NuScale US460 Plant
Standard Design Approval Application

Chapter Sixteen
# Technical Specifications

**Final Safety Analysis Report**

Revision 1

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# CHAPTER 16 TECHNICAL SPECIFICATIONS

## 16.1 Technical Specifications

### 16.1.1 Introduction to Technical Specifications

Technical Specification Content

The NuScale Power, LLC (NuScale), generic technical specifications (GTS) meet the 10 CFR 50.36 and 10 CFR 50.36a requirements. The technical specifications evolved from the GTS submitted with the NuScale US600 Design Certification Application (Reference 16.1-1) and approved by the NuScale US600 Standard Design Approval (Reference 16.1-2 and Reference 16.1-3). These revised GTS were developed consistent with the Improved Standard Technical Specification (ISTS) format and content typified in NUREG-1431, Revision 5 and NUREG-1432, Revision 5. The content differs from the ISTS and the previous NuScale US600 technical specifications as necessary to reflect technical differences between large light water reactor (LWR) and the NuScale US600 design, and the NuScale Power Plant US460 standard design. For example, Table 1.1-1 of the NuScale GTS lists five MODES that are distinct from those provided in ISTS for pressurized water reactor or boiling water reactor designs, and the US460 standard design incorporates an emergency core cooling system supplemental boron function.

The NuScale Power Plant US460 standard design is a single facility that is comprised of up to six individual NuScale Power Modules (NPMs), each of which constitutes a nuclear steam supply system as described in Section 1.2. Individual NPMs are installed in an operating position during power generation and transferred to a common refueling location when refueled as described in Section 9.1. The technical specifications, bases, and some related discussions use the term “unit” rather than the NuScale standard terminology of “NPM.” This term is used to maintain alignment with industry standard technical specification terminology.

The NuScale GTS are constructed to address the NuScale Power Plant US460 standard design by providing operating limitations for an individual NPM.

The majority of the NuScale GTS address conditions applicable to an individual NPM. However, some systems and parameters are applicable to multiple NPMs. While individually specified, these limits may be applicable to more than one NPM at the same time. Clarifications have been included in the associated bases to address multi-module technical specification interactions.

Selection Criteria for Limiting Conditions for Operation

Limiting conditions for operation (LCOs) are included in the NuScale GTS consistent with the screening criteria provided in 10 CFR 50.36(c)(2)(ii). These selection criteria are

1) installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

2) a process variable, design feature, or operating restriction that is an initial condition of a design-basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

Information regarding the screening process employed during development and the differences in content between the US600 and US460 designs are provided in Technical Report TR-101310 (Reference 16.1-4). Where relevant to the operations of the facility, the results are incorporated into the bases of the technical specification.

NuScale considered risk-informed technical specification development approaches consistent with Regulatory Guide 1.177, and the guidance in NEI 04-10 and NEI 06-09 (Reference 16.1-5 and Reference 16.1-6). However, as a new design with low overall evaluated risk but no applicable operating experience, completion times and surveillance intervals are proposed that are generally consistent with corresponding industry systems or functions as included in the NUREG Standard Technical Specifications.

The NuScale Power Plant US460 standard systems used for MODE reduction are those used to respond to design basis events, e.g., ECCS and DHRS. This differs from those systems commonly used in large LWR designs. Therefore, LCO requirements for those large LWR systems are not required by the GTS.

For example, in typical large pressurized water reactors the safety-related shutdown cooling function is required to operate and reduce primary system temperatures, and to support low-temperature overpressure protection. Those shutdown cooling systems are cooled by an intermediate closed-loop system to transfer decay heat to other cooling systems that transfer the decay heat to the ultimate heat sink (UHS). Those safety-related functions are required to be operable and included in the technical specifications by criteria two or three of 10 CFR 50.36(c)(2)(ii).

NPM shutdown cooling is accomplished using passive convection and conduction of decay heat from the flooded portion of the containment through the containment vessel wall directly to the UHS. The low temperature overpressure protection function is provided by instrumentation and valves that perform the emergency core cooling system function during power operations. These NuScale systems are included in the proposed GTS in accordance with 10 CFR 50.36(c)(2)(ii). Distinct shutdown cooling pumps, valves, low temperature overpressure protection valves, and intermediate cooling loops are not credited or provided; therefore, they are not included for the NuScale GTS.

