

2.6 HVAC Systems

2.6.1 Main Control Room Air Conditioning System

1.0 Description

The main control room air conditioning system (CRACS) supplies air to the control room envelope (CRE) area which includes the main control room (MCR) and associated rooms.

The CRACS controls the CRE area temperature and air change rate for personnel comfort, personnel safety, and equipment protection during normal plant operation. The CRACS provides cooling, heating, and ventilation for the CRE area to remove equipment heat, and heat generated from other sources. The CRACS also provides heat to maintain a minimum temperature in the CRE area. The CRACS provides a minimal air change rate for the CRE area and controls building pressurization to reduce spreading of contamination.

The CRACS maintains habitability of the CRE areas in case of radioactive or toxic gas contamination of the environment. The CRACS also maintains a positive pressure in the CRE area to prevent infiltration of contaminated outside air. The CRACS operates in recirculation mode with fresh air makeup.

The CRACS provides the following safety-related functions:

- Maintains ambient temperature conditions inside the CRE area during design basis conditions, including a radiological contamination event, or toxic gas contamination of the environment.
- Maintains a positive pressure in the CRE area relative to the adjacent areas to prevent unfiltered in-leakage.

2.0 Arrangement

2.1 The functional arrangement of the CRACS is as shown in the following figures:

- Figure 2.6.1-1—Control Room Air Intake and Iodine Filtration Train Subsystem Functional Arrangement.
- Figure 2.6.1-2—Control Room Air Conditioning and Recirculation Air Subsystem Functional Arrangement.
- Figure 2.6.1-3—CRE Air Supply and Recirculation Air Subsystem Functional Arrangement.

2.2 The location of the CRACS equipment is as listed in Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design.

2.3 Physical separation exists between the CRACS air intake, iodine filtration, air recirculation, and air conditioning trains.

3.0 Mechanical Design Features

3.1 Equipment listed in Table 2.6.1-1 as ASME AG-1 is designed, installed, and tested per ASME AG-1.

3.2 Equipment listed in Table 2.6.1-1 performs the function listed in Table 2.6.1-1.

3.3 Equipment identified as Seismic Category I in Table 2.6.1-1 can withstand seismic design basis loads without loss of safety function as listed in Table 2.6.1-1.

4.0 Displays and Controls

4.1 Displays listed in Table 2.6.1-2—Main Control Room Air Conditioning System Equipment I&C and Electrical Design, are retrievable in the main control room (MCR) and the remote shutdown station (RSS) as listed.

4.2 The CRACS equipment controls are provided in the MCR and RSS as listed in Table 2.6.1-2.

4.3 Equipment listed as being controlled by a priority and actuator control system (PACS) module in Table 2.6.1-2 responds to the state requested by a test signal.

5.0 Electrical Power Design Features

5.1 The equipment designated as Class 1E in Table 2.6.1-2 are powered from the Class 1E division as listed in Table 2.6.1-2 in a normal or alternate feed condition.

5.2 Motor operated dampers listed in Table 2.6.1-2 fail to the position as shown in Table 2.6.1-2 on loss of power.

6.0 Equipment and System Performance

6.1 The CRACS maintains ambient conditions and a positive pressure in the CRE areas relative to the outside environment and adjacent areas.

6.2 Upon receipt of containment isolation signal, or high radiation alarm signal in the air intake duct, the iodine filtration train will start automatically, outside air supply to the CRE area is diverted through the iodine filtration train, and a minimum recirculation flowrate is established from the CRE area to the iodine filtration train.

6.3 Upon actuation of the plant toxic gas alarm signal, the outside air intake dampers close automatically and the CRE air is directed in recirculation mode without outside air.

6.4 The CRE area ventilation unfiltered air in-leakage is minimized in order to maintain the MCR habitability.

7.0 Inspections, Tests, Analyses and Acceptance Criteria

Table 2.6.1-3 lists the CRACS ITAAC.

**Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design
(8 Sheets)**

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | ASME AG-1 Code | Function | Seismic Category |
|--|-------------------------------------|---|----------------|--|------------------|
| Fresh Air Intake Trains 30SAB01 and 30SAB04 | | | | | |
| Motor Operated Dampers | 30SAB01AA002 30SAB04AA002 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Open / Close (“Open for high radiation signal, and “Close” for toxic gas signal) | I |
| Electric Heaters | 30SAB01AH001 30SAB04AH001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | On / Off (based on ambient conditions) | I |
| Motor Operated Dampers | 30SAB01AA003 30SAB04AA003 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Close | I |
| Prefilters | 30SAB01AT001 30SAB04AT001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Manual Dampers | 30SAB01AA006 30SAB04AA006 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |

**Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design
(8 Sheets)**

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | ASME AG-1 Code | Function | Seismic Category |
|---|--|---|-----------------------|---|-------------------------|
| Motor Operated Dampers | 30SAB01AA012 30SAB04AA012 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Open | I |
| Iodine Filtration Trains 30SAB11 and 30SAB14 | | | | | |
| Motor Operated Dampers (Recirculation from CRE) | 30SAB11AA004 30SAB14AA004 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Open | I |
| Motor Operated Dampers | 30SAB11AA001 30SAB14AA001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Open | I |
| Electric Heaters | 30SAB11AH001 30SAB14AH001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | On / Off (based on ambient conditions) | I |
| Prefilters | 30SAB11AT001 30SAB14AT001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Upstream HEPA Filters | 30SAB11AT002 30SAB14AT002 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |

**Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design
(8 Sheets)**

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | ASME AG-1 Code | Function | Seismic Category |
|--|--|---|-----------------------|-----------------|-------------------------|
| Carbon Adsorbers | 30SAB11AT003 30SAB14AT003 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Downstream HEPA Filters | 30SAB11AT004 30SAB14AT004 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Motor Operated Damper | 30SAB11AA003 30SAB14AA003 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Open | I |
| Supply Air Fans | 30SAB11AN001 30SAB14AN001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Run | I |
| Back draft Dampers | 30SAB11AA002 30SAB14AA002 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Recirculation and Air Conditioning Trains 30SAB01 and 30SAB04 | | | | | |
| Manual Dampers (recirculation from CRE) | 30SAB01AA009 30SAB04AA009 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |

**Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design
(8 Sheets)**

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | ASME AG-1 Code | Function | Seismic Category |
|--|--|---|-----------------------|-----------------|-------------------------|
| Manual Dampers (recirculation from CRE) | 30SAB01AA010 30SAB04AA010 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Air Cooling Coils | 30SAB01AC001 30SAB04AC001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Moisture Separators | 30SAB01AT004 30SAB04AT004 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Supply Air Fans | 30SAB01AN001 30SAB04AN001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Run | I |
| HEPA Filters | 30SAB01AT005 30SAB04AT005 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Back draft Dampers | 30SAB01AA011 30SAB04AA011 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |

**Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design
(8 Sheets)**

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | ASME AG-1 Code | Function | Seismic Category |
|--|-------------------------------------|---|----------------|----------|------------------|
| Recirculation and Air Conditioning Trains 30SAB02 and 30SAB03 | | | | | |
| Manual Dampers (recirculation from CRE) | 30SAB02AA009 30SAB03AA009 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Manual Dampers (recirculation from CRE) | 30SAB02AA010 30SAB03AA010 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Air Cooling Coils | 30SAB02AC001 30SAB03AC001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Moisture Separators | 30SAB02AT004 30SAB03AT004 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Supply Air Fans | 30SAB02AN001 30SAB03AN001 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | Stop | I |
| HEPA Filters | 30SAB02AT005 30SAB03AT005 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |

**Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design
(8 Sheets)**

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | ASME AG-1 Code | Function | Seismic Category |
|---|--|---|-----------------------|-----------------|-------------------------|
| Backdraft Dampers | 30SAB02AA011 30SAB03AA011 | Safeguard Building Division 2. Safeguard Building Division 3 | Yes | N/A | I |
| Kitchen and Sanitary Exhaust 30SAB45 | | | | | |
| Motor Operated Damper | 30SAB45AA003 | Safeguard Building Division 2 | Yes | Close | I |
| Silencer | 30SAB45BS001 | Safeguard Building Division 2 | Yes | N/A | I |
| Manual damper | 30SAB45AA005 | Safeguard Building Division 2 | Yes | N/A | I |
| Exhaust fan | 30SAB45AN001 | Safeguard Building Division 2 | Yes | Stop | I |
| Motor Operated Damper | 30SAB45AA004 | Safeguard Building Division 2 | Yes | Close | I |
| Backdraft damper | 30SAB45AA006 | Safeguard Building Division 2 | Yes | N/A | I |

**Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design
(8 Sheets)**

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | ASME AG-1 Code | Function | Seismic Category |
|------------------------------------|--|----------------------------------|----------------|--|------------------|
| MCR Air Supply 30SAB32 | | | | | |
| Manual Dampers | 30SAB32AA001 30SAB32AA002 30SAB32AA003 30SAB32AA006 30SAB32AA013 30SAB32AA015 30SAB32AA017 | Safeguard Building Division 2 | Yes | N/A | I |
| Heaters | 30SAB32AH001 30SAB32AH002 30SAB32AH003 30SAB32AH004 30SAB32AH005 30SAB32AH006 30SAB32AH007 | Safeguard Building Division 2 | Yes | On / Off (based on ambient conditions) | I |
| MCR Air Exhaust 30SAB42 | | | | | |
| Motor Operated Dampers | 30SAB42AA001 30SAB42AA002 | Safeguard Building Division 2 | Yes | Open | I |

**Table 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design
(8 Sheets)**

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | ASME AG-1 Code | Function | Seismic Category |
|-----------------------|--|----------------------------------|----------------|----------|------------------|
| Manual Dampers | 30SAB42AA006 30SAB42AA009 30SAB42AA011 30SAB42AA012 30SAB42AA014 30SAB42AA016 | Safeguard Building Division 2 | Yes | N/A | I |

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

Table 2.6.1-2—Main Control Room Air Conditioning System Equipment I&C and Electrical Design (5 Sheets)

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | IEEE Class 1E Source ⁽²⁾ | Failure Position | PACS | MCR / RSS Displays | MCR / RSS Controls |
|---|-------------------------------------|----------------------------------|--|------------------|------|------------------------|----------------------------|
| Fresh Air Intake Train 30SAB01 | | | | | | | |
| Motor Operated Damper | 30SAB01AA002 | Safeguard Building Division 2 | Division 4 ^N Division 3 ^A | Close | Yes | Position / Position | Open-Close / Open-Close |
| Electric Heater | 30SAB01AH001 | Safeguard Building Division 2 | Division 1 ^N | N/A | Yes | On-Off / On- Off | Start-Stop / Start-Stop |
| Motor Operated Damper | 30SAB01AA003 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | Close | Yes | Position / Position | Open-Close / Open-Close |
| Motor Operated Damper | 30SAB01AA012 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Motor Operated Damper | 30SAB01AA004 | Safeguard Building Division 2 | Division 3 ^N Division 4 ^A | Close | Yes | Position / Position | Open-Close / Open-Close |
| Fresh Air Intake Train 30SAB04 | | | | | | | |
| Motor Operated Damper | 30SAB04AA002 | Safeguard Building Division 3 | Division 1 ^N Division 2 ^A | Close | Yes | Position / Position | Open-Close / Open-Close |
| Electric Heater | 30SAB04AH001 | Safeguard Building Division 3 | Division 4 ^N | N/A | Yes | On-Off / On- Off | Start-Stop / Start-Stop |
| Motor Operated Damper | 30SAB04AA003 | Safeguard Building Division 2 | Division 4 ^N Division 3 ^A | Close | Yes | Position / Position | Open-Close / Open-Close |
| Motor Operated Damper | 30SAB04AA012 | Safeguard Building Division 3 | Division 4 ^N Division 3 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Motor Operated Damper | 30SAB04AA004 | Safeguard Building Division 3 | Division 2 ^N Division 1 ^A | Close | Yes | Position / Position | Open-Close / Open-Close |

