

**13.6****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. The standard design features of the U.S. EPR that enhance security can be found in Technical Report ANP-10296, "U.S. EPR Design Features that Enhance Security."

A COL applicant that references the U.S. EPR design certification will provide a site-specific security assessment that adequately demonstrates how the performance requirements of 10 CFR 73.55(a) are met for the initial implementation of the security program. The Security Assessment is Safeguards Information (SGI) and therefore is restricted from public release under 10 CFR 73.21. The site specific Security Assessment addresses identification of vital equipment, development of target sets, vulnerability assessments, defensive analyses, design features to enhance security, the portions of the NRC orders to the current operating plants that impact U.S. EPR design, and the other security features of the U.S. EPR that establish the security system design.

A COL applicant that references the U.S. EPR design certification will provide a security plan to the NRC to fulfill the requirements of 10 CFR 52.79(a)(35). The security plan consists of the Physical Security Plan (PSP), the guard force training and qualification (T&Q) plan, and the safeguards contingency plan. The security plan is SGI and therefore is restricted from public release under 10 CFR 73.21.

A COL applicant that references the US EPR design certification will provide a security program, through the PSP and supporting documents such as the Vital Equipment List and the Vital Areas list, that incorporates the following security features:

**13.6.1****Protected Area and Vital Areas**

1. Vital equipment is located only within a Vital Area. Vital Areas boundaries are physical barriers with access controls provided for each of the points of entry.
2. Locations of vital equipment have been identified in the Vital Equipment List as found in Appendix A of Technical Report ANP-10295, "U.S. EPR Security Features." This document is Safeguards Information (SGI) and therefore is restricted from public release under 10 CFR 73.21.
3. Access to vital equipment requires passage through at least two physical barriers as defined in 10 CFR 73.2(a). The first substantial barrier between an adversary and a Vital Area is the Protected Area boundary which is described by the COL applicant in the site-specific PSP. The second substantial boundary is the Vital Area boundary. The description of the Vital Area boundary, and minimum separation between Vital Area and Protected Area boundary, can be found in Section 1.0 of Technical Report ANP-10295, "U.S. EPR Security Features." The COL applicant will describe the Protected Area boundary in the site-specific PSP.

4. Physical barriers for Protected Area perimeter are not also part of Vital Area boundary. The COL applicant will demonstrate that the Protected Area boundary is separate from the Vital Area boundaries in the site-specific PSP.
5. Isolation zones are maintained in outdoor areas adjacent to the Protected Area boundary which permits observation of 20 feet on either side of the boundary. Where permanent buildings do not allow a 20 foot observation distance on the inside of the Protected Area, the building walls are immediately adjacent to, or an integral part of, the Protected Area barrier. The COL applicant will describe the Isolation Zones in the site-specific PSP.
6. The external walls, doors, windows, ceiling, and floors in the main control room, central alarm station, and the last access control function for access to the Protected Area are bullet resistant to at least a UL Level 4 round. Descriptions of the applicable sections of walls, floors and ceilings of the main control room and the central alarm station as well as the minimum concrete thickness for bullet resistance to a UL Level 4 round are found in Section 3.0 of Technical Report ANP-10295, "U.S. EPR Security Features." Doors into the main control room and the central alarm station are UL rated as resistant to at a least a Level 4 round. The interior of the CAS cannot be observed from the Protected Area perimeter.
7. The walls, ceiling, and floor of the last access control function for access to the Protected Area are commensurate with the minimum concrete thickness listed in Section 3.0 of Technical Report ANP-10295, "U.S. EPR Security Features." Doors and windows into the last access control function for access to the Protected Area are UL rated as resistant to at a least a Level 4 round.

### **13.6.2 Security Power System**

1. The secondary security power supply system for alarm annunciator equipment and non-portable communications equipment is located within a Vital Area. The description of the Security Power System can be found in Section 2.0 of Technical Report ANP-10295, "U.S. EPR Security Features."

### **13.6.3 Security Detection, Surveillance and Lighting**

1. The intrusion detection system detects penetration or attempted penetration of the Protected Area barrier. Detection is defined as the generation of an alarm in the security alarm station. Performance testing of installed equipment is conducted to assure detection in not less than 96% of the attempts (48 of 50 attempts).
2. Exterior areas within the Protected Area are illuminated to 0.2 foot-candles where necessary to permit observation and detection. The exterior lighting is provided by offsite power and backed by a highly reliable onsite generator which starts upon loss of offsite power. The description of the Security Power System can be found in Section 2.0 of Technical Report ANP-10295, "U.S. EPR Security Features."

#### **13.6.4 Security Alarm System**

1. The Security Computer System is a subsystem of the Security System which interfaces with other security equipment and subsystems. The Plant Security Computer System provides complete alarm and event assessment software functionality for all security applications, access control, badging, personnel, security doors, Intrusion Detection System, complete biometric integration, historical, and reporting requirements.
2. The Security Computer System shall annunciate all alarms in both a continuously manned central alarm station (CAS) and in the continuously manned secondary alarm station (SAS), so that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm.
3. The Security Computer System shall employ tamper indicating and self-checking provisions to identify errant operation. Redundant CPUs shall be provided to ensure reliable system operation in the event of a single failure and during maintenance efforts on one of the processor systems. Each CPU monitors the status of the other and reports any errors detected. The automatic switchover logic is designed to avoid contention for master processor status.
4. The Plant Security Computer shall be located within a Vital Area; physical access to equipment shall be restricted to authorized personnel.
5. The Security Computer System has the capability to interface with individual video components and the distribution system.
6. Unoccupied Vital Areas are equipped with locks that can be locked and are alarmed with intrusion detection systems that annunciate in the central and secondary alarm stations upon intrusion into a Vital Area.
7. The security alarm system will record each onsite alarm annunciation including the location of each alarm, false alarm, alarm check, and tamper indication to include the type of alarm, location, alarm circuit, date, and time.
8. Emergency exits from the Protected Area and from Vital Areas are alarmed and annunciate in the central and secondary alarm stations.

#### **13.6.5 Security Communications System**

1. Alarm stations have conventional telephone service as well as alternate means for communication with law enforcement authorities.
2. Alarm stations have capability for continuous communication capability with security personnel that are expected to respond to security events.

#### **13.6.6 Security Access Control System**

1. The site will authorize Protected Area access using an security access control system. The system is capable of identifying and authorizing Protected Area access

only to those personnel with unescorted access authorization. The PSP requires the use of a numbered picture badge.

2. Vehicle control measures are in place through the PSP which includes vehicle barrier systems (VBS) to protect against malevolent use of a land vehicle. The VBS will be located at a minimum distance from each vital structure as listed in Section 4.0 of Technical Report ANP-10295, "U.S. EPR Security Features."
3. The Access Control system will promptly report and record all alarm points including intrusions, tampers and trouble conditions.
4. Access points are used to control personnel and vehicle access into Protected Area including detection of firearms, explosives, and incendiary devices. The personnel and vehicle access points will ensure the PA boundary remains intact during personnel and vehicle ingress or egress.