No.	ITAAC Category/Type	Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
A01	**Design Acceptance Criteria** ASME Section III Piping System Design Report {{DAC}} *(if DAC use approved)*	The [XXX system] as-designed ASME Code Class [1, 2 and/or 3] piping system complies with ASME Code Section III requirements.	An inspection will be performed of the [XXX system] as-designed ASME Code Class [1, 2 and/or 3] piping system documentation required by ASME Code Section III. {{DAC}}	The ASME Code Section III NCA-3550 Design Report for the [XXX system] as-designed ASME Code Class [1, 2 and/or 3] piping system exists and concludes that the requirements of ASME Code Section III NCA-3550 are met. {{DAC}}
	Tier 2 Section 14.3 Discussion An inspection is performed of the [XXX system] as-designed ASME Code Class [1, 2 and/or 3] piping system Design Report(s) to verify the report meets the requirements of NCA-3550. As required by ASME Code Section III NCA-1210, each ASME Code Class 1, 2 and 3 component (including piping systems) of a nuclear power plant requires a Design Report in accordance with NCA-3550.			

<table>
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<tr><td rowspan="2">A02</td><td><u>As-built Inspection</u>
ASME Section III Piping System Design Report – As-built Design Reconciliation</td><td>The [XXX system] as-built ASME Code Class [1, 2 and/or 3] piping system is reconciled with the ASME Code Section III Design Report for the as-designed piping system.</td><td>An inspection will be performed of the [XXX system] as-built ASME Code Class [1, 2 and/or 3] piping system and documentation required by ASME Code Section III.</td><td>ASME Code Section III NCA-3550 Design Report for the [XXX system] as-built ASME Code Class [1, 2 and/or 3] piping system exists and concludes that the requirements of ASME Code Section III NCA-3550 are met.</td></tr>
<tr><td colspan="4"><u>Tier 2 Section 14.3 Discussion</u>
An inspection is performed of the [XXX system] as-built ASME Code Class [1, 2 and/or 3] piping systems and Design Report(s) to verify the report(s) meets the requirements of NCA-3550. As required by ASME Code Section III NCA-1210, each ASME Code Class 1, 2 and 3 component (including piping systems) of a nuclear power plant requires a Design Report in accordance with NCA-3550. NCA-3551.1 requires that the drawings used for construction shall be in agreement with the Design Report before it is certified and shall be identified and described in the Design Report. It is the responsibility of the N Certificate Holder to furnish a Design Report for each component and support, except as provided in NCA-3551.2 and NCA-3551.3. NCA-3551.1 also requires the Design Report be certified by a Registered Professional Engineer when it is for Class 1 components and supports, Class CS core support structures, Class MC vessels and supports, Class 2 vessels designed to NC-3200 (NC-3131.1), or Class 2 or Class 3 components designed to Service Loadings greater than Design Loadings. A Class 2 Design Report shall be prepared for Class 1 piping NPS 1 or smaller which is designed in accordance with the rules of Subsection NC.</td></tr>
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No.	ITAAC Category/Type	Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
A03	**<u>As-built Inspection</u>** ASME Section III Code Class 1, 2 and 3 Data Reports	The [XXX system] ASME Code Class [1, 2 and/or 3] components are fabricated, installed, inspected, and tested in accordance with the rules of construction of ASME Code Section III.	An inspection will be performed of the ASME Code Section III documentation for the as-built [XXX system]'s ASME Code Class [1, 2 and/or 3] components.	ASME Code Section III Data Reports for the as-built ASME Code Class [1, 2 and/or 3] [XXX system] piping and its components listed in [Table x.x.x-x] exist and conclude that the components are fabricated, installed, inspected, and tested in accordance with the requirements of ASME Code Section III.
	<u>Tier 2 Section 14.3 Discussion</u> An inspection is performed of the as-built component Data Reports for [XXX system] that is described in Tier 2 Section XX to (1) ensure that the appropriate Data Reports have been provided as specified in Table NCA-8100-1, and (2) ensure that the Certificate Holder or Owner and the Authorized Nuclear Inspector (ANI) have signed the Data Reports. The ASME Code Section III requires documentary evidence be available at the construction or installation site before use or installation to ensure that ASME Code Class 1, 2 and 3 components conform to the requirements of the Code. As defined in NCA-9000, a component can be a vessel, pump, pressure relief valve, line valve, storage tank, piping system, or core support structure that is designed, constructed, and stamped in accordance with the rules of Section III. The [XXX system] ASME Code Class [1, 2 and/or 3] components require a Data Report as specified by NCA-1210. The Data Report is prepared by the Certificate Holder or Owner and signed by the Certificate Holder or Owner and the Inspector as specified by NCA-8410. The type of individual Data Report Forms necessary to record the required Code Data is specified in the Table NCA-8100-1.			

No.	ITAAC Category/Type	Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
A04	**As-built Inspection** ASME Section III Code Class CS Data Reports	The ASME Code Class CS components are fabricated, installed, and inspected in accordance with the rules of construction of ASME Code Section III.	An inspection will be performed of the as-built ASME Code Class CS component documentation.	The ASME Code Section III Data Reports for the as-built ASME Code Class CS components listed in [Table x.x.x-x] exist and conclude that the fabrication, installation, and inspection requirements of ASME Code Section III are met.
	Tier 2 Section 14.3 Discussion An inspection is performed of the Code Class CS [RPV Internals, Core Supports] Data Reports to (1) ensure that the appropriate Data Reports have been provided as specified in Table NCA-8100-1, and (2) ensure that the Certificate Holder or Owner and the Inspector have signed the Data Reports. The ASME Code Section III requires documentary evidence be available at the construction or installation site before use or installation to ensure that ASME Code CS components conform to the requirements of the Code. The ASME Code Class CS [RPV Internals, Core Supports] components require a Data Report as specified by NCA-1210. The Data Report is prepared by the Certificate Holder or Owner and signed by the Certificate Holder or Owner and the Inspector as specified by NCA-8410. The type of individual Data Report Forms necessary to record the required Code Data is identified in the Table NCA-8100-1.			