Table 2.6.1-2—Main Control Room Air Conditioning System Equipment I&C and Electrical Design (5 Sheets)

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | IEEE Class 1E Source ⁽²⁾ | Failure Position | PACS | MCR / RSS Displays | MCR / RSS Controls |
|--|-------------------------------------|-------------------------------|--|------------------|------|---------------------|-------------------------|
| Iodine Filtration Train 30SAB11 | | | | | | | |
| Motor Operated Damper (Recirculation from CRE) | 30SAB11AA004 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Motor Operated Damper | 30SAB11AA001 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Electric Heater | 30SAB11AH001 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | N/A | Yes | On-Off / On-Off | Start-Stop / Start-Stop |
| Motor Operated Damper | 30SAB11AA003 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Supply Air Fan | 30SAB11AN001 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | N/A | Yes | On-Off / On-Off | Run-Stop / Run-Stop |
| Iodine Filtration Train 30SAB14 | | | | | | | |
| Motor Operated Damper (Recirculation from CRE) | 30SAB14AA004 | Safeguard Building Division 3 | Division 4 ^N Division 3 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Motor Operated Damper | 30SAB14AA001 | Safeguard Building Division 3 | Division 4 ^N Division 3 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Electric Heater | 30SAB14AH001 | Safeguard Building Division 3 | Division 4 ^N Division 3 ^A | N/A | Yes | On-Off / On-Off | Start-Stop / Start-Stop |

Table 2.6.1-2—Main Control Room Air Conditioning System Equipment I&C and Electrical Design (5 Sheets)

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | IEEE Class 1E Source ⁽²⁾ | Failure Position | PACS | MCR / RSS Displays | MCR / RSS Controls |
|---|--|----------------------------------|--|-------------------------|-------------|---------------------------|----------------------------|
| Motor Operated Damper | 30SAB14AA003 | Safeguard Building Division 2 | Division 4 ^N Division 3 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Supply Air Fan | 30SAB14AN001 | Safeguard Building Division 3 | Division 4 ^N Division 3 ^A | N/A | Yes | On-Off / On- Off | Run-Stop / Run-Stop |
| Recirculation and Air Conditioning Train 30SAB01 | | | | | | | |
| Supply Air Fan | 30SAB01AN001 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | N/A | Yes | On-Off / On- Off | Run-Stop / Run-Stop |
| Recirculation and Air Conditioning Train 30SAB02 | | | | | | | |
| Supply Air Fan | 30SAB02AN001 | Safeguard Building Division 2 | Division 2 ^N | N/A | Yes | On-Off / On- Off | Run-Stop / Run-Stop |
| Recirculation and Air Conditioning Train 30SAB03 | | | | | | | |
| Supply Air Fan | 30SAB03AN001 | Safeguard Building Division 3 | Division 3 ^N | N/A | Yes | On-Off / On- Off | Run-Stop / Run-Stop |
| Recirculation and Air Conditioning Train 30SAB04 | | | | | | | |
| Supply Air Fan | 30SAB04AN001 | Safeguard Building Division 3 | Division 4 ^N Division 3 ^A | N/A | Yes | On-Off / On- Off | Run-Stop / Run-Stop |
| Kitchen and Sanitary Exhaust 30SAB45 | | | | | | | |
| Motor Operated Damper | 30SAB45AA003 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | Close | Yes | Position / Position | Open-Close / Open-Close |

Table 2.6.1-2—Main Control Room Air Conditioning System Equipment I&C and Electrical Design (5 Sheets)

