2.6 HVAC Systems

2.6.1 Main Control Room Air Conditioning System

Design Description

1.0 System 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 area in case of radioactive 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.
- Provides filtration of outside air and recirculated air from within the CRE area.
- Maintains a positive pressure in the CRE area relative to the adjacent areas to prevent unfiltered in-leakage, upon receipt of a containment isolation signal (CIS) or high radiation alarm signal in the air intake ducts.

2.0 Arrangement

2.1 The functional arrangement of the CRACS is as described in the Design Description of Section 2.6.1, Tables 2.6.1-1—Main Control Room Air Conditioning System Equipment Mechanical Design and 2.6.1-2—Main Control Room Air Conditioning System Equipment I&C and Electrical Design, and as shown on Figures 2.6.1-1—Control Room Air Intake and CREF (Iodine Filtration) Train Subsystem Functional Arrangement, 2.6.1-2—Control Room Air Conditioning and Recirculation Air Handling Subsystem Functional Arrangement, and 2.6.1-3—CRE Air Supply and Recirculation Subsystem Functional Arrangement.

2.2 Deleted.

2.3 Physical separation exists between the CRACS fresh air intake, iodine filtration, and recirculation and air conditioning trains as listed in Table 2.6.1-1.

3.0 Mechanical Design Features

3.1 Deleted.

3.2 Class 1E dampers listed in Table 2.6.1-2 will function to change position as listed in Table 2.6.1-1 under normal operating conditions.

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

3.4 Deleted.

3.5 Deleted.

3.6 Equipment listed in Table 2.6.1-1 as ASME AG-1 Code are fabricated, installed, inspected, and tested in accordance with ASME AG-1 Code requirements.

4.0 I&C Design Features, Displays, and Controls

4.1 Displays listed in Table 2.6.1-2 are indicated on the PICS operator workstations in the main control room (MCR) and the remote shutdown station (RSS).

4.2 Controls on the PICS operator workstations in the MCR and the RSS perform the function 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 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 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 Deleted.

6.0 Equipment and System Performance

6.1 The CRACS maintains a positive pressure in the CRE area relative to the outside environment and adjacent areas, while operating in a design basis accident alignment.

6.2 Upon receipt of a containment isolation signal (CIS), the iodine filtration train will start automatically, outside air supply to the CRE area is diverted through the iodine filtration train, a minimum recirculation flowrate is established from the CRE area to the iodine filtration train, and a positive pressure is maintained in the CRE area relative to the adjacent areas.

6.3 The CRACS is capable of detecting smoke in the outside air inlet duct, and alerting operators to take manual actions.

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

6.5 The CRACS provides conditioned air to the CRE area to maintain the temperature within design limits of the CRE during normal operations, abnormal and accident conditions of the plant.

6.6 The CREF heaters protect the carbon adsorber from high humidity during operation of the CREF unit.

6.7 Upon receipt of a high radioactivity signal from the radiation monitors (R-29, R-30), the iodine filtration train will start automatically, the outside air supply to the CRE area is diverted through the iodine filtration train, a minimum CRE recirculation flowrate is established from the CRE area to the iodine filtration train, and a positive pressure is maintained in the CRE area relative to the adjacent areas.

6.8 Deleted.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.6.1-3 lists the CRACS ITAAC.

Table 2.6.1-1—CRACS Equipment Mechanical Design
Sheet 1 of 4

Description	Tag Number(1)	Location	ASME AG-1 Code	Function	Seismic Category
Fresh Air Intake Trains 30SAB01 and 30SAB04					
Motor Operated Dampers	30SAB01AA002 30SAB04AA002	Safeguard Building 2 Safeguard Building 3	Yes	Open	I
Electric Heaters	30SAB01AH001 30SAB04AH001	Safeguard Building 2 Safeguard Building 3	Yes	On / Off	I
Motor Operated Dampers	30SAB01AA003 30SAB04AA003 30SAB01AA004 30SAB04AA004	Safeguard Building 2 Safeguard Building 3	Yes	Close	I
Prefilters	30SAB01AT001 30SAB04AT001	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Motor Operated Dampers	30SAB01AA012 30SAB04AA012	Safeguard Building 2 Safeguard Building 3	Yes	Open / Close	I