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<tr><td rowspan="2">A05</td><td><u>Design Acceptance Criteria</u>
Pipe Break Hazards Analysis Report
{{DAC}}
(if DAC use approved)</td><td>Safety-related [and RTNSS] SSCs are protected against the dynamic and environmental effects associated with postulated failures in high and moderate energy piping systems.</td><td>A pipe break hazards analysis will be performed of the safety-related [and RTNSS] high and moderate energy piping systems.
{{DAC}}</td><td>A Pipe Break Hazards Analysis Report exists and concludes that the as-designed safety-related [and RTNSS] SSCs will be protected against:
• The dynamic effects (pipe whip and jet impingement) associated with postulated failures in high energy piping systems.
• The environmental effects (pressurization of compartments, water spray, and flooding) associated with postulated failures in high and moderate energy piping systems.
{{DAC}}</td></tr>
<tr><td colspan="4"><u>Tier 2 Section 14.3 Discussion</u>
Tier 2 Section 3.6.x discusses that a pipe rupture hazard analysis is prepared based on the as-designed piping stress analyses and pipe whip restraint design information. The as-designed analysis is based on piping routings, layouts, and isometrics.
An ITAAC analysis of the as-designed Pipe Break Hazards Analysis Report:
• Confirms that the as-designed safety-related [and RTNSS] SSCs are protected against the dynamic effects (pipe whip and jet impingement) associated with postulated failures in high energy piping systems.
• Concludes that the as-designed safety-related [and RTNSS] SSCs are protected against the environmental effects (pressurization of compartments, water spray, and flooding) associated with postulated failures in high and moderate energy piping systems.</td></tr>
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No.	ITAAC Category/Type	Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
A06	**As-built Inspection** Pipe Break Hazards Protective Features Verification and Design Reconciliation	Safety-related [and RTNSS] SSCs are protected against the dynamic and environmental effects associated with postulated failures in high and moderate energy piping systems.	An inspection and reconciliation analysis will be performed of the as-built protective features for the safety-related [and RTNSS] SSCs.	A report exists and concludes that the as-built protective features are installed in accordance with the as-built Pipe Break Hazard Analysis Report and that the as-built safety-related [and RTNSS] SSCs are protected against or qualified to withstand the dynamic and environmental effects associated with postulated failures in high and moderate energy piping.
	Tier 2 Section 14.3 Discussion An inspection is performed to verify that the as-built protective features credited in the reconciled Pipe Break Hazards Analysis Report such as pipe whip restraints, pipe whip or jet impingement barriers, jet impingement shields, or guard pipe have been installed using design drawings of sufficient detail to show the existence and location of the protective hardware. The as-built ITAAC includes an inspection and reconciliation analysis. Tier 2 Section 3.6.x provides the design bases and criteria for the analysis required to demonstrate that safety-related [and RTNSS] SSCs are not impacted by the adverse effects of a high energy pipe failure within the plant. Tier 2 Table 3.6-x lists the rooms that contain both high-energy pipe break locations and essential SSCs that must be protected.			

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<tr><td rowspan="2">A07</td><td><u>Design Analysis</u>
Leak Before Break (LBB) Analysis</td><td>The [XXX system] ASME Code Class 1 and 2 piping and interconnected equipment nozzles are evaluated for leak-before-break (LBB).</td><td>An analysis will be performed of the as-built ASME Code Class 1 and 2 piping and interconnected equipment nozzles for each piping system.</td><td>The LBB analysis for the as-built ASME Code Class 1 and 2 piping and interconnected equipment nozzles listed in [Table x.x.x-x] is bounded by the as-designed LBB analysis.</td></tr>
<tr><td colspan="4"><u>Tier 2 Section 14.3 Discussion</u>
An as-built analysis which includes material properties of piping and welds, stress analyses, leakage detection capability, and degradation mechanisms is performed to verify that the as-designed LBB analysis is bounding for the as-built ASME Code Class 1 and 2 piping and interconnected equipment nozzles. A summary of the results of the plant specific LBB analysis, including material properties of piping and welds, stress analyses, leakage detection capability, and degradation mechanisms is provided in the as-built LBB analysis report. Tier 2 Section 3.6.X describes the application of the mechanistic pipe break criteria, commonly referred to as leak-before-break (LBB), to the evaluation of pipe ruptures. The leak-before-break analysis eliminates the need to consider the dynamic effects of postulated pipe breaks for high-energy piping that qualify for LBB.</td></tr>
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<tr><td rowspan="2">A08</td><td><u>As-built Inspection</u>
Reactor Vessel Charpy Upper-Shelf Energy requirements 10 CFR Part 50 Appendix G</td><td>The reactor pressure vessel (RPV) beltline material has a Charpy upper-shelf energy of no less than 75 ft-lb.</td><td>Manufacturing tests of the Charpy V-Notch specimen of the RPV beltline material will be performed.</td><td>An ASME Code Certified Material Test Report (CMTR) exists and concludes the initial RPV beltline Charpy upper-shelf energy is no less than 75 ft-lb.</td></tr>
<tr><td colspan="4"><u>Tier 2 Section 14.3 Discussion</u>
A Charpy V-Notch test of the RPV beltline material specimen are performed by the manufacturer to ensure that the initial RPV beltline Charpy upper-shelf energy is no less than 75 ft-lb. Tier 2 Section XX discusses the fracture toughness properties of the reactor vessel beltline material and the Material Surveillance Program.</td></tr>
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