U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

13.6.3 PHYSICAL SECURITY – EARLY SITE PERMIT AND REACTOR SITING CRITERIA

REVIEW RESPONSIBILITIES

Primary - Organization responsible for the review of physical security

Secondary - None

I. AREAS OF REVIEW

This section provides guidance for the review of early site permit (ESP) applications for physical security. The staff review is limited to the evaluation of how the applicant met the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," Subpart A, "Early Site Permit," 10 CFR 52.17(a)(1)(x). This paragraph requires the applicant to provide information demonstrating that site characteristics are such that adequate security plans and measures can be developed.

Similar to the requirement for an ESP application, each construction permit (CP) application under 10 CFR 50.34a, "Design Objectives for Equipment to Control Releases of Radioactive Material in Effluents—Nuclear Power Reactors," requires that the Preliminary Safety Analysis

Report (PSAR) considers the site evaluation factors identified in 10 CFR Part 100, "Reactor Site Criteria," and the site characteristic must comply with this regulation. The requirement of 10 CFR 100.21(f) requires that the site characteristics must permit adequate security plans and measures to be developed. The intent of the review is to determine if adequate security plans and measures meeting the performance and prescriptive regulatory requirements of 10 CFR Part 73, "Physical Protection of Plants and Materials," for a nuclear power reactor can be developed.

Regulations in 10 CFR 52.17(d) requires that each applicant for an ESP shall protect Safeguards Information (SGI) against unauthorized disclosure in accordance with the requirements in 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements," and 10 CFR 73.22, "Protection of Safeguards Information: Specific Requirements."

The regulatory basis for the staff's review is established by the requirements of 10 CFR 52.18, "Standards for Review of Applications," which state, in relevant part, that "applications (early site permit) filed under this subpart (A) will be reviewed according to the applicable standards set out in 10 CFR Part 50 and its appendices and 10 CFR Part 100.

The staff will:

1. Review whether information demonstrating that site characteristics are such that adequate security plans and measures can be developed, the application conforms to guidance applicable to an ESP, and any alternative means proposed to demonstrate compliance with 10 CFR 52.17(a)(1)(x) and 100.21(f) are acceptable. Because the scope of the ESP review is limited to determining whether the site characteristics are such that adequate security plans and measures can be developed, details on how the performance and prescriptive requirements in 10 CFR Part 73 will be met are not within the required scope of an ESP review. The Commission's Review Standard (RS)-002, "Processing Application for Early Site Permits," established by SECY-03-0227, dated March 15, 2004, (Agencywide Documents Access and Management System (ADAMS) Access No. ML032340334) provides the framework and guidance intended for effective, efficient, and consistent reviews. Attachment 2, "Scope and Associated Review Criteria for Site Safety Assessment," Note No. 2, references letters to three prospective ESP applicants (ADAMS Accession Nos. ML030980003, ML030980029, and ML030980083) that provided general guidance on security information that should be included in ESP applications. The attachment states that U.S. Nuclear Regulatory Commission (NRC) security orders (i.e., those issued to operating reactors after the events of September 11, 2001) do not form parts of the licensing basis of the ESP. The SRP Section 2, "Site Characteristics and Site Parameters," (Section 2.1.1 through 2.5.5) currently captures guidance in RS-002 that is approved by Staff Requirements Memorandum (SRM) – SECY-03-0227, "Review Standard RS-002, "Processing Applications for Early Site Permits," dated March 15, 2004.

2. Review the interfaces with a combined license (COL) application by examining any site characteristics that must be considered in the designs of a physical protection system, development of administrative controls, and plans and development of security organization and management systems.

Scope of the Technical Review for Physical Security

1. At a minimum, information sufficiently detailed is provided to demonstrate that site characteristics will support the development of security plans and measures, such as the development of engineering controls (i.e., physical security systems) and administrative controls (operational requirements) for the design of a physical protection system (i.e., detection, assessment, communications, and response for interdiction and neutralization) meeting the requirements of 10 CFR Part 73. The key standards and criteria for the design of and operational requirements for physical security are set forth in 10 CFR 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage." The scope of the ESP review includes how the site characteristics may affect the development of engineered controls, operational requirements, and management systems and determining whether potential challenges and impediments can be overcome to develop security plans and measures. However, review of detailed descriptions of how specific performance and prescriptive requirements will be met or implemented are not within the scope of review and are reserved for a COL application.

2. Based on the staff review guidance in RS-002, general guidance, initially, provided by letters to prospective applicants, and subsequently established SRP Sections 2.1.1 through 2.5.5, the review should include the considerations of applicant's information addressing key site characteristics that may interface with physical security systems required under 10 CFR Part 73. It confirms whether the application demonstrates that engineering and administrative controls and any management systems that may be applied in meeting performance and prescriptive requirements in 10 CFR 73.55 and programs described in appendices to 10 CFR Part 73 for security plans and measures can be developed. Where site characteristics potentially present challenges or impediments, the review includes the information and identification of specific site design parameters, conditions, or limitations that must be considered.

3. The NRC regulations are performance-based (i.e., they establish an end state and allow an applicant to determine how it has achieved high assurance of protection against the design-basis threat (DBT)). Thus, the security plans and measures may be based on any approaches or methods that meet requirements for the design of a physical protection system and program that can address possible effects of the site characteristics on the security of a nuclear power plant. In general, the organizational structures and management systems developed for security plans are not affected by site characteristics. Therefore, the scope of technical review will focus primarily on key or significant site characteristics that may challenge or pose impediments and potentially require special considerations in the design of a physical protection system. The key elements of a physical protection system consist of capabilities for detection, assessment, communications, and security response for interdiction and neutralization of threats up to and including the DBT.

4. Table 1, "Site Characteristics Potentially Affecting Engineered and Administrative Controls for Physical Security," identifies site characteristics that are considered for potential effects on developing security plans under the requirements in 10 CFR Part 73. Within the scope and under the requirements of 10 CFR 52.17, the staff reviews ESP applicant demonstrations that site characteristics do not present impediments to meeting requirements. The following site characteristics assessed for an ESP application are

considered for their possible effects on developing security plans and measures for a physical security program:

Table 1 - Site Characteristics Potentially Affecting Engineered and Administrative Controls or Management Systems for Physical Security

Site Characteristics Element No.	Site Characteristics	Potentially Affected Security Plans and Measures	Regulatory Requirements, Standards, and Criteria for Developing Security Plans and Measures
1	Site Location • Distance from the reactor or reactors to site boundary lines within the exclusion area • Highways, railroads, and waterways that traverse the PA, OCA, and exclusion area • Remoteness of site from material, equipment, and services	• Designs and designations of owner controlled areas (OCA), protected area (PA), isolation zones, and vital areas (VA) security boundaries • Designs and specification of physical barriers to protect against land-based and waterborne assaults and vehicle bombs • Organizations and management systems for support and logistics required to maintain security capabilities at all times	10 CFR 73.55(b) 10 CFR 73.55(d) 10 CFR 73.55(e) 10 CFR 73.55(g) 10 CFR 73.55(h) 10 CFR 73.55(i) 10 CFR 73.55(j) 10 CFR 73.55(k) 10 CFR 73.55(n) 10 CFR 73.55(o) 10 CFR 73.55(x) Appendix B to 10 CFR Part 73 Appendix C to 10 CFR Part 73
2	Hazardous material in vicinity, onsite, and nearby industrial, military, and transportation facilities (chemicals, flammable, explosives, radioactive, etc.)	• Designs, specifications, and configurations of the following security structures, systems, and components in anticipated hazards or environments to perform intended security functions: o Intrusion detection	10 CFR 73.55(b) 10 CFR 73.55(d) 10 CFR 73.55(e) 10 CFR 73.55(g) 10 CFR 73.55(h) 10 CFR 73.55(i) 10 CFR 73.55(j) 10 CFR 73.55(k) 10 CFR 73.55(n) 10 CFR 73.55(o) 10 CFR 73.55(x)

