10AA001	Small Flow Supply - Outside CIV	BF	AO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KLA10AA003	Small Flow Supply - Inside CIV	GT	AO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KLA30AA002	Large Flow Supply - Outside CIV	BF	AO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KLA30AA003	Large Flow Supply - Inside CIV	BF	AO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KLA20AA001	Small Flow Return - Inside CIV	GT	AO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KLA20AA003	Small Flow Return - Outside CIV	BF	AO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KLA40AA001	Large Flow Return - Inside CIV	BF	AO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KLA40AA002	Large Flow Return - Outside CIV	BF	AO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KTA10AA017	Nuclear Island Vents and Drains Inside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KTA10AA018	Nuclear Island Vents and Drains Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KTC10AA005	Floor Drain 1 RB Inside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KTC10AA006	Floor Drain 1 RB Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KTC10AA010	Chemical Reinjection Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KTC10AA029	Chemical Reinjection Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	Q 2Y 2Y	
30KTD10AA015	Floor Drain 2 RB Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KTD10AA024	Floor Drain 2 RB Inside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KTD10AA025	Annulus Drain Outside CIV	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KTD10AA008	Annulus Drain Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	Q 2Y 2Y	
30KUA10AA002	RCS Hot Leg 1 Sample Isolation	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KUA10AA003	RCS Hot Leg 1 Sample Inside CIV	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUA10AA004	RCS Hot Leg 1 Sample Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUA20AA001	Pressurizer Sample Isolation	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KUA20AA002	Pressurizer Sample Inside CIV	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KUA20AA003	Pressurizer Sample Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUA30AA002	RCS Crossover Leg 3 Sample Isolation	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30KUA30AA003	RCS Crossover Leg 3 Sample Inside CIV	GT	MO	1	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUA30AA004	RCS Crossover Leg 3 Sample Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUB10AA001	Accumulator Sample Inside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUB10AA002	Accumulator Sample Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30KUL51AA002	Severe Accident Sampling Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUL51AA003	Severe Accident Sampling Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUL52AA002	Severe Accident Sampling Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30KUL52AA003	Severe Accident Sampling Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30LAB60AA003	MFW Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30LAB70AA003	MFW Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30LAB80AA003	MFW Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAB90AA003	MFW Inside CIV	CK	SA	2	A/C	A	C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30LAB60AA002	MFW Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30LAB70AA002	MFW Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30LAB80AA002	MFW Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30LAB90AA002	MFW Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30LAB60AA001	MFW Full Load Isolation	GT	HO / PA / SA	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB70AA001	MFW Full Load Isolation	GT	HO / PA / SA	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAB80AA001	MFW Full Load Isolation	GT	HO / PA / SA	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB90AA001	MFW Full Load Isolation	GT	HO / PA / SA	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB64AA001	MFW Low Load Isolation	GT	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB74AA001	MFW Low Load Isolation	GT	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB84AA001	MFW Low Load Isolation	GT	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB94AA001	MFW Low Load Isolation	GT	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAB60AA101	MFW Full Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB70AA101	