

**3.5 Containment Isolation**

**Design Description**

**1.0 System Description**

The Reactor Building (RB) consists of a Reactor Containment Building (RCB) and a Reactor Shield Building (RSB). The RCB provides the primary means of confining radioactivity that may be released following a postulated design basis accident. The RCB and RSB are penetrated by systems to provide various functions for systems housed inside containment. These penetrations are made for mechanical and electrical systems, and include facilities for the transport of personnel and equipment.

The function for containment isolation is to isolate fluid system piping that penetrates the RB to prevent the discharge of radioactivity from containment following a postulated design basis accident. Containment isolation barriers are components of the penetrating systems and are generally included with the system descriptions in Tier 1, Chapter 2. This section includes containment isolation barriers that are not included in Tier 1, Chapter 2.

**2.0 Arrangement**

2.1 The functional arrangement of the containment isolation equipment is as described in the Design Description of Section 3.5.1 and Table 3.5-1—Containment Isolation Equipment Mechanical Design, Table 3.5-2—Containment Isolation Equipment I&C and Electrical Design, and Table 3.5-3—Containment Isolation Valves.

2.2 Deleted.

**3.0 Mechanical Design Features**

3.1 Valves listed in Table 3.5-1 will be functionally designed and qualified such that each valve is capable of performing its intended function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.

3.2 Check valves listed in Table 3.5-1 will function to change position as listed in Table 3.5-1 under normal operating conditions.

3.3 Deleted.

3.4 Equipment identified as Seismic Category I in Table 3.5-1 can withstand seismic design basis loads without a loss of safety function(s).

3.5 Deleted.

3.6 Deleted.

3.7 Deleted.

- 3.8 Deleted.
- 3.9 Deleted.
- 3.10 Deleted.
- 3.11 Deleted.
- 3.12 ASME Code Class 2 piping systems are designed in accordance with ASME Code Section III requirements.
- 3.13 As-built ASME Code Class 2 components listed in Table 3.5-1 are reconciled with the design requirements.
- 3.14 Pressure-boundary welds in ASME Code Class 2 components listed in Table 3.5-1 meet ASME Code Section III non-destructive examination requirements.
- 3.15 ASME Code Class 2 components listed in Table 3.5-1 retain their pressure-boundary integrity at their design pressure.
- 3.16 ASME Code Class 2 components listed in Table 3.5-1 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
- 3.17 Containment isolation valves outside the containment as listed in Table 3.5-3 are located as close to the containment as practical, consistent with General Design Criteria 55, 56, and 57.

#### **4.0 I&C Design Features, Displays, and Controls**

- 4.1 Displays listed in Table 3.5-2 are indicated on the PICS operator workstations in the MCR and the RSS.
- 4.2 Controls on the PICS operator workstations in the MCR perform the function listed in Table 3.5-2.
- 4.3 Equipment listed as being controlled by a priority and actuator control system (PACS) module in Table 3.5-2 responds to the state requested and provides drive monitoring signals back to the PACS module. The PACS module will protect the equipment by terminating the output command upon the equipment reaching the requested state.

#### **5.0 Electrical Power Design Features**

- 5.1 Equipment designated as Class 1E in Table 3.5-2 are powered from the Class 1E division as listed in Table 3.5-2 in a normal or alternate feed condition.
- 5.2 Deleted.
- 5.3 Deleted.
- 5.4 Deleted.

5.5 Containment electrical penetrations are protected from fault currents that are greater than continuous current rating.

## **6.0 Environmental Qualifications**

6.1 Equipment designated as harsh environment in Table 3.5-2 can perform the function listed in Table 3.5-1 under normal environmental conditions, containment test conditions, anticipated operational occurrences, and accident and post-accident environmental conditions.

6.2 Containment electrical penetration assemblies designated as harsh environment in Table 3.5-2 can perform their function under normal environmental conditions, containment test conditions, anticipated operational occurrences, and accident and post-accident environmental conditions.

## **7.0 Equipment and System Performance**

7.1 Class 1E valves listed in Table 3.5-2 will function to change position as listed in Table 3.5-1 under normal operating conditions.

7.2 Containment isolation valves listed in Table 3.5-3 close within the valve closure time listed in Table 3.5-3 following receipt of a containment isolation signal.

### **Inspections, Tests, Analyses, and Acceptance Criteria**

Table 3.5-4 lists the containment isolation ITAAC.

**Table 3.5-1—Containment Isolation Equipment Mechanical Design  
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Description	Tag Number <sup>(1)</sup>	Location	ASME Code Section III	Function <sup>(2)</sup>	Seismic Category
Fuel Pool Purification System – CIV	30FAL40AA001	Fuel Building	Yes	Close	I
Fuel Pool Purification System – CIV	30FAL40AA002	Reactor Building	Yes	Close	I
Demineralized Water Distribution System – CIV	30GHC74AA001	Fuel Building	Yes	Close <sup>(a)</sup>	I
Demineralized Water Distribution System – CIV	30GHC74AA002	Reactor Building	Yes	Close <sup>(a)</sup>	I
Leak Off System - Leaktightness Test Subsystem – CIV	30JMM30AA001	Reactor Building	Yes	Close	I
Leak Off System - Leaktightness Test Subsystem – CIV	30JMM30AA003	Safeguard Building	Yes	Close	I
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA075	Reactor Building	Yes	OpenClose <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA076	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA077	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA078	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA079	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA080	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA081	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA082	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 Return to Containment - CIV	30JMU50AA083	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 1 Return to Containment - CIV	30JMU50AA084	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA085	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I

**Table 3.5-1—Containment Isolation Equipment Mechanical Design  
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<b>Description</b>	<b>Tag Number<sup>(1)</sup></b>	<b>Location</b>	<b>ASME Code Section III</b>	<b>Function<sup>(2)</sup></b>	<b>Seismic Category</b>
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA086	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA087	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA088	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA089	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA090	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA091	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA092	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 Return to containment - CIV	30JMU51AA093	Safeguard Building	Yes	Open/Close <sup>(a)</sup>	I
Hydrogen Monitoring System - Analyzer 2 Return to Containment – CIV	30JMU51AA094	Reactor Building	Yes	Open/Close <sup>(a)</sup>	I
Containment Equip Compartment Pressure – CIV	30KLA60AA701	Safeguard Building	Yes	Open	I
Containment Equip Compartment Pressure – CIV	30KLA60AA702	Fuel Building	Yes	Open	I
Containment Equip Compartment Pressure – CIV	30KLA60AA703	Safeguard Building	Yes	Open	I
Containment Equip Compartment Pressure - CIV	30KLA60AA704	Fuel Building	Yes	Open	I
Containment Service Compartment Pressure – CIV	30KLA70AA701	Safeguard Building	Yes	Open	I
Containment Service Compartment Pressure – CIV	30KLA70AA702	Safeguard Building	Yes	Open	I