Completion Times and Surveillance Frequencies

When appropriate, the completion times and surveillance frequencies specified in the NuScale GTS are consistent with times and frequencies applied to similar actions and surveillance requirements (SRs) from the NuScale US600 technical specifications, NUREG-1431, and NUREG-1432. The bases for completion times and surveillance frequencies are described in the associated bases or in the Surveillance Frequency Control Program (SFCP) described in technical specification 5.5.11.

Table 16.1-1 provides the initial surveillance test frequencies to be incorporated into the Surveillance Frequency Control Program required by NuScale GTS 5.5.11. The table identifies each GTS surveillance test requirement that references the SFCP, the base testing frequency for evaluation of future changes to the surveillance test frequency, and the basis for that initial base test frequency. Base test frequencies in Table 16.1-1 include consideration of the rules of applicability for surveillance testing including, when applicable, up to 1.25 times the specified interval as permitted by technical specification SR 3.0.2. For example, a base frequency of 24 months implies consideration of up to 30 months between performance of the surveillance test.

Incorporation of Improved Standard Technical Specification Change Travelers

Industry change travelers issued since publication of Revision 5 of the ISTS and available on the NRC Agencywide Documents Access and Management System (ADAMS) system were reviewed in the development of the NuScale GTS. Travelers were incorporated into the NuScale GTS or used as a basis for similar NuScale situations as described in the conformance report (Reference 16.1-4). The travelers considered in development of the NuScale GTS are listed in that report.

The GTS are intended to be used as a guide in the development of the plant-specific technical specifications. Preliminary information was provided in single brackets [ ]. Combined license applicants referencing the NuScale Power Plant US460 standard design are required to provide the final plant-specific information.

COL Item 16.1-1: An applicant that references the NuScale Power Plant US460 standard design will provide the final plant-specific information identified by [ ] in the generic Technical Specifications and generic Technical Specification Bases.

COL Item 16.1-2: An applicant that references the NuScale Power Plant US460 standard design will prepare and maintain an owner-controlled requirements manual that includes owner-controlled limits and requirements described in the Bases of the Technical Specifications or as otherwise specified in the FSAR.

COL Item 16.1-3: An applicant that references the NuScale Power Plant US460 standard design, and uses allocations for sensor response times based on records of tests, vendor test data, or vendor engineering specifications as described in the bases for Surveillance Requirement 3.3.1.3, will do so for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

### 16.1.2 References

16.1-1 NuScale Power, LLC, NuScale Standard Plant Design Certification Application, Rev. 5, July, 29, 2020 (ML20225A044), Portland, OR.

16.1-2 NuScale Power, LLC, "NuScale Power, LLC Request for Standard Design Approval based on the NuScale Standard Plant Design Certification Application," LO-0720-70936, July 13, 2020.

16.1-3 Anna H. Bradford, NRC, "Standard Design Approval for the NuScale Power Plant Based on the NuScale Standard Plant Design Certification Application," (ML20247J564) September 11, 2020.

16.1-4 NuScale Power, LLC, "Technical Specifications Regulatory Conformance and Development Technical Report," TR-101310-NP, Revision 1.

16.1-5 Nuclear Energy Institute, "Risk-Informed Technical Specifications Initiative 5b-Risk-Informed Method for Control of Surveillance Frequencies," NEI 04-10, Revision 1, April 2007.

16.1-6 Nuclear Energy Institute, “Risk-Informed Technical Specifications Initiative 4b-Risk-Managed Technical Specifications (RMTS) Guidelines," NEI 06-09, Rev. 0-A, November 2006.