MFW Full Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB80AA101	MFW Full Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB90AA101	MFW Full Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB64AA101	MFW Low Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB74AA101	MFW Low Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAB84AA101	MFW Low Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB94AA101	MFW Low Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB64AA102	MFW Very Low Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB74AA102	MFW Very Low Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB84AA102	MFW Very Low Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAB94AA102	MFW Very Low Load Control Valve	GB	MO	3	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LAR11AA001	EFW Train 1 Pump Suction Isolation	DI	MA	3	B	P	O	PI	2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAR11AA002	EFW Train 1 Pump Min-Flow Check Valve	CK	SA	3	C	A	O/C	ET	CS	
30LAR11AA103	EFW Train 1 Flow Control Valve	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30LAR11AA004	EFW Train 1 Pump Discharge Isolation	GT	MA	3	B	P	O	PI	2Y	
30LAR11AA105	EFW Train 1 Level Control Valve	GB	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LAR11AA006	EFW Train 1 Outside CIV	GT	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30LAR11AA007	EFW Train 1 Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30LAR13AA001	EFW Train 1 Supply Header Isolation	GT	MA	3	A	A	O/C	ET LT PI	5Y 2Y 2Y	
30LAR14AA001	EFW Train 1 Discharge Header Isolation	GB	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAR21AA001	EFW Train 2 Pump Suction Isolation	DI	MA	3	B	P	O	PI	2Y	
30LAR21AA002	EFW Train 2 Pump Min-Flow Check Valve	CK	SA	3	C	A	O/C	ET	CS	
30LAR21AA103	EFW Train 2 Flow Control Valve	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30LAR21AA004	EFW Train 2 Pump Discharge Isolation	GT	MA	3	B	P	O	PI	2Y	
30LAR21AA105	EFW Train 2 Level Control Valve	GB	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LAR21AA006	EFW Train 2 Outside CIV	GT	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30LAR21AA007	EFW Train 2 Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30LAR23AA001	EFW Train 2 Supply Header Isolation	GT	MA	3	A	A	O/C	ET LT PI	5Y 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAR24AA001	EFW Train 2 Discharge Header Isolation	GB	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LAR31AA001	EFW Train 3 Pump Suction Isolation	DI	MA	3	B	P	O	PI	2Y	
30LAR31AA002	EFW Train 3 Pump Min-Flow Check Valve	CK	SA	3	C	A	O/C	ET	CS	
30LAR31AA103	EFW Train 3 Flow Control Valve	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30LAR31AA004	EFW Train 3 Pump Discharge Isolation	GT	MA	3	B	P	O	PI	2Y	
30LAR31AA105	EFW Train 3 Level Control Valve	GB	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LAR31AA006	EFW Train 3 Outside CIV	GT	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30LAR31AA007	EFW Train 3 Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAR33AA001	EFW Train 3 Supply Header Isolation	GT	MA	3	A	A	O/C	ET LT PI	5Y 2Y 2Y	
30LAR34AA001	EFW Train 3 Discharge Header Isolation	GB	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LAR41AA001	EFW Train 4 Pump Suction Isolation	DI	MA	3	B	P	O	PI	2Y	
30LAR41AA002	EFW Train 4 Pump Min-Flow Check Valve	CK	SA	3	C	A	O/C	ET	CS	
30LAR41AA103	EFW Train 4 Flow Control Valve	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30LAR41AA004	EFW Train 4 Pump Discharge Isolation	GT	MA	3	B	P	O	PI	2Y	
30LAR41AA105	EFW Train 4 Level Control Valve	GB	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LAR41AA006	EFW Train 4 Outside CIV	GT	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LAR41AA007	EFW Train 4 Inside CIV	CK	SA	2	A/C	A	O/C	ET LT PI	CS RF 2Y	LT per 10 CFR 50, Appendix J
30LAR43AA001	EFW Train 4 Supply Header Isolation	GT	MA	3	A	A	O/C	ET LT PI	5Y 2Y 2Y	
30LAR44AA001	EFW Train 4 Discharge Header Isolation	GB	MO	3	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LAR41AA001	Emergency Feedwater Pump, 30LAS41AP001 suction	DI	MA	3	B	P	O	PI	2Y	
30LAR40AA001	DWDS Isolation Valve	GB	MO	3	B	A	C	ET	Q	
30LAR41AA001	DWDS Isolation Valve	CK	SA	3	C	A	C	ET	CS	