Table 2.6.1-1—CRACS Equipment Mechanical Design
Sheet 2 of 4

Description	Tag Number(1)	Location	ASME AG-1 Code	Function	Seismic Category
Iodine Filtration Trains 30SAB11 and 30SAB14					
Motor Operated Dampers (Recirculation from CRE)	30SAB11AA004 30SAB14AA004	Safeguard Building 2 Safeguard Building 3	Yes	Open	I
Motor Operated Dampers	30SAB11AA001 30SAB11AA003 30SAB14AA001 30SAB14AA003	Safeguard Building 2 Safeguard Building 2 Safeguard Building 3 Safeguard Building 3	Yes	Open	I
Electric Heaters	30SAB11AH001 30SAB14AH001	Safeguard Building 2 Safeguard Building 3	Yes	On / Off	I
Prefilters	30SAB11AT001 30SAB14AT001	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
HEPA Filters	30SAB11AT002 30SAB14AT002	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Carbon Adsorbers	30SAB11AT003 30SAB14AT003	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Post Filters	30SAB11AT004 30SAB14AT004	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Moisture Separators	30SAB11AT005 30SAB14AT005	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Motor Operated Damper	30SAB11AA003 30SAB14AA003	Safeguard Building 2 Safeguard Building 3	Yes	Open	I
Supply Air Fans	30SAB11AN001 30SAB14AN001	Safeguard Building 2 Safeguard Building 3	Yes	Run	I
Backdraft Dampers	30SAB11AA002 30SAB14AA002	Safeguard Building 2 Safeguard Building 3	Yes	Open / Close	I

Table 2.6.1-1—CRACS Equipment Mechanical Design
Sheet 3 of 4

Description	Tag Number(1)	Location	ASME AG-1 Code	Function	Seismic Category
Backdraft Dampers	30SAB11AA005 30SAB14AA005	Safeguard Building 2 Safeguard Building 3	Yes	Open / Close	I
Recirculation and Air Conditioning Trains 30SAB01 and 30SAB04					
Air Cooling Coils	30SAB01AC001 30SAB04AC001	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Moisture Separators	30SAB01AT004 30SAB04AT004	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Supply Air Fans	30SAB01AN001 30SAB04AN001	Safeguard Building 2 Safeguard Building 3	Yes	Run	I
Final Filters	30SAB01AT005 30SAB04AT005	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Backdraft Dampers	30SAB01AA011 30SAB04AA011	Safeguard Building 2 Safeguard Building 3	Yes	Open / Close	I
Recirculation and Air Conditioning Trains 30SAB02 and 30SAB03					
Air Cooling Coils	30SAB02AC001 30SAB03AC001	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Moisture Separators	30SAB02AT004 30SAB03AT004	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Supply Air Fans	30SAB02AN001 30SAB03AN001	Safeguard Building 2 Safeguard Building 3	Yes	Run	I
Final Filters	30SAB02AT005 30SAB03AT005	Safeguard Building 2 Safeguard Building 3	Yes	N/A	I
Backdraft Dampers	30SAB02AA011 30SAB03AA011	Safeguard Building 2 Safeguard Building 3	Yes	Open / Close	I

Table 2.6.1-1—CRACS Equipment Mechanical Design
Sheet 4 of 4

Description	Tag Number(1)	Location	ASME AG-1 Code	Function	Seismic Category
Kitchen and Sanitary Exhaust 30SAB45					
Motor Operated Damper	30SAB45AA003	Safeguard Building 2	Yes	Close	I
Motor Operated Damper	30SAB45AA004	Safeguard Building 2	Yes	Close	I
Backdraft damper	30SAB45AA006	Safeguard Building 2	Yes	Close	I
MCR Air Supply 30SAB32					
Electric Heaters	30SAB32AH001 30SAB32AH002 30SAB32AH003 30SAB32AH004 30SAB32AH005 30SAB32AH006 30SAB32AH007	Safeguard Building 2	Yes	On / Off	I
MCR Air Exhaust 30SAB42					
Motor Operated Dampers	30SAB42AA001 30SAB42AA002	Safeguard Building 2	Yes	Open	I