**Table 3.5-1—Containment Isolation Equipment Mechanical Design  
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Description	Tag Number <sup>(1)</sup>	Location	ASME Code Section III	Function <sup>(2)</sup>	Seismic Category
Containment Service Compartment Pressure – CIV	30KLA70AA703	Fuel Building	Yes	Open	I
Containment Service Compartment Pressure – CIV	30KLA70AA704	Fuel Building	Yes	Open	I
Containment Service Compartment Pressure – CIV	30KLA70AA706	Safeguard Building	Yes	Open	I
Containment Service Compartment Pressure – CIV	30KLA70AA707	Safeguard Building	Yes	Open	I
Containment Service Compartment Pressure – CIV	30KLA70AA708	Fuel Building	Yes	Open	I
Containment Service Compartment Pressure – CIV	30KLA70AA709	Fuel Building	Yes	Open	I
Gaseous Waste Processing System – CIV	30KPL84AA002	Fuel Building	Yes	Close	I
Gaseous Waste Processing System – CIV	30KPL84AA003	Reactor Building	Yes	Close	I
Gaseous Waste Processing System – CIV	30KPL85AA003	Reactor Building	Yes	Close	I
Gaseous Waste Processing System – CIV	30KPL85AA004	Fuel Building	Yes	Close	I
Nuclear Island Drain & Vent System - CIV	30KTA10AA017	Reactor Building	Yes	Close <sup>(a)</sup>	I
Nuclear Island Drain & Vent System - CIV	30KTA10AA018	Fuel Building	Yes	Close <sup>(a)</sup>	I
Nuclear Island Drain & Vent System - CIV	30KTC10AA005	Reactor Building	Yes	Close <sup>(a)</sup>	I
Nuclear Island Drain & Vent System - CIV	30KTC10AA006	Fuel Building	Yes	Close <sup>(a)</sup>	I
Nuclear Island Drain & Vent System – CIV	30KTC10AA010	Reactor Building	Yes	Close <sup>(a)</sup>	I
Nuclear Island Drain & Vent System – CIV	30KTC10AA029	Fuel Building	Yes	Close	I

**Table 3.5-1—Containment Isolation Equipment Mechanical Design  
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<b>Description</b>	<b>Tag Number<sup>(1)</sup></b>	<b>Location</b>	<b>ASME Code Section III</b>	<b>Function<sup>(2)</sup></b>	<b>Seismic Category</b>
Nuclear Island Drain & Vent System - Annulus – CIV	30KTD10AA008	Reactor Building Annulus	Yes	Close	I
Nuclear Island Drain & Vent System - CIV	30KTD10AA015	Fuel Building	Yes	Close <sup>(a)</sup>	I
Nuclear Island Drain & Vent System - CIV	30KTD10AA024	Reactor Building	Yes	Close <sup>(a)</sup>	I
Nuclear Island Drain & Vent System - Annulus – CIV	30KTD10AA025	Fuel Building	Yes	Close <sup>(a)</sup>	I
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA10AA003	Reactor Building	Yes	Close <sup>(a)</sup>	I
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA10AA004	Fuel Building	Yes	Close <sup>(a)</sup>	I
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA20AA002	Reactor Building	Yes	Close <sup>(a)</sup>	I
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA20AA003	Fuel Building	Yes	Close <sup>(a)</sup>	I
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA30AA003	Reactor Building	Yes	Close <sup>(a)</sup>	I
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA30AA004	Fuel Building	Yes	Close <sup>(a)</sup>	I
Nuclear Sampling System – Slightly Active Liquid Samples – CIV	30KUB10AA001	Reactor Building	Yes	Close <sup>(a)</sup>	I
Nuclear Sampling System – Slightly Active Liquid Samples – CIV	30KUB10AA002	Fuel Building	Yes	Close <sup>(a)</sup>	I
Severe Accident Sampling System – CIV	30KUL51AA002	Safeguard Building	Yes	Close <sup>(a)</sup>	I
Severe Accident Sampling System – CIV	30KUL51AA003	Safeguard Building	Yes	Close <sup>(a)</sup>	I

**Table 3.5-1—Containment Isolation Equipment Mechanical Design  
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Description	Tag Number <sup>(1)</sup>	Location	ASME Code Section III	Function <sup>(2)</sup>	Seismic Category
Severe Accident Sampling System – CIV	30KUL52AA002	Safeguard Building	Yes	Close <sup>(a)</sup>	I
Severe Accident Sampling System – CIV	30KUL52AA003	Safeguard Building	Yes	Close <sup>(a)</sup>	I
Condensate System - Condensate to Blowdown Coolers – CIV	30LCA90AA003	Main Steam Valve Room	Yes	Close <sup>(a)</sup>	I
Condensate System - Condensate to Blowdown Coolers – CIV	30LCA90AA004	Reactor Building	Yes	Close	I
Condensate System - Condensate to Blowdown Coolers – CIV	30LCA90AA005	Reactor Building	Yes	Close <sup>(a)</sup>	I
Condensate System - Condensate to Blowdown Coolers – CIV	30LCA90AA020	Main Steam Valve Room	Yes	Close <sup>(a)</sup>	I
Condensate System - Condensate from Blowdown Coolers – CIV	30LCA90AA021	Main Steam Valve Room	Yes	Close <sup>(a)</sup>	I
Condensate System - Condensate from Blowdown Coolers – CIV	30LCA90AA006	Main Steam Valve Room	Yes	Close <sup>(a)</sup>	I
Central Gas Distribution System - CIV	30QJB40AA001	Fuel Building	Yes	Close <sup>(a)</sup>	I
Central Gas Distribution System - CIV	30QJB40AA002	Reactor Building	Yes	Close <sup>(a)</sup>	I
Central Gas Distribution System - CIV	30QJB40AA003	Fuel Building	Yes	Close <sup>(a)</sup>	I
Central Gas Distribution System - CIV	30QJB40AA004	Reactor Building	Yes	Close <sup>(a)</sup>	I
Operational Chilled Water Supply to Containment Cooling Coils - CIV	30QNJ41AA002	Fuel Building	Yes	Close <sup>(a)</sup>	I
Operational Chilled Water Supply to Containment Cooling Coils – CIV	30QNJ41AA003	Reactor Building	Yes	Close	I
Operational Chilled Water Return from Containment Cooling Coils - CIV	30QNJ41AA027	Reactor Building	Yes	Close <sup>(a)</sup>	I