30LBA10AA002	Main Steam Isolation Valve	GT	HO / PA / SA	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA20AA002	Main Steam Isolation Valve	GT	HO / PA / SA	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LBA30AA002	Main Steam Isolation Valve	GT	HO / PA / SA	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA40AA002	Main Steam Isolation Valve	GT	HO / PA / SA	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA14AA001	Warmup Line Isolation Valve	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA24AA001	Warmup Line Isolation Valve	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA34AA001	Warmup Line Isolation Valve	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA44AA001	Warmup Line Isolation Valve	GB	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA10AA441	Warmup Drain Line Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LBA20AA441	Warmup Drain Line Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30LBA30AA441	Warmup Drain Line Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30LBA40AA441	Warmup Drain Line Isolation Valve	GB	MO	2	A	P	C	ET LT PI	Q 2Y 2Y	
30LBA10AA444	Warmup Drain Line Isolation Valve	GB	MO	3	B	P	C	PI	2Y	
30LBA10AA444	Warmup Drain Line Isolation Valve	GB	MO	3	B	P	C	PI	2Y	
30LBA10AA444	Warmup Drain Line Isolation Valve	GB	MO	3	B	P	C	PI	2Y	
30LBA10AA444	Warmup Drain Line Isolation Valve	GB	MO	3	B	P	C	PI	2Y	
30LBA14AA101	Warmup Control Valve	GB	MO	3	B	A	C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LBA24AA101	Warmup Control Valve	GB	MO	3	B	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA34AA101	Warmup Control Valve	GB	MO	3	B	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA44AA101	Warmup Control Valve	GB	MO	3	B	A	C	ET ST LT PI	Q Q 2Y 2Y	
30LBA10AA442	Warmup Drain Line Isolation Valve	GB	MO	3	B	P	C	PI	2Y	
30LBA20AA442	Warmup Drain Line Isolation Valve	GB	MO	3	B	P	C	PI	2Y	
30LBA30AA442	Warmup Drain Line Isolation Valve	GB	MO	3	B	P	C	PI	2Y	
30LBA40AA442	Warmup Drain Line Isolation Valve	GB	MO	3	B	P	C	PI	2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LBA13AA001	Main Steam Relief Isolation Valve	GB	PA/SO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LBA23AA001	Main Steam Relief Isolation Valve	GB	PA/SO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LBA33AA001	Main Steam Relief Isolation Valve	GB	PA/SO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LBA43AA001	Main Steam Relief Isolation Valve	GB	PA/SO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LBA13AA101	Main Steam Relief Control Valve	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LBA23AA101	Main Steam Relief Control Valve	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30LBA33AA101	Main Steam Relief Control Valve	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LBA43AA101	Main Steam Relief Control Valve	GB	MO	2	A	A	O/C	ET ST LT PI	Q Q 2Y 2Y	
30LBA11AA191	Main Steam Safety Valve	RV	SA	2	A/C	A	O/C	ET LT	5Y 5Y	
30LBA21AA191	Main Steam Safety Valve	RV	SA	2	A/C	A	O/C	ET LT	5Y 5Y	
30LBA31AA191	Main Steam Safety Valve	RV	SA	2	A/C	A	O/C	ET LT	5Y 5Y	
30LBA41AA191	Main Steam Safety Valve	RV	SA	2	A/C	A	O/C	ET LT	5Y 5Y	
30LBA12AA191	Main Steam Safety Valve	RV	SA	2	A/C	A	O/C	ET LT	5Y 5Y	
30LBA22AA191	Main Steam Safety Valve	RV	SA	2	A/C	A	O/C	ET LT	5Y 5Y	
30LBA32AA191	Main Steam Safety Valve	RV	SA	2	A/C	A	O/C	ET LT	5Y 5Y	
30LBA42AA191	Main Steam Safety Valve	RV	SA	2	A/C	A	O/C	ET LT	5Y 5Y	
30PEB10AA002	Recirc Isolation PEB10 AP001	BF	MO	3	B	A	C	ET PI	Q 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PEB10AA003	Emergency Blowdown Isolation PEB10	BF	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB10AA005	Pump Discharge Isolation PEB10 AP001	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PEB10AA007	Isolation Upstream KAA10 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB10AA009	Isolation Downstream KAA10 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB10AA015	Filter Blowdown Isolation PEB10 AP001	GT	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB10AA016	Blowdown Isolation PEB10	GB	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB10AA190	Air Release from Filter 30PEB10AT002	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB11AA191	Vacuum Breaker Downstream SAQ10 AC001	RV	SA	3	C	A	O/C	ET LT PI	2Y 10Y 2Y	
30PEB10AA192	Thermal Relief Downstream KAA10 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PEB10AA204	Pump Discharge Check PEB10 AP001	CK	SA	3	C	A	O	ET	Q	
