2.4.4 Safety Automation System

1.0 Description

The safety automation system (SAS) provides control and monitoring of safety systems.

The SAS provides the following safety related functions:

- Provides control and monitoring of systems required to transfer the plant to cold shutdown and maintain it in this state following an anticipated operational occurrence (AOO) or postulated accident (PA).
- Provides control and monitoring of safety-related functions of auxiliary support systems.
- Provides safety interlock functions.

2.0 Arrangement

2.1 SAS equipment is located as listed in Table 2.4.4-1—Safety Automation System Equipment.

2.2 Physical separation exists between the four divisions of the SAS.

2.3 Physical separation exists between Class 1E SAS equipment and non-Class 1E equipment.

3.0 Mechanical Design Features

3.1 Equipment identified as Seismic Category I in Table 2.4.4-1 can withstand seismic design basis loads without loss of safety function.

4.0 I&C Design Features, Displays and Controls

4.1 Class 1E SAS equipment can perform its safety function when subjected to electromagnetic interference (EMI), radio-frequency interference (RFI), electrostatic discharges (ESD), and power surges.

4.2 The SAS receives input signals from the sources listed in Table 2.4.4-2—Safety Automation System Input Signals.

4.3 The SAS provides the output signals listed in Table 2.4.4-3—Safety Automation System Output Signals.

4.4 The SAS provides the interlocks listed in Table 2.4.4-4—Safety Automation System Interlocks.

4.5 The SAS system design and application software are developed using a process composed of six lifecycle phases with each phase having outputs which must conform to the requirements of that phase. The six lifecycle phases are the following:

1. Basic Design Phase.
2. Detailed Design Phase.
3. Manufacturing Phase.
4. System Integration and Testing Phase.
5. Installation and Commissioning Phase.
6. Final Documentation Phase.

4.6 Electrical isolation is provided on connections between the four SAS divisions.

4.7 Electrical isolation is provided on connections between SAS equipment and non-Class 1E equipment.

4.8 Communications independence is provided between the four SAS divisions.

4.9 Communications independence is provided between SAS equipment and non-Class 1E equipment.

4.10 The SAS is designed so that safety-related functions required for AOOs or PAs are performed in the presence of the following:

- Single detectable failures within the SAS.
- Failures caused by the single failure.
- Failures and spurious system actions that cause or are caused by the AOO or PA requiring the safety function.

4.11 The equipment for each SAS division is distinctly identified and distinguishable from other identifying markings placed on the equipment, and the identifications do not require frequent use of reference material.

4.12 Locking mechanisms are provided on the SAS cabinet doors. Opened SAS cabinet doors are indicated in the MCR.

4.13 CPU state switches are present at the SAS cabinets to restrict modifications to the SAS software.

4.14 The SAS is capable of performing its safety function when one of the SAS divisions is out of service. Out of service divisions of SAS are indicated in the MCR.

4.15 The operational availability of each input variable listed can be confirmed during reactor operation including post-accident periods.

4.16 Deleted.

4.17 Hardwired disconnects exist between the service unit (SU) and each divisional monitoring and service interface (MSI) of the SAS. The hardwired disconnects prevent the connection of the SU to more than a single division of the SAS.

4.18 The SAS performs the automatic functions listed in Table 2.4.4-5—Safety Automation System Automatic Functions.

5.0 Electrical Power Design Features

5.1 Class 1E SAS components are powered from a Class 1E division in a normal or alternate feed condition.

6.0 System Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.4.4-6 lists the SAS ITAAC.

Table 2.4.4-1—Safety Automation System Equipment

Description	Tag Number (1)	Location	Seismic Category	IEEE Class 1E(2)
SAS Cabinets, Division 1	30DRA1	Safeguard Building 1	I	1^N 2^A
SAS Cabinets, Division 2	30DRA2	Safeguard Building 2	I	2^N 1^A
SAS Cabinets, Division 3	30DRA3	Safeguard Building 3	I	3^N 4^A
SAS Cabinets, Division 4	30DRA4	Safeguard Building 4	I	4^N 3^A

1) Equipment Tag numbers are provided for information and are not part of the design certification.