### Table 16.1-1: Surveillance Frequency Control Program Base Frequencies

| Surveillance Requirement | Base Frequency | Basis |
|---|---|---|
| 3.1.1.1 | 24 hours | The Frequency of 24 hours is based on the generally slow change in required boron concentration and the low probability of an accident occurring without the required shutdown margin (SDM). This allows time for the operator to collect the required data, which includes performing a boron concentration analysis, and to complete the calculation. |
| 3.1.2.1 | 31 effective full-power days (EFPDs) | The required subsequent Frequency of 31 EFPDs, following the initial 60 EFPDs after exceeding 5% rated thermal power (RTP), is acceptable based on the slow rate of core changes due to fuel depletion and the presence of other indicators (e.g. axial offset (AO)) monitored by the core monitoring system for prompt indication of an anomaly. |
| 3.1.4.1 | 12 hours | Verification that individual control rod assembly (CRA) positions are within alignment limits at a 12 hour Frequency provides a history that allows the operator to detect a CRA that is beginning to deviate from its expected position. The specified Frequency takes into account other CRA position information that is continuously available to the operator in the control room so that during actual rod motion deviations can immediately be detected. |
| 3.1.4.2 | 92 days | The 92 day Frequency takes into consideration other information available to the operator in the control room and SR 3.1.4.1, which is performed more frequently and adds to the determination of OPERABILITY of the CRAs. |
| 3.1.5.1 | 12 hours | Because the shutdown CRAs are not moved during routine operation, except as part of planned surveillances, verification of shutdown CRA position at a Frequency of 12 hours is adequate to ensure that the shutdown CRAs are within their insertion limits. Also, the Frequency takes into account other information available in the control room for the purpose of monitoring the status of shutdown rods. |
| 3.1.6.1 | 12 hours | Verification of the regulating group insertion limits at a Frequency of 12 hours is sufficient to detect a CRA that may be approaching the insertion limits because, normally, very little rod motion is expected to occur in 12 hours. |
| 3.1.8.1 | 30 minutes | Verification that the THERMAL POWER is ≤ 5% RTP ensures that the unit is not operating in a condition that could invalidate the safety analyses. Verification of the THERMAL POWER at a Frequency of 30 minutes during the performance of the PHYSICS TESTS ensures that the initial conditions of the safety analyses are not violated. |
| 3.1.8.2 | 24 hours | The Frequency of 24 hours is based on the generally slow change in required boron concentration and on the low probability of an accident occurring without the required SDM. |
| 3.1.9.1 | 31 days | A 31 day Frequency is considered reasonable in view of other administrative controls that ensure a misconfiguration of the chemical and volume control system (CVCS) makeup pump demineralized water flow path is unlikely. Also, the Frequency takes into account other information available in the control room for the purpose of monitoring the status of CVCS makeup pump demineralized water flow path configuration. |
| 3.1.9.2 | 24 months | The 24 month Frequency is based on the potential for unplanned plant transients if the surveillances were performed with the unit at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. The actuation logic is tested as part of engineered safety features actuation system (ESFAS) actuation and logic testing, and valve performance is monitored as part of the Inservice Testing Program. |

## Table 16.1-1: Surveillance Frequency Control Program Base Frequencies (Continued)

| Surveillance Requirement | Base Frequency | Basis |
|---|---|---|
| 3.1.9.3 | 31 days | The 31 day Frequency of this SR was developed considering the known stability of stored borated water and the low probability of an undesired source of diluting pure water. The Frequency takes into account administrative controls that ensure changes to boron concentration are performed in accordance with written procedures. This Frequency also considers the size of the boric acid storage tank and the normally expected demands of boric acid for plant operations. |
| 3.1.9.4 | 24 months | The 24 month Frequency is based on the potential for unplanned plant transients if the surveillances were performed with the unit at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. |
| 3.1.9.5 | 12 hours | A 12 hour Frequency is considered reasonable in view of other administrative controls that ensure a misconfiguration of the CVCS flow path is unlikely. Also, the Frequency takes into account other information available in the control room for the purpose of monitoring the status of CVCS configuration. |
| 3.2.1.1 | 31 EFPD | The 31 EFPD Frequency is acceptable because the power distribution changes relatively slowly over this amount of fuel burnup. Accordingly, this Frequency is short enough that the enthalpy rise hot channel factor limit cannot be exceeded for any significant period of operation. |
| 3.2.2.1 | 7 days | The Frequency of 7 days is adequate considering that the AO is monitored by a computer and any deviation from requirements is alarmed. |
| 3.3.1.1 | 12 hours | The Frequency of 12 hours is based on industry operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels. |
| 3.3.1.2 | 12 hours | The Frequency of every 12 hours is adequate. It is based on industry operating experience, considering industry instrument reliability and operating history data for instrument drift. Together with engineering judgment, these factors demonstrate that a difference between the calorimetric heat balance calculation and the power range channel output of more than +1% RTP is not expected in any 12 hour period. |
| 3.3.1.3 | 24 months | As appropriate, each channel's response must be verified every 24 months. This test measures the portion of the response time from the sensor to receipt in the digital module protection system. The digital processing portions of the module protection system are assumed to function in less than 1 second consistent with their design. Equipment actuation is measured through testing required by 3.3.2, 3.3.3, and LCO surveillance requirements associated with the actuated components. Response times cannot be determined during unit operation because sensor inputs are required to be varied to measure response times. Industry experience has shown that these components usually pass this surveillance when performed at the 24 months Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. |
| 3.3.1.4 | 24 months | The Frequency is based on consideration of the design reliability and performance characteristics of the equipment. |
| 3.3.1.5 | 24 months | The 24 month Frequency is acceptable based on consideration of the design reliability of the equipment. |