30PEB11AA001	Isolation Upstream SAQ10 AC001	GB	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB11AA002	Isolation Downstream SAQ10 AC001	GB	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB21AA001	Isolation Upstream XJG10 AC002	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB21AA002	Isolation Downstream XJG10 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB21AA195	Air Release 30XJG10 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB21AA196	Thermal Relief Downstream 30XJG10 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB20AA002	Recirculation Isolation PEB20 AP001	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PEB20AA003	Emergency Blowdown Isolation PEB20	BF	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PEB20AA005	Pump Discharge Isolation PEB20 AP001	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PEB20AA007	Isolation Upstream KAA20 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB20AA009	Isolation Downstream KAA20 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB20AA015	Filter Blowdown Isolation PEB20 AP001	GT	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB20AA016	Blowdown Isolation PEB20	GB	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB20AA190	Air Release from Filter 30PEB20AT002	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB21AA191	Vacuum Breaker Downstream SAQ20 AC001	RV	SA	3	C	A	O/C	ET LT PI	2Y 10Y 2Y	
30PEB20AA192	Thermal Relief Downstream KAA20 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB20AA204	Pump Discharge Check PEB20 AP001	CK	SA	3	C	A	O	ET	Q	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PEB21AA001	Isolation Upstream SAQ20 AC001	GB	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB21AA002	Isolation Downstream SAQ20 AC001	GB	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB22AA001	Isolation Upstream XJG20 AC002	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB22AA002	Isolation Downstream XJG20 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB22AA195	Air Release 30XJG20 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB22AA196	Thermal Relief Downstream 30XJG20 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB23AA001	Isolation Upstream XJG30 AC002	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB23AA002	Isolation Downstream XJG30 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB23AA195	Air Release 30XJG30 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PEB23AA196	Thermal Relief Downstream 30XJG30 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB30AA002	Recirculation Isolation PEB30 AP001	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PEB30AA003	Emergency Blowdown Isolation PEB30	BF	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB30AA005	Pump Discharge Isolation PEB30 AP001	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PEB30AA007	Isolation Upstream KAA30 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB30AA009	Isolation Downstream KAA30 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB30AA015	Filter Blowdown Isolation PEB30 AP001	GT	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB30AA016	Blowdown Isolation PEB30	GB	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB30AA190	Air Release from Filter 30PEB30AT002	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PEB31AA191	Vacuum breaker Downstream SAQ30 AC001	RV	SA	3	C	A	O/C	ET LT PI	2Y 10Y 2Y	
30PEB30AA192	Thermal Relief Downstream KAA30 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB30AA204	Pump Discharge Check PEB30 AP001	CK	SA	3	C	A	O	ET	Q	
30PEB31AA001	Isolation Upstream SAQ30 AC001	GB	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB31AA002	Isolation Downstream SAQ30 AC001	GB	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB24AA001	Isolation Upstream XJG40 AC002	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB24AA002	Isolation Downstream XJG40 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB24AA195	Air Release 30XJG40 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB24AA196	Thermal Relief Downstream 30XJG40 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PEB40AA002	Recirculation Isolation PEB40 AP001	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PEB40AA003	Emergency Blowdown Isolation PEB40	BF	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB40AA005	Pump Discharge Isolation PEB40 AP001	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PEB40AA007	Isolation Upstream KAA40 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB40AA009	Isolation Downstream KAA40 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB40AA015	Filter Blowdown Isolation PEB40 AP001	GT	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB40AA016	Blowdown Isolation PEB40	GB	MO	3	A	A	C	ET PI LT	Q 2Y 2Y	