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

Table 2.4.4-2—Safety Automation System Input Signals

Item #	Signal	Source	# Divisions	IEEE Class 1E
1	Steam Generator Pressure	Signal Conditioning and Distribution System (SCDS)	4	Yes
2	Main Steam Relief Control Valve Position	Priority and Actuator Control System (PACS)	4	Yes
3	Neutron Flux from Power Range Detector (PRD) for Nuclear Power Calculation	SCDS	4	Yes
4	Main Steam Relief Isolation Valve Position	PACS	4	Yes
5	Steam Generator Level (WR)	SCDS	4	Yes
6	Emergency Feedwater Flow	SCDS	4	Yes

Table 2.4.4-3—Safety Automation System Output Signals

Item #	Output Signal	Recipient	# Divisions
1	EFW Flow Control Valve Position Signal	PACS	4
2	EFW SG Level Control Valve Position Signal	PACS	4
3	Main Steam Relief Control Valve Signal	PACS	4

Table 2.4.4-4—Safety Automation System Interlocks

Isolation of Component Cooling Water System (CCWS) Trains

Table 2.4.4-5—Safety Automation System Automatic Functions (4 Sheets)

System	Function Name
Annulus Ventilation System (AVS)	Accident Filtration Train Heater Control
Annulus Ventilation System (AVS)	Accident Train Switchover
Component Cooling Water System (CCWS)	CCWS Common 1.b Automatic Backup Switchover of Train 1 to Train 2
Component Cooling Water System (CCWS)	CCWS Common 1.b Automatic Backup Switchover of Train 2 to Train 1
Component Cooling Water System (CCWS)	CCWS Common 2.b Automatic Backup Switchover of Train 3 to Train 4
Component Cooling Water System (CCWS)	CCWS Common 2.b Automatic Backup Switchover of Train 4 to Train 3
Component Cooling Water System (CCWS)	CCWS Emergency Temperature Control
Component Cooling Water System (CCWS)	CCWS Emergency Leak Detection
Component Cooling Water System (CCWS)	CCWS Switchover Valve Interlock
Component Cooling Water System (CCWS)	CCWS RCP Thermal Barrier Containment Isolation Valve Interlock
Component Cooling Water System (CCWS)	CCWS Switchover Valves Leakage or Failure
Component Cooling Water System (CCWS)	CCWS Condenser Supply Water Flow Control
Emergency Feedwater System (EFWS)	SG Closed Loop Level Control
Emergency Feedwater System (EFWS)	EFW Pump Flow Control
Essential Service Water System (ESWS)	Automatic ESWS Actuation from CCWS Start
Essential Service Water Pump Building Ventilation System (ESWPBVS)	Remove Heat Generated by Essential Service Water Equipment
Fuel Building Ventilation System (FBVS)	Safety-related Room Heater Control

Table 2.4.4-5—Safety Automation System Automatic Functions (4 Sheets)

System	Function Name
Fuel Building Ventilation System (FBVS)	Maintain Ambient Conditions for EBS and FPCS pump rooms (Recirculation Coolers)
Fuel Pool Cooling and Purification System (FPCPS)	Fuel Pool Cooling Pump Trip On Low SFP Level
In-Containment Refueling Water Storage Tank System (IRWST)	IRWST Boundary Isolation for Preserving IRWST Water Inventory
Main Control Room Air Conditioning System (CRACS)	Iodine Filtration Train Heater Control
Main Control Room Air Conditioning System (CRACS)	Heater Control for Outside Inlet Air
Main Control Room Air Conditioning System (CRACS)	Pressure Control
Main Control Room Air Conditioning System (CRACS)	Cooler Temperature Control
Main Steam System (MSS)	Steam Generator MSRCV Regulation during Standby Position Control
Main Steam System (MSS)	Steam Generator MSRCV Regulation during Pressure Control
Safeguard Building Controlled-Area Ventilation System (SBVS)	SIS/RHRS Pump Rooms Heat Removal
Safeguard Building Controlled-Area Ventilation System (SBVS)	SIS/RHRS Valve Rooms Heat Removal
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Supply and Recirculation Exhaust Air Flow Control
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Supply Fan Safe Shut-off
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Recirculation/Exhaust Fan Safe Shut-off
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Exhaust Fan Safe Shut-off

