

3.0 Nonsystem Based Design Descriptions and ITAAC

3.1 Security

The physical security program provides physical features to detect, delay, assist response to, and defend against the design basis threat (DBT) for radiological sabotage.

3.1.1 Design Features

- 1.1 Vital equipment is located only within a vital area.
- 1.2 Isolation zones and exterior areas within the protected area are provided with illumination to permit assessment in the isolation zones and observation of activities within exterior areas of the protected area.
- 1.3 The external walls, doors, ceiling and floors in the main control room (MCR), central alarm station, and secondary alarm station are bullet resistant.
- 1.4 The central and secondary alarm stations are equipped such that no single act, in accordance with the DBT of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to (1) detect and assess alarms, (2) initiate and coordinate an adequate response to alarms, (3) summon offsite assistance, and (4) provide effective command and control.
- 1.5 Both the central and secondary alarm stations are located, protected, and equipped to the standards for the central alarm station (alarm stations need not be identical but shall be equal and redundant, capable of performing all functions required of alarm stations).
- 1.6 The vehicle barrier system is located at the necessary stand-off distance to protect against the DBT vehicle bombs.
- 1.7 The perimeter intrusion detection system provides detection of penetration or attempted penetration of the protected area perimeter barrier before completed penetration of the barrier, and for subsequent alarms to annunciate concurrently in at least two onsite alarm stations (central and secondary alarm stations).
- 1.8 Unoccupied vital areas are equipped with locking devices and intrusion detection devices that annunciate in the central and secondary alarm stations.
- 1.9 The perimeter assessment equipment provides video image recording with real-time and playback capability that provides ability to assess detected activities before and after each alarm annunciation at the protected area perimeter barrier.
- 1.10 The intrusion detection and assessment equipment at the protected area perimeter remain operable from an uninterruptible power supply in the event of the loss of normal power.

- 1.11 Intrusion detection equipment and video assessment equipment annunciates and displays concurrently in at least two onsite alarms stations (central and secondary alarm stations).
- 1.12 The central and secondary alarm stations are located inside the protected area so that the interiors of both alarm stations are not visible from the perimeter of the protected area.
- 1.13 The alarm system does not allow the status of a detection point, locking mechanism or access control device to be changed without the knowledge and concurrence of the alarm station operator in the other alarm station.
- 1.14 Intrusion detection and assessment systems provide visual display and audible annunciation of alarms in both the central and secondary alarm stations.
- 1.15 The secondary security power supply system for alarm annunciator equipment and non-portable communications equipment is located within a vital area.
- 1.16 Nonportable communications equipment in the central and secondary alarm stations remain operable from an independent power source in the event of loss of normal power.
- 1.17 Security alarm devices, including transmission lines to annunciators, are tamper-indicating and self-checking (e.g. an automatic indication is provided when failure of the alarm system or a component occurs or when on standby power), and alarm annunciation indicates the type of alarm (e.g., intrusion alarms, emergency exit alarm) and location.
- 1.18 Intrusion detection systems recording equipment records onsite security alarm annunciation including the location of the alarm, false alarm, alarm check, and tamper indication and the type of alarm, location, alarm circuit, date, and time.
- 1.19 Emergency exits through the vital area boundaries are alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.
- 1.20 The central and secondary alarm stations have conventional (land line) telephone service with the control room and local law enforcement authorities.
- 1.21 The central and secondary alarm stations are capable of continuous communication with on-duty security force personnel.

3.1.2 Interface Requirements

- 2.1 Access to vital equipment requires passage through at least two physical barriers.
- 2.2 Physical barriers for the protected area perimeter are not part of vital area barriers.
- 2.3 Penetrations through the protected area barrier are secured and monitored.

- 2.4 Unattended openings that intersect a security boundary, such as underground pathways, are protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.
- 2.5 Isolation zones exist in outdoor areas adjacent to the physical barrier, at the perimeter of the protected area, that allow 20 feet of observation and assessment on either side of the barrier.
- 2.6 Areas where permanent buildings do not allow sufficient observation distance between the intrusion detection system and the protected area barrier (e.g., the building walls are immediately adjacent to, or an integral part of the protected area barrier) are monitored with intrusion detection and assessment equipment that detects the attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier and assessment of detected activities.
- 2.7 Isolation zones are monitored with intrusion detection and assessment equipment that is capable of providing detection and assessment of activities within the isolation zone.
- 2.8 Deleted.
- 2.9 The external walls, doors, ceiling and floors in the last access control function for access to the protected area are bullet resistant.
- 2.10 Access control points are established to control personnel and vehicle access into the protected area.
- 2.11 Access control points are established with equipment for the detection of firearms, explosives, incendiary devices, or other items which can be used to commit radiological sabotage at the protected area personnel access points.
- 2.12 A security access control system with a numbered photo identification badge system is installed for use by individuals who are authorized access to protected areas and vital areas without escort.
- 2.13 Emergency exits through the protected area perimeter are alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.