30PEB40AA190	Air Release from Filter 30PEB40AT002	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB41AA191	Vacuum breaker Downstream SAQ40 AC001	RV	SA	3	C	A	O/C	ET LT PI	2Y 10Y 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PEB40AA192	Thermal Relief Downstream KAA40 AC001	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30PEB40AA204	Pump Discharge Check PEB40 AP001	CK	SA	3	C	A	O	ET	Q	
30PEB41AA001	Isolation Upstream SAQ40 AC001	GB	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB41AA002	Isolation Downstream SAQ40 AC001	GB	MA	3	B	A	O	ET PI	5Y 2Y	
30PEB41AA011	Dedicated System Check Upstream SAQ40 AC001	CK	SA	3	A/C	A	C	ET PI LT	Q 2Y 2Y	
30PEB80AA004	Isolation Downstream KAA80 AC001	BF	MA	3	B	A	O	ET PI	5Y 2Y	
30PED10AA010	Tower Isolation	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PED10AA011	Tower Bypass Isolation	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PED10AA019	Makeup Water Isolation	BF	MO	3	B	A	C	ET PI	Q 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PED10AA021	Emergency Makeup Water Isolation	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PED10AA220	Makeup Water Check	CK	SA	3	C	A	C	ET	Q	
30PED20AA010	Tower Isolation	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PED20AA011	Tower Bypass Isolation	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PED20AA019	Makeup Water Isolation	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PED20AA021	Emergency Makeup Water Isolation	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PED20AA220	Makeup Water Check	CK	SA	3	C	A	C	ET	Q	
30PED30AA010	Tower Isolation	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PED30AA011	Tower Bypass Isolation	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PED30AA019	Makeup Water Isolation	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PED30AA021	Emergency Makeup Water Isolation	BF	MO	3	B	A	O	ET PI	Q 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PED30AA220	Makeup Water Check	CK	SA	3	C	A	C	ET	Q	
30PED40AA010	Tower Isolation	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PED40AA011	Tower Bypass Isolation	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PED40AA019	Makeup Water Isolation	BF	MO	3	B	A	C	ET PI	Q 2Y	
30PED40AA021	Emergency Makeup Water Isolation	BF	MO	3	B	A	O	ET PI	Q 2Y	
30PED40AA220	Makeup Water Check	CK	SA	3	C	A	C	ET	Q	
30PED10AA206	Blowdown Check	CK	SA	3	C	A	C	ET	Q	
30PED20AA206	Blowdown Check	CK	SA	3	C	A	C	ET	Q	
30PED30AA206	Blowdown Check	CK	SA	3	C	A	C	ET	Q	
30PED40AA206	Blowdown Check	CK	SA	3	C	A	C	ET	Q	
30PED10AA023	UHS Makeup Water Test Isolation	BF	MO	3	B	P	C	ET PI	Q 2Y	
30PED20AA023	UHS Makeup Water Test Isolation	BF	MO	3	B	P	C	ET PI	Q 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30PED30AA023	UHS Makeup Water Test Isolation	BF	MO	3	B	P	C	ET PI	Q 2Y	
30PED40AA023	UHS Makeup Water Test Isolation	BF	MO	3	B	P	C	ET PI	Q 2Y	
30QKA10AA003	QK Pump #1 Discharge Check Valve, Train 1	CK	SA	3	C	A	O/C	ET	Q	
30QKA10AA011	QK QCB Check Valve, Train 1	CK	SA	3	C	A	O/C	ET	Q	
30QKA10AA018	QK Pump #2 Discharge Check Valve, Train 1	CK	SA	3	C	A	O/C	ET	Q	
30QKA10AA101	QK Bypass Control Valve-MOV, Train 1	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKA10AA191	QK System Pressure Relief Valve, Train 1	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30QKA20AA003	QK Pump #1 Discharge Check Valve, Train 2	CK	SA	3	C	A	O/C	ET	Q	
30QKA20AA011	QK QCB Check Valve, Train 2	CK	SA	3	C	A	O/C	ET	Q	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30QKA20AA018	QK Pump #2 Suct Isolation Valve, Train 2	CK	SA	3	C	A	O/C	ET	Q	
30QKA20AA101	QK Bypass Control Valve-MOV, Train 2	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKA20AA191	QK System Pressure Relief Valve, Train 2	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30QKA30AA003	QK Pump #1 Discharge Check Valve, Train 3	CK	SA	3	C	A	O/C	ET	Q	
30QKA30AA011	QK QCB Check Valve, Train 3	CK	SA	3	C	A	O/C	ET	Q	
30QKA30AA018	QK Pump #2 Discharge Check Valve, Train 3	CK	SA	3	C	A	O/C	ET	Q	
30QKA30AA101	QK Bypass Control Valve-MOV, Train 3	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKA30AA191	QK System Pressure Relief Valve, Train 3	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30QKA40AA003	QK Pump #1 Discharge Check Valve, Train 4	CK	SA	3	C	A	O/C	ET	Q	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30QKA40AA011	QK QCB Check Valve, Train 4	CK	SA	3	C	A	O/C	ET	Q	
30QKA40AA018	QK Pump #2 Discharge Check Valve, Train 4	CK	SA	3	C	A	O/C	ET	Q	