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

Table 2.6.1-2—CRACS Equipment I&C and Electrical Design
Sheet 1 of 6

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

Table 2.6.1-2—CRACS Equipment I&C and Electrical Design
Sheet 2 of 6

Description	Tag Number(1)	Location	IEEE Class 1E (2)	PACS	MCR / RSS Displays	MCR / RSS Controls
Motor Operated Damper	30SAB04AA004	Safeguard Building 3	4^N 3^A	Yes	Position / Position	Open-Close / Open-Close
Iodine Filtration Train 30SAB11						
Motor Operated Damper (Recirculation from CRE)	30SAB11AA004	Safeguard Building 2	1^N 2^A	Yes	Position / Position	Open-Close / Open-Close
Motor Operated Damper	30SAB11AA001	Safeguard Building 2	1^N 2^A	Yes	Position / Position	Open-Close / Open-Close
Electric Heater	30SAB11AH001	Safeguard Building 2	1^N 2^A	Yes	On-Off / On-Off	Start-Stop / Start-Stop
Motor Operated Damper	30SAB11AA003	Safeguard Building 2	1^N 2^A	Yes	Position / Position	Open-Close / Open-Close
Supply Air Fan	30SAB11AN001	Safeguard Building 2	1^N 2^A	Yes	On-Off / On-Off	Run-Stop / Run-Stop
Iodine Filtration Train 30SAB14						
Motor Operated Damper (Recirculation from CRE)	30SAB14AA004	Safeguard Building 3	4^N 3^A	Yes	Position / Position	Open-Close / Open-Close
Motor Operated Damper	30SAB14AA001	Safeguard Building 3	4^N 3^A	Yes	Position / Position	Open-Close / Open-Close
Electric Heater	30SAB14AH001	Safeguard Building 3	4^N 3^A	Yes	On-Off / On-Off	Start-Stop / Start-Stop

Table 2.6.1-2—CRACS Equipment I&C and Electrical Design
Sheet 3 of 6

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

Table 2.6.1-2—CRACS Equipment I&C and Electrical Design
Sheet 4 of 6

Description	Tag Number(1)	Location	IEEE Class 1E (2)	PACS	MCR / RSS Displays	MCR / RSS Controls
Kitchen and Sanitary Exhaust 30SAB45						
Motor Operated Damper	30SAB45AA003	Safeguard Building 2	1^N 2^A	Yes	Position / Position	Open-Close / Open-Close
Motor Operated Damper	30SAB45AA004	Safeguard Building 2	4^N 3^A	Yes	Position / Position	Open-Close / Open-Close
MCR Air Exhaust 30SAB42						
Motor Operated Damper	30SAB42AA001	Safeguard Building 2	1^N 2^A	Yes	Position / Position	Open-Close / Open-Close
Motor Operated Damper	30SAB42AA002	Safeguard Building 2	4^N 3^A	Yes	Position / Position	Open-Close / Open-Close
Instruments						
Differential Pressure across 30SAB11 Iodine Train Filters	30SAB11CP001	Safeguard Building 2	N/A	N/A	Press / Press	N/A
Differential Pressure across 30SAB14 Iodine Train Filters	30SAB14CP001	Safeguard Building 3	N/A	N/A	Press / Press	N/A
Differential Pressure between Main Control Room and Adjacent Rooms	30SAB32CP001 30SAB32CP002 30SAB32CP003	Safeguard Building 2	N/A	N/A	Press / Press	N/A
Iodine Filtration Train Flow	30SAB11CF001 30SAB14CF001	Safeguard Building 2 Safeguard Building 3	N/A	N/A	Flow / Flow	N/A