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | IEEE Class 1E Source ⁽²⁾ | Failure Position | PACS | MCR / RSS Displays | MCR / RSS Controls |
|---|--|----------------------------------|--|-------------------------|-------------|---------------------------|----------------------------|
| Motor Operated Damper | 30SAB45AA004 | Safeguard Building Division 2 | Division 4 ^N Division 3 ^A | Close | Yes | Position / Position | Open-Close / Open-Close |
| MCR Air Exhaust 30SAB42 | | | | | | | |
| Motor Operated Damper | 30SAB42AA001 | Safeguard Building Division 2 | Division 1 ^N Division 2 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Motor Operated Damper | 30SAB42AA002 | Safeguard Building Division 2 | Division 4 ^N Division 3 ^A | Open | Yes | Position / Position | Open-Close / Open-Close |
| Pressure Sensors | | | | | | | |
| Differential pressure across 30SAB11 iodine train filters | 30SAB11CP001 | Safeguard Building Division 2 | N/A | N/A | N/A | Press / Press | N/A |
| Differential pressure across 30SAB14 iodine train filters | 30SAB14CP001 | Safeguard Building Division 3 | N/A | N/A | N/A | Press / Press | N/A |
| Differential pressure between Main Control Room and reference rooms | 30SAB32CP001 30SAB32CP002 30SAB32CP003 | Safeguard Building Division 2 | N/A | N/A | N/A | Press / Press | N/A |

Table 2.6.1-2—Main Control Room Air Conditioning System Equipment I&C and Electrical Design (5 Sheets)

| Equipment Description | Equipment Tag Number ⁽¹⁾ | Equipment Location | IEEE Class 1E Source ⁽²⁾ | Failure Position | PACS | MCR / RSS Displays | MCR / RSS Controls |
|--|-------------------------------------|----------------------------------|-------------------------------------|------------------|------|--------------------|--------------------|
| Temperature Sensors | | | | | | | |
| Outside Air temperature sensors for trains 30SAB 01/04 | 30SAB01CT001 | Safeguard Building Division 2 | N/A | N/A | N/A | Temp / Temp | N/A |
| | 30SAB04CT001 | Safeguard Building Division 3 | | | | | |
| Protective switch-off temperature for heaters | 30SAB01CT002 | Safeguard Building Division 2 | N/A | N/A | N/A | Temp / Temp | N/A |
| | 30SAB04CT002 | Safeguard Building Division 3 | | | | | |
| Temperature downstream of electric heaters | 30SAB01CT003/004 | Safeguard Building Division 2 | N/A | N/A | N/A | Temp / Temp | N/A |
| | 30SAB04CT003/004 | Safeguard Building Division 3 | | | | | |
| Main Control Room temperature | 30SAB32CT002 | Safeguard Building Division 2 | N/A | N/A | N/A | Temp / Temp | N/A |
| | 30SAB32CT003 | | | | | | |

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

2) ^N denotes division the component is normally powered from, while ^A denotes division the component is powered from when alternate feed is implemented.