Site Characteristics Element No.	Site Characteristics	Potentially Affected Security Plans and Measures	Regulatory Requirements, Standards, and Criteria for Developing Security Plans and Measures
		○ Assessment ○ Alarm stations ○ Illuminations ○ Communications ○ Physical barriers ○ Access controls ○ Defensive-fighting positions ○ Engineered weapons systems • Protection of security personnel from hazards for implementing security plans and measures: ○ Personnel protective equipment ○ Training ○ Contingency response	Appendix B to 10 CFR Part 73 Appendix C to 10 CFR Part 73
3	Regional Climatology and Local Site Meteorology • General climate, seasonal and annual severe weather, and meteorological conditions—high and low pressure systems, wind direction and speeds, snow and ice load, hurricanes, tornadoes, waterspouts, wind, thunderstorms, lighting, hail, snow, freezing rain, ice storm, sand storms, temperatures,	• Designs, specifications, and configurations of the following security structures, systems, and components as previously indicated above. Provides protection against anticipated severe weather conditions and environments. • Protection of security personnel from hazards to implement administrative	10 CFR 73.55(b) 10 CFR 73.55(d) 10 CFR 73.55(e) 10 CFR 73.55(g) 10 CFR 73.55(h) 10 CFR 73.55(i) 10 CFR 73.55(j) 10 CFR 73.55(k) 10 CFR 73.55(n) 10 CFR 73.55(o) 10 CFR 73.55(x) Appendix B to 10 CFR Part 73 Appendix C to 10 CFR Part 73

Site Characteristics Element No.	Site Characteristics	Potentially Affected Security Plans and Measures	Regulatory Requirements, Standards, and Criteria for Developing Security Plans and Measures
	precipitation, fog, atmospheric stability, etc. • Terrain modification, heat and moisture sources caused by plant operations • Topography modified by the structures of a nuclear power plant or plants that might be constructed on the proposed site, including the site boundary.	controls for security plans and measures (personnel protective equipment and training, contingencies, etc.). • Operational requirements and maintaining security response required for interdiction and neutralization in anticipated severe weather conditions and environments.	
4	Floods and Low Water Conditions • High water (floods from streams or rivers, surges and seiches, hurricane and wind-induced, meteorologically induced in inland lakes and at costal harbors and embayment, seismically induced tsunami, dam failures, landslides, stream blockage, ice loading or accumulations (ice jam, wind-driven ice bridges, other produced forces or blockages)) • Low water conditions, from natural or manmade causes	• Designs, specifications, and configurations of the following security structures, systems, and components against anticipated environmental conditions, as previously indicated above. • Protection of security personnel from hazards to implement administrative controls for security plans and measures (personnel protective equipment and training, contingencies, etc.)	10 CFR 73.55(b) 10 CFR 73.55(d) 10 CFR 73.55(e) 10 CFR 73.55(g) 10 CFR 73.55(h) 10 CFR 73.55(i) 10 CFR 73.55(j) 10 CFR 73.55(k) 10 CFR 73.55(n) 10 CFR 73.55(o) 10 CFR 73.55(x) Appendix B to 10 CFR Part 73 Appendix C to 10 CFR Part 73

Site Characteristics Element No.	Site Characteristics	Potentially Affected Security Plans and Measures	Regulatory Requirements, Standards, and Criteria for Developing Security Plans and Measures
	(severe drought, landslides, stream blockage, ice jam, drought, low tide, mining, dams, etc.)	• Operational requirements and maintaining security response required for interdiction and neutralization in anticipated environmental conditions • Designs, specifications, and configurations of security structures, defensive fighting positions and physical barrier systems, including systems provided to protect against threats under maximum credible flood conditions and potential low water conditions	
5	Geological and Seismology • Vibratory ground motion • Surface faulting • Stability of subsurface material and foundation • Stability of slopes	Designs, specifications, and configurations of the security structures, systems, and components against postulated maximum credible seismic events Protection of security personnel from seismic hazards for implementing security plans and measures	10 CFR 73.55(b) 10 CFR 73.55(d) 10 CFR 73.55(e) 10 CFR 73.55(g) 10 CFR 73.55(h) 10 CFR 73.55(i) 10 CFR 73.55(j) 10 CFR 73.55(k) 10 CFR 73.55(n) 10 CFR 73.55(o) 10 CFR 73.55(x) Appendix B to 10 CFR Part 73 Appendix C to 10 CFR Part 73

Physical security technical reviewers should interact with other staff reviewing an applicant's assessment of site characteristics to evaluate the possible effect of site characteristics. The ESP applicant assessment of site characteristics, potential external events (natural and

manmade hazards), and environmental conditions considered for nuclear safety and environmental protection (e.g., systems for preventing radioactive liquid and air effluent discharges, etc.) for a nuclear reactor at the proposed site are considered in determining if they pose similar or unique challenges and impediments. The review confirms whether security plans and measures can be developed.

Inspections, Tests, Analyses, and Acceptance Criteria:

The ESP application should not propose Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC), in accordance with Standard Review Plan (SRP) Section 14.3, "Inspections, Tests, Analyses, and Acceptance Criteria." The reason is SRP Section 14.3.12, "Physical Security–Inspections, Tests, Analyses, and Acceptance Criteria," for physical security hardware, is specific to the verifying the construction, installations, and performances of physical security systems based on designs and specifications captured in a certified design and a COL application. The review and documentation of physical security ITAAC are not established in the regulatory basis for the approval of an ESP and therefore not within the scope of review described in this SRP.

COL Information Items and Permit Requirements and Restrictions:

The ESP application review will include site characteristics, and their interface with postulated site design parameters, that the COL applicant should consider in developing security measures and plans. A COL information item may not be necessary if regulations explicitly require submission of information or performance of actions being considered for an information item (e.g., physical security must consider probable maximum flooding and consequences, construction and installation of systems measures must account for seismic conditions, etc.). Where specific site characteristics may affect the development of security plans and measures, the ESP applicant should evaluate the relationship between site characteristics and postulated design parameters and clearly identify information items that must be addressed by a COL applicant.

Also, the Commission may identify conditions and limitations for the issuance of an ESP so that potential COL or CP applicants referencing the ESP must address particular significant issues that will be tracked and considered during the application for a COL or CP. Information items should focus on matters that may be significant in any COL or CP application referencing the ESP or limited work authorization for the site, if one is issued. Usually, COL information items are not necessary for issues covered by permit conditions, explicitly covered by regulatory requirements, or the bounding parameters. The list of COL information items is not exhaustive with respect to the information required to meet the requirements for a COL.

<u>Review Interface</u>

Other SRP sections interface with this section as follows:

1. The site characteristics, descriptions, and information related to the proposed site are found in the ESP application submittal that conforms to guidance in SRP Sections 2.2.1 through 2.5.4 that captures the guidance in RS-002. Review interfaces may be required based on the potential of site characteristics, nearby industrial, transportation, and military facilities, meteorology (regional climatology and local meteorology), hydrology (floods, ice effects), and geology and seismology to affect the development of security plans and measures.

The staff that has primary or lead review responsibilities, as indicated in RS-002, will review the adequacy of the applicant's assessment of the site characteristics and their interface with postulated site design parameters of a nuclear power plant. As secondary reviewers, the staff should review the potential safety/security interface of postulated site design parameters that may adversely impact developing adequate security plans and measures meeting the performance and prescriptive regulatory requirements of 10 CFR Part 73.

2. The security review should include and confirm how the site location, nearby industrial, transportation, and military facilities, meteorology (regional climatology and local meteorology), hydrology (floods, ice effects), and seismology may or may not affect the design and implementation of engineering controls, operational requirements, and, if applicable, any management systems for meeting security requirements.

3. The following site characteristics assessed in an ESP establish the bases for considering effects on whether security plans and measures can be develop and require the review for interfaces:

   (a) RS-002, Section 2.1.1, "Site Location and Descriptions," SRP Sections 2.1.1, Site Location and Description"

   (b) RS-002, Section 2.1.3, "Identification of Potential Hazards in Site Vicinity," and SRP Section 2.2.1-2.2.2, "Identification of Potential Hazards in Site Vicinity"

   (c) RS-002, Section 2.2.3, "Evaluation of Potential Accidents," and SRP Section 2.2.3, "Evaluation of Potential Accidents"

   (d) RS-002, Section 2.3.1, "Regional Climatology," and SRP Section 2.3.1, "Regional Climatology"

   (e) RS-002, Section 2.4.2, "Floods," and SRP Section 2.4.2, "Flood"

   (f) RS-002, Section 2.4.3, "Potential Maximum Flood (PMF) on Streams and Rivers," and SRP Section 2.4.3, "Probable Maximum Flood (PMF) on Streams and Rivers"

   (g) RS-002, Section 2.4.4, "Potential Dam Failure," and SRP Section 2.4.4, "Potential Dam Failures"

   (h) RS-002, Section 2.4.5, "Probable Maximum Surge and Seiche Flooding," and SRP Section

   (i) RS-002, Section 2.4.6, "Probable Maximum Tsunami Flooding," and SRP Section 2.4.6, "Probable Maximum Tsunami Hazards"

   (j) RS-002, Section 2.4.7, "Ice Effects," and SRP Section 2.4.7, "Ice Effects"

   (k) RS-002, Section 2.5.1, "Basic Geologic and Seismic Information," SRP Section 2.5.1, "Basic Geological and Seismic Information"

(l) RS-002, Section 2.5.2, "Vibratory Ground Motion," and SRP Section 2.5.2, "Vibratory Ground Motion"

II. ACCEPTANCE CRITERIA

Requirements

The NRC bases the satisfaction of acceptance criteria on meeting the relevant requirements of the following Commission regulations:

1. The regulation 10 CFR Part 52, Subpart A, "Early Site Permit," establishes the security requirements license application for an ESP. Specifically, 10 CFR 52.17(a)(1)(x) requires an applicant to provide information demonstrating that site characteristics are such that adequate security plans and measures can be developed. Similar to this requirement for an ESP application, each CP application under 10 CFR 50.34a requires that the preliminary safety analysis report considers the site evaluation factors identified, and the site characteristic must comply with 10 CFR Part 100. The requirement of 10 CFR 100.21(f) also states that the site characteristics must be such that adequate security plans and measures can be developed. The intent of the review is to determine whether adequate security plans and measures can be developed to meet the performance and prescriptive regulatory requirements of 10 CFR Part 73.55.

2. The regulation 10 CFR 52.17(d) requires that each applicant for an ESP under this part shall protect SGI against unauthorized disclosure in accordance with the requirements in 10 CFR 73.21 and 10 CFR 73.22, as applicable. On the basis that ESP applicants are not required to provide details of how the security requirements of 10 CFR Part 73 are met, SGI, and access to such information, is not needed for preparing an ESP or included in an application.

3. The regulatory basis for the staff's review is established by the requirements of 10 CFR 52.18, "Standards for Review of Applications," which states, in relevant part, that "applications (early site permit) filed under this subpart (A) will be reviewed according to the applicable standards set out in 10 CFR Part 50 and its appendices and 10 CFR Part 100."

SRP Acceptance Criteria

The following information provides SRP acceptance criteria that the NRC finds acceptable for meeting the relevant requirements of the agency's regulations identified above. This SRP is not a substitute for NRC regulations, and compliance is not required. However, the NRC requires an applicant to identify differences between the approaches, analytical techniques, and procedural measures proposed and the SRP acceptance criteria. The NRC also requires an applicant to evaluate how the proposed alternatives to the SRP acceptance criteria provide acceptable methods of compliance with NRC regulations.

SRP Sections 2.2.1 through 2.5.4, along with RS-002 provides guidance on processing and review standards (acceptance criteria) for an ESP application. It describes methods or approaches and technical bases that may be applied for meeting the requirements for evaluating site characteristics for an ESP. The conformance with SRP Sections 2.2.1 through 2.5.4, along with RS-002, provides the regulatory and technical bases for the findings required

for the Commission to issue an ESP in accordance with 10 CFR 52.24, “Issuance of Early Site Permit,” which states the following:

(a) After conducting a hearing under 10 CFR 52.21 and receiving the report to be submitted by the Advisory Committee on Reactor Safeguards (ACRS) under 10 CFR 52.23, the Commission may issue an ESP, in the form the Commission deems appropriate, if the Commission finds that:

i. An application for an ESP meets the applicable standards and requirements of the Act and the Commission's regulations;

ii. Notifications, if any, to other agencies or bodies have been duly made;

iii. There is reasonable assurance that the site is in conformity with the provisions of the Act, and the Commission's regulations;

iv. The applicant is technically qualified to engage in any activities authorized;

v. The proposed inspections, tests, analyses and acceptance criteria, including any on emergency planning, are necessary and sufficient, within the scope of the ESP, to provide reasonable assurance that the facility has been constructed and will be operated in conformity with the license, the provisions of the Act, and the Commission's regulations;

vi. Issuance of the permit will not be inimical to the common defense and security or to the health and safety of the public;

vii. Any significant adverse environmental impact resulting from activities requested under 10 CFR 52.17(c) can be redressed; and

viii. The findings required by subpart A of 10 CFR Part 51 have been made.

(b) The early site permit must specify the site characteristics, any design parameters, and terms and conditions of the ESP the Commission deems appropriate. Before issuance of either a CP or COL referencing an ESP, the Commission shall find that any relevant terms and conditions of the ESP have been met. Any terms or conditions of the ESP that could not be met by the time of issuance of the CP or COL must be set forth as terms or conditions of the CP or COL.

(c) The ESP shall specify those 10 CFR 50.10 activities requested under 10 CFR 52.17(c) that the permit holder is authorized to perform.

The security portion of the ESP application is acceptable when sufficient, complete, and accurate information is submitted and meets the regulatory requirements, and establishes the applicant’s licensing bases for the requested ESP that allows for the findings specified in 10 CFR 52.24(a)(1), 10 CFR 52.24(a)(3), and 10 CFR 52.24(a)(6). In accordance with requirement of 10 CFR 52.24(a)(2), the U.S. Department of Homeland Security (DHS) is notified upon NRC acceptance of an ESP application for technical review. After notification, DHS may consult on homeland security matters for the proposed site during the review of the ESP

application or choose to defer consultation to the review of a COL application referencing the ESP. Typically, DHS provides consultation during a COL review. The regulatory requirement of 10 CFR 52.24(a)(2) is satisfied by the NRC staff notification of DHS of the pending ESP licensing action, and the considerations of DHS consultation results where applicable.

The RS-002, Section 4.6, "Additional Review Guidance," provides the review guidance on the plant parameter envelope (PPE) that, an ESP applicant that has not selected a particular reactor design expects, will bound the design characteristics of a reactor that might be constructed at a given site. A PPE serves as a surrogate for actual reactor design information. Use of this approach allows the applicant to demonstrate compliance with 10 CFR 52.17. Attachment 2 of RS-002 provides guidance on reviewing a PPE used in specific site safety assessments to determine if a reactor can be constructed and operated without undue risk to the health and safety of the public when necessary conditions or limitations are established for issuance of an ESP in accordance with 10 CFR 52.24(b). This approach applies to security and is acceptable for the reviewer to determine if the applicant's security-related PPE values encompass the site characteristics consistent with 10 CFR Part 52.17(a)(1)(x).

Specific Acceptance Criteria for Security

Consistent with the framework established by RS-002, the SRP acceptance criteria below address the key site characteristics that potentially affect security in meeting the regulatory requirements of 10 CFR 52.17(a)(1)(x). This requirement is satisfied when the ESP applicant provides sufficient and adequate descriptions of how the site characteristics, as indicated in Table 1, are considered and provides the information and technical bases for the applicant's licensing basis supporting the finding that security plans and measures can be developed. Specifically, the reviewer should evaluate whether plans and measures for a physical protection system that provides the security postures (i.e., capabilities to detect, assess, interdict, and neutralize threats and implement security programs) based on engineered and administrative controls can be developed to meet the requirements of 10 CFR Part 73. As applicable, management systems (which establish processes, procedures, and organizations to maintain reliable and available required security postures that may be affected by site characteristics) and information demonstrating that plans for management systems that meet the requirements of 10 CFR Part 73 can be developed are also considered. The requirements of 10 CFR 52.17(a)(1)(x) are satisfied when information submitted by the applicant is sufficient and complete to establish a licensing basis that considers the following site characteristics:

1. Site Location

   (a) Distance from the reactor or reactors to the site boundaries within the exclusion area provides sufficient spatial separations to provide for the design's physical barriers and the designations of security boundaries (e.g., vital areas (VAs), protected area (PA), isolation zones, and owner control area (OCA)). The proposed site contains sufficient spatial separations or provides for sufficient distances to allow for design, installation, and implementation of engineered and administrative controls (i.e., security measures) for a physical protection system (i.e., detection, assessment, communications, and security response for interdiction and neutralization) to protect against threats.

   (b) Where spatial separation is limited because of a natural topography or existing or planned manmade structures for a proposed site, the specific methods and approaches (e.g., engineered or administrative controls) that may be applied are

described to demonstrate that security plans and measures meeting regulatory requirements for security boundaries, physical barriers, and access controls can be developed.

(c) Distances from a reactor to the boundary of the PA or OCA provide sufficient spatial separations necessary to protect the nuclear island, structures, systems, and components, and plant operations against postulated consequences of vehicle bomb threats. Appropriate PPE is identified for bounding the design and installation of land-based or waterborne vehicle barrier systems to establish safe standoff distances. In addition, based on an the assumption that spatial distances may be limited, the information includes how engineering approaches and methods (e.g., hardening structures, installation of blast walls or barriers buried underground) may be applied to protect structures, systems, and components relied on for nuclear safety against postulated land-based and/or waterborne vehicle bombs.

(d) Highways, railroads, and waterways that traverse the exclusion area, the OCA, or the PA are sufficient distances from planned location(s) of the nuclear power reactor(s), SSCs, and plant operations on the proposed site such that routine use of these routes or activities does not interfere or present impediments to the design of a physical protection system and affect normal and contingency security operations.

(e) If the proposed site is at a remote location, such that it may delay availability of material, equipment, or services needed (i.e., greater than 48 hours) to maintain physical security systems and operations, information demonstrates that plans for organization and management systems are capable of providing logistics and support necessary to continue security operations and that plans can accommodate required offsite material, equipment, and services. Also, information demonstrates that plans and measures can be developed to overcome remoteness of site location for offsite contingency security responses, which must be less than the maximum available response time to meet the requirement to prevent adversaries from completing tasks that result in radiological sabotage. Note: The criteria of 48 hours, a maximum duration, is a reasonable anticipated time in which a degraded physical security system, with temporary administrative or engineered compensatory measures, should be repaired or replaced and returned to conditions of reliability and availability assumed in the design and licensing bases for engineered controls to perform their intended security functions.

2. Hazardous Material in Vicinity, Onsite, and Nearby Industrial, Military, and Transportation Facilities

(a) Potential hazardous materials (gases, liquids, solids) in vicinity and on-site, such as chemicals, flammables, explosives, or radioactive materials, do not present impediments to design of or plans for engineered and administrative controls for a physical protection system. Information demonstrates that engineered and administrative controls for physical security can be developed and planned, respectively, in events of postulated maximum credible accidents (e.g., explosions, flammable vapor clouds, toxic chemicals, fires, liquid spills) involving hazardous material in vicinity and on site, including onsite transportation of

hazardous materials, to maintain at all times the required security postures meeting the requirements of 10 CFR Part 73.

(b) Postulated maximum credible accidents and consequences analyzed for vicinity and onsite hazards for safety of nuclear reactor and operations are applied to determine possible impediments. Information demonstrates that the designs, specifications, and configuration of physical security systems and plans for operational requirements can be developed such that required security measures can be maintained available and reliable to perform their intended security functions. Examples: (1) security structures or fighting positions can be spatially separated at safe distances to protect against effects of hazard, (2) engineered physical security systems can be designed to protect security functions by protecting against hazardous environments for continued security functions of systems and security responders, (3) engineered measures can be designed to protect security functions of SSCs exposed to hazardous or corrosive environments and consequences of postulated maximum credible accidents, including protecting digital and electronics systems, (4) personnel protective equipment and training can be provided and adequately planned to protect security personnel against hazardous material to perform normal and contingency security responses, and (5) security contingency procedures can be established to maintain and recover required security postures.

(c) Nearby manufacturing plants, chemical plants, refineries, storage facilities, mining and quarrying operations, military bases, missile sites, transportation routes (air, land, and water), transportation facilities (docks, anchorages, and airports), oil and gas pipelines, drilling operations, wells and underground gas storage facilities identified in the vicinity are considered for potential impediments to developing security plans and measures. Typically, toxic, flammable, and explosive substances, such as chlorine, ammonia, compressed or liquid hydrogen, liquid oxygen, and propane, may produce adverse effects, as may any military firing or bombing ranges and any nearby aircraft flight, holding, and landing patterns. At a minimum, all postulated maximum credible accidents and consequences involving nearby hazards, facilities, or associated activities assessed for safety and environmental protection are considered for developing security plans and measures. Any other facilities or activities that, because of the products manufactured, stored, or transported may warrant consideration with respect to possible adverse effects for safety of nuclear reactor and plant operations, also are considered for security. Information demonstrates that nearby hazards do not present impediments to developing security plans and measures. Similar to onsite hazards, the applicant may demonstrate that spatial separation provides protection of the nuclear power plant and operations from potential nearby offsite hazards and associated consequences or demonstrate that engineered structures or systems can be designed, specified, constructed, or installed—and conduct of operations can be planned—to provide and maintain available and reliable the required security postures under anticipated offsite hazardous conditions.

3. Regional Climatology and Local Meteorology

Regional Climatology (general climate, seasonal and annual severe weather, and meteorological conditions—high and low pressure systems, wind direction and speeds,

precipitation, snow and ice load, hurricanes, tornadoes, waterspouts, wind, thunderstorms, lighting, hail, snow, freezing rain, ice storm, dust (sand) storm, etc.)—analyzed are considered in determining if such conditions present impediments to the design of engineered and administrative controls for a physical protection system.

(a) Information includes identification and consideration of acute and prolonged exposure to severe weather and resulting environmental conditions (e.g., extreme low or high temperatures, high wind, heavy snow and icing, dense fog, corrosive salt environment, lighting strikes, sand and dust particles, and other weather-caused and environmental conditions that may challenge the designs engineered and administrative controls for operations) to determine if security plans and measures can be developed. Information demonstrates that security plans and measures can be developed to address effects on security systems, structures and components, and personnel to perform intended security functions under anticipated acute and prolonged severe weather and resulting environmental conditions analyzed for the regional climatology and local meteorology.

(b) Physical security systems that are exposed to anticipated weather and environmental conditions are identified and considered in determining any challenges or impediments to designs (i.e., intrusion detection, surveillance and assessment cameras, communications equipment, illumination, defensive fighting structures or enclosures, active and passive vehicle barrier systems, search and access control systems). Information demonstrates if challenges or impediments can be overcome by design or material constructions and if physical security SSC can be designed, specified, configured, built, and installed to perform intended security functions in anticipated exposures to severe weather and environmental conditions.

(c) Information to demonstrate that security measures and plans can be developed may reference and describe specific local and national building codes, consensus industry standards, and independent laboratories certifications, which prescribe designs and specifications for SSCs to withstand and operate in, and protect against, anticipated severe weather and environmental conditions. Where environmental conditions are extreme and/or not readily addressed in available industry standards, codes, or certifications, information should demonstrate that adequate security plans and measures can be developed given the site characteristics and design parameters.

4. Floods and Low Water Conditions

The probable maximum flood conditions (e.g., streams and rivers, hurricane costal surges, wind-induced, seiches, tsunamis, seismically induced dam failures or breaches, landslides, stream blockage, ice accumulations) are considered in determining if such conditions present impediments to design of engineered and administrative controls for a physical protection system.

(a) Identified probable maximum flood for individual types of flood-producing phenomena and combinations of flood-producing phenomena analyzed and established flood design bases for nuclear power reactor and operations on the proposed site are considered in determining challenges or impediments to

engineered and administrative controls required for developing security plans and measures.

(b) Information demonstrates that the designs, specifications, and configurations of physical security measures and plans for operational requirements can be developed. Security postures of 10 CFR Part 73 also can be maintained to perform their intended security functions in the event of flood. Examples: (1) central and secondary alarm stations, as well as security posts or fighting positions can be configured to address anticipated flooding, (2) engineered physical security systems and structures relied on for security can be designed to provide continued security functions by selections of technologies, designs, and configurations to protect against flood water, (3) engineered measures can be designed to protect digital, electronic, and communication signal transmission lines in areas subject to flooding, (4) personnel protective equipment, including provisions for waterborne vehicles, and training can be provided and planned to protect security responders against floods to continued performance of normal and contingency security responses, and (5) contingency plans meeting the requirements of 10 CFR Part 73 can be established to maintain or recover required security postures in anticipated acute or prolonged flood conditions.

(c) Engineered and administrative controls that will be located or performed in areas subject to flooding are identified, and any challenges or impediments to designs of engineered controls and implementation of operational requirements are considered. Physical security systems, equipment, and components (i.e., intrusion detection, surveillance and assessment cameras, communications equipment, illumination, defensive fighting structures or enclosures, active and passive vehicle barrier systems, search and access control systems) that may be affected are considered in determining if challenges or impediments can be overcome by design to ensure availability and reliability of performing intended security functions. Information demonstrates that technologies are available and methods or approaches for the design and specifications for physical security systems and operational requirements can be developed to perform required security functions in the event of flooding.

(d) The determination of a minimum safe standoff distance bounding to provide sufficient spatial separations required to protect the nuclear island and structures against postulated consequences of waterborne vehicle bomb threat considered the postulated probable flood conditions at the proposed site. Specifically, the site characteristics that may affect the designs and specifications for physical barrier systems against waterborne vehicle bomb threats include consideration of changes to site conditions under probable flooding conditions and consider the changes to water access pathways that are otherwise not possible. Information describes methods and approaches that may be applied to provide physical barriers against waterborne vehicle bomb threat and assaults. Appropriate PPE values are identified for bounding the design and installation of waterborne vehicle barrier systems to establish a bounding minimum safe stand-off distance with contingency for probable flood conditions. In addition, based on an assumption that spatial distances may be limited in the event of floods, the information demonstrates that security measures and plans can be developed and should include engineering approaches and methods (hardening structures,

installation of blast walls, etc.) that may be applied against bounding waterborne vehicle bomb and assaults.

(e) In addition to postulated flood conditions, equally important changes to topography of the site caused by low water (e.g., drought, set down resulting from surges, seiches, and tsunami, icing, dams, diversions, dam failures, low tide) conditions analyzed are considered for determining if resulting conditions would present challenges or impediments to design of engineered and administrative controls for security. Specifically, security measures can be provided to maintain a continuous physical barrier, detection, and response to protect against land-based coordinated assaults and vehicle bomb threats under potential low water conditions that result in pathways that are otherwise inaccessible because of water.

5. Geological and Seismology

(a) The staff reviews the applicant's assessment of geological and seismology characteristics for the proposed site for determining the adequacy of conclusions concerning the suitability of the plant site and establishing the ground motion environment for seismic design of a nuclear power plant or plants of specified type (or falling within a PPE) that might be constructed on the proposed site. The requirement of 10 CFR 52.17(a)(1)(x) is satisfied by considering identified regional seismic characteristics that could challenge or pose impediments to engineered and administrative controls required for a physical protection system, and the information demonstrates that security plans and measures can be developed.

(b) Information demonstrating that security measures and plans can be developed may reference and describe plans to comply with applicable codes and standards, such as national building codes, consensus industry standards, and independent laboratories' certification, which establish standards and criteria for the structural designs and specifications, equipment and material, and construction and installations to withstand a ground motion environment or assurance of systems or equipment capable of operating in anticipated seismic conditions. Information need not include design level details, but should be sufficient to describe conceptually the approaches for the designs of engineered and/or administrative controls of a physical protection system that address bounding site characteristics. Examples include the following:

i. security structures or fighting positions are designed, specified, and constructed to structurally withstand seismic conditions and continue to perform intended security functions (e.g., prevent from catastrophic failure or collapse, brace equipment, fasten piping or conduits)

ii. physical security systems provide detection, assessment, communication, delay, interdiction and neutralization functions designed and/or qualified by independent laboratories for use to perform their intended functions in anticipated seismic conditions

iii. supporting SSCs, such as primary and secondary electrical power supply, including digital and electronics systems and buried alarm signal

transmission lines, can be designed to perform intended functions during and after anticipated seismic conditions

iv. structures housing security personnel and storing equipment, vehicles, and supplies for security response and command and control functions can be designed and constructed to structurally withstand anticipated seismic conditions to ensure availability of personnel, systems, equipment, vehicles, and supplies to perform intended security functions

v. plant and security contingency procedures can be established for maintaining and recovering required security postures for anticipated seismic conditions.

Technical Rationale

The technical rationale for application of these acceptance criteria to the areas of review addressed by this SRP section is discussed in the following sections and paragraphs:

1. In accordance with the requirements of 10 CFR 52.17(a)(1)(x), Subpart A, or 10 CFR Part 52, require ESP applicants to provide Information demonstrating that site characteristics are such that adequate security plans and measures can be developed. Also, the regulatory basis for the staff's review is established by the requirements of 10 CFR 52.18, "Standards for Review of Applications," which state that "applications (early site permit) filed under this subpart (A) will be reviewed according to the applicable standards set out in 10 CFR Part 50 and its appendices and 10 CFR Part 100." The requirement of 10 CFR 100.21(f) also establishes that site characteristics must such that adequate security plans and measures can be developed.

2. The referenced sections of 10 CFR Part 52 (or 10 CFR Part 50) and the guidance provided in RS-002 specify the scope, content, and format of the material in an ESP application and the staff's technical review, respectively. Under 10 CFR Part 52, Subpart A, the ESP review is limited to the information demonstrating that site characteristics are adequate to ensure that security plans and measures can be developed. The review of proposed physical security systems designs, operational requirements, and elements of physical protection programs (i.e., administrative controls and management systems) that establish adequate security plans and measures for physical protection for nuclear material and operations is reserved for a COL application.

3. Regulations in 10 CFR 52.17(d) require that each applicant for an ESP under this part shall protect SGI, if included in an ESP, against unauthorized disclosure in accordance with the requirements in 10 CFR 73.21 and 10 CFR 73.22, as applicable. Information containing specific security details of how a nuclear power plant will be protected, including the characteristics of the DBT, is not required in an ESP application to demonstrate that security plans and measures can developed. The information provided in the ESP is expected to be generic, or a conceptual approach for meeting and/or overcoming effects of challenging site characteristics to provide, maintain, and recover required standards and criterion set forth in 10 CFR Part 73.

4. The acceptable level of detail for the descriptions demonstrating that security plans and measures submitted with an ESP application should conform to guidance in RS-002 to ensure uniform technical reviews. The establishment of staff guidance within this SRP

conforms to the framework established in RS-002 for determining whether the staff finds that Commission requirements of 10 CFR 52.24 for issuance of an ESP have been met.

III. REVIEW PROCEDURES

The staff's generic review includes the following:

1. The staff review is based on the acceptance criteria stated in Section II of this SRP. The SRP is not a substitute for the NRC regulations, and compliance with it is not required. Identifying the differences between the guidance in this SRP section and the design features, analytical techniques, and procedural measures proposed for the facility, and discussing how the proposed alternative provides an acceptable method of complying with the regulations that underlie the acceptance criteria, is sufficient to meet the intent of 10 CFR 52.17. For deviations from these acceptance criteria, the staff must review the applicant's evaluation of how the proposed alternatives provide an acceptable method for complying with the relevant NRC requirements identified in Section II of this SRP.

2. The staff reviews the applicant's licensing bases describing the considerations of site characteristics affecting the development of security plans and measures. The reviewer determines whether the applicant considered site characteristics identified in Section I of this SRP for evaluating effects on developing security measures and plans. This section provides the basis for acceptance of the application for consideration of further technical review for the ESP. The failure to provide, in the contents of the application, any information considering site characteristics potentially affecting developing security plans and measures is a justification and technical basis for not proceeding with further technical review of an ESP application.

3. The information submitted on the docket will be reviewed to determine whether reasonable assurance has been provided that the issuance of the ESP will meet the requirements of 10 CFR 52.24(a)(1), 10 CFR 52.24(a)(3), and 10 CFR 52.24(a)(6) for security.

4. The review includes site characteristics that may affect the designs and plans for engineered and administrative controls and, as applicable, management systems for security of a reactor or reactors at the proposed site, which should consider, as a minimum, of the site characteristics identified in Section I of this SRP. Additional site characteristics analysis that may be considered by the applicant are reviewed to determine if they pose challenges or impediments to developing security plans and measures. The standards and criterion establishing performance and prescriptive regulatory requirements of 10 CFR 73.55, along with other applications sections in 10 CFR Part 73, are considered, but specific details describing how requirements will be met are not required. However, information should discuss methods and approaches available to address and overcome site characteristics that challenge developing appropriate designs and specifications and the required maintenance of physical security systems and operational requirements. The review includes the licensing bases that identified challenges and impediments because of site characteristics analyzed and descriptions of how challenges and impediments can be overcome to develop security plans and measures.

5. The review of the ESP includes information items for the COL applicant referencing the ESP to address regarding site characteristics that must be considered in the development of security measures and any security-related design parameters identified for the proposed design of a physical security system. Where applicable, appropriate design parameters for engineered controls and conditions or limitations applicable to administrative controls or management systems for developing security measures and plans are reviewed to ensure they are adequately captured.

The staff's specific physical security review consists of the following:

The review should follow the guidance indicated above and confirm that site characteristics have been reasonably considered and engineered and that administrative controls and management systems for required security measures and plans can be developed. The staff reviews: (1) the applicant's licensing basis identifying site characteristics affecting the development of security plans and measures, (2) the descriptions of challenges and impediments, (3) the methods and approaches that may be applied to address or overcome effects, (4) and specific conditions and limitations identified for engineered and administrative controls or management measures for developing security measures and plans that meet the regulatory requirements. The following performance and prescriptive requirements, applicable to a nuclear power reactor, in 10 CFR Part 73 are considered, as a minimum, in the review of whether site characteristics are adequately considered for security plans and measures, and the applicant demonstrates that they can be developed:

1. 10 CFR 73.55(b), "General Performance Objectives and Requirements": requirements for providing engineered and administrative controls for capabilities to detect, assess, interdict, and neutralize threats up to and including the DBT of radiological sabotage, maintaining capabilities (i.e., security postures) at all times, and providing defense-in-depth. Security measures and plans established can achieve the objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety.

2. 10 CFR 73.55(d), "Security Organization": requirements for establishing and maintaining a security organization to implement a physical protection program. The review should be limited generically to whether planning for the maintaining staffing of security organization to perform required program functions may be affected by site characteristics.

3. 10 CFR 73.55(e), "Physical Barriers": requirements for physical barriers controlling access to facility and plant areas; facilitating security response; providing deterrence; delay of adversary; securing and monitoring of openings; providing bullet-resisting barriers; protecting and controlling entry and exits to VA boundaries; protecting reactor control rooms and central and secondary alarm stations; providing security barriers for OCA, PA, and VA boundaries; providing isolation zones; providing intrusion detection and assessment; protecting against DBT vehicle bombs; providing vehicle barrier systems; restricting waterborne vehicles; and restricting rail access.

4. 10 CFR 73.55(g), "Access Control": requirements for controlling access to vital areas, providing rapid entry or exit, and protecting last access control to the PA access portals (i.e., physical barriers, locking devices, intrusion detection, and surveillance).

5. 10 CFR 73.55(h), “Search Program”: requirements for conducting searches for firearms, explosives, incendiary devices, or other items and video surveillance, monitoring, and initiation of a response at vehicle access control points and access portals.

6. 10 CFR 73.55(i), “Detection and Assessment Systems”: requirements for intrusion detection, alarm indication, video assessments, visual and audible alarm annunciations, alarm and trouble signal supervisions. This also includes alarm station, central and secondary alarm stations’ functions; surveillance, observations, and monitoring of plant areas, illumination for assessment, interdiction and neutralization; onsite and offsite security communications; and physical barriers and intrusion detection of unattended openings.

7. 10 CFR 73.55(j), “Communications Requirements”: requirements for continuous communications; CAS, SAS, and reactor control room communications, independent power source for onsite and offsite resources; communications capabilities terminate in both alarm stations; radio or microwave transmitted two-way voice communication, conventional telephone; communication with reactor control room; and independent power source for nonportable communication equipment.

8. 10 CFR 73.55(k), “Response Requirements”: requirements for maintaining, at all times, trained, qualified, and equipped personnel to interdict and neutralize threats up to and including the DBT of radiological sabotage; supply of firearms, ammunitions, and equipment; armed response predetermined time lines; minimum staffing; methods of reconstituting staffing; response to interdict and neutralize; notification of law enforcement agencies; and offsite response.

9. 10 CFR 73.55(n), “Maintenance, Testing, and Calibration”: requirements for ensuring security systems and equipment are maintained in operable conditions and are capable of performing their intended functions; implementing compensatory measures; and testing of intrusion alarms, intrusion detection and access control equipment, communications systems and functions, search equipment, and devices or equipment located in hazardous areas.

10. 10 CFR 73.55(o), “Compensatory Measures”: requirements for compensating degraded or inoperable equipment, systems, and components; providing equivalent to protection that was provided by degraded or inoperable equipment, system, or components; and specific time frame necessary to meet requirements of 10 CFR 73.55(b).

11. 10 CFR 73.55(p), “Suspension of Security Measures”: requirements for protecting the personal health and safety of security force personnel.

12. Appendix B to 10 CFR Part 73, Section VI, “Nuclear Power Reactor Training and Qualification Plan for Personnel Performing Security Program Duties”: requirements for ensuring that security personnel assigned perform duties and responsibilities required are properly suited, trained, equipped, and qualified to perform their assigned duties and responsibilities; duty training; duty qualification and requalification; and weapons training.

13. Appendix C to 10 CFR Part 73, Section I, “Safeguards Contingency Plan”: requirements for providing contingency plans for accidents, onsite response, and armed responders available to respond from designated areas inside the PA at all times.

The requirements in the following are sufficiently independent from effects of site characteristics or of low significance in possible effects that they need not be addressed in the review:

- 10 CFR 73.55(f), "Target Set"
- 10 CFR 73.55(l) "Facilities Using Mixed-Oxide (MOX) Fuel Assemblies Containing up to 20 Weight Percent Plutonium Dioxide (PuO_2)"
- 10 CFR 73.55(m), "Security Program Review"
- 10 CFR 73.55(q), "Records"

Various requirements within sections identified above, are programs, processes, or procedures or based on details found in COL applications. Therefore, these are justified to exclude from the review of whether security plans can be developed, and they are not included in the scope of ESP review.

Similarly, the list of regulatory requirements below also are programmatic in nature, met by developing administrative controls or management systems that are independent of site characteristics or are addressed in the scope of COL application. Therefore, the following are not included for considerations in the scope of an ESP review:

- 10 CFR 73.54, "Protection of Digital Computer and Communication Systems and Networks"
- 10 CFR 73.56, "Personnel Access Authorization Requirements for Nuclear Power Plants"
- 10 CFR 73.57, "Requirements for Criminal History Records Checks of Individuals Granted Unescorted Access to a Nuclear Power Facility or Access to Safeguards Information"
- 10 CFR 73.58, "Safety/Security Interface Requirements for Nuclear Power Reactors"
- 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements"
- 10 CFR 73.22, "Protection of Safeguards Information: Specific Requirements"

IV. EVALUATION FINDINGS

The reviewer should verify that the applicant has provided sufficient information and that the review supports conclusions of the following type to be included in the staff's Safety Evaluation Report. For ESP reviews, the findings also will summarize the staff's evaluation of design parameters, limitations, or restrictions and COL information items relevant to this SRP section. The evaluation finding for the ESP should be substantially equivalent to the following statements:

> The staff reviewed the [ESP], which establishes the licensing basis for demonstrating that security measures and plans can be developed. The staff

concludes that the applicant has considered site characteristics that are of significance for potentially affecting the engineered and administrative controls, and applicable management systems required for meeting the performance and prescriptive security requirements in 10 CFR Part 73. In accordance with the requirements of 10 CFR 52.17(a)(1)(x), the applicant demonstrated that security plans and measures can be developed. Specifically, the staff concludes the following:

- The applicant's security licensing basis demonstrating security plans and measures can be developed considered the following site characteristics: (a) site location, (b) hazardous material in vicinity, on-site, and nearby industrial, military, and transportation facilities, (c) regional climatology and local meteorology, (d) floods and low water, and (e) seismology, which is assessed for construction and operation of a nuclear power reactor.

- The applicant has reasonably determined if site characteristics pose challenges and impediments to developing engineered and administrative controls required to meet the performance and prescriptive security requirements set forth in 10 CFR Part 73.

- Where site characteristics potentially affect security plans and measures, the applicant has adequately demonstrated how methods and approaches available and the designs and specifications, installation, and maintenance of physical security systems and establishment of operational controls can be applied to overcome challenges or impediments.

- The applicant has adequately identified and captured required security-related design parameters and PPE values for engineered and administrative controls [*and management systems*] for developing security plans and measures and identified COL information items [insert no.], licensing conditions, and limitations related to security for the requested ESP.

- The applicant's descriptions and information for the [Insert ESP Name], submitted on the docket, conform to acceptance criteria in NUREG-0800, Section 13.6.3, and therefore are acceptable.

The staff concludes that the licensing basis described the considerations of site characteristics and their potential effects developing security plans and measures, demonstrated that required security plans and measures can be developed, and security related site design parameters , limitations, and restrictions as described, satisfy the requirements that: (a) an application for an ESP meets the applicable standards and requirements of the Atomic Energy Act, as amended, and the Commission's regulations, (b) there is reasonable assurance that the site is in conformity with the provisions of the Act, and the Commission's regulations, (c) site characteristics, design parameters, and terms and conditions of the ESP are specified and the Commission deems them to be appropriate, and (d) relevant terms and conditions related to security of the ESP have been met for the issuance of the requested ESP.

The staff concludes that the applicant meets the applicable standards and requirements of the Act and the Commission's regulations for security, and there is reasonable assurance that the proposed site for a power nuclear reactor is in conformity with the permit, the provisions of the Act, and the Commission's regulations. The staff concludes that the issuance of the license will not be inimical to the common defense and security or to the health and safety of the public."

V. IMPLEMENTATION

The methods described in this section of the standard review plan will be used in evaluating applications for early site permits with respect to compliance with applicable regulations governing the siting of new nuclear power plants, unless the applicant proposes an acceptable alternative method for complying with those regulations. Methods that differ from those described in this section of the standard review plan may be deemed acceptable if they provide sufficient basis and information for the NRC staff to verify that the proposed alternative demonstrates compliance with the applicable NRC regulations.

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VI. REFERENCES

1. NRC Office of Nuclear Regulatory Regulation, Review Standard-002, "Processing Applications for Early Site Permits" (ADAMS Accession No. ML032340334)

2. NRC Letter from Lyon to Zinke, No Subject, Dated May 6, 2003 (ADAMS Accession No. ML030980029)

3. SECY-03-0027, Review Standard RS-002, "Processing Applications for Early Site Permit, December 31, 2003

4. Staff Requirements – SECY-03-0027, "Review Standard RS-002, "Processing Application for Early Site Permits," March 15, 2004

5. SRP Section 2, "Site Characteristics and Site Parameters," (Sections 2.1.1 through 2.5.5)

PAPERWORK REDUCTION ACT STATEMENT

The information collections contained in the Standard Review Plan are covered by the requirements of 10 CFR Parts 50, 52, 73, and 100, and were approved by the Office of Management and Budget, approval numbers 3150-0011, 3150-0151, 3150-0002, and 3150-0093.

PUBLIC PROTECTION NOTIFICATION

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

SRP Section 13.6.3
Description of Changes

Section 13.6.3 "Physical Security – Early Site Permit"

This Revision 2 to SRP Section 13.6.3 updates Revision 1, dated October 2010, to incorporate changes in Sections I, II, III, IV, and VI related to the following:

1. Establish the regulatory basis for physical security review for an ESP application pursuant to Subpart A, "Early Site Permit," of 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants." Also, described the licensing requirement to consider, but did not need to describe how to meet, the requirements in 10 CFR Part 73, "Physical Protection of Plants and Materials," for an ESP review.

2. Remove identified regulatory requirements of 10 CFR Part 73 on the basis that the regulatory requirements in 10 CFR 52.17(a)(1)(x), 10 CFR 50.34, and 10 CFR 100.21(f), which do not provide the regulatory basis to mandate that the requirements of 10 CFR Part 73 be addressed in an ESP or CP applications. Revise guidance in Section III to delete submission of specific information that is related to 10 CFR Part 73 and detailed design information that may not available or required during the application for an ESP.

3. Enhance acceptance criteria to establish the appropriate level of detail necessary of how site characteristics must be considered and evaluated to determine, with reasonable assurance, that adequate security plans and measures can be developed.

4. Enhance the NRC staff guidance regarding the scope of review for an ESP. Establish key or significant site characteristics that may challenge or require special considerations for developing elements of a physical protection system (i.e., detection, assessment, communications, response) in the development of security plans and measures. Provide guidance and acceptance criteria for review of information that demonstrates that site characteristics are such that adequate security plans and measures meeting the requirements of 10 CFR Part 73 can be developed.

5. Identify review interfaces based on topical or subject areas addressed in SRP Sections 2.1.1 through 2.5.5 and RS-002, which assessed the site characteristics. Update guidance on review interfaces with current SRPs and RS-002, as they relate to potential for affecting security plans and measures.

6. Update and establish acceptance criteria based on considering significance to performance and prescriptive security requirements in 10 CFR 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage," that are applicable to designs of engineered controls and implementation of administrative controls, and as applicable management systems.

7. Update technical rationale based on applying acceptance criteria for areas of review that are rooted on the regulations for the review of application and issuance of an ESP. Establish a technical rationale for acceptable levels of detail for demonstrating that security plans and measures can be developed.

8. Update guidance in review procedures for ESP and establish specific physical security reviews of key site characteristics to consider in determining potential effects on developing security plans and measures for meeting performance and prescriptive regulatory requirements of 10 CFR 73.55 and other sections of 10 CFR Part 73.

9. Revise the evaluation finding statements to remove references to the evaluation or findings beyond the scope of an ESP. Revise evaluation findings to reflect the limitations of the ESP to address only site characteristics and determination on meeting the requirement of 10 CFR 52.17(a)(1)(x).

10. Revise SRP Section 13.6.3 to address the applicability to portions of the review of CPs in accordance with the requirements of 10 CFR Part 50, with appropriate and complete guidance for a CP to be addressed in a new SRP section established to address specific content and format related to security for a preliminary safety analysis report.

11. Provide guidance to address site evaluation factors identified in 10 CFR Part 100, "Reactor Site Criteria," sufficient level of details for the summary descriptions and discussions of the facility (10 CFR 50.34(a)(2)), the descriptions of the preliminary plan for organization, training, and conduct of operations, and descriptions of conceptual or preliminary information addressing the conduct of security operations (i.e., a physical protection program meeting the requirements of 10 CFR Part 73).

The revision considered the licensing experience from physical security reviews of ESP applications brought about for review and approval by the NRC, including small modular reactors (integrated pressurized-water reactors and advanced reactors), as discussed in SECY-11-0184, "Security Regulatory Framework for Certifying, Approving, and Licensing Small Modular Nuclear Reactors" (ADAMS Accession No. M110329), and the Reactor Security Licensing Branch Working Group assessment results and recommendations on physical security licensing reviews for issuing power reactor licenses (ADAMS Accession No. ML12221A093).