Table 2.6.1-2—CRACS Equipment I&C and Electrical Design
Sheet 5 of 6

Description	Tag Number(1)	Location	IEEE Class 1E (2)	PACS	MCR / RSS Displays	MCR / RSS Controls
Protective Switch-off Temperature for Electric Heaters	30SAB01CT002 30SAB04CT002	Safeguard Building 2 Safeguard Building 3	N/A	N/A	Temp / Temp	N/A
Temperature Downstream of Electric Heaters	30SAB01CT003/004 30SAB04CT003/004	Safeguard Building 2 Safeguard Building 3	N/A	N/A	Temp / Temp	N/A
Main Control Room Temperature	30SAB32CT002 30SAB32CT003	Safeguard Building 2	N/A	N/A	Temp / Temp	N/A
Temperature Downstream of Iodine Train Heaters	30SAB11CT002 30SAB14CT002	Safeguard Building 2 Safeguard Building 3	N/A	N/A	Temp / Temp	N/A
Temperature Upstream of Iodine Train Heaters	30SAB11CT001 30SAB14CT001	Safeguard Building 2 Safeguard Building 3	N/A	N/A	Temp / Temp	N/A
Temperature Upstream of Electric Heaters	30SAB01CT001 30SAB04CT001	Safeguard Building 2 Safeguard Building 3	N/A	N/A	Temp / Temp	N/A
Temperature Downstream of Carbon Adsorber	30SAB11CT003 30SAB14CT003	Safeguard Building 2 Safeguard Building 3	N/A	N/A	Temp / Temp	N/A
Conditioning Trains Air Flow	30SAB01/02CF001 30SAB03/04CF001	Safeguard Building 2 Safeguard Building 3	N/A	N/A	Flow / Flow	N/A
Radiation Monitors (R-29)	30KLK65CR001	Safeguard Building 2	4^{N} 3^{A}	N/A	Radioactivity level / Radioactivity level	N/A
Radiation Monitors (R-29)	30KLK65CR002	Safeguard Building 3	2^{N} 1^{A}	N/A	Radioactivity level / Radioactivity level	N/A

Table 2.6.1-2—CRACS Equipment I&C and Electrical Design
Sheet 6 of 6

Description	Tag Number(1)	Location	IEEE Class 1E (2)	PACS	MCR / RSS Displays	MCR / RSS Controls
Radiation Monitors (R-30)	30KLK66CR001	Safeguard Building 2	1^{N} 2^{A}	N/A	Radioactivity level / Radioactivity level	N/A
Radiation Monitors (R-30)	30KLK66CR002	Safeguard Building 3	3^{N} 4^{A}	N/A	Radioactivity level / Radioactivity level	N/A

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

2. ^{N} denotes division the equipment is normally powered from, while ^{A} denotes division the equipment is powered from when alternate feed is implemented.

Table 2.6.1-3—Main Control Room Air Conditioning System ITAAC
Sheet 1 of 8

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
2.1	The functional arrangement of the CRACS is as described in the Design Description of Section 2.6.1, Tables 2.6.1-1 and 2.6.1-2, and as shown on Figures 2.6.1-1, 2.6.1-2, and 2.6.1-3.	An inspection of the as-built CRACS functional arrangement will be performed.	The CRACS conforms to the functional arrangement as described in the Design Description of Section 2.6.1, Tables 2.6.1-1 and 2.6.1-2, and as shown on Figures 2.6.1-1, 2.6.1-2, and 2.6.1-3.
2.2	Deleted.	Deleted.	Deleted.

Table 2.6.1-3—Main Control Room Air Conditioning System ITAAC
Sheet 2 of 8

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
2.3	Physical separation exists between the CRACS fresh air intake, iodine filtration, and recirculation and air conditioning trains as listed in Table 2.6.1-1.	An inspection will be performed to verify that the as-built CRACS fresh air intake, iodine filtration, and recirculation and air conditioning trains are located in separate rooms of Safeguard Buildings 2 and 3.	Physical separation exists between the as-built CRACS fresh air intake, iodine filtration, and recirculation and air conditioning trains as follows: ● The CRACS fresh air intake train 30SAB01, iodine filtration train 30SAB11, and recirculation and air conditioning train 30SAB01 as listed in Table 2.6.1-1 are located in room 2UJK31034 of Safeguard Building 2. ● The CRACS fresh air intake train 30SAB04, iodine filtration train 30SAB14, and recirculation and air conditioning train 30SAB04 as listed in Table 2.6.1-1 are located in room 2UJK31034 of Safeguard Building 3. ● The CRACS recirculation and air conditioning train 30SAB02 as listed in Table 2.6.1-1 is located in room 2UJK31035 of Safeguard Building 2. ● The CRACS recirculation and air conditioning train 30SAB03 as listed in Table 2.6.1-1 is located in room 2UJK31035 of Safeguard Building 3.
3.1	Deleted.	Deleted.	Deleted.