**Table 2.6.1-3—Main Control Room Air Conditioning System
ITAAC (4 Sheets)**

| Commitment Wording | | Inspections, Tests, Analyses | Acceptance Criteria |
|---------------------------|---|---|--|
| 2.1 | The functional arrangement of the CRACS is as shown on Figures 2.6.1-1 through 2.6.1-3. | Inspections of the as-built system will be conducted. | The as-built CRACS conforms to the functional arrangement as shown in Figures 2.6.1-1 through 2.6.1-3. |
| 2.2 | Equipment shown on Figures 2.6.1-1 through 2.6.1-3 is located as listed in Table 2.6.1-1. | An inspection will be performed of the location of the equipment listed in Table 2.6.1-1. | The equipment listed in Table 2.6.1-1 is located as listed in Table 2.6.1-1. |
| 2.3 | Physical separation exists between the CRACS air intake, iodine filtration, air recirculation, and air conditioning trains. | An inspection will be performed to verify that CRACS air intake, iodine filtration, air recirculation, air conditioning trains are located in separate buildings. | The CRACS air intake, iodine filtration, air recirculation, air conditioning trains are located in separate buildings. |
| 3.1 | Equipment listed in Table 2.6.1-1 as ASME AG-1 is designed, installed, and tested per ASME AG-1. | <ul style="list-style-type: none"> a. Analysis of the equipment identified in Table 2.6.1-1 as ASME AG-1 will be performed per ASME AG-1 design requirements. b. Inspections will be conducted on the equipment identified in Table 2.6.1-1 as ASME AG-1 to verify that the equipment is installed as specified on the construction drawings. c. Testing of the equipment identified in Table 2.6.1-1 as ASME AG-1 will be performed per ASME AG-1 testing requirements. | <ul style="list-style-type: none"> a. ASME AG-1 reports exist and conclude that the equipment identified in Table 2.6.1-1 as ASME AG-1 meets ASME AG-1 design requirements. b. Equipment identified in Table 2.6.1-1 as ASME AG-1 has been installed as specified on the construction drawings. c. Equipment identified in Table 2.6.1-1 as ASME AG-1 has been tested per ASME AG-1 testing requirements. |
| 3.2 | Equipment listed in Table 2.6.1-1 can perform the function listed in Table 2.6.1-1 under system design basis conditions. | Tests will be performed. | Equipment listed in Table 2.6.1-1 performs the function listed in the table under system design basis conditions. |

**Table 2.6.1-3—Main Control Room Air Conditioning System
ITAAC (4 Sheets)**

| | Commitment Wording | Inspections, Tests, Analyses | Acceptance Criteria |
|-----|--|--|--|
| 3.3 | Equipment identified as Seismic Category I in Table 2.6.1-1 can withstand seismic design basis loads without loss of safety function as listed in Table 2.6.1-1. | <p>a. Type tests, analyses or a combination of type tests and analyses will be performed on the equipment designated as Seismic Category I in Table 2.6.1-1 using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements.</p> <p>b. Inspections will be performed of the as-installed Seismic Category I equipment listed in Table 2.6.1-1 to verify that the equipment including anchorage is installed as specified on the construction drawings.</p> | <p>a. Tests/analysis reports exist and conclude that the Seismic Category I equipment listed in Table 2.6.1-1 can withstand seismic design basis loads without loss of safety function.</p> <p>b. Inspection reports exist and conclude that the as-installed Seismic Category I equipment listed in Table 2.6.1-1 including anchorage is installed as specified on the construction drawings.</p> |
| 4.1 | Displays listed in Table 2.6.1-2 are retrievable in the MCR and the remote shutdown station (RSS) as listed. | Inspections will be performed for the existence or retrievability of the displays in the MCR and the RSS as listed in Table 2.6.1-2. | <p>a. The displays listed in Table 2.6.1-2 as being retrieved in the MCR can be retrieved in the MCR.</p> <p>b. The displays listed in Table 2.6.1-2 as being retrieved in the RSS can be retrieved in the RSS.</p> |
| 4.2 | Controls exist in the MCR and the RSS as identified in Table 2.6.1-2. | Test will be performed for the existence of control signals from the MCR and the RSS to the equipment listed in Table 2.6.1-2. | <p>a. The controls listed in Table 2.6.1-2 as being in the MCR exist in the MCR.</p> <p>b. The controls listed in Table 2.6.1-2 as being in the RSS exist in the RSS.</p> |
| 4.3 | Equipment listed as being controlled by a PACS module in Table 2.6.1-2 responds to the state requested by a test signal. | A test will be performed using test signals. | Equipment listed as being controlled by a PACS module in Table 2.6.1-2 responds to the state requested by the test signal. |