Table 2.4.4-5—Safety Automation System Automatic Functions (4 Sheets)

System	Function Name
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Supply Air Temperature
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Freeze Protection – Supply Air Temperature
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Freeze Protection – Heat Tracing
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Supply Air Temperature Control for Cooling
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Supply Air Temperature Control for Supply Air Heating
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Battery Room Temperature Control
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Battery Room Supply Air Temperature
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Emergency Feedwater Pump Room Heat Removal
Electrical Division of Safeguard Building Ventilation System (SBVSE)	Component Cooling Water System Rooms Heat Removal
Safety Chilled Water System (SCWS)	SCWS Train 1 to Train 2 Switchover on Train 1 Low Evaporator Flow
Safety Chilled Water System (SCWS)	SCWS Train 2 to Train 1 Switchover on Train 2 Low Evaporator Flow
Safety Chilled Water System (SCWS)	SCWS Train 3 to Train 4 Switchover on Train 3 Low Evaporator Flow
Safety Chilled Water System (SCWS)	SCWS Train 4 to Train 3 Switchover on Train 4 Low Evaporator Flow
Safety Chilled Water System (SCWS)	SCWS Train 1 to Train 2 Switchover on Train 1 Chiller Black Box Internal Fault
Safety Chilled Water System (SCWS)	SCWS Train 2 to Train 1 Switchover on Train 2 Chiller Black Box Internal Fault

Table 2.4.4-5—Safety Automation System Automatic Functions (4 Sheets)

System	Function Name
Safety Chilled Water System (SCWS)	SCWS Train 3 to Train 4 Switchover on Train 3 Chiller Black Box Internal Fault
Safety Chilled Water System (SCWS)	SCWS Train 4 to Train 3 Switchover on Train 4 Chiller Black Box Internal Fault
Safety Chilled Water System (SCWS)	SCWS Train 2 to Train 1 Switchover on Loss of Ultimate Heat Sink (LUHS)/CCWS
Safety Chilled Water System (SCWS)	SCWS Train 3 to Train 4 Switchover on Loss of Ultimate Heat Sink (LUHS)/CCWS
Safety Chilled Water System (SCWS)	SCWS Train 1 to Train 2 Switchover on LOOP Re-start Failure
Safety Chilled Water System (SCWS)	SCWS Train 2 to Train 1 Switchover on LOOP Re-start Failure
Safety Chilled Water System (SCWS)	SCWS Train 3 to Train 4 Switchover on LOOP Re-start Failure
Safety Chilled Water System (SCWS)	SCWS Train 4 to Train 3 Switchover on LOOP Re-start Failure
Safety Chilled Water System (SCWS)	SCWS Chiller Evaporator Water Flow Control (Trains 1 and 4)
Safety Injection and Residual Heat Removal System (SIS/RHRS)	Automatic RHRS Flow Rate Control
Safety Injection and Residual Heat Removal System (SIS/RHRS)	Automatic Trip of LHSI Pump (in RHR Mode) on Low ΔPsat
Safety Injection and Residual Heat Removal System (SIS/RHRS)	Automatic Trip of LHSI Pump (in RHR Mode) on Low Loop Level
Safety Injection and Residual Heat Removal System (SIS/RHRS)	LHSI Valves Actuation Based on RHRS Alignment