Table 2.6.1-3—Main Control Room Air Conditioning System ITAAC
Sheet 3 of 8

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
3.2	Class 1E dampers listed in Table 2.6.1-2 will function to change position as listed in Table 2.6.1-1 under normal operating conditions.	Tests will be performed to verify the ability of Class 1E dampers to change position under normal operating conditions.	Class 1E dampers listed in Table 2.6.1-2 change position as listed in Table 2.6.1-1 under normal operating conditions.
3.3	Equipment identified as Seismic Category I in Table 2.6.1-1 can withstand seismic design basis loads without a loss of safety function(s).	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 2.6.1-1 using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements. b. An inspection will be performed of the as-built equipment identified as Seismic Category I in Table 2.6.1-1 to verify that the equipment, including anchorage, are installed in a condition bounded by the tested or analyzed condition.	a. Test/analysis reports conclude that the equipment identified as Seismic Category I in Table 2.6.1-1 can withstand seismic design basis loads without a loss of safety function(s). b. Inspection reports conclude that the equipment identified as Seismic Category I in Table 2.6.1-1, including anchorage, are installed in a condition bounded by the tested or analyzed condition.
3.4	Deleted.	Deleted.	Deleted.
3.5	Deleted.	Deleted.	Deleted.
3.6	Equipment listed in Table 2.6.1-1 as ASME AG-1 Code are fabricated, installed, inspected, and tested in accordance with ASME AG-1 Code requirements.	An inspection of the as-built construction activities and documentation for ASME AG-1 Code equipment will be conducted.	A report concludes that ASME AG-1 Code equipment listed in Table 2.6.1-1 are fabricated, installed, inspected, and tested in accordance with ASME AG-1 Code requirements.

Table 2.6.1-3—Main Control Room Air Conditioning System ITAAC
Sheet 4 of 8

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.1	Displays listed in Table 2.6.1-2 are indicated on the PICS operator workstations in the MCR and the RSS.	a. Tests will be performed to verify that the displays listed in Table 2.6.1-2 are indicated on the PICS operator workstations in the MCR. b. Tests will be performed to verify that the displays listed in Table 2.6.1-2 are indicated on the PICS operator workstations in the RSS.	a. Displays listed in Table 2.6.1-2 are indicated on the PICS operator workstations in the MCR. b. Displays listed in Table 2.6.1-2 are indicated on the PICS operator workstations in the RSS.
4.2	Controls on the PICS operator workstations in the MCR and the RSS perform the function listed in Table 2.6.1-2.	a. Tests will be performed using controls on the PICS operator workstations in the MCR. b. Tests will be performed using controls on the PICS operator workstations in the RSS.	a. Controls on the PICS operator workstations in the MCR perform the function listed in Table 2.6.1-2. b. Controls on the PICS operator workstations in the RSS perform the function listed in Table 2.6.1-2.
4.3	Equipment listed as being controlled by a PACS module in Table 2.6.1-2 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 2.6.1-2 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 2.6.1-3—Main Control Room Air Conditioning System ITAAC
Sheet 5 of 8

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
5.1	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.	a. Testing will be performed by providing a test input signal in each normally aligned division. b. Testing will be performed by providing a test input signal in each division with the alternate feed aligned to the divisional pair.	a. The test input signal provided in the normally aligned division is present at the respective Class 1E equipment identified in Table 2.6.1-2. 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 2.6.1-2.
5.2	Deleted.	Deleted.	Deleted.
6.1	The CRACS maintains a positive pressure in the CRE area relative to the outside environment and adjacent areas, while operating in a design basis accident alignment.	A test will be performed using test input signals to verify that the CRACS maintains a positive pressure in the CRE area relative to the outside environment and adjacent areas, while operating in a design basis accident alignment.	The CRACS maintains a positive pressure of greater than or equal to 0.125 inches water gauge in the CRE area relative to the outside environment and adjacent areas, while operating in a design basis accident alignment.