30QKA40AA101	QK Bypass Control Valve-MOV, Train 4	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKA40AA191	QK System Pressure Relief Valve, Train 4	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	
30QKA10AA002	Pump Isolation Valve, Train 1	PL	MA	3	B	P	O/C	ET	5Y	
30QKA10AA004	Pump Isolation Valve, Train 1	PL	MA	3	B	P	O/C	ET	5Y	
30QKA10AA006	Pump Isolation Valve, Train 1	PL	MA	3	B	P	O/C	ET	5Y	
30QKA10AA017	Pump Isolation Valve, Train 1	PL	MA	3	B	P	O/C	ET	5Y	
30QKA10AA019	Pump Isolation Valve, Train 1	PL	MA	3	B	P	O/C	ET	5Y	
30QKA20AA002	Pump Isolation Valve, Train 2	PL	MA	3	B	P	O/C	ET	5Y	
30QKA20AA004	Pump Isolation Valve, Train 2	PL	MA	3	B	P	O/C	ET	5Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30QKA20AA006	Pump Isolation Valve, Train 2	PL	MA	3	B	P	O/C	ET	5Y	
30QKA20AA017	Pump Isolation Valve, Train 2	PL	MA	3	B	P	O/C	ET	5Y	
30QKA20AA019	Pump Isolation Valve, Train 2	PL	MA	3	B	P	O/C	ET	5Y	
30QKA30AA002	Pump Isolation Valve, Train 3	PL	MA	3	B	P	O/C	ET	5Y	
30QKA30AA004	Pump Isolation Valve, Train 3	PL	MA	3	B	P	O/C	ET	5Y	
30QKA30AA006	Pump Isolation Valve, Train 3	PL	MA	3	B	P	O/C	ET	5Y	
30QKA30AA017	Pump Isolation Valve, Train 3	PL	MA	3	B	P	O/C	ET	5Y	
30QKA30AA019	Pump Isolation Valve, Train 3	PL	MA	3	B	P	O/C	ET	5Y	
30QKA40AA002	Pump Isolation Valve, Train 4	PL	MA	3	B	P	O/C	ET	5Y	
30QKA40AA004	Pump Isolation Valve, Train 4	PL	MA	3	B	P	O/C	ET	5Y	
30QKA40AA006	Pump Isolation Valve, Train 4	PL	MA	3	B	P	O/C	ET	5Y	
30QKA40AA017	Pump Isolation Valve, Train 4	PL	MA	3	B	P	O/C	ET	5Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30QKA40AA019	Pump Isolation Valve, Train 4	PL	MA	3	B	P	O/C	ET	5Y	
30QKB10AA001	30SAB10AC001 Isolation Valve, Train 1	PL	MA	3	B	P	O/C	ET	5Y	
30QKB10AA004	30SAB10AC001 Isolation Valve, Train 1	PL	MA	3	B	P	O/C	ET	5Y	
30QKB20AA001	30SAB20AC001 Isolation Valve, Train 2	PL	MA	3	B	P	O/C	ET	5Y	
30QKB20AA004	30SAB20AC001 Isolation Valve, Train 2	PL	MA	3	B	P	O/C	ET	5Y	
30QKB30AA001	30SAB30AC001 Isolation Valve, Train 3	PL	MA	3	B	P	O/C	ET	5Y	
30QKB30AA004	30SAB30AC001 Isolation Valve, Train 3	PL	MA	3	B	P	O/C	ET	5Y	
30QKB40AA001	30SAB40AC001 Isolation Valve, Train 4	PL	MA	3	B	P	O/C	ET	5Y	
30QKB40AA004	30SAB40AC001 Isolation Valve, Train 4	PL	MA	3	B	P	O/C	ET	5Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30QKB10AA101	SAB01AC001 Control Valve-MOV, Train 1	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKB20AA101	SAB02AC001 Control Valve-MOV, Train 2	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKB30AA101	SAB03AC001 Control Valve-MOV, Train 3	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKB40AA101	SAB04AC001 Control Valve-MOV, Train 4	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKC10AA025	LHSI Pump Upstream Control Valve-MOV, Train 1	DI	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKC10AA101	SAC01AC001 Control Valve-MOV, Train 1	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKC20AA101	SAC02AC001 Control Valve-MOV, Train 2	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKC30AA101	SAC03AC001 Control Valve-MOV, Train 3	GB	MO	3	B	A	O/C	ET PI	Q 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30QKC40AA025	LHSI Pump Upstream Control Valve-MOV, Train 4	DI	MO	3	B	A	O/C	ET PI	Q 2Y	
30QKC40AA101	SAC04AC001 Control Valve-MOV, Train 4	GB	MO	3	B	A	O/C	ET PI	Q 2Y	
30QNJ41AA002	Operational Chilled Water Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30QNJ41AA003	Operational Chilled Water Inside CIV	CK	SA	2	A	A	C	ET LT PI	CS RF 2Y	
30QNJ41AA027	Operational Chilled Water Inside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30QNJ41AA028	Operational Chilled Water Outside CIV	GT	MO	2	A	A	C	ET ST LT PI	Q Q 2Y 2Y	
30QNJ41AA192	QNJ Pressure Relief Valve	RV	SA	3	C	A	O/C	ET LT PI	10Y 10Y 2Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30XJG10AA201	Jacket Water Pump Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJG10AA190	Jacket Water Pump Discharge Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJG10AA150	Expansion Tank Fill Valve	GB	SO	3	B	P	C	PI	2Y	
30XJG10AA151	Expansion Tank Fill Valve	GB	SO	3	B	P	C	PI	2Y	
30XJG10AA260	Keep Warm System Inlet Isolation Valve	GB	SO	3	B	A	C	ET ST PI	Q Q 2Y	
30XJG10AA261	Keep Warm System Inlet Isolation Valve	GB	SO	3	B	A	C	ET ST PI	Q Q 2Y	
30XJG10AA202	Keep Warm System Discharge Isolation Valve	CK	SA	3	C	A	C	ET	Q	
30XJG10AA203	Keep Warm System Discharge Isolation Valve	CK	SA	3	C	A	C	ET	Q	
30XJN10AA191A	Fuel Transfer Pump A Discharge Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	