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Description	Tag Number <sup>(1)</sup>	Location	ASME Code Section III	Function <sup>(2)</sup>	Seismic Category
Operational Chilled Water Return from Containment Cooling Coils - CIV	30QNJ41AA028	Fuel Building	Yes	Close <sup>(a)</sup>	I
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC11AA001	Fuel Building	Yes	Close <sup>(a)</sup>	I
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC11AA011	Reactor Building	Yes	Close <sup>(a)</sup>	I
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC12AA001	Fuel Building	Yes	Close <sup>(a)</sup>	I
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC12AA011	Reactor Building	Yes	Close <sup>(a)</sup>	I
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC13AA001	Fuel Building	Yes	Close <sup>(a)</sup>	I
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC13AA011	Reactor Building	Yes	Close <sup>(a)</sup>	I
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC14AA001	Fuel Building	Yes	Close <sup>(a)</sup>	I
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC14AA011	Reactor Building	Yes	Close <sup>(a)</sup>	I
Compressed Air System - Instrument Air - CIV	30SCB01AA001	Fuel Building	Yes	Close <sup>(a)</sup>	I
Compressed Air System - Instrument Air - CIV	30SCB01AA002	Reactor Building	Yes	Close <sup>(a)</sup>	I
Compressed Air System - Service Air - CIV	30SCB02AA001	Fuel Building	Yes	Close	I
Compressed Air System - Service Air - CIV	30SCB02AA002	Reactor Building	Yes	Close	I
Fire Water Distribution System – CIV	30SGB30AA031	Fuel Building	Yes	Close	I
Fire Water Distribution System – CIV	30SGB30AA032	Reactor Building	Yes	Close	I

- 
1. Equipment tag numbers are provided for information only and are not part of the certified design.
  2. Closes on Stage 1 <sup>(a)</sup> or Stage 2 <sup>(b)</sup> containment isolation signal.

**Table 3.5-2—Containment Isolation Equipment I&C and Electrical Design**  
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Description	Tag Number <sup>(1)</sup>	IEEE Class 1E <sup>(2)</sup>	EQ - Harsh Environment	PACS	MCR Displays	MCR Controls
Demineralized Water Distribution System - CIV	30GHC74AA001	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Demineralized Water Distribution System - CIV	30GHC74AA002	4 <sup>N</sup> 3 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA075	3 <sup>N</sup> 4 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA076	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA077	3 <sup>N</sup> 4 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA078	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA079	3 <sup>N</sup> 4 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA080	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA081	3 <sup>N</sup> 4 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 - CIV	30JMU50AA082	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close

**Table 3.5-2—Containment Isolation Equipment I&C and Electrical Design**  
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Description	Tag Number <sup>(1)</sup>	IEEE Class 1E <sup>(2)</sup>	EQ - Harsh Environment	PACS	MCR Displays	MCR Controls
Hydrogen Monitoring System - Analyzer 1 Return to containment - CIV	30JMU50AA083	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 1 return to containment - CIV	30JMU50AA084	3 <sup>N</sup> 4 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA085	2 <sup>N</sup> 1 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA086	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA087	2 <sup>N</sup> 1 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA088	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA089	2 <sup>N</sup> 1 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA090	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA091	2 <sup>N</sup> 1 <sup>A</sup>	Yes	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 - CIV	30JMU51AA092	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close

**Table 3.5-2—Containment Isolation Equipment I&C and Electrical Design**  
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Description	Tag Number <sup>(1)</sup>	IEEE Class 1E <sup>(2)</sup>	EQ - Harsh Environment	PACS	MCR Displays	MCR Controls
Hydrogen Monitoring System - Analyzer 2 Return to containment - CIV	30JMU51AA093	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Hydrogen Monitoring System - Analyzer 2 Return to containment - CIV	30JMU51AA094	2 <sup>N</sup> 1 <sup>A</sup>	Yes	Yes	Position	Open/Close
Gaseous Waste Processing System – CIV	30KPL84AA002	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Gaseous Waste Processing System – CIV	30KPL84AA003	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Gaseous Waste Processing System – CIV	30KPL85AA003	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Gaseous Waste Processing System – CIV	30KPL85AA004	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Nuclear Island Drain & Vent System – CIV	30KTA10AA017	4 <sup>N</sup> 3 <sup>A</sup>	Yes	Yes	Position	Open/Close
Nuclear Island Drain & Vent System – CIV	30KTA10AA018	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Nuclear Island Drain & Vent System – CIV	30KTC10AA005	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Nuclear Island Drain & Vent System – CIV	30KTC10AA006	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close

**Table 3.5-2—Containment Isolation Equipment I&C and Electrical Design**  
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Description	Tag Number <sup>(1)</sup>	IEEE Class 1E <sup>(2)</sup>	EQ - Harsh Environment	PACS	MCR Displays	MCR Controls
Nuclear Island Drain & Vent System – CIV	30KTC10AA010	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Nuclear Island Drain & Vent System – CIV	30KTD10AA015	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Nuclear Island Drain & Vent System – CIV	30KTD10AA024	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Nuclear Island Drain & Vent System – Annulus – CIV	30KTD10AA025	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA10AA003	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA10AA004	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA20AA002	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA20AA003	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA30AA003	4 <sup>N</sup> 3 <sup>A</sup>	Yes	Yes	Position	Open/Close
Nuclear Sampling System – Active Liquid Samples – CIV	30KUA30AA004	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close

**Table 3.5-2—Containment Isolation Equipment I&C and Electrical Design**  
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Description	Tag Number <sup>(1)</sup>	IEEE Class 1E <sup>(2)</sup>	EQ - Harsh Environment	PACS	MCR Displays	MCR Controls
Nuclear Sampling System – Slightly Active Liquid Samples – CIV	30KUB10AA001	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Nuclear Sampling System – Slightly Active Liquid Samples – CIV	30KUB10AA002	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Severe Accident Sampling System – CIV	30KUL51AA002	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Severe Accident Sampling System – CIV	30KUL51AA003	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Severe Accident Sampling System – CIV	30KUL52AA002	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Severe Accident Sampling System – CIV	30KUL52AA003	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Condensate System – Condensate to Blowdown Coolers – CIV	30LCA90AA003	2 <sup>N</sup> 1 <sup>A</sup>	No	Yes	Position	Open/Close
Condensate System – Condensate from Blowdown Coolers – CIV	30LCA90AA005	3 <sup>N</sup> 4 <sup>A</sup>	Yes	Yes	Position	Open/Close
Condensate System – Condensate from Blowdown Coolers – CIV	30LCA90AA006	2 <sup>N</sup> 1 <sup>A</sup>	No	Yes	Position	Open/Close
Condensate System – Condensate to Blowdown Coolers – CIV	30LCA90AA020	3 <sup>N</sup> 4 <sup>A</sup>	No	Yes	Position	Open/Close