**Table 16.1-1: Surveillance Frequency Control Program Base Frequencies (Continued)**

| Surveillance Requirement | Base Frequency | Basis |
|---|---|---|
| 3.3.2.1 | 24 months | The 24 month Frequency is based on the potential for unplanned plant transients if the surveillances were performed with the unit at power. This Frequency is justified based on the system design, which includes the use of continuous diagnostic test features that report a failure within the logic and actuation system to the operator promptly. The only part of the actuation logic circuitry that is not continuously self-tested is the actuation and priority logic circuit, which consists of simple discrete components that are very reliable. |
| 3.3.2.2 | 24 months | The Frequency of 24 months is justified based on consideration of the reliability of the equipment and industry operating experience with similar equipment. |
| 3.3.2.3 | 24 months | The 24 month Frequency is based on the potential for unplanned plant transients if the surveillances were performed with the unit at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. |
| 3.3.2.4 | 24 months | The Frequency of 24 months is based on the known reliability of similar functions in licensed designs and the multidivisional redundancy available, and has been shown to be acceptable through industry operating experience. |
| 3.3.3.1 | 24 months | This Frequency of 24 months is justified based on the system design, which includes the use of continuous diagnostic test features that report a failure within the logic and actuation system to the operator promptly. The only part of the actuation logic circuitry that is not continuously self-tested is the actuation and priority logic circuit, which consists of simple discrete components that are very reliable. |
| 3.3.3.2 | 24 months | The 24 month Frequency is based on the potential for unplanned plant transients if the surveillances were performed with the unit at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. |
| 3.3.3.3 | 24 months | This Frequency of 24 months is justified based on the system design, which includes the use of continuous diagnostic test features that report a failure within the logic and actuation system to the operator promptly. The only part of the actuation logic circuitry that is not continuously self-tested is the actuation and priority logic circuit, which consists of simple discrete components that are very reliable. |
| 3.3.3.4 | 24 months | The 24 month Frequency is based on the potential for unplanned plant transients if the surveillances were performed with the unit at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. |
| 3.3.3.5 | 24 months | The Frequency of 24 months is based on the known reliability of similar functions in licensed designs and the multidivisional redundancy available, and has been shown to be acceptable through industry operating experience. |
| 3.3.4.1 | 24 months | The Frequency of 24 months is based on the known reliability of similar functions in licensed designs and the potential for unplanned plant transients if the surveillances were performed with the unit at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. |
| 3.4.1.1 | 12 hours | Because Required Action A.1 allows a Completion Time of 2 hours to restore parameters that are not within limits, the 12 hour Frequency for pressurizer pressure is sufficient to ensure the pressure can be restored to a normal operation, steady-state condition following load changes and other expected transient operations. The 12 hour interval has been shown by industry operating practice to be sufficient to regularly assess for potential degradation and to verify operation is within safety analysis assumptions. |