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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30XJN10AA191B	Fuel Transfer Pump B Discharge Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJN10AA201A	Fuel Transfer Pump Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJN10AA201B	Fuel Transfer Pump Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJN10AA193	Fuel Transfer Pump A Discharge Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJN10AA203A	Fuel Filter A Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJN10AA203B	Fuel Filter B Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJN10AA172	Fuel Pump Supply Emergency Shutoff Valve	GB	SO	3	B	P	O	PI	2Y	
30XJN10AA226	Auxiliary Fuel Pump Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30XJN10AA196	Auxiliary Fuel Pump Discharge Relief Valve	RV	SA	3	C	P	O	ET LT	10Y 10Y	
30XJN10AA227	Engine Driven Fuel Pump Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJN10AA195	Engine Driven Fuel Pump Discharge Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJN10AA220A	Fuel Filter A Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJN10AA220B	Fuel Filter B Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJN10AA198	Engine Fuel Discharge Header Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJN10AA228	Engine Fuel Discharge Header Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJQ10AA112A	Combustion Air Intake Isolation Damper	BF	MO	3	B	P	O	PI	2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30XJQ10AA112B	Combustion Air Intake Isolation Damper	BF	MO	3	B	P	O	PI	2Y	
30XJR10AA120	Engine Exhaust System Rupture Disk	RD	SA	3	D	A	O	VT	5Y	
30XJV10AA190	Lube Oil Pump Discharge Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJV10AA201A	Lube Oil Filter A Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJV10AA201B	Lube Oil Filter B Discharge Check Valve	CK	SA	3	C	A	O	ET	Q	
30XJV10AA191	Lube Oil Filter Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJV10AA270	Keep Warm System Inlet Isolation Valve	GB	SO	3	B	A	C	ET ST PI	Q Q 2Y	
30XJV10AA271	Keep Warm System Inlet Isolation Valve	GB	SO	3	B	A	C	ET ST PI	Q Q 2Y	
30XJV10AA206	Keep Warm System Discharge Isolation Valve	CK	SA	3	C	A	C	ET	Q	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30XJV10AA207	Keep Warm System Discharge Isolation Valve	CK	SA	3	C	A	C	ET	Q	
30XJV10AA194	Keep Warm System Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJX10AA210A	Receiver A Inlet Check Valve	CK	SA	3	B/C	A	C	ET	Q	
30XJX10AA211A	Receiver A Inlet Check Valve	CK	SA	3	B/C	A	C	ET	Q	
30XJX10AA210B	Receiver B Inlet Check Valve	CK	SA	3	B/C	A	C	ET	Q	
30XJX10AA211B	Receiver B Inlet Check Valve	CK	SA	3	B/C	A	C	ET	Q	
30XJX10AA193A	Receiver A Pressure Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJX10AA193B	Receiver B Pressure Relief Valve	RV	SA	3	C	P	C	ET LT	10Y 10Y	
30XJX10AA122A	Air Start Pilot Valve A	GB	SO	3	B	A	O/C	ET ST PI	Q Q 2Y	
30XJX10AA122B	Air Start Pilot Valve B	GB	SO	3	B	A	O/C	ET ST PI	Q Q 2Y	