**Table 3.5-2—Containment Isolation Equipment I&C and Electrical Design**  
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Description	Tag Number <sup>(1)</sup>	IEEE Class 1E <sup>(2)</sup>	EQ - Harsh Environment	PACS	MCR Displays	MCR Controls
Condensate System – Condensate from Blowdown Coolers – CIV	30LCA90AA021	3 <sup>N</sup> 4 <sup>A</sup>	No	Yes	Position	Open/Close
Central Gas Distribution System – CIV	30QJB40AA001	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Central Gas Distribution System – CIV	30QJB40AA002	4 <sup>N</sup> 3 <sup>A</sup>	Yes	Yes	Position	Open/Close
Central Gas Distribution System – CIV	30QJB40AA003	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Central Gas Distribution System – CIV	30QJB40AA004	4 <sup>N</sup> 3 <sup>A</sup>	Yes	Yes	Position	Open/Close
Operational Chilled Water Supply to Containment Cooling Coils – CIV	30QNJ41AA002	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Operational Chilled Water Return to Containment Cooling Coils – CIV	30QNJ41AA027	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Operational Chilled Water Return to Containment Cooling Coils – CIV	30QNJ41AA028	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC11AA001	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC11AA011	4 <sup>N</sup> 3 <sup>A</sup>	Yes	Yes	Position	Open/Close



**Table 3.5-2—Containment Isolation Equipment I&C and Electrical Design**  
**Sheet 7 of 7**

Description	Tag Number <sup>(1)</sup>	IEEE Class 1E <sup>(2)</sup>	EQ - Harsh Environment	PACS	MCR Displays	MCR Controls
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC12AA001	1 <sup>N</sup> 2 <sup>A</sup>	No	Yes	Position	Open/Close
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC12AA011	4 <sup>N</sup> 3 <sup>A</sup>	Yes	Yes	Position	Open/Close
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC13AA001	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC13AA011	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC14AA001	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Secondary Sampling System for Steam Generator Blowdown System – CIV	30QUC14AA011	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Compressed Air System – Instrument Air – CIV	30SCB01AA001	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Compressed Air System – Instrument Air – CIV	30SCB01AA002	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close
Fire Water Distribution System – CIV	30SGB30AA031	4 <sup>N</sup> 3 <sup>A</sup>	No	Yes	Position	Open/Close
Fire Water Distribution System – CIV	30SGB30AA032	1 <sup>N</sup> 2 <sup>A</sup>	Yes	Yes	Position	Open/Close

1. Equipment tag numbers are provided for information only and are not part of the certified design.
2. <sup>N</sup> denotes the division the equipment is normally powered from; <sup>A</sup> denotes the division the equipment is powered from when alternate feed is implemented.

**Table 3.5-3—Containment Isolation Valves**  
**Sheet 1 of 8**

<b>System</b>	<b>Tag Number<sup>(1)</sup></b>	<b>Location: Inside/Outside</b>	<b>Valve Closure Time</b>
Fuel Pool Cooling System	30FAL12AA001	Inside	≤ 29.5 sec
Fuel Pool Cooling System	30FAL12AA002	Outside	≤ 29.5 sec
Fuel Pool Cooling System	30FAL15AA002	Outside	≤ 29.5 sec
Fuel Pool Cooling System	30FAL15AA003	Inside	n/a
Demineralized Water Distribution System	30GHC74AA001	Outside	≤ 14.5 sec
Demineralized Water Distribution System	30GHC74AA002	Inside	≤ 14.5 sec
Extra Borating System	30JDH10AA006	Outside	≤ 14.5 sec
Extra Borating System	30JDH10AA007	Inside	n/a
Extra Borating System	30JDH40AA006	Outside	≤ 14.5 sec
Extra Borating System	30JDH40AA007	Inside	n/a
Chemical & Volume Control System	30JEW01AA005	Outside	≤ 14.5 sec
Chemical & Volume Control System	30JEW01AA006	Inside	n/a
Chemical & Volume Control System	30JEW50AA001	Inside	≤ 14.5 sec
Chemical & Volume Control System	30JEW50AA002	Outside	≤ 14.5 sec
Leak Off System - Leaktightness Test Subsystem	30JMM30AA001	Inside	n/a
Leak Off System - Leaktightness Test Subsystem	30JMM30AA003	Outside	n/a
Severe Accident Heat Removal System	30JMQ40AA001	Outside	≤ 59.5 sec
Severe Accident Heat Removal System	30JMQ41AA001	Outside	≤ 39.5 sec
Severe Accident Heat Removal System	30JMQ41AA002	Inside	n/a
Severe Accident Heat Removal System	30JMQ42AA001	Outside	≤ 39.5 sec
Severe Accident Heat Removal System	30JMQ42AA002	Inside	n/a
Severe Accident Heat Removal System	30JMQ43AA001	Outside	≤ 19.5 sec
Severe Accident Heat Removal System	30JMQ43AA002	Inside	n/a
Hydrogen Monitoring System	30JMU50AA075	Inside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU50AA076	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU50AA077	Inside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU50AA078	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU50AA079	Inside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU50AA080	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU50AA081	Inside	≤ 14.5 sec

**Table 3.5-3—Containment Isolation Valves**  
Sheet 2 of 8

System	Tag Number <sup>(1)</sup>	Location: Inside/Outside	Valve Closure Time
Hydrogen Monitoring System	30JMU50AA082	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU50AA083	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU50AA084	Inside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA085	Inside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA086	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA087	Inside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA088	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA089	Inside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA090	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA091	Inside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA092	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA093	Outside	≤ 14.5 sec
Hydrogen Monitoring System	30JMU51AA094	Inside	≤ 14.5 sec
Residual Heat Removal System	30JNA10AA002	Inside	≤ 49.5 sec
Residual Heat Removal System	30JNA10AA003	Outside	≤ 49.5 sec
Residual Heat Removal System	30JNA20AA002	Inside	≤ 49.5 sec
Residual Heat Removal System	30JNA20AA003	Outside	≤ 49.5 sec
Residual Heat Removal System	30JNA30AA002	Inside	≤ 49.5 sec
Residual Heat Removal System	30JNA30AA003	Outside	≤ 49.5 sec
Residual Heat Removal System	30JNA40AA002	Inside	≤ 49.5 sec
Residual Heat Removal System	30JNA40AA003	Outside	≤ 49.5 sec
Medium Head Safety Injection System	30JND10AA002	Outside	≤ 29.5 sec
Medium Head Safety Injection System	30JND11AA012	Outside	≤ 19.5 sec
Medium Head Safety Injection System	30JND10AA007	Inside	n/a
Medium Head Safety Injection System	30JND20AA002	Outside	≤ 29.5 sec
Medium Head Safety Injection System	30JND20AA007	Inside	n/a
Medium Head Safety Injection System	30JND30AA002	Outside	≤ 29.5 sec
Medium Head Safety Injection System	30JND30AA007	Inside	n/a
Medium Head Safety Injection System	30JND40AA002	Outside	≤ 29.5 sec
Medium Head Safety Injection System	30JND40AA007	Inside	n/a
Low Head Safety Injection System	30JNG10AA009	Inside	n/a
Low Head Safety Injection System	30JNG10AA060	Outside	≤ 39.5 sec