3.1.3 Inspections, Tests, Analyses, and Acceptance Criteria

Certain documentation of security features will be SGI, which has restricted availability under 10 CFR 73.21. The phrase “a report exists and concludes” is used in security-related ITAAC to indicate that a non-SGI executive summary with the applicable conclusions exists and will be part of the ITAAC closure. This non-SGI executive summary is supported by a separate SGI document which contains the salient details leading to the conclusions of the non-SGI executive summary.

Table 3.1-1 lists the security ITAAC.

**Table 3.1-1—Security ITAAC
Sheet 1 of 5**

	Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.1	Vital equipment is located only within a vital area.	Inspections of vital equipment will be performed.	Vital equipment is located only within a vital area.
1.2	Isolation zones and exterior areas within the protected area are provided with illumination to permit assessment in the isolation zones and observation of activities within exterior areas of the protected area.	Tests, inspections, or a combination of tests and inspections of the illumination in the isolation zones and external areas within the protected area will be performed.	Illumination in isolation zones and exterior areas within the protected area is at least 0.2 foot candles measured horizontally at ground level.
1.3	The external walls, doors, ceiling and floors in the main control room (MCR), central alarm station, and secondary alarm station are bullet resistant.	Type test, analysis, or a combination of type test and analysis will be performed to demonstrate the external walls, doors, ceilings and floors in the MCR, central alarm station, and secondary alarm station are bullet resistant.	A report exists and concludes that the external walls, doors, ceilings and floors in the MCR, central alarm station, and secondary alarm station are bullet resistant to at least UL Ballistic Standard 752, “The Standard of Safety for Bullet-Resisting Equipment,” Level 4.
1.4	The central and secondary alarm stations are equipped such that no single act, in accordance with the DBT of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to (1) detect and assess alarms, (2) initiate and coordinate an adequate response to alarms, (3) summon offsite assistance, and (4) provide effective command and control.	Tests, inspections, or a combination of tests and inspections of the central and secondary alarm stations will be performed.	The central and secondary alarm stations are equipped such that no single act, in accordance with the DBT of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to (1) detect and assess alarms, (2) initiate and coordinate an adequate response to alarms, (3) summon offsite assistance, and (4) provide effective command and control.

**Table 3.1-1—Security ITAAC
Sheet 2 of 5**

	Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.5	Both the central and secondary alarm stations are located, protected, and equipped to the standards for the central alarm station (alarm stations need not be identical in design but shall be equal and redundant, capable of performing all functions required of alarm stations).	Tests, inspections, or a combination of tests and inspections of the central and secondary alarm stations will be performed.	The central and secondary alarm stations are located, protected, and equipped to the standards of the central alarm station and are functionally redundant (Stations need not be identical in design.)
1.6	The vehicle barrier system is located at the necessary stand-off distance to protect against the DBT vehicle bombs.	Inspections of the vehicle barrier system will be performed.	The vehicle barrier system will protect against the DBT vehicle bombs based on the stand-off distance for the system.
1.7	The perimeter intrusion detection system provides detection of penetration or attempted penetration of the protected area perimeter barrier before completed penetration of the barrier, and for subsequent alarms to annunciate concurrently in at least two onsite alarm stations (central and secondary alarm stations).	Tests, inspections, or a combination of tests and inspections of the intrusion detection system will be performed.	The intrusion detection system can detect penetration or attempted penetration of the protected area perimeter barrier before completed penetration of the barrier, and subsequent alarms annunciate concurrently in at least two onsite alarms stations (central and secondary alarm stations).
1.8	Unoccupied vital areas are equipped with locking devices and intrusion detection devices that annunciate in the central and secondary alarm stations.	Tests, inspections, or a combination of tests and inspections of unoccupied vital area intrusion detection equipment and locking devices will be performed.	Unoccupied vital areas are locked and alarmed and intrusion is detected and annunciated in both the central and secondary alarm stations.
1.9	The perimeter assessment equipment provides video image recording with real-time and playback capability that provides ability to assess detected activities before and after each alarm annunciation at the protected area perimeter barrier.	Tests, inspections, or a combination of tests and inspections of the video assessment equipment will be performed.	The perimeter assessment equipment is capable of real-time and playback video image recording that provides ability to assess detected activities before and after each alarm annunciation at the protected area perimeter barrier.