**Table 16.1-1: Surveillance Frequency Control Program Base Frequencies (Continued)**

| Surveillance Requirement | Base Frequency | Basis |
|---|---|---|
| 3.4.1.2 | 12 hours | Because Required Action A.1 allows a Completion Time of 2 hours to restore parameters that are not within limits, the 12 hour Frequency for reactor coolant system (RCS) cold temperature is sufficient to ensure the temperature can be restored to a normal operation, steady state condition following load changes and other expected transient operations. The 12 hour interval has been shown by industry operating practice to be sufficient to regularly assess for potential degradation and to verify operation is within safety analysis assumptions. |
| 3.4.2.1 | 12 hours | The SR to verify all RCS temperatures every 12 hours takes into account indications and alarms that are continuously available to the operator in the control room and is consistent with other routine surveillances that are typically performed once per shift. In addition, operators are trained to be sensitive to RCS temperature during approach to criticality and ensure that the minimum temperature for criticality is met as criticality is approached. |
| 3.4.3.1 | 30 minutes | This Frequency of 30 minutes is considered reasonable in view of the control room indication available to monitor RCS status. Also, because temperature rate of change limits are specified in hourly increments, 30 minutes permits assessment and correction for minor deviations within a reasonable time. |
| 3.4.5.1 | 72 hours | The 72 hour Frequency is a reasonable interval to trend LEAKAGE and recognizes the importance of early leakage detection in the prevention of accidents. |
| 3.4.5.2 | 72 hours | The Frequency of 72 hours is a reasonable interval to trend primary to secondary LEAKAGE and recognizes the importance of early leakage detection in the prevention of accidents. |
| 3.4.6.1 | 12 hours | The Frequency of 12 hours is based on the availability and reliability of the automatically monitored pressure alarms to detect a change in accumulator pressure and the similarity of the test to a CHANNEL CHECK as performed throughout existing large plant designs. The test verifies the accumulator pressure and thereby assures the OPERABILITY of the valves, as well as the status of the automatically monitored pressure alarms. |
| 3.4.6.3 | 24 months | The Frequency of 24 months is based on equipment reliability and the need to perform this surveillance during periods in which the plant is shutdown for refueling to prevent any upsets of plant operation. |
| 3.4.7.1 | 12 hours | The Frequency of 12 hours is based on industry operating experience. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels. |
| 3.4.7.2 | 12 hours | The Frequency of 12 hours is based on industry operating experience that demonstrates channel failure of pressure monitors is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels. |
| 3.4.7.3 | 12 hours | The Frequency of 12 hours is based on instrument reliability and is reasonable for detecting off normal conditions. |
| 3.4.7.4 | 92 days | The Frequency of 92 days considers instrument reliability, and industry operating experience has shown that it is proper for detecting degradation. |
| 3.4.7.5 | 92 days | The Frequency of 92 days considers instrument reliability, and industry operating experience has shown that it is proper for detecting degradation. |
| 3.4.7.6 | 24 months | The Frequency of 24 months considers instrument reliability, and industry operating experience that has proven that this Frequency is acceptable. |