**Table 3.5-3—Containment Isolation Valves**  
Sheet 3 of 8

System	Tag Number <sup>(1)</sup>	Location: Inside/Outside	Valve Closure Time
Low Head Safety Injection System	30JNG10AA061	Outside	≤ 19.5 sec
Low Head Safety Injection System	30JNG12AA001	Outside	≤ 39.5 sec
Low Head Safety Injection System	30JNG15AA004	Inside	≤ 14.5 sec
Low Head Safety Injection System	30JNG20AA009	Inside	n/a
Low Head Safety Injection System	30JNG20AA060	Outside	≤ 39.5 sec
Low Head Safety Injection System	30JNG20AA061	Outside	≤ 19.5 sec
Low Head Safety Injection System	30JNG22AA001	Outside	≤ 39.5 sec
Low Head Safety Injection System	30JNG25AA004	Inside	≤ 14.5 sec
Low Head Safety Injection System	30JNG30AA009	Inside	n/a
Low Head Safety Injection System	30JNG30AA060	Outside	≤ 39.5 sec
Low Head Safety Injection System	30JNG30AA061	Outside	≤ 19.5 sec
Low Head Safety Injection System	30JNG32AA001	Outside	≤ 39.5 sec
Low Head Safety Injection System	30JNG35AA004	Inside	≤ 14.5 sec
Low Head Safety Injection System	30JNG40AA009	Inside	n/a
Low Head Safety Injection System	30JNG40AA060	Outside	≤ 39.5 sec
Low Head Safety Injection System	30JNG40AA061	Outside	≤ 19.5 sec
Low Head Safety Injection System	30JNG42AA001	Outside	≤ 39.5 sec
Low Head Safety Injection System	30JNG45AA004	Inside	≤ 14.5 sec
In-Containment Refueling Water Storage Tank System	30JNK10AA001	Outside	≤ 59.5 sec
In-Containment Refueling Water Storage Tank System	30JNK10AA009	Outside	≤ 29.5 sec
In-Containment Refueling Water Storage Tank System	30JNK10AA013	Outside	≤ 29.5 sec
In-Containment Refueling Water Storage Tank System	30JNK11AA009	Outside	≤ 59.5 sec
In-Containment Refueling Water Storage Tank System	30JNK20AA001	Outside	≤ 59.5 sec
In-Containment Refueling Water Storage Tank System	30JNK30AA001	Outside	≤ 59.5 sec
In-Containment Refueling Water Storage Tank System	30JNK40AA001	Outside	≤ 59.5 sec
Component Cooling Water System	30KAB30AA049	Outside	≤ 14.5 sec
Component Cooling Water System	30KAB30AA050	Inside	≤ 14.5 sec

**Table 3.5-3—Containment Isolation Valves**  
Sheet 4 of 8

System	Tag Number <sup>(1)</sup>	Location: Inside/Outside	Valve Closure Time
Component Cooling Water System	30KAB30AA051	Inside	≤ 14.5 sec
Component Cooling Water System	30KAB30AA052	Outside	≤ 14.5 sec
Component Cooling Water System	30KAB30AA053	Outside	≤ 14.5 sec
Component Cooling Water System	30KAB30AA054	Inside	≤ 14.5 sec
Component Cooling Water System	30KAB30AA055	Inside	≤ 14.5 sec
Component Cooling Water System	30KAB30AA056	Outside	≤ 14.5 sec
Component Cooling Water System	30KAB40AA001	Outside	≤ 49.5 sec
Component Cooling Water System	30KAB40AA002	Inside	n/a
Component Cooling Water System	30KAB40AA006	Outside	≤ 49.5 sec
Component Cooling Water System	30KAB40AA012	Inside	≤ 49.5 sec
Component Cooling Water System	30KAB60AA013	Outside	≤ 59.5 sec
Component Cooling Water System	30KAB60AA014	Inside	n/a
Component Cooling Water System	30KAB60AA018	Inside	≤ 59.5 sec
Component Cooling Water System	30KAB60AA019	Outside	≤ 59.5 sec
Component Cooling Water System	30KAB70AA013	Outside	≤ 59.5 sec
Component Cooling Water System	30KAB70AA014	Inside	n/a
Component Cooling Water System	30KAB70AA018	Inside	≤ 59.5 sec
Component Cooling Water System	30KAB70AA019	Outside	≤ 59.5 sec
Chemical & Volume Control System	30KBA14AA002	Inside	≤ 29.5 sec
Chemical & Volume Control System	30KBA14AA003	Outside	≤ 29.5 sec
Chemical & Volume Control System	30KBA34AA002	Outside	≤ 19.5 sec
Chemical & Volume Control System	30KBA34AA003	Inside	n/a
Containment Building Ventilation System	30KLA10AA001	Outside	≤ 4.9 sec
Containment Building Ventilation System	30KLA10AA003	Inside	≤ 4.9 sec
Containment Building Ventilation System	30KLA20AA001	Inside	≤ 4.9 sec
Containment Building Ventilation System	30KLA20AA003	Outside	≤ 4.9 sec
Containment Building Ventilation System	30KLA30AA002	Outside	n/a
Containment Building Ventilation System	30KLA30AA003	Inside	n/a
Containment Building Ventilation System	30KLA40AA001	Inside	n/a
Containment Building Ventilation System	30KLA40AA002	Outside	n/a
Containment Building Ventilation System	30KLA60AA701	Outside	n/a
Containment Building Ventilation System	30KLA60AA702	Outside	n/a

**Table 3.5-3—Containment Isolation Valves**  
**Sheet 5 of 8**

System	Tag Number <sup>(1)</sup>	Location: Inside/Outside	Valve Closure Time
Containment Building Ventilation System	30KLA60AA703	Outside	n/a
Containment Building Ventilation System	30KLA60AA704	Outside	n/a
Containment Building Ventilation System	30KLA70AA701	Outside	n/a
Containment Building Ventilation System	30KLA70AA702	Outside	n/a
Containment Building Ventilation System	30KLA70AA703	Outside	n/a
Containment Building Ventilation System	30KLA70AA704	Outside	n/a
Containment Building Ventilation System	30KLA70AA706	Outside	n/a
Containment Building Ventilation System	30KLA70AA707	Outside	n/a
Containment Building Ventilation System	30KLA70AA708	Outside	n/a
Containment Building Ventilation System	30KLA70AA709	Outside	n/a
Gaseous Waste Processing System	30KPL84AA002	Outside	≤ 14.5 sec
Gaseous Waste Processing System	30KPL84AA003	Inside	≤ 14.5 sec
Gaseous Waste Processing System	30KPL85AA003	Inside	≤ 14.5 sec
Gaseous Waste Processing System	30KPL85AA004	Outside	≤ 14.5 sec
Nuclear Island Drain & Vent System	30KTA10AA017	Inside	≤ 14.5 sec
Nuclear Island Drain & Vent System	30KTA10AA018	Outside	≤ 14.5 sec
Nuclear Island Drain & Vent System	30KTC10AA005	Inside	≤ 14.5 sec
Nuclear Island Drain & Vent System	30KTC10AA006	Outside	≤ 14.5 sec
Nuclear Island Drain & Vent System	30KTC10AA010	Outside	≤ 14.5 sec
Nuclear Island Drain & Vent System	30KTC10AA029	Inside	n/a
Nuclear Island Drain & Vent System	30KTD10AA015	Outside	≤ 14.5 sec
Nuclear Island Drain & Vent System	30KTD10AA024	Inside	≤ 14.5 sec
Nuclear Island Drain & Vent System	30KTD10AA025	Outside	≤ 14.5 sec
Nuclear Sampling System	30KUA10AA003	Inside	≤ 14.5 sec
Nuclear Sampling System	30KUA10AA004	Outside	≤ 14.5 sec
Nuclear Sampling System	30KUA20AA002	Inside	≤ 14.5 sec
Nuclear Sampling System	30KUA20AA003	Outside	≤ 14.5 sec
Nuclear Sampling System	30KUA30AA003	Inside	≤ 14.5 sec
Nuclear Sampling System	30KUA30AA004	Outside	≤ 14.5 sec
Nuclear Sampling System	30KUB10AA001	Inside	≤ 14.5 sec
Nuclear Sampling System	30KUB10AA002	Outside	≤ 14.5 sec
Severe Accident Sampling System	30KUL51AA002	Outside	≤ 14.5 sec