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
2.1	SAS equipment is located as listed in Table 2.4.4-1.	Inspections will be performed of the location of the SAS equipment.	The SAS equipment listed in Table 2.4.4-1 is located as listed in Table 2.4.4-1.
2.2	Physical separation exists between the four divisions of the SAS.	Inspections will be performed to verify that the divisions of the SAS are located in separate Safeguard Buildings.	The four divisions of the SAS are located in separate Safeguard Buildings as listed in Table 2.4.4-1.
2.3	Physical separation exists between Class 1E SAS equipment and non-Class 1E equipment.	a. Design analyses will be performed to determine the required safety-related structures, separation distance, barriers, or any combination thereof to achieve adequate physical separation between Class 1E SAS equipment and non-Class 1E equipment. b. Inspections will be performed to verify that the required safety-related structures, separation distance, barriers, or any combination thereof exist between Class 1E SAS equipment and non-Class 1E equipment.	a. A report exists and defines the required safety-related structures, separation distance, barriers, or any combination thereof to achieve adequate physical separation between Class 1E SAS equipment and non-Class 1E equipment. b. The required safety-related structures, separation distance, barriers, or any combination thereof exist between Class 1E SAS equipment and non-Class 1E equipment. Reconciliation is performed of any deviations to the design.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
3.1	Equipment identified as Seismic Category I in Table 2.4.4-1 can withstand seismic design basis loads without loss of safety function.	a. Type tests, analyses, or a combination of type tests and analyses will be performed on the equipment listed as Seismic Category I in Table 2.4.4-1 using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements. b. Inspections will be performed of the Seismic Category I equipment listed in Table 2.4.4-1 to verify that the equipment including anchorage is installed as specified on the construction drawings.	a. Tests/analysis reports exist and conclude that the equipment listed as Seismic Category I in Table 2.4.4-1 can withstand seismic design basis loads without loss of safety function. b. Inspection reports exist and conclude that the Seismic Category I equipment listed in Table 2.4.4-1 including anchorage is installed as specified on the construction drawings.
4.1	Class 1E SAS equipment can perform its safety function when subjected to EMI, RFI, ESD, and power surges.	Type tests or type tests and analysis of these will be performed for the Class 1E equipment listed in Table 2.4.4-1.	A report exists and concludes that the equipment identified as Class 1E in Table 2.4.4-1 can perform its safety function when subjected to electromagnetic interference EMI, RFI, ESD, and power surges.
4.2	The SAS receives input signals from the sources listed in Table 2.4.4-2.	Tests will be performed to verify the existence of input signals.	The SAS receives input signals from the sources listed in Table 2.4.4-2.
4.3	The SAS provides the output signals listed in Table 2.4.4-3.	Tests will be performed to verify the existence of output signals.	The SAS provides output signals to the recipients listed in Table 2.4.4-3.
4.4	The SAS provides the interlocks listed in Table 2.4.4-4.	Tests will be performed using test signals to verify the operation of the interlocks listed in Table 2.4.4-4.	The interlocks listed in Table 2.4.4-4 respond as specified when activated by a test signal.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.5	The SAS system design and application software are developed using a process composed of six lifecycle phases, with each phase having outputs which must conform to the requirements of that phase. The six lifecycle phases are the following: 1) Basic Design Phase. 2) Detailed Design Phase. 3) Manufacturing Phase. 4) System Integration and Testing Phase 5) Installation and Commissioning Phase. 6) Final Documentation Phase.	a. Analyses will be performed to verify that the outputs for the SAS basic design phase conform to the requirements of that phase. b. Analyses will be performed to verify that the outputs for the SAS detailed design phase conform to the requirements of that phase. c. Analyses will be performed to verify that the outputs for the SAS manufacturing phase conform to the requirements of that phase. d. Analyses will be performed to verify that the outputs for the SAS system integration and testing phase conform to the requirements of that phase. e. Analyses will be performed to verify that the outputs for the SAS installation and commissioning phase conform to the requirements of that phase.. f. Analyses will be performed to verify that the outputs for the SAS final documentation phase conform to the requirements of that phase.	