**Table 16.1-1: Surveillance Frequency Control Program Base Frequencies (Continued)**

| Surveillance Requirement | Base Frequency | Basis |
|---|---|---|
| 3.4.7.7 | 24 months | The Frequency of 24 months is based on the assumption of a 30 month calibration interval in the determination of the magnitude of equipment drift in the setpoint methodology. |
| 3.4.7.8 | 24 months | The Frequency of 24 months considers instrument reliability, and industry operating experience that has proven that this Frequency is acceptable. |
| 3.4.8.1 | 14 days | The 14 day Frequency is adequate to trend changes in the noble gas specific activity level and based on the low probability of an accident occurring during this time period. |
| 3.4.8.2 | 14 days | The 14 day Frequency is adequate to trend changes in the iodine activity level and based on the low probability of an accident occurring during this time period. |
| 3.4.10.1 | 24 months | The 24 month Frequency is based on equipment reliability and the need to perform these surveillances under the conditions that apply during a unit outage and the potential for unplanned plant transients if the surveillances were performed with the reactor at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. |
| 3.5.1.1 | 24 months | The 24 month Frequency is based on equipment reliability and the need to perform these surveillances under the conditions that apply during a unit outage and the potential for unplanned plant transients if the surveillances were performed with the reactor at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. |
| 3.5.2.1 | 12 hours | The Frequency of 12 hours is based on the availability and reliability of the automatically monitored pressure alarms to detect a change in accumulator pressure and the similarity of the test to a CHANNEL CHECK as performed throughout existing large plant designs. The test verifies the accumulator pressure and thereby assures the OPERABILITY of the valves, as well as the status of the automatically monitored pressure alarms. |
| 3.5.2.2 | 24 hours | The 24 hour Frequency is based on equipment reliability and the expected low rate of gas accumulation and the availability of control room indication and alarm of decay heat removal system level in the control room. |
| 3.5.2.3 | 12 hours | The SR to verify steam generator level is within limits every 12 hours takes into account indications and alarms that are continuously available to the operator in the control room and is consistent with other routine surveillances that are typically performed once per shift. In addition, operators are trained to be sensitive to steam generator level and ensure that the level is appropriately established and controlled. |
| 3.5.2.4 | 24 months | The 24 month Frequency is based on equipment reliability and the need to perform these surveillances under the conditions that apply during a unit outage and the potential for unplanned plant transients if the surveillances were performed with the reactor at power. The 24 month Frequency is also acceptable based on consideration of the design reliability of the equipment. |
| 3.5.3.1 | 24 hours | Because the UHS level is normally maintained at a stable level, and is monitored by main control indication and alarm, a 24 hour Frequency is appropriate. This Frequency also takes into consideration the high ratio of UHS volume change to UHS level change due to the UHS geometry. |
| 3.5.3.2 | 24 hours | The Frequency of 24 hours is sufficient to identify a temperature change that would approach either the upper or lower limit of UHS bulk average temperature assumed in the safety analyses. Because the UHS bulk average temperature is normally stable, and is monitored by main control indication and alarm, a 24 hour Frequency is appropriate. This Frequency also takes into consideration the large heat capacity of the UHS in comparison to the magnitude of possible heat addition or removal mechanisms. |

**Table 16.1-1: Surveillance Frequency Control Program Base Frequencies (Continued)**

| Surveillance Requirement | Base Frequency | Basis |
|---|---|---|
| 3.5.3.3 | 31 days | Because the UHS volume of borated water is large compared to potential dilution sources, the 31 day Frequency is acceptable. In addition, the relatively frequent surveillance of the UHS water volume provides assurance that the UHS boron concentration is not changed significantly. |
| 3.6.2.1 | 12 hours | The Frequency of 12 hours is based on the availability and reliability of the automatically monitored pressure alarms to detect a change in accumulator pressure and the similarity of the test to a CHANNEL CHECK as performed throughout existing large plant designs. The test verifies the accumulator pressure and thereby assures the OPERABILITY of the valves, as well as the status of the automatically monitored pressure alarms. |
| 3.6.2.2 | 31 days | Because verification of valve position for containment isolation valves outside containment is relatively easy, the 31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. |
| 3.6.2.4 | 24 months | The 24 month Frequency is based on the need to perform this surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the surveillance were performed with the reactor at power. Industry operating experience has shown that these components usually pass this surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. |
| 3.6.3.1 | 7 days | The 7 day Frequency is based on the de-energized and closed condition of automatic containment isolation valves, the limited accessibility during MODE 4, and administrative controls over configuration of other containment penetrations. |
| 3.7.1.1 | 12 hours | The Frequency of 12 hours is based on the availability and reliability of the automatically monitored pressure alarms to detect a change in accumulator pressure and the similarity of the test to a CHANNEL CHECK as performed throughout existing large plant designs. The test verifies the accumulator pressure and thereby assures the OPERABILITY of the valves, as well as the status of the automatically monitored pressure alarms. |
| 3.7.2.1 | 12 hours | The Frequency of 12 hours is based on the availability and reliability of the automatically monitored pressure alarms to detect a change in accumulator pressure and the similarity of the test to a CHANNEL CHECK as performed throughout existing large plant designs. The test verifies the accumulator pressure and thereby assures the OPERABILITY of the valves, as well as the status of the automatically monitored pressure alarms. |
| 3.8.1.1 | 12 hours | The Frequency of 12 hours is based on equipment reliability and is consistent with the CHANNEL CHECK Frequency specified for similar neutron detector instruments in LCO 3.3.1. |
| 3.8.1.2 | 24 months | Industry operating experience has shown that similar components usually pass this surveillance when performed at the 24 month Frequency. |