**Table 3.5-3—Containment Isolation Valves**  
**Sheet 6 of 8**

System	Tag Number <sup>(1)</sup>	Location: Inside/Outside	Valve Closure Time
Severe Accident Sampling System	30KUL51AA003	Outside	≤ 14.5 sec
Severe Accident Sampling System	30KUL52AA002	Outside	≤ 14.5 sec
Severe Accident Sampling System	30KUL52AA003	Outside	≤ 14.5 sec
Feedwater System	30LAB60AA002	Outside	≤ 59.5 sec
Feedwater System	30LAB60AA003	Inside	n/a
Feedwater System	30LAB70AA002	Outside	≤ 59.5 sec
Feedwater System	30LAB70AA003	Inside	n/a
Feedwater System	30LAB80AA002	Outside	≤ 59.5 sec
Feedwater System	30LAB80AA003	Inside	n/a
Feedwater System	30LAB90AA002	Outside	≤ 59.5 sec
Feedwater System	30LAB90AA003	Inside	n/a
Emergency Feedwater System	30LAR11AA006	Outside	≤ 19.5 sec
Emergency Feedwater System	30LAR11AA007	Inside	n/a
Emergency Feedwater System	30LAR21AA006	Outside	≤ 19.5 sec
Emergency Feedwater System	30LAR21AA007	Inside	n/a
Emergency Feedwater System	30LAR31AA006	Outside	≤ 19.5 sec
Emergency Feedwater System	30LAR31AA007	Inside	n/a
Emergency Feedwater System	30LAR41AA006	Outside	≤ 19.5 sec
Emergency Feedwater System	30LAR41AA007	Inside	n/a
Main Steam System	30LBA10AA002	Outside	n/a
Main Steam System	30LBA10AA441	Outside	≤ 14.5 sec
Main Steam System	30LBA11AA191	Outside	n/a
Main Steam System	30LBA12AA191	Outside	n/a
Main Steam System	30LBA13AA001	Outside	n/a
Main Steam System	30LBA13AA101	Outside	n/a
Main Steam System	30LBA14AA001	Outside	≤ 29.5 sec
Main Steam System	30LBA20AA002	Outside	n/a
Main Steam System	30LBA20AA441	Outside	≤ 14.5 sec
Main Steam System	30LBA21AA191	Outside	n/a
Main Steam System	30LBA22AA191	Outside	n/a
Main Steam System	30LBA23AA001	Outside	n/a
Main Steam System	30LBA23AA101	Outside	n/a



**Table 3.5-3—Containment Isolation Valves**  
Sheet 7 of 8

System	Tag Number <sup>(1)</sup>	Location: Inside/Outside	Valve Closure Time
Main Steam System	30LBA24AA001	Outside	≤ 29.5 sec
Main Steam System	30LBA30AA002	Outside	n/a
Main Steam System	30LBA30AA441	Outside	≤ 14.5 sec
Main Steam System	30LBA31AA191	Outside	n/a
Main Steam System	30LBA32AA191	Outside	n/a
Main Steam System	30LBA33AA001	Outside	n/a
Main Steam System	30LBA33AA101	Outside	n/a
Main Steam System	30LBA34AA001	Outside	≤ 29.5 sec
Main Steam System	30LBA40AA002	Outside	n/a
Main Steam System	30LBA40AA441	Outside	≤ 14.5 sec
Main Steam System	30LBA41AA191	Outside	n/a
Main Steam System	30LBA42AA191	Outside	n/a
Main Steam System	30LBA43AA001	Outside	n/a
Main Steam System	30LBA43AA101	Outside	n/a
Main Steam System	30LBA44AA001	Outside	≤ 29.5 sec
Condensate System	30LCA90AA003	Outside	≤ 29.5 sec
Condensate System	30LCA90AA004	Inside	n/a
Condensate System	30LCA90AA005	Inside	≤ 29.5 sec
Condensate System	30LCA90AA006	Outside	≤ 29.5 sec
Condensate System	30LCA90AA020	Outside	≤ 29.5 sec
Condensate System	30LCA90AA021	Outside	≤ 29.5 sec
Steam Generator Blowdown System	30LCQ51AA002	Inside	≤ 29.5 sec
Steam Generator Blowdown System	30LCQ51AA003	Outside	≤ 29.5 sec
Steam Generator Blowdown System	30LCQ52AA001	Inside	≤ 59.5 sec
Steam Generator Blowdown System	30LCQ52AA002	Outside	≤ 59.5 sec
Steam Generator Blowdown System	30LCQ52AA005	Outside	≤ 59.5 sec
Nitrogen Gas Distribution System	30QJB40AA001	Outside	≤ 14.5 sec
Nitrogen Gas Distribution System	30QJB40AA002	Inside	≤ 14.5 sec
Nitrogen Gas Distribution System	30QJB40AA003	Outside	≤ 14.5 sec
Nitrogen Gas Distribution System	30QJB40AA004	Inside	≤ 14.5 sec
Operational Chilled Water Supply System	30QNJ41AA002	Outside	≤ 39.5 sec
Operational Chilled Water Supply System	30QNJ41AA003	Inside	n/a