a. A report exists and concludes that the outputs conform requirements of the basic design phase of the SAS. b. A report exists and concludes that the outputs conform to requirements of the detailed design phase of the SAS. c. A report exists and concludes that the outputs conform to the requirements of the manufacturing phase of the SAS. d. A report exists and concludes that the outputs conform to the requirements of the system integration and testing phase of the SAS. e. A report exists and concludes that the outputs conform to the requirements of the installation and commissioning phase of the SAS. f. A report exists and concludes that the outputs conform to the requirements of the final documentation phase of the SAS.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.6	Electrical isolation is provided on connections between the four SAS divisions.	a. Analyses will be performed to determine the test specification for electrical isolation devices on connections between the four SAS divisions.	a. A test plan exists that provides the test specification for determining whether a device is capable of preventing the propagation of credible electrical faults on connections between the four SAS divisions.
		b. Type tests, analyses, or a combination of type tests and analyses will be performed on the electrical isolation devices between the four SAS divisions.	b. A report exists and concludes that the Class 1E isolation devices used between the four SAS divisions prevent the propagation of credible electrical faults.
		c. Inspections will be performed on connections between the four SAS divisions.	c. Class 1E electrical isolation devices exist on connections between the four SAS divisions.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.7	Electrical isolation is provided on connections between SAS equipment and non-Class 1E equipment.	a. Analyses will be performed to determine the test specification for electrical isolation devices on connections between SAS equipment and non-Class 1E equipment.	a. A test plan exists that provides the test specification for determining whether a device is capable of preventing the propagation of credible electrical faults on connections between SAS equipment and non-Class 1E equipment.
		b. Type tests, analyses, or a combination of type tests and analyses will be performed on the electrical isolation devices between SAS equipment and non-Class 1E equipment.	b. A report exists and concludes that the Class 1E isolation devices used between SAS equipment and non-Class 1E equipment prevent the propagation of credible electrical faults.
		c. Inspections will be performed on connections between SAS equipment and non-Class 1E equipment.	c. Class 1E electrical isolation devices exist on connections between SAS equipment and non-Class 1E equipment.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.8	Communications independence is provided between the four SAS divisions.	Tests, analyses, or a combination of tests and analyses will be performed on the SAS equipment.	A report exists and concludes that: • The SAS function processors do not interface directly with a network. Separate communication processors interface directly with the network. • Separate send and receive data channels are used in both the communications processor and the SAS function processor. • The SAS function processors operate in a strictly cyclic manner. • The SAS function processors operate asynchronously from the SAS communications processors.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.9	Communications independence is provided between SAS equipment and non-Class 1E equipment.	Tests, analyses, or a combination of tests and analyses will be performed on the SAS equipment.	A report exists and concludes that: • Data communications between SAS function processors and non-Class 1E equipment is through a Monitoring and Service Interface (MSI). • The MSI do not interface directly with a network. Separate communication modules interface directly with the network. • Separate send and receive data channels are used in both the communications modules and the MSI. • The MSI operate in a strictly cyclic manner. • The MSI operate asynchronously from the communications modules. • The SAS uses a hardware device to ensure that unidirectional signals are sent to non-safety-related I&C systems.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.10	The SAS is designed so that safety-related functions required for AOOs or PAs are performed in the presence of the following: • Single detectable failures within the SAS. • Failures caused by the single failure. • Failures and spurious system actions that cause or are caused by the AOO or PA requiring the safety function.	A failure modes and effects analysis will be performed on the SAS at the level of replaceable modules and components.	A report exists and concludes that the SAS is designed so that safety-related functions required for AOOs or PAs are performed in the presence of the following: • Single detectable failures within the SAS concurrent with identifiable but non-detectable failures. • Failures caused by the single failure. • Failures and spurious system actions that cause or are caused by the AOO or PA requiring the safety function.