**Table 2.6.1-3—Main Control Room Air Conditioning System
ITAAC (4 Sheets)**

| Commitment Wording | | Inspections, Tests, Analyses | Acceptance Criteria |
|---------------------------|---|---|--|
| 5.1 | The components designated as Class 1E in Table 2.6.1-2 are powered from the Class 1E division as listed in Table 2.6.1-2 in a normal or alternate feed condition. | <p>a. Testing will be performed for the components designated as Class 1E in Table 2.6.1-2 by providing a test signal in each normally aligned division.</p> <p>b. Testing will be performed for the components designated as Class 1E in Table 2.6.1-2 by providing a test signal in each division with the alternate feed aligned to the divisional pair.</p> | <p>a. The test signal provided in the normally aligned division is present at the respective Class 1E component identified in Table 2.6.1-2.</p> <p>b. The test signal provided in each division with the alternate feed aligned to the divisional pair is present at the respective Class 1E component identified in Table 2.6.1-2.</p> |
| 5.2 | Motor operated dampers listed in Table 2.6.1-2 fail to the position as shown in Table 2.6.1-2 on loss of power. | Testing will be performed for the motor operated dampers listed in Table 2.6.1-2 to verify the position of dampers on loss of power. | Following loss of power, the motor operated dampers listed in Table 2.6.1-2 fail to the position as shown in Table 2.6.1-2. |
| 6.1 | The CRACS maintains ambient conditions and a positive pressure in the CRE areas relative to the outside environment and adjacent areas. | Tests will be performed on the capability of the system to maintain a positive pressure in the CRE areas relative to the outside environment and adjacent areas. | The test confirms that a positive pressure of greater than or equal to 1/8 inches water gauge is maintained inside the CRE area relative to the outside environment and adjacent areas. |

**Table 2.6.1-3—Main Control Room Air Conditioning System
ITAAC (4 Sheets)**

| | Commitment Wording | Inspections, Tests, Analyses | Acceptance Criteria |
|-----|---|---|--|
| 6.2 | <p>Upon receipt of a containment isolation signal (CIS), or high radiation alarm signal in the air intake duct, the iodine filtration train will start automatically, outside air supply to the CRE area is diverted through the iodine filtration train, and a minimum recirculation flowrate is established from the CRE area to the iodine filtration train.</p> | <p>a. A test will be performed to verify that upon receipt of a CIS, the iodine filtration train will start automatically; and the outside air supply is diverted through the iodine filtration train. Test is performed separately for each iodine filtration train.</p> <p>b. A test will be performed to verify that upon receipt of high radiation alarm signal in the air intake duct, the iodine filtration train will start automatically; and the outside air supply is diverted through the iodine filtration train. Test is performed separately for each iodine filtration train.</p> <p>c. A test will be performed to verify that a minimum recirculation flowrate for each iodine filtration train is achieved.</p> | <p>a. A separate test for each iodine filtration train confirms that upon receipt of a CIS, the iodine filtration train will start automatically within 60 seconds; and the outside air supply is diverted through the iodine filtration train.</p> <p>b. A separate test for each iodine filtration train confirms that upon receipt of high radiation alarm signal in the air intake duct, the iodine filtration train will start automatically within 60 seconds; and the outside air supply is diverted through the iodine filtration train.</p> <p>c. A separate test for each iodine filtration train confirms a CRE recirculation flowrate of greater than or equal to 3000 scfm.</p> |
| 6.3 | <p>Upon actuation of the plant toxic gas alarm signal, the outside air intake dampers close automatically and the CRE air is in recirculation mode without outside air.</p> | <p>A test will be performed to verify that upon actuation of the plant toxic gas alarm signal, the outside air intake dampers close automatically and the CRE air is in recirculation mode without outside air. Test is performed separately for each air intake train.</p> | <p>A separate test for each air intake train confirms that upon actuation of the plant toxic gas alarm signal, the outside air intake dampers close automatically and the CRE air is in recirculation mode without outside air.</p> |
| 6.4 | <p>The CRE area ventilation unfiltered air in-leakage is minimized in order to maintain the MCR habitability.</p> | <p>Test will be performed to measure the unfiltered air in-leakage inside the CRE area boundary.</p> | <p>The test confirms that the unfiltered air in-leakage inside the CRE area boundary is less than or equal to 50 scfm.</p> |