**Table 3.5-3—Containment Isolation Valves**  
**Sheet 8 of 8**

<b>System</b>	<b>Tag Number<sup>(1)</sup></b>	<b>Location: Inside/Outside</b>	<b>Valve Closure Time</b>
Operational Chilled Water Supply System	30QNJ41AA027	Inside	≤ 39.5 sec
Operational Chilled Water Supply System	30QNJ41AA028	Outside	≤ 39.5 sec
Secondary Sampling System	30QUC11AA001	Outside	≤ 14.5 sec
Secondary Sampling System	30QUC11AA011	Inside	≤ 14.5 sec
Secondary Sampling System	30QUC12AA001	Outside	≤ 14.5 sec
Secondary Sampling System	30QUC12AA011	Inside	≤ 14.5 sec
Secondary Sampling System	30QUC13AA001	Outside	≤ 14.5 sec
Secondary Sampling System	30QUC13AA011	Inside	≤ 14.5 sec
Secondary Sampling System	30QUC14AA001	Outside	≤ 14.5 sec
Secondary Sampling System	30QUC14AA011	Inside	≤ 14.5 sec
Compressed Air System	30SCB01AA001	Outside	≤ 14.5 sec
Compressed Air System	30SCB01AA002	Inside	≤ 14.5 sec
Compressed Air System	30SCB02AA001	Outside	n/a
Compressed Air System	30SCB02AA002	Inside	n/a
Fire Water Distribution System	30SGB30AA031	Outside	≤ 39.5 sec
Fire Water Distribution System	30SGB30AA032	Inside	≤ 39.5 sec

1. Equipment tag numbers are provided for information only and are not part of the certified design.

**Table 3.5-4—Containment Isolation ITAAC**  
**Sheet 1 of 9**

<b>Commitment Wording</b>		<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
2.1	The functional arrangement of the containment isolation equipment is as described in the Design Description of Section 3.5 and Tables 3.5-1, 3.5-2, and 3.5-3.	An inspection of the as-built containment isolation equipment functional arrangement will be performed.	The containment isolation equipment conforms to the functional arrangement as described in the Design Description of Section 3.5 and Tables 3.5-1, 3.5-2, and 3.5-3.
2.2	Deleted.	Deleted.	Deleted.
3.1	Valves listed in Table 3.5-1 will be functionally designed and qualified such that each valve is capable of performing its intended function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	Tests or type tests of valves will be performed to demonstrate that the valves function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.	A report concludes that the valves listed in Table 3.5-1 are capable of performing their intended function under the full range of fluid flow, differential pressure, electrical conditions, and temperature conditions up to and including design basis accident conditions.
3.2	Check valves listed in Table 3.5-1 will function to change position as listed in Table 3.5-1 under normal operating conditions.	Tests will be performed to demonstrate the ability of check valves to change position under normal operating conditions.	The check valves change position as listed in Table 3.5-1 under normal operating conditions.
3.3	Deleted.	Deleted.	Deleted.

**Table 3.5-4—Containment Isolation ITAAC**  
**Sheet 2 of 9**

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
3.4	Equipment identified as Seismic Category I in Table 3.5-1 can withstand seismic design basis loads without a loss of safety function(s).	<p>a. Type tests, analyses, or a combination of type tests and analyses will be performed on the equipment identified as Seismic Category I in Table 3.5-1 using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements.</p> <p>b. An inspection will be performed of the as-built equipment identified as Seismic Category I in Table 3.5-1 to verify that the equipment, including anchorage, are installed in a condition bounded by the tested or analyzed condition.</p>	<p>a. Test/analysis reports conclude that the equipment identified as Seismic Category I in Table 3.5-1 can withstand seismic design basis loads without a loss of safety function(s).</p> <p>b. Inspection reports conclude that the equipment identified as Seismic Category I in Table 3.5-1, including anchorage, are installed in a condition bounded by the tested or analyzed condition.</p>
3.5	Deleted.	Deleted.	Deleted.
3.6	Deleted.	Deleted.	Deleted.
3.7	Deleted.	Deleted.	Deleted.
3.8	Deleted.	Deleted.	Deleted.
3.9	Deleted.	Deleted.	Deleted.
3.10	Deleted.	Deleted.	Deleted.
3.11	Deleted.	Deleted.	Deleted.
3.12	ASME Code Class 2 piping systems are designed in accordance with ASME Code Section III requirements.	An inspection of piping design and analysis documentation required by ASME Code Section III will be performed. <b>{{DAC}}</b>	ASME Code Section III Design Report(s) exist that meet the requirements of NCA-3550 and conclude that the design of the ASME Code Class 2 piping systems complies with the requirements of ASME Code Section III. <b>{{DAC}}</b>

**Table 3.5-4—Containment Isolation ITAAC**  
**Sheet 3 of 9**

<b>Commitment Wording</b>		<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
3.13	As-built ASME Code Class 2 components listed in Table 3.5-1 are reconciled with the design requirements.	A reconciliation analysis of ASME Code Class 2 components will be performed.	ASME Code Design Report(s) exist that meet the requirements of NCA-3550, conclude that the design reconciliation has been completed for as-built ASME Code Class 2 components listed in Table 3.5-1, and document that the results of the reconciliation analysis comply with the requirements of ASME Code Section III.
3.14	Pressure-boundary welds in ASME Code Class 2 components listed in Table 3.5-1 meet ASME Code Section III non-destructive examination requirements.	An inspection of the as-built pressure boundary welds in ASME Code Class 2 components will be performed.	ASME Code reports(s) exist that conclude that ASME Code Section III requirements are met for non-destructive examination of pressure-boundary welds in ASME Code Class 2 components listed in Table 3.5-1.
3.15	ASME Code Class 2 components listed in Table 3.5-1 retain their pressure-boundary integrity at their design pressure.	A hydrostatic test will be conducted on ASME Code Class 2 components that are required to be hydrostatically tested by ASME Code Section III.	ASME Code Data Report(s) exist and conclude that the results of the hydrostatic test of ASME Code Class 2 components listed in Table 3.5-1 comply with the requirements of ASME Code Section III.
3.16	ASME Code Class 2 components listed in Table 3.5-1 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	An inspection of the as-built construction activities and documentation for ASME Code Class 2 components will be conducted.	ASME Code Data Report(s) exist that conclude that ASME Code Class 2 components listed in Table 3.5-1 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.