4.11	The equipment for each SAS division is distinctly identified and distinguishable from other identifying markings placed on the equipment, and the identifications do not require frequent use of reference material.	Inspections will be performed on the SAS equipment to verify that the equipment for each SAS division is distinctly identified and distinguishable from other markings placed on the equipment and that the identifications do not require frequent use of reference material.	The equipment for each SAS division is distinctly identified and distinguishable from other identifying markings placed on the equipment, and the identifications do not require frequent use of reference material.
4.12	Locking mechanisms are provided on the SAS cabinet doors. Opened SAS cabinet doors are indicated in the MCR.	a. Inspections will be performed to verify the existence of locking mechanisms on the SAS cabinet doors. b. Tests will be performed to verify the proper operation of the locking mechanisms on the SAS cabinet doors. c. Tests and inspections will be performed to verify an indication exists in the MCR when a SAS cabinet door is in the open position.	a. Locking mechanisms exist on the SAS cabinet doors. b. The locking mechanisms on the SAS cabinet doors operate properly. c. Opened SAS cabinet doors are indicated in the MCR.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.13	CPU state switches are present at the SAS cabinets to restrict modifications to the SAS software.	a. Inspections will be performed to verify the existence of CPU state switches that restrict modifications to the SAS software. b. Tests will be performed to verify that the CPU state switches restrict modifications to the SAS software.	a. CPU state switches are provided at the SAS cabinets. b. CPU state switches at the SAS cabinets restrict modifications to the SAS software.
4.14	The SAS is capable of performing its safety function when one of the SAS divisions is out of service. Out of service divisions of SAS are indicated in the MCR.	a. A test of the SAS will be performed to verify the SAS can perform its safety function when one of the SAS divisions is out of service. b. Inspections will be performed to verify the existence of indication in the MCR when a SAS division is placed out of service.	a. The SAS can perform its safety functions when one of the SAS divisions is out of service. b. Out of service divisions of SAS are indicated in the MCR.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.15	The operational availability of each input variable can be confirmed during reactor operation including post-accident periods.	Analysis will be performed to demonstrate that the operational availability of each input variable listed in Table 2.4.4-2 can be confirmed during reactor operation including post-accident periods by one of the following methods: • By perturbing the monitored variable. • By introducing and varying, a substitute input of the same nature as the measured variable. • By cross-checking between channels that bear a known relationship to each other. • By specifying equipment that is stable and the period of time it retains its calibration during post-accident conditions.	A report exists and concludes that the operational availability of each input variable listed in Table 2.4.4-2 can be confirmed during reactor operation including post-accident periods by one of the following methods: • By perturbing the monitored variable. • By introducing and varying, a substitute input of the same nature as the measured variable. • By cross-checking between channels that bear a known relationship to each other. • By specifying equipment that is stable and the period of time it retains its calibration during post-accident conditions.
4.16	Deleted.	Deleted.	Deleted.
4.17	Hardwired disconnects exist between the SU and each divisional MSI of the SAS. The hardwired disconnects prevent the connection of the SU to more than a single division of the SAS.	a. Inspections will be performed on the SAS to verify the existence of hardwired disconnects between the SU and each divisional MSI of SAS. b. Tests will be performed on the SAS to verify that the hardwired disconnects prevent the connection of the SU to more than a single division of the SAS.	a. Hardwired disconnects exist between the SU and each divisional MSI of the SAS. b. The hardwired disconnects prevent the connection of the SU to more than a single division of the SAS.
4.18	The SAS performs automatic functions listed in Table 2.4.4-5.	Tests will be performed using test signals to verify the operation of automatic functions listed in Table 2.4.4-5.	The SAS generates the correct output signals for each automatic function listed in Table 2.4.4-5.

Table 2.4.4-6—Safety Automation System ITAAC
(11 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
5.1	Class 1E SAS components are powered from a Class 1E division in a normal or alternate feed condition.	a. Testing will be performed for components identified as Class 1E in Table 2.4.4-1 by providing a test signal in each normally aligned division. b. Testing will be performed for components identified as Class 1E in Table 2.4.4-1 by providing a test signal in each division with the alternate feed aligned to the divisional pair.	a. The test signal provided in the normally aligned division is present at the respective Class 1E components identified in Table 2.4.4-1. b. The test signal provided in each division with the alternate feed aligned to the divisional pair is present at the respective Class 1E components identified in Table 2.4.4-1.

Next File