**Table 3.1-1—Security ITAAC
Sheet 3 of 5**

	Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.10	The intrusion detection and assessment equipment at the protected area perimeter remain operable from an uninterruptible power supply in the event of the loss of normal power.	Tests, inspections, or a combination of tests and inspections of the uninterruptible power supply will be performed.	Intrusion detection and assessment equipment at the protected area perimeter remains operable from an uninterruptible power supply in the event of the loss of normal power.
1.11	Intrusion detection equipment and video assessment equipment annunciates and displays concurrently in at least two onsite alarms stations (central and secondary alarm stations).	Tests, inspections, or a combination of tests and inspections of intrusion detection equipment and video assessment equipment will be performed.	Intrusion detection equipment and video assessment equipment annunciate and display concurrently in at least two onsite alarm stations (central and secondary alarm stations).
1.12	Central and secondary alarm stations are located inside the protected area so that the interiors of both alarm stations are not visible from the perimeter of the protected area.	The central and secondary alarm station locations will be inspected.	The central and secondary alarm stations are located inside the protected area, and the interiors of both alarm stations are not visible from the perimeter of the protected area.
1.13	The alarm system does not allow the status of a detection point, locking mechanism or access control device to be changed without the knowledge and concurrence of the alarm station operator in the other alarm station.	Tests, inspections, or a combination of tests and inspections of intrusion detection equipment and access control equipment will be performed.	The alarm system does not allow the status of a detection point, locking mechanism or access control device to be changed without the knowledge and concurrence of the alarm station operator in the other alarm station.
1.14	Intrusion detection and assessment systems provide visual display and audible annunciation of alarms in both the central and secondary alarm stations.	Intrusion detection and assessment systems will be tested.	The intrusion detection systems provide a visual display and audible annunciation of all alarms concurrently in at least two onsite alarms stations (central and secondary alarm stations).
1.15	The secondary security power supply system for alarm annunciator equipment and non-portable communications equipment is located within a vital area.	The secondary security power supply system will be inspected.	The secondary security power system for alarm annunciator equipment and non-portable communications equipment is located within a vital area.

**Table 3.1-1—Security ITAAC
Sheet 4 of 5**

	Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.16	Nonportable communications equipment in the central and secondary alarm stations remains operable from an independent power source in the event of loss of normal power.	Tests, inspections, or a combination of tests and inspections of the nonportable communications equipment will be performed.	All nonportable communication devices (including conventional telephone systems) in the central and secondary alarm stations are wired to an independent power supply that enables those systems to remain operable (without disruption) during the loss of normal power.
1.17	Security alarm devices, including transmission lines to annunciators, are tamper-indicating and self-checking (e.g. an automatic indication is provided when failure of the alarm system or a component occurs or when on standby power), and alarm annunciation indicates the type of alarm (e.g., intrusion alarms, emergency exit alarm) and location.	Security alarm devices and transmission lines will be tested.	Security alarm devices including transmission lines to annunciators are tamper-indicating and self-checking; an automatic indication is provided when failure of the alarm system or a component occurs or when the system is on standby power; and the alarm annunciation indicates the type of alarm and location.
1.18	Intrusion detection systems recording equipment records onsite security alarm annunciation including the location of the alarm, false alarm, alarm check, and tamper indication and the type of alarm, location, alarm circuit, date, and time.	The intrusion detection systems recording equipment will be tested.	Intrusion detection systems recording equipment is capable of recording each onsite security alarm annunciation including the location of the alarm, false alarm, alarm check, and tamper indication and the type of alarm, location, alarm circuit, date, and time.
1.19	Emergency exits through the vital area boundaries are alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.	Tests, inspections, or a combination of tests and inspections of emergency exits through the vital area boundaries will be performed.	Emergency exits through the vital area boundaries are alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.

**Table 3.1-1—Security ITAAC
Sheet 5 of 5**

	Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.20	The central and secondary alarm stations have conventional (land line) telephone service with the control room and local law enforcement authorities.	Tests, inspections, or a combination of tests and inspections of the central and secondary alarm stations' conventional (land line) telephone service will be performed.	The central and secondary alarm stations are equipped with conventional (land line) telephone service with the control room and local law enforcement authorities.
1.21	The central and secondary alarm stations are capable of continuous communication with on-duty security force personnel.	Tests, inspections, or a combination of tests and inspections of the central and secondary alarm stations' continuous communication capabilities will be performed.	The central and secondary alarm stations are capable of continuous communication with on-duty watchmen, armed security officers, armed responders, or other security personnel who have responsibilities within the physical protection program and during contingency response events.