Table 2.6.1-3—Main Control Room Air Conditioning System ITAAC
Sheet 6 of 8

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
6.2	Upon receipt of a containment isolation signal, the iodine filtration train will start automatically, outside air supply to the CRE area is diverted through the iodine filtration train, a minimum recirculation flowrate is established from the CRE area to the iodine filtration train and a positive pressure is maintained in the CRE area relative to the adjacent areas.	a. A test will be performed to verify, upon receipt of a containment isolation test input signal, that the iodine filtration train will start automatically; and the outside air supply to the CRE area is diverted through the iodine filtration train. A test will be performed separately for each iodine filtration train using test input signals.	a. Upon receipt of a containment isolation test input signal from the PACS module, the iodine filtration trains start automatically within 60 seconds and the outside air supply to the CRE area is diverted through the iodine filtration train.
		b. A test will be performed to verify that upon receipt of a containment isolation test input signal, a minimum recirculation flowrate is established from the CRE area to the iodine filtration train. A test will be performed separately for each iodine filtration train using test input signals.	b. Upon receipt of a containment isolation test input signal from the PACS module, a recirculation flowrate of greater than or equal to 3000 scfm is established from the CRE area to the iodine filtration train.
		c. A test will be performed using test input signals to verify that upon receipt of a containment isolation test input signal, the CRACS maintains a positive pressure in the CRE area relative to the adjacent areas.	c. Upon receipt of a containment isolation test input signal from the PACS module, the CRACS maintains a pressure of greater than or equal to 0.125 inches water gauge in the CRE area relative to the adjacent areas.
6.3	The CRACS is capable of detecting smoke in the outside air inlet duct, and alerting operators to take manual actions.	A test of the CRACS smoke detection sensors and alarms will be performed.	Upon receipt of a smoke detection signal, an alarm sounds in the MCR.

Table 2.6.1-3—Main Control Room Air Conditioning System ITAAC
Sheet 7 of 8

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
6.4	The CRE area ventilation unfiltered air in-leakage is minimized in order to maintain the MCR habitability.	A test will be performed to measure the unfiltered air in-leakage inside the CRE area boundary.	The unfiltered air in-leakage inside the CRE area boundary is less than or equal to 40 scfm.
6.5	The CRACS provides conditioned air to the CRE area to maintain the temperature within design limits of the CRE during normal operations, abnormal and accident conditions of the plant.	a. Tests and analysis will be performed to verify the CRACS heating and cooling capability. b. A test of the CRACS fans will be performed to verify that the air flow is greater than the approved design requirement.	a. The CRACS system is capable of providing heating and cooling capacity sufficient to provide conditioned air to maintain the temperature within design limits of the CRE during plant normal operations, abnormal and accident conditions. b. Each CRACS fan meets the design air flow requirements during plant normal operations, abnormal and accident conditions.
6.6	The CREF heaters protect the carbon adsorber from high humidity during operation of the CREF unit.	Tests and analysis of the CREF heaters will be performed to verify the CREF heaters protect the carbon adsorber from high humidity during operation of the CREF unit.	a. The CREF heaters energize during operation of the CREF unit and each CREF heater provides equal to or, greater than, its required design heating capacity. b. A report concludes that CREF heaters protect the carbon adsorber from high humidity during operation of the CREF unit.

Table 2.6.1-3—Main Control Room Air Conditioning System ITAAC
Sheet 8 of 8

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
6.7	Upon receipt of a high radioactivity signal from the radiation monitors (R-29, R-30), the iodine filtration train will start automatically, the outside air supply to the CRE area is diverted through the iodine filtration train, a minimum CRE recirculation flowrate is established from the CRE area to the iodine filtration train, and a positive pressure is maintained in the CRE area relative to the adjacent areas.	a. A test will be performed to verify that the iodine filtration train will start automatically; and the outside air supply to the CRE area is diverted through the iodine filtration train upon receipt of a high radioactivity signal from the radiation monitors (R-29, R-30).	a. The iodine filtration train starts automatically within 60 seconds and the outside air supply is diverted through the iodine filtration train upon receipt of a high radioactivity signal from the radiation monitors (R-29, R-30) using an established trip setpoint.
		b. A test will be performed to verify that a minimum CRE recirculation flowrate for each iodine filtration train is achieved upon receipt of a high radioactivity signal from the radiation monitors (R-29, R-30).	b. A CRE recirculation flowrate of greater than or equal to 3,000 scfm is established from the CRE area to the iodine filtration train upon receipt of a high radioactivity signal from the radiation monitors (R-29, R-30) using an established trip setpoint.
		c. A test will be performed to verify that a positive pressure is maintained in the CRE area relative to the adjacent areas upon receipt of a high radioactivity signal from the radiation monitors (R-29, R-30).	c. A positive pressure of greater than or equal to 0.125 inches water gauge is maintained in the CRE area relative to the adjacent areas upon receipt of a high radioactivity signal from the radiation monitors (R-29, R-30) using an established trip setpoint.
6.8	Deleted.	Deleted.	Deleted.

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