Table 3.9.6-2—Inservice Valve Testing Program Requirements
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Valve Identification Number[1]	Description/ Valve Function	Valve Type[2]	Valve Actuator[3]	ASME Code Class[4]	ASME OM Code Category[5]	Active / Passive[6]	Safety Position[7]	Test Required[8,10]	Test Frequency[9]	Comments
30XJX10AA120A	Air Start Valve A	GB	AO	3	B	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J
30XJX10AA120B	Air Start Valve B	GB	AO	3	B	A	O/C	ET ST LT PI	Q Q 2Y 2Y	LT per 10 CFR 50, Appendix J

Notes:

1. The U.S. EPR subscribes to the Kraftwerks Kennzeichen System (KKS) for coding and nomenclature of SSC.
2. Valve Type:
   A. GB – Globe.
   B. GT – Gate.
   C. CK – Check.
   D. RV – Relief.
   E. RD – Rupture Disk.
   F. DI – Diaphragm.
   G. BF – Butterfly.
   H. PL – Plug.

3. Valve Actuator:

   A. MO – Motor-operated.

   B. SO – Solenoid-operated.

   C. AO – Air-operated.

   D. HO – Hydraulic-operated.

   E. SA – Self-actuated.

   F. MA – Manual.

   G. PA – Pilot actuated.

4. ASME Code Class as determined by quality groups from RG 1.26.

5. ASME Code Category A, B, C, or D as defined in ASME OM Code 2004, Subsection ISTC-1300.

6. ASME functional category as defined in ASME OM Code 2004, Subsection ISTA-2000.

7. Valve safety function positions, specifying both positions for valves that perform a safety function in both the open and closed positions. Valves are exercised to the position s required to fulfill their safety functions. Check valve tests include both open and close tests.

8. Required tests per ASME OM Code 2004, Subsection ISTC-3000:

   A. LT – Leakage test per Table ISTC-3500-1 and ISTC-3600.

   B. ET – Exercise test per Table ISTC-3500-1 and ISTC-3510, nominally every three months.

   C. PI – Position indication verification per Table ISTC-3500-1 and ISTC-3700.

   D. ST – Stroke time test per ISTC-5000 (in conjunction with exercise test).

9. Test frequencies abbreviations per NUREG-1482, Revision 1:

A. Q – Test performed once every 92 days.

B. CS – Test performed during cold shutdown, but not more frequently than once every 92 days.

C. RF – Test performed each refueling outage.

D. 2Y – Test performed once every two years.

E. 5Y – Test performed once every five years (per ASME OM, ISTC-3540).

F. 10Y – Test performed once every ten years.

G. RV – Test relief valve at OM schedule.

10. The switch for a fail-safe valve functions by interrupting (de-energizing) the electrical or pneumatic actuating force for the valve whenever the switch is moved to the fail-safe position. Therefore, this normal valve operation demonstrates the valve's fail-safe capability, which is verified during valve exercise testing by remote position indication. Since a successful exercise test satisfies a valve's fail-safe testing requirements, a separate test for fail-safe capability is not required and is not specified in this table.

Next File