**Table 3.5-4—Containment Isolation ITAAC**  
**Sheet 4 of 9**

	<b>Commitment Wording</b>	<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
3.17	Containment isolation valves outside the containment as listed in Table 3.5-3 are located as close to the containment as practical, consistent with General Design Criteria 55, 56, and 57.	An inspection and analysis will be performed to verify the as-built location of outside containment isolation valves. <b>{{DAC}}</b>	A report concludes that outside containment isolation valves listed in Table 3.5-3 are located as close to the containment as practical with consideration of the following: <ul style="list-style-type: none"> <li>● Access for inspection of welds.</li> <li>● Containment leak testing.</li> <li>● Replacement.</li> <li>● Valve maintenance.</li> </ul> <b>{{DAC}}</b>
4.1	Displays listed in Table 3.5-2 are indicated on the PICS operator workstations in the MCR and the RSS.	<p>a. Tests will be performed to verify that the displays listed in Table 3.5-2 are indicated on the PICS operator workstations in the MCR.</p> <p>b. Tests will be performed to verify that the displays listed in Table 3.5-2 are indicated on the PICS operator workstations in the RSS.</p>	<p>a. Displays listed in Table 3.5-2 are indicated on the PICS operator workstations in the MCR.</p> <p>b. Displays listed in Table 3.5-2 are indicated on the PICS operator workstations in the RSS.</p>
4.2	Controls on the PICS operator workstations in the MCR perform the function listed in Table 3.5-2.	Tests will be performed using controls on the PICS operator workstations in the MCR.	Controls on the PICS operator workstations in the MCR perform the function listed in Table 3.5-2.
4.3	Equipment listed as being controlled by a PACS module in Table 3.5-2 responds to the state requested and provides drive monitoring signals back to the PACS module. The PACS module will protect the equipment by terminating the output command upon the equipment reaching the requested state.	A test will be performed using test input signals to verify equipment controlled by a PACS module responds to the state requested and provides drive monitoring signals back to the PACS module.	Equipment listed as being controlled by a PACS module in Table 3.5-2 responds to the state requested and provides drive monitoring signals back to the PACS module. The PACS module will protect the equipment by terminating the output command upon the equipment reaching the requested state.

**Table 3.5-4—Containment Isolation ITAAC**  
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<b>Commitment Wording</b>		<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
5.1	Equipment designated as Class 1E in Table 3.5-2 are powered from the Class 1E division as listed in Table 3.5-2 in a normal or alternate feed condition.	<ul style="list-style-type: none"> <li>a. Testing will be performed by providing a test input signal in each normally aligned division.</li> <li>b. Testing will be performed by providing a test input signal in each division with the alternate feed aligned to the divisional pair.</li> </ul>	<ul style="list-style-type: none"> <li>a. The test input signal provided in the normally aligned division is present at the respective Class 1E equipment identified in Table 3.5-2.</li> <li>b. The test input signal provided in each division with the alternate feed aligned to the divisional pair is present at the respective Class 1E equipment identified in Table 3.5-2.</li> </ul>
5.2	Deleted.	Deleted.	Deleted.
5.3	Deleted.	Deleted.	Deleted.
5.4	Deleted.	Deleted.	Deleted.

**Table 3.5-4—Containment Isolation ITAAC**  
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<b>Commitment Wording</b>		<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
5.5	Containment electrical penetrations are protected from fault currents that are greater than continuous current rating.	<p>a. An analysis will be performed to verify that containment electrical penetrations are protected from fault currents that are greater than continuous current rating.</p> <p>b. An inspection will be performed to verify that as-built containment electrical penetration assembly circuits have redundant in-series protection devices which are coordinated with the protected containment electrical penetration assembly's rated short-circuit thermal capacity.</p>	<p>a. Analysis concludes for electrical penetration assemblies that either maximum current through the containment electrical penetration does not exceed continuous current rating or the containment electrical penetration assembly circuits have redundant in-series protection devices which are coordinated with the protected containment electrical penetration assembly's rated short-circuit thermal capacity, preventing the analyzed current from exceeding the continuous current rating of the associated containment electrical penetration.</p> <p>b. Containment electrical penetration assembly circuits have redundant in-series protection devices which are coordinated with the protected containment electrical penetration assembly's rated short-circuit thermal capacity.</p>



**Table 3.5-4—Containment Isolation ITAAC**  
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<b>Commitment Wording</b>		<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
6.1	Equipment designated as harsh environment in Table 3.5-2 can perform the function listed in Table 3.5-1 under normal environmental conditions, containment test conditions, anticipated operational occurrences, and accident and post-accident environmental conditions.	<p>a. Type tests or type tests and analysis will be performed to demonstrate the ability of the equipment designated as harsh environment in Table 3.5-2 to perform the function listed in Table 3.5-1 under normal environmental conditions, containment test conditions, anticipated operational occurrences, and accident and post-accident environmental conditions.</p> <p>b. An inspection will be performed of the as-built equipment designated as harsh environment in Table 3.5-2 to verify that the equipment, including the associated cables, wiring, and terminations located in a harsh environment, is bounded by the type test or combination of type tests and analyses.</p>	<p>a. EQDPs conclude that the equipment designated as harsh environment in Table 3.5-2 can perform the function listed in Table 3.5-1 under normal environmental conditions, containment test conditions, anticipated operational occurrences, and accident and post-accident environmental conditions, including the time required to perform the listed function.</p> <p>b. A report exists and concludes that the equipment designated as harsh environment in Table 3.5-2, including the associated cables, wiring, and terminations located in a harsh environment, is bounded by the type test or combination of type tests analyses.</p>

**Table 3.5-4—Containment Isolation ITAAC**  
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<b>Commitment Wording</b>		<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
6.2	Containment electrical penetration assemblies designated as harsh environment in Table 3.5-2 can perform their function under normal environmental conditions, containment test conditions, anticipated operational occurrences, and accident and post-accident environmental conditions.	<p>a. Type tests or type tests and analysis will be performed to demonstrate the ability of the containment electrical penetration assemblies designated as harsh environment in Table 3.5-2 to perform their safety function under normal environmental conditions, containment test conditions, anticipated operational occurrences, and accident and post-accident environmental conditions.</p> <p>b. An inspection will be performed of the as-built containment electrical penetration assemblies designated as harsh environment in Table 3.5-2 to verify that the containment electrical penetration assemblies, including the associated cables, wiring, and terminations located in a harsh environment, is bounded by the type test or combination of type tests and analyses.</p>	<p>a. EQDPs conclude that the containment electrical penetration assemblies designated as harsh environment in Table 3.5-2 can perform their safety function under normal environmental conditions, containment test conditions, anticipated operational occurrences, and accident and post-accident environmental conditions, including the time required to perform the listed function.</p> <p>b. A report exists and concludes that the containment electrical penetration assemblies designated as harsh environment in Table 3.5-2, including the associated cables, wiring, and terminations located in a harsh environment, is bounded by the type test or combination of type tests and analyses.</p>
7.1	Class 1E valves listed in Table 3.5-2 will function to change position as listed in Table 3.5-1 under normal operating conditions.	Tests will be performed to demonstrate the ability of Class 1E valves to change position under normal operating conditions.	Class 1E valves listed in Table 3.5-2 change position as listed in Table 3.5-1 under normal operating conditions.

**Table 3.5-4—Containment Isolation ITAAC**  
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<b>Commitment Wording</b>		<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
7.2	Containment isolation valves listed in Table 3.5-3 close within the valve closure time listed in Table 3.5-3 after receipt of a containment isolation signal.	Tests will be performed using test input signals to demonstrate the ability of the containment isolation valves listed in Table 3.5-3 to close within the valve closure time after receipt of a containment isolation signal.	Containment isolation valves listed in Table 3.5-3 close within the valve closure time listed in Table 3.5-3 after receipt of a containment isolation test input signal from the PACS module.

**Figure 3.5-1—Deleted**