

## PMFermiCOLPEm Resource

---

**From:** Govan, Tekia  
**Sent:** Wednesday, June 25, 2014 2:24 PM  
**To:** FermiCOL Resource  
**Subject:** Fermi Chapter 13.6 SER  
**Attachments:** ML12340A283[1].pdf

**Hearing Identifier:** Fermi\_COL\_Public  
**Email Number:** 1416

**Mail Envelope Properties** (F5A4366DF596BF458646C9D433EA37D70169568E9275)

**Subject:** Fermi Chapter 13.6 SER  
**Sent Date:** 6/25/2014 2:23:49 PM  
**Received Date:** 6/25/2014 2:23:50 PM  
**From:** Govan, Tekia

**Created By:** Tekia.Govan@nrc.gov

**Recipients:**  
"FermiCOL Resource" <FermiCOL.Resource@nrc.gov>  
Tracking Status: None

**Post Office:** HQCLSTR01.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	3	6/25/2014 2:23:50 PM
ML12340A283[1].pdf	475709	

**Options**  
**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

## **13.6 Physical Security**

### **13.6.1 Introduction**

The Fermi 3 COL application describes the applicant's physical protection program, which is intended to meet the NRC regulations for the use of the design basis threat (DBT) to design safeguards systems to protect against acts of radiological sabotage as stated in 10 CFR 73.1 "Purpose and Scope." The overall purpose of the applicant's physical protection program is 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.

The physical protection program includes the design of a physical protection system that ensures the capabilities to detect, assess, interdict, and neutralize threats of radiological sabotage are maintained at all times. The applicant incorporates by reference the standard Economic Simplified Boiling Water Reactor (ESBWR) design, which includes design of physical protection systems within the design of the vital island and vital structures, as described in the ESBWR Design Control Document (DCD) including topical report, NEDE-33389, "ESBWR Security Enhancements Report," NEDE-33390, "ESBWR Interim Compensatory Measures Assessment Report," and NEDE-33391, "The ESBWR Safeguards Assessment Report." Part 8 of the COL application, consisting of the Fermi Physical Security Plan (PSP), Training and Qualification Plan (T&QP), and Safeguards Contingency Plan (SCP), is referenced in Section 13.6 of the Fermi COL final safety analysis report (FSAR) to describe the physical protection program and physical protection systems that are not addressed within the scope of the standard ESBWR design for meeting NRC performance and prescriptive requirements for physical protection stated in 10 CFR Part 73, "Physical Protection of Plants and Materials." The NRC staff evaluation of the physical protection program is provided in detail in the safeguards information version of the Fermi COL application Section 13.6 SER, and includes a complete set of the staff bases for its findings regarding the program. Due to security constraints, the NRC staff evaluation of the physical security protection program presented in this publicly-available SER does not include the same level of detail as the safeguards information version. Those persons with the correct access authorization and need-to-know may view the safeguards information version of the Fermi COL application Section 13.6 SER, which is located in the NRC's Secure Local Area Network.

### **13.6.2 Summary of Application**

Section 13.6, "Physical Security" of the Fermi COL FSAR, Revision 5, incorporates by reference Section 13.6 of the ESBWR DCD, Revision 9.

### **Part 8 – Safeguards/Security Plans**

In a letter dated September 18, 2008, Detroit Edison submitted a PSP to the NRC as part of the COL application for proposed Fermi 3. In a letter dated October 1, 2009, Detroit Edison submitted Revision 1 to the PSP. In a letter dated June 30, 2010, Detroit Edison submitted Revision 2 to the PSP. In a letter dated February 14, 2011, Detroit Edison submitted Revision 3 to the PSP. In a letter dated May 24, 2011, Detroit Edison submitted Revision 4 to the PSP. In a letter dated September 23, 2011, Detroit Edison submitted Revision 5 to the PSP.

Additionally, in the Fermi COL FSAR Section 13.6, the applicant stated as follows:

**COL Information Items**

- STD COL 13.6-6-A

Site key control was addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.5. A key control program will be developed and implemented prior to the milestone for PSP implementation (Table 13.4-201).

- STD COL 13.6-7-A

Redundancy and equivalency of the central alarm station (CAS) and secondary alarm station (SAS) was addressed by the applicant through the Fermi PSP, Section 15.4.

- EF3 COL 13.6-8-A

The no single act requirement for the CAS and SAS was addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2. A description of the design of the CAS and SAS and analysis of single act security events is contained in the Fermi COL FSAR, Part 8, Appendix 8C.

- STD COL 13.6-9-A

The requirement for operational alarm response procedures was addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.3. Operating alarm response procedures will be developed and implemented in accordance with milestone defined in Subsection 13.5.2.1.

- STD COL 13.6-10-A

The requirement for operational surveillance test procedures was addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.8. The establishment of these surveillance test procedures and frequencies will be completed in accordance with the milestone for PSP implementation (Table 13.4-201).

- STD COL 13.6-11-A

Maintenance test procedures were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.8. The establishment of these testing and maintenance milestones will be completed in accordance with the milestone for PSP implementation (Table 13.4-201).

- STD COL 13.6-12-A

Operational response procedures to security events were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2. As part of the Security Plan, the applicant will develop an integrated response strategy to a confirmed security event that provides for manual actuation of plant systems by the operators to an evolving scenario

necessitating escalating operator response. This action will be completed prior to the milestone for PSP implementation (Table 13.4-201).

- STD COL 13.6-13-A

Operational alarm response procedures were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.3. This action will be completed prior to the milestone for PSP implementation (Table 13.4-201).

- STD COL 13.6-14-A

Administrative controls to sensitive cabinets were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.5. Administrative procedures will be developed prior to the milestone for PSP implementation (Table 13.4-201) to control work being performed in cabinets containing the control circuitry for systems listed in Table 4-1 of NEDE-33391.

- STD COL 13.6-15-A

Administrative controls to sensitive equipment were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.5. Administrative procedures will be developed prior to the milestone for PSP implementation (Table 13.4-201) that will require two persons, each of whom are qualified to perform the intended work, to be present during the performance of any work on systems listed in Table 4-1 of NEDE-33391.

- EF3 COL 13.6-16-A

External bullet resisting enclosures (BREs) were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2. The applicant provided site arrangement drawings, which show the location of the external BREs and indicate the fields of fire from these locations. The applicant also described the level of protection provided to security personnel in the BREs from the effects of the equipment available to the adversaries utilizing the design basis threat toolkit. These items are contained in the PSP.

- EF3 COL 13.6-17-A

Site-specific locations of security barriers were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2. The applicant provided site arrangement drawings showing the site-specific locations of security barriers that are not part of the ESBWR Design, in the PSP. Additionally, prior to the milestone for PSP implementation (Table 13.4-201) the applicant will demonstrate that the security strategy described in the ESBWR Safeguards Assessment Report (NEDE-33391) remains valid.

- STD COL 13.6-18-A

Ammunition for armed responders was addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2. Prior to the milestone for PSP implementation (Table

13.4-201), the applicant will update the security plan with an analysis to determine if armed responders require ammunition greater than the amount normally carried.

- STD COL 13.6-19-A

Site-specific update of the ESBWR Safeguards Assessment Report was addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2. Prior to the milestone for PSP implementation (Table 13.4-201), the applicant will analyze the ESBWR Safeguards Assessment Report to reflect site-specific location of engagement positions including fields of fire, to demonstrate that the security strategy can be implemented as described and the effectiveness of neutralization in the report can be achieved. The PSP will be updated based on this revised analysis.

- STD COL 13.6-20-A

Physical security ITAAC is covered in part by the ESBWR standard ITAAC that addresses the physical plant security systems and those features that are part of the standard design. The ESBWR standard ITAAC were addressed by the applicant through the ESBWR DCD Tier 1, which was incorporated by reference. The plant and site-specific physical security ITAAC not covered by the ESBWR standard design, are contained in the Fermi COL FSAR, Part 10, Section 2.2.1, "Site-Specific Physical Security ITAAC."

#### *Supplemental Information*

- STD SUP 13.6-1

In Subsection 13.6.2 of the Fermi 3 COL FSAR, the applicant provides supplemental information addressing the security plans which are submitted as separate licensing documents to fulfill the requirements of 10 CFR 52.79(a)(35) and (36). The applicant also states that the security plans meet the requirements of 10 CFR Part 73 and will be maintained in accordance with the requirements of 10 CFR 52.98 and protected in accordance with 10 CFR 73.21. The security plans are categorized as security safeguards information. The safeguards version of the Fermi COL application Section 13.6 SER, which included the evaluation of STD SUP 13.6-1, is located in the NRC's Secure Local Area Network.

- STD SUP 13.6-2

In Subsection 13.6.2 of the Fermi 3 COL FSAR, the applicant provides supplemental information addressing a commitment that has been added to administrative procedures to meet the requirements of 10 CFR 73.58 for managing the safety/security interface.

#### **License Conditions**

- Part 10, Section 3.6

The applicant proposed a license condition in Part 10 of the Fermi COL application, which provides milestones for implementing applicable portions of the Security Program.

### 13.6.3 Regulatory Basis

The regulatory basis of the information incorporated by reference is in NUREG-1966, the Final Safety Evaluation Report (FSER) related to the ESBWR DCD. In addition, the relevant requirements of the Commission regulations for the physical security, and the associated acceptance criteria, are summarized in Subsection 13.6.1 of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition."

The applicable regulatory requirements for physical protection are as follows:

- The provisions of 10 CFR 52.79(a)(35)(i) and (ii) require that information submitted for a COL describe how the applicant will meet the requirements of 10 CFR Part 73 and provide a description of the implementation of the PSP. The provisions of 10 CFR 52.79(a)(36)(i) through (v) require that the application include an SCP in accordance with the criteria set forth in Appendix C, "Nuclear Power Plant Safeguards Contingency Plans," to 10 CFR Part 73, and a T&QP in accordance with Appendix B of 10 CFR Part 73. The provisions also require that the applicant provide a description of the implementation of the SCP and the T&QP; and that the applicant protect the PSP, T&QP and SCP, and other related safeguards information in accordance with the requirements of 10 CFR 73.21, "Protection of Safeguards Information: Performance Requirements."
- The provisions of 10 CFR Part 73 include performance-based and prescriptive regulatory requirements that, when adequately met and implemented, 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. A COL applicant must describe how it will meet the regulatory requirements of 10 CFR Part 73 that are applicable to nuclear power plants.
- The provisions of 10 CFR 52.79(a)(41) require an evaluation of the facility against the SRP in effect 6 months before the docket date of the application. The evaluation required by this section shall include an identification and description of all differences in design features, analytical techniques, and procedural measures proposed for a facility and those corresponding features, techniques, and measures given in the SRP acceptance criteria. Where a difference exists, the evaluation shall discuss how the proposed alternative provides an acceptable method of complying with the Commission's regulations, or portions thereof, that underlie the corresponding SRP acceptance criteria. The SRP is not a substitute for the regulations, and compliance is not a requirement.

The NRC staff used NUREG-0800, Subsection 13.6.1, Revision 1, dated June 15, 2010, to complete the physical security COL review.

Regulatory guidance documents, technical reports (TRs), accepted industry codes and standards that an applicant may apply to meet regulatory requirements include, but are not limited to the following:

- Regulatory Guide (RG) 5.7, Revision 1, "Entry/Exit Control for Protected Areas, Vital Areas, and Material Access Areas," May 1980.

- RG 5.12, "General Use of Locks in the Protection and Control of Facilities and Special Nuclear Materials ," November 1973.
- RG 5.44, Revision 3, "Perimeter Intrusion Alarm Systems ," October 1997.
- RG 5.62, Revision 1 "Reporting of Safeguards Events," November 1987.
- RG 5.65, "Vital Area Access Controls, Protection of Physical Protection System Equipment and Key and Lock Controls ," September 1986.
- RG 5.66, Revision 1, "Access Authorization Program for Nuclear Power Plant," July 2009.
- RG 5.68, "Protection Against Malevolent Use of Vehicles at Nuclear Power Plants," August 1994.
- RG 5.74, "Managing the Safety/Security Interface," March 2009.
- RG 5.75, "Training and Qualification of Security Personnel at Nuclear Power Reactor Facilities," June 2009.
- RG 5.77, "Insider Mitigation Program," March 2009.
- NRC letter dated April 9, 2009, NRC Staff Review of Nuclear Energy Institute (NEI) 03-12 "Template for Security Plan, Training and Qualification, Safeguards Contingency Plan, [and Independent Spent Fuel Storage Installation Security Program]" (Revision 6) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML090920528)
- SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria" October 28, 2005 (ADAMS Accession No. ML052770257)

The following documents include security-related or safeguards information and are not publically available:

- RG 5.69, "Guidance for the Application of Radiological Sabotage Design Basis Threat in the Design, Development, and Implementation of a Physical Security Protection Program that Meets 10 CFR 73.55 Requirements," June 2006.
- RG 5.76, "Physical Protection Programs at Nuclear Power Reactors," July 2009.
- NEI 03-12, Revision 6, "Template for the Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Installation Security Program"
- NUREG/CR-6190, "Update of NUREG/CR-6190 Material to Reflect Postulated Threat Requirements," March 27, 2003.



#### 13.6.4 Technical Evaluation

The NRC staff reviewed Section 13.6 of the Fermi COL FSAR and checked the referenced DCD to ensure that the combination of the DCD and the COL application represents the complete scope of information relating to this review topic<sup>1</sup>. The NRC staff's review confirmed that the information in the application and incorporated by reference addresses the required information relating to physical security. The results of the NRC staff's evaluation of the information incorporated by reference in the Fermi COL application are documented in NUREG 1966.

The staff reviewed the information in the COL application:

##### **COL Information Items**

- STD COL 13.6-9-A

Operational alarm response procedures were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.3.

Operating alarm response procedures will be developed and implemented in accordance with milestone defined in Subsection 13.5.2.1.

The staff reviewed STD COL 13.6-9-A and determined that it adequately references that the operational alarm response procedures were addressed and will be developed and implemented in accordance with the milestone defined in Subsection 13.5.2.1. The site protective strategy is in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii)..

- STD COL 13.6-10-A

Operational surveillance test procedures were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.8.

The establishment of these surveillance test procedures and frequencies will be completed in accordance with the milestone for Physical Security Plan implementation (Table 13.4-201).

The staff reviewed STD COL 13.6-10-A and determined that it adequately references that the operational surveillance test procedures and frequencies were addressed and will be completed in accordance with the milestone for Physical Security Plan implementation (Table 13.4-201). The site protective strategy is in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii).

---

<sup>1</sup> See "Finality of Referenced NRC Approvals" in SER Section 1.2.2, for a discussion on the staff's review related to verification of the scope of information to be included in a COL application that references a design certification.

- STD COL 13.6-11-A

Maintenance test procedures were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.8.

The establishment of these testing and maintenance milestones will be completed in accordance with the milestone for Physical Security Plan implementation (Table 13.4-201).

The staff reviewed STD COL 13.6-11-A and determined that it adequately references that the maintenance test procedures were addressed and will be completed in accordance with the milestone for Physical Security Plan implementation (Table 13.4-201). The site protective strategy is in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii).

- STD COL 13.6-12-A

Operational response procedures to security events were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2.

As part of the Security Plan, the applicant will develop an integrated response strategy to a confirmed security event that provides for manual actuation of plant systems by the operators to an evolving scenario necessitating escalating operator response. This action will be completed prior to the milestone for PSP implementation (Table 13.4-201).

The staff reviewed STD COL 13.6-12-A and determined that it adequately references that the operational response procedures to security events were addressed and will be completed in accordance with the milestone for Physical Security Plan implementation (Table 13.4-201). The site protective strategy is in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii).

- STD COL 13.6-13-A

Operational alarm response procedures were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.3.

This action will be completed prior to the milestone for Physical Security Plan implementation (Table 13.4-201).

The staff reviewed STD COL 13.6-13-A and determined that it adequately references that the alarm response procedures were addressed and will be completed in accordance with the milestone for Physical Security Plan implementation (Table 13.4-201). The site protective strategy is in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii).

- STD COL 13.6-14-A

Administrative controls to sensitive cabinets were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.5.

Administrative procedures will be developed prior to the milestone for Physical Security Plan implementation (Table 13.4-201) to control work being performed in cabinets containing the control circuitry (contact elements) for the systems listed in Table 4-1 of NEDE-33391 (DCD reference 13.6-6).

The staff reviewed STD COL 13.6-14-A and determined that it adequately references that the administrative controls to sensitive cabinets were addressed and will be completed in accordance with the milestone for Physical Security Plan implementation (Table 13.4-201). The site protective strategy is in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii).

- STD COL 13.6-15-A

Administrative controls to sensitive equipment were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.1.1.5.

Administrative procedures will be developed prior to the milestone for Physical Security Plan implementation (Table 13.4-201) that will require two persons, each of whom are qualified to perform the intended work, to be present during the performance of any work on systems listed in Table 4-1 of NEDE-33391.

The staff reviewed STD COL 13.6-15-A and determined that it adequately references that the administrative controls to sensitive equipment procedures were addressed and will be completed in accordance with the milestone for Physical Security Plan implementation (Table 13.4-201). The site protective strategy is in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii).

- EF3 COL 13.6-16-A

External BREs were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2.

A site arrangement drawing that shows the location of the external Bullet Resisting Enclosures and indicates the fields of fire from these locations is provided in the Physical Security Plan.

A description of the level of protection provided to security personnel stationed in Bullet Resisting Enclosures (BREs) from the effects of the equipment available to the adversaries utilizing the Design Basis Threat (DBT) toolkit (defined in DCD Reference 13.6-8) is contained in the Physical Security Plan.

In **RAI 13.06.01-21**, the NRC staff asked the applicant how COL Information Item 13.6-16-A will be addressed. In its response dated August 30, 2010, the applicant provided site arrangement

drawings, which show the location of the external BREs and indicate the fields of fire from these locations. The applicant also described the level of protection provided to security personnel in the BREs from the effects of the equipment available to the adversaries utilizing the design basis threat toolkit. The applicant stated that Part 2 and Part 8 of the Fermi COL FSAR will be revised to incorporate this information.

The response to RAI 13.06.01-21, in regard to COL Information Item 13.6-16-A, was incomplete and the staff needed additional information from the applicant to reach a licensing decision. In RAI 13.06.01-52, the NRC staff asked follow up questions regarding locations of BREs. In its response dated November 19, 2010, the applicant provided clarifying information and stated that revised figures will be provided in the next Fermi COLA revision.

The response to **RAI 13.06.01-52**, in regard to COL Information Item 13.6-16-A, was incomplete and the staff needed additional information from the applicant to reach a licensing decision. In **RAI 13.06.01-53**, the staff requested additional information to evaluate and assess the proposed defensive strategy. In its response dated May 24, 2011, the applicant provided site arrangement drawings and information in its revised PSP, to clarify that the Fermi 3 defensive strategy satisfies the assumptions in the ESBWR Safeguards Assessment Report.

The NRC staff found the applicant response to RAI 13.06.01-53 acceptable, as it provides site arrangement drawings that specify the location of the external BREs and the fields of fire from these locations, as required by 10 CFR 52.79(d)(3), 10 CFR 52.79(a)(35)(i), and 10 CFR 73.55(b)(3)(ii). In Part 2, Revision 3 of the Fermi COL FSAR dated February 2011, the applicant provided a revised EF3 COL 13.6-16-A, by adding the additional information needed to support the licensing basis. Therefore, RAIs 13.06.01-21, and RAI 13.06.01-52 and 13.06.01-53 are closed.

- EF3 COL 13.6-17-A

Site-specific locations of security barriers were addressed by the applicant through the Fermi COL FSAR, Subsection 13.6.2.

A site arrangement drawing that shows the location of the Protected Area (PA) fence, the isolation zone on either side of the PA fence, the Vehicle Barrier System (VBS), any Red Zone or Delay Fences, and any buildings or structures inside the PA that are not part of the Design is provided in the Physical Security Plan.

Prior to the milestone for Physical Security Plan implementation (Table 13.4-201), a demonstration that the security strategy described in the ESBWR Safeguards Assessment Report (DCD Reference 13.6-6) remains valid will be conducted.

In **RAI 13.06.01-21**, the NRC staff asked the applicant how COL Information Item 13.6-17-A will be addressed. In its response dated August 30, 2010, the applicant provided a revised figure showing the site-specific locations of security barriers, which will be incorporated into Part 2 and Part 8 of the Fermi COL FSAR. In Table 13.4-201, the applicant included a commitment [**13.4-017**] to implement the PSP and demonstrate that the security strategy described in the ESBWR Safeguards Assessment Report (NEDE-33391) remains valid prior to fuel on site.

The NRC staff finds the response to RAI 13.06.01-21, in regard to COL Information Item 13.6-17-A, acceptable as it provides a commitment to add a site arrangement drawing to the PSP to show the location of the protected area (PA) fence, isolation zone on either side of the fence,

the vehicle barrier system (VBS), any red zone or delay fences, and any buildings or structures inside the PA that are not part of the design.

In a letter dated February 14, 2011, the applicant provided a revised PSP, Revision 3, adding a site arrangement drawing that shows the location of the protected area (PA) fence, isolation zone on either side of the fence, the vehicle barrier system (VBS), any red zone or delay fences, and any buildings or structures inside the PA that are not part of the design. Therefore, this portion of RAI 13.06.01-21 is closed.

In addition, the applicant provided a revised FSAR Part 2 and Part 10, Revision 3, both dated February 2012. The COL applicant identified a milestone for demonstrating that the security strategy described in the Safeguards Assessment Report remains valid prior to receipt of fuel on site, in accordance with the ESBWR design and 10 CFR 73.55(a)(4). Therefore RAI 13.06.01-21 is closed.

- STD COL 13.6-18-A

Ammunition for armed responders was addressed by the applicant through the Fermi COL FSAR Subsection 13.6.2.

Prior to the milestone for Physical Security Plan implementation (Table 13.4-201), the security plan will be updated with an analysis to determine if armed responders require ammunition greater than the amount normally carried to provide reasonable assurance of successful engagement of adversaries from various engagement positions, including the development of necessary procedures to assure adequate ammunition is available.

The staff's evaluation of STD COL 13.6-18-A is contained in Subsection 13.6.4.1.9 of this SER. The staff reviewed STD COL 13.6-18-A and determined that it adequately references that an analysis to determine if ammunition greater than the amount that is normally carried and the development of necessary procedures will be completed in accordance with the milestone for the Physical Security Plan implementation table (Table 13.4-201).

The site protective strategy is in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii).

- STD COL 13.6-19-A

Site-specific update of the ESBWR Safeguards Assessment Report was addressed by the applicant through the Fermi COL FSAR Subsection 13.6.2.

Prior to the milestone for Physical Security Plan implementation (Table 13.4-201), the security plan will be updated with an analysis of the ESBWR Safeguards Assessment Report (DCD Reference 13.6-6) reflecting site-specific locations of engagement positions including fields of fire. This applies for the external Bullet Resisting Enclosures as well as any internal positions that have external engagement responsibilities. This will include an implementation analysis of the Security Strategy described in the report, focusing on the effectiveness of neutralization of adversaries before significant radiological sabotage can occur.

In **RAI 13.06.01-1**, the NRC staff asked the applicant to describe how the specific security features identified in NEDE-33391 will be tracked, incorporated, verified, and demonstrated for the Fermi 3 physical protection program. In its response dated May 3, 2010, the applicant stated that the latest revision of NEDE-33391, ESBWR "Safeguards Assessment Report" will be used to develop a strategy that will be tested and implemented to protect Fermi 3 against the adversary characteristics of the Design Basis Threat. The assumptions in the report will be analyzed when developing the protective strategy. In **RAI 13.06.01-51**, the NRC staff asked for follow up information on how the strategy for the co-located site (Fermi 2) will be reflected in the revision of the Safeguards Assessment Report.

In its response, dated September 2, 2010, the applicant stated that although the response to **RAI 13.06.01-1** addressed only the ESBWR Safeguards Assessment Report (NEDE-33391), it is understood that since Fermi 2 and Fermi 3 are to be co-located within a single PA, it will be necessary for the site protective strategy to include the plant specific security features of both plants. As such, the ESBWR Safeguards Assessment Report and similar information for Fermi 2 (e.g., target sets and defensive strategy) will be reviewed, assessed, modified, and verified in the development of the site protective strategy.

Development of the site protective strategy is a necessary milestone in the implementation of the Fermi Security Program. The applicant stated that the milestone for the development of the site protective strategy, as well as the major changes (modifications or revisions) resulting from the development of the protective strategy will be communicated to the NRC and tracked in the Commitment Tracking Program. The applicant stated that it will submit, within 12 months after issuance of a Combined License, a schedule for implementation of the Fermi Security Program that supports planning for and conduct of NRC inspections. The applicant also stated that the schedule will be updated every 6 months until 12 months before scheduled fuel load, and every month thereafter until either the Fermi Security Program has been fully implemented or the plant has been placed in commercial service, whichever comes first. The staff evaluation of the proposed license condition is set forth below, and the staff-approved version of the condition is documented in SER Subsection 13.6.5 as **License Condition 13-1**.

The NRC staff found the applicant responses to RAI 13.06.01-1 and RAI 13.06.01-51 acceptable, as they provide in their FSAR, STD COL 13.6-19-A a commitment to update the PSP with the analysis from the ESBWR Safeguards Assessment Report and the protective strategy to include plant specific features of both units, as required by 10 CFR 73.55(b). Therefore RAIs 13.03.01-1 and 13.06.01-51 are closed.

- STD COL 13.6-20-A

Physical security ITAAC is covered in part by the ESBWR standard ITAAC that address the physical plant security systems and those features that are part of the standard design.

Features of the physical security system are covered, in part, by the standard ESBWR design, while other features are plant and site specific. Accordingly, the ESBWR standard ITAAC cover the physical plant security system and address those features that are part of the standard design. NRC guidance provides suggested ITAAC that cover both the standard design and the plant and site specific features. The plant and site-specific Physical Security ITAAC not covered by the ESBWR Tier 1, Section 2.19, are contained in Part 10, "ITAAC", Section 2.2.1 "Site-Specific Physical Security ITAAC."

In a supplemental response to RAI 19.03-38 (ADAMS Accession Number ML11229A767), dated August 16, 2011, the applicant identified the following commitments to track implementation of the Physical Security Program, the Safeguards Contingency Program, and the Training and Qualification Program:

1. Physical Security Program - Implemented prior to fuel onsite [COM 13.4-017]
2. Safeguards Contingency Program - Implemented prior to fuel onsite [COM 13.4-017]
3. Training and Qualification Program - Implemented prior to fuel onsite [COM 13.4-017]

In Fermi 3 FSAR Part 2, Revision 4, dated February 2012, the applicant revised the Security Programs listed in Table 13.4-201 that were addressed by a license condition required by 10 CFR 73.55(a)(4). In Part 10, Revision 3, dated February 2012, Section 3 was also revised to include those items listed in FSAR Table 13.4-201 where license conditions were proposed as the implementation requirement.

### **License Conditions**

- Part 10, Section 3.6

In response to NRC Letter Number 63, dated August 16, 2011, the applicant proposed a license condition in Part 10 of the Fermi COL application that provides milestones for implementing applicable portions of the Security Program. Specifically, the applicant proposed the following:

The licensee shall submit to the appropriate Director of the NRC, a schedule, no later than 12 months after issuance of the COL, that supports planning for and conduct of NRC inspections of operational programs listed in the operational program FSAR Table 13.4-201. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the operational programs in the FSAR table have been fully implemented or the plant has been placed in commercial service, whichever comes first.

The applicant followed the recommendations of the SRM dated February 22, 2006, on SECY-05-0197, in formulating the above license condition. The Staff, however, notes that the Commission, in its 2012 decision in the *Vogtle* proceeding, approved a license containing a different condition governing the same subject.

Condition 2. D.(11) of the Southern Nuclear Operating Company's, Vogtle Electric Generating Plant, Unit 3, Combined License (ADAMS Accession Number ML112991110), which governs the Operational Program Implementation Schedule, states:

"No later than 12 months after issuance of the COL, SNC shall submit to the Director of NRO, or the Director's designee, a schedule for implementation of the operational programs listed in FSAR Table 13.4-201, including the associated estimated date for initial loading of fuel. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until all the operational programs listed in FSAR Table 13.4-201 have been fully implemented."

The staff will use Vogtle Condition 2.D.(11) as a template for the corresponding condition in a Fermi COL, should the Commission grant the application.

#### 13.6.4.1 Physical Security Plan

The applicant submitted in Part 8 of the COL application the Fermi 3 PSP, T&QP and SCP to meet the requirements of 10 CFR 52.79(a)(35) and (36). Part 2, FSAR, Chapter 13, Section 13.6 references Fermi 3 PSP, T&QP, and SCP in describing the licensing basis for establishing a physical protection program, design of a physical protection system, and security organization, that will have as its 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. The PSP submitted by Fermi 3 makes references to 10 CFR 50.34(c) and (d). Since this is a Combined Operating License Application which includes a common protected area for both operating and new reactors, the references should include 10 CFR 52.79(a)(35)(i), (36)(i) and (36)(ii). This reflects a template error, and both references require submission of the same information. The staff evaluated the Fermi 3 Security Plans only.

Security plans must describe how the applicant will implement Commission requirements and those site-specific conditions that affect implementation as required by 10 CFR 73.55(c)(1)(i) and 10 CFR 73.55(c)(1)(ii).

The requirements are provided in 10 CFR 73.55(c), and (d) to establish, maintain, and implement a PSP to meet the requirements of 10 CFR 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage," and 10 CFR Part 73, Appendices B and C. The applicant must show establishment and maintenance of a security organization, the use of security equipment and technology, the training and qualification of security personnel, the implementation of predetermined response plans and strategies, and the protection of digital computer and communication systems and networks. The applicant must have a management system for development, implementation, revision, and oversight of security implementing procedures. The approval process for implementing security procedures will be documented.

In **RAI 13.06.01-7**, the NRC staff questioned the applicant's intended scope of the submitted PSP, T&QP, and SCP. In its response, the applicant stated that the PSP, T&QP, and SCP will apply to both Fermi 2 and Fermi 3 and will replace the existing NRC-approved PSP for Fermi 2 at some point in time not yet identified. In **RAI 13.06.01-48**, the NRC staff requested additional details on an implementation schedule for the Fermi PSP. In its response, the applicant stated a milestone for the implementation of the Fermi PSP, as a replacement for the Fermi 2 PSP, which will be communicated to the NRC and tracked in the Commitment Tracking Program. The applicant will submit, within 12 months after issuance of a Combined License, a schedule for implementation of the Fermi Security Program that supports planning for and conduct of NRC inspections.

This is being documented in Subsection 13.6.5 as License Condition 13-1. The NRC staff finds the responses to RAI 13.06.01-7 and RAI 13.06.01-48 acceptable, as they provide a license condition on implementation of the Fermi Security Program, which is acceptable for the reasons set forth in Subsection 13.6.5 of this SER. Therefore RAI 13.06.01-7 and RAI 13.06.01-48 are closed.

The NRC staff has reviewed the applicant's description in PSP Section 1 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the



description provided in the PSP meets the requirements of 10 CFR 73.55(c) and (d), and therefore is acceptable.

#### **13.6.4.1.1 Introduction and Physical Facility Layout**

The provisions of 10 CFR 52.79(a)(35) require that the application include a physical security plan describing how the applicant will meet the requirements of 10 CFR Part 73 (and 10 CFR Part 11, "Criteria and procedures for determining eligibility for access to or control over special nuclear material," if applicable, including the identification and description of jobs as required by 10 CFR 11.11(a) of this chapter, at the proposed facility). The plan must list tests, inspections, audits, and other means to be used to demonstrate compliance with the requirements of 10 CFR Parts 11 and 73, if applicable; and a description of the implementation of the physical security plan.

The provisions of 10 CFR 52.79(a)(36) require that the application contain: (i) a safeguards contingency plan in accordance with the criteria set forth in Appendix C to 10 CFR Part 73. The safeguards contingency plan shall include plans for dealing with threats, thefts, and radiological sabotage, as defined in 10 CFR Part 73 of this chapter, relating to the special nuclear material and nuclear facilities licensed under this chapter and in the applicant's possession and control. Each application for this type of license shall include the information contained in the applicant's safeguards contingency plan. (Implementing procedures required for this plan need not be submitted for approval.) (ii) A training and qualification plan in accordance with the criteria set forth in Appendix B to 10 CFR Part 73. (iii) A cyber security plan in accordance with the criteria set forth in 10 CFR 73.54, "Protection of digital computer and communication systems and networks" of this chapter; (iv) A description of the implementation of the safeguards contingency plan, training and qualification plan, and cyber security plan; and (v) Each applicant who prepares a physical security plan, a safeguards contingency plan, a training and qualification plan, or a cyber security plan, shall protect the plans and other related Safeguards Information against unauthorized disclosure in accordance with the requirements of 10 CFR 73.21 of this chapter.

The provisions of 10 CFR 52.79(a)(44) require that the application contain a description of the fitness-for-duty (FFD) program required by 10 CFR Part 26, "Fitness for Duty Programs," and its implementation.

Requirements are established in 10 CFR 73.55(c)(2) to ensure protection of Safeguards Information (SGI) against unauthorized disclosure in accordance with 10 CFR 73.21. The applicant's submittal, FSAR Part 8, page 1, acknowledges that the PSP, the T&QP, and the SCP discuss specific features of the physical security system or response procedures and are SGI.

Section 1 of the PSP describes the applicant's commitment to satisfying 10 CFR 50.34(c) and (d) and 10 CFR Part 73 by submitting a PSP, and to controlling the PSP and appendices as Safeguards Information according to 10 CFR 73.21.

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3.b, require a description of the physical layout of the site.

Section 1.1 of the PSP provides descriptions of location, site layout, and facility configuration. The PSP describes the physical structures and their locations on the site, description of the PA, and a description of the site in relation to nearby towns, roads, and other environmental features important to the coordination of response operations. The plant layout includes identification of

main and alternate entry routes for law enforcement assistance forces and the location of control points for marshaling and coordinating response activities.

In addition, Section 1.1 of the Fermi COL application describes general plant descriptions that include details of the 10 to 50 mile radius of the geographical area of the Fermi 3 site, a site area map, and general plant and site descriptions. Fermi COL FSAR, Chapter 2, references the ESBWR Design Certification for the principal design and operating characteristics for the design and construction of Fermi 3. Part 1, General Information, of the Fermi COL application describes the name of the applicant and principal business locations.

The NRC staff has reviewed the facility physical layout provided in Section 1.1 of the PSP and as supplemented by Fermi COL FSAR. The NRC staff determined that the applicant included site-specific conditions that affect the applicant's capability to satisfy the requirements of a comprehensive PSP. The applicant has adequately described the physical structures and their locations on site and the site in relation to nearby towns, roads, and other environmental features important to the effective coordination of response operations. The applicant described the main and alternate entry routes for law-enforcement assistance forces and the location of control points for marshaling and coordinating response activities in the site-specific law enforcement response plan. The NRC staff concludes that the applicant's security plans have met the requirements for content of a PSP as stated above. Therefore, the NRC staff finds the "Facility Layout" described in the PSP and the Fermi COL FSAR is acceptable.

#### **13.6.4.1.2 Performance Objectives**

The provisions of 10 CFR 73.55(b)(1) require, in part, that the applicant shall establish and maintain a physical protection program with an 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. The provisions of 10 CFR 73.55(b)(2) establish, in part, the requirement to protect a nuclear power reactor against the DBT of radiological sabotage as described in 10 CFR 73.1. The provisions of 10 CFR 73.55(b)(3)(i) and 10 CFR 73.55(b)(3)(ii) require the applicant to establish a physical protection program designed to ensure the capabilities to detect, assess, interdict, and neutralize threats up to and including the DBT of radiological sabotage, as stated in 10 CFR 73.1, are maintained at all times, and to provide defense-in-depth, supporting processes, and implementing procedures that will ensure the effectiveness of the physical protection program.

Section 2 of the PSP outlines regulatory requirements for the establishment and maintenance of an onsite physical protection system, security organization, and integrated response capability. As part of the objective, the security program design incorporates supporting processes such as defense-in-depth principles, including diversity and redundancy, to ensure that no single event can disable the security response capability. The physical protection systems and programs described in the PSP are designed to protect against the DBT of radiological sabotage in accordance with the requirements of 10 CFR 73.55(a) through (r) or equivalent measures that meet the same high assurance objectives provided by paragraph (a) through (r). The applicant proposes to use the corrective action program to track, trend, correct and prevent recurrence of failures and deficiencies in the physical protection program.

The NRC staff has reviewed the applicant's description in PSP Section 2, for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent

with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(b), and therefore is acceptable.

#### **13.6.4.1.3 Performance Evaluation Program**

Requirements are established in 10 CFR 73.55(b)(4) through (b)(11) for the applicant to analyze and identify site-specific conditions, establish programs, plans, and procedures that address performance evaluations, access authorization, cyber security, insider mitigation, fitness for duty (FFD), corrective actions, and operating procedures. Regulations in 10 CFR 73.55(b)(6) prescribe specific requirements to establish, maintain, and implement a performance evaluation program in accordance with 10 CFR Part 73, Appendix B, Section VI for implementation of the plant protective strategy.

Section 3.0 of the PSP describes that drills and exercises, as discussed in the T&QP, will be used to assess the effectiveness of the contingency response plan and the effectiveness of the applicant's response strategy. Other assessment methods include formal and informal exercises or drills, self-assessments, and internal and external audits and evaluations.

The performance evaluation processes and criteria that assess the effectiveness of the security program, including adequate protection against radiological sabotage, will be established in facility procedures and the deficiencies identified will be managed through the corrective action program.

Section 3.0 of the PSP references Section 4.0 of the T&QP, which provides additional details related to the performance evaluation of security personnel in accordance with 10 CFR Part 73 Appendix B Section VI. Section 4.0 of the T&QP includes provisions to conduct security force tactical drills and force-on-force exercises to evaluate the effectiveness of security systems and the response performances of security personnel. In addition, Section 17 of the PSP describes additional detail regarding the applicant's processes for reviews, evaluations and audits that will complement the performance evaluation program.

The NRC staff has reviewed the applicant's description in PSP Section 3 and the T&QP Section 4 (evaluated separately) for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(b)(6), and therefore is acceptable.

#### **13.6.4.1.4 Establishment of Security Organization**

The provisions of 10 CFR 73.55(d) establish requirements to describe a security organization, including the management system for oversight of the physical protection program. The security organization must be designed, staffed, trained, qualified, periodically re-qualified, and equipped to implement the physical protection program as required by 10 CFR 73.55(b) and 10 CFR Part 73 Appendices B and C.

As explained below, Section 4.0 of the PSP describes how the applicant meets the requirements of 10 CFR 73.55(d)(1).

#### **Security Organization Management**

Section 4.1 of the PSP describes the organization's management structure. The PSP establishes that the security organization is a critical component of the physical protection program and is responsible for the effective application of engineered systems, technologies, programs, equipment, procedures, and personnel that are necessary to detect, assess, interdict, and neutralize threats up to and including the DBT of radiological sabotage. The security organization may be proprietary, contract, or other qualified personnel.

The PSP describes that the organization will be staffed with appropriately trained and equipped personnel, in a command structure with administrative controls and procedures, to provide a comprehensive response. Section 4.1 of the PSP also describes the roles and responsibilities of the security organization. The PSP provides that at least one full time, dedicated security shift supervisor, who has the authority for command and control of all security operations, is on site at all times.

The security force implementing the security functions as described in this section of the plan will either be a proprietary force, or contractor or other qualified personnel. The training and qualification provisions are described in the T&QP.

The NRC staff has reviewed the applicant's description in PSP Sections 4 and 4.1 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Section 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(d) and is, therefore, acceptable.

#### **13.6.4.1.5 Qualification for Employment in Security**

The requirements of 10 CFR 73.55(d)(3) state, in part, that the applicant may not permit any individual to implement any part of the physical protection program unless the individual has been trained, equipped and qualified to perform assigned duties and responsibilities in accordance with Appendix B to 10 CFR Part 73 and the applicant's T&QP.

Section 5 of the PSP describes that employment qualifications for members of the security force are delineated in the T&QP.

The NRC staff has reviewed the applicant's description in PSP Section 5 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(d)(3) and therefore is acceptable.

#### **13.6.4.1.6 Training of Facility Personnel**

Consistent with requirements in 10 CFR 73.55(d)(3), 10 CFR 73.56, "Personnel Access Authorization Requirements for Nuclear Power Plants," and 10 CFR Part 73, Appendix B, Section VI.C.1, all personnel who are authorized unescorted access to the applicant's PA receive training, in part, to ensure that they are trained to perform their assigned duties and responsibilities in the event of a security incident. Individuals assigned to perform security-related duties or responsibilities, such as, but not limited to, material searches and vehicle

escort are trained and qualified in accordance with the T&QP to perform these duties and responsibilities and to ensure that each individual has the minimum knowledge, skills, and abilities required for effective performance of assigned duties and responsibilities.

Section 6 of the PSP describes the training provided for all personnel who have been granted unescorted access to the applicant's PA.

The NRC staff has reviewed the applicant's description in PSP Section 6 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.56 and 10 CFR Part 73, Appendix B, and therefore is acceptable.

#### **13.6.4.1.7 Security Personnel Training**

The provisions of 10 CFR 73.55(d) require that all security personnel are trained and qualified in accordance with 10 CFR Part 73, Appendix B, Section VI prior to performing their duties.

Section 7 of the PSP describes that all security personnel are trained, qualified and perform tasks at levels specific for their assignments in accordance with the applicant's T&QP.

The NRC staff has reviewed the applicant's description in PSP Section 7 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP and the T&QP meets the requirements of 10 CFR 73.55(d) and therefore is acceptable. The NRC staff's review of the applicant's T&QP is located in Subsection 13.6.4.2 of this SER.

#### **13.6.4.1.8 Local Law Enforcement Liaison**

The following requirement is stated in 10 CFR 73.55(k)(9), "To the extent practicable, licensees shall document and maintain current agreements with applicable law enforcement agencies to include estimated response times and capabilities." In addition, 10 CFR 73.55(m)(2) requires that the periodic licensee reviews of the physical protection program required by that section include an audit of the effectiveness of the response commitments by local, State and Federal law enforcement authorities.

Section 8 of the PSP provides a detailed discussion of the ongoing relationship with local law enforcement agencies (LLEAs). The plans addressing response, communication methodologies and protocols, command and control structures and marshaling locations are located in the operations procedures, emergency plan procedures and the site-specific law enforcement response plan. The law enforcement response plan is reviewed biennially concurrent with the PSP effectiveness review.

The NRC staff has reviewed the applicant's description in PSP Section 8 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the

description provided in the PSP meets the requirements of 10 CFR 73.55(k)(9) and 10 CFR 73.55(m)(2), and therefore is acceptable.

#### **13.6.4.1.9 Security Personnel Equipment**

The requirements of 10 CFR 73.55(d)(3) state, in part, that the applicant may not permit any individual to implement any part of the physical protection program unless the individual has been trained, equipped and qualified in accordance with 10 CFR Part 73, Appendix B and the T&QP. Regulations in 10 CFR Part 73, Appendix B, Section VI.G.2(a) state, in part, that the applicant must ensure that each individual is equipped or has ready access to all personal equipment or devices required for the effective implementation of the NRC-approved security plans, the applicant's protective strategy, and implementing procedures. The provisions of 10 CFR Part 73, Appendix B, Sections VI.G.2(b) and (c) delineate the minimum equipment requirements for security personnel and armed response personnel.

The applicant addresses STD COL 13.6-18-A as follows: Section 9 of the PSP describes the equipment, including armament, ammunition and communications equipment that is provided to security personnel in order to ensure that security personnel are capable of performing the function stated in the Commission-approved security plans, applicant's protective strategy, and implementing procedures.

The NRC staff has reviewed the applicant's description in PSP Section 9 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(d)(3) and Appendix B, Section VI.G.2, and therefore is acceptable.

#### **13.6.4.1.10 Work Hour Controls**

The provisions of 10 CFR Part 26, "Fitness for Duty Programs," Subpart I, "Managing Fatigue," establish the requirements for managing fatigue. The provisions of 10 CFR 26.205, "Work Hours," establish requirements for work hours. The provisions of 10 CFR 26.205(a) require that any individual who performs duties identified in 10 CFR 26.4(a)(1) through (a)(5) shall be subject to the requirements of section 26.205(a).

Section 10 of the PSP describes how the applicant will implement work hour controls in accordance with 10 CFR Part 26, Subpart I, and that site procedures shall describe performance objectives and implementing procedures.

The NRC staff's review of the FFD program is found in Section 13.7 of this SER.

#### **13.6.4.1.11 Physical Barriers**

The following requirements are established in 10 CFR 73.55(e): "Each licensee shall identify and analyze site-specific conditions to determine the specific use, type, function, and placement of physical barriers needed to satisfy the physical protection program design requirements of 10 CFR 73.55(b)." (1) The applicant shall: (i) "Design, construct, install and maintain physical barriers as necessary to control access into facility areas for which access must be controlled or denied to satisfy the physical protection program design requirements of paragraph (b) of this section." 10 CFR 73.55(b)(3)(ii) states that the physical protection program must: "Provide

defense-in-depth through the integration of systems, technologies, programs, equipment, supporting processes, and implementing procedures as needed to ensure the effectiveness of the physical protection program.”

Section 11 of the PSP provides a general description of how the applicant will implement its program for physical barriers, and that this implementation is in accordance with the performance objectives and requirements of 10 CFR 73.55(b).

### **Owner Controlled Area (OCA) Barriers**

Section 11.1 of the PSP describes the use of OCA barriers at the site.

### **Vehicle Barriers**

PSP Subsections 11.2.1 and 11.2.2 provides for vehicle control measures to protect against the DBT of radiological sabotage. The staff has verified that such measures are in accordance with site-specific analysis. Further, the staff has determined that these measures integrate systems, technologies, programs, supporting processes, and implementing procedures to provide defense-in-depth against the DBT land vehicle bomb assault. The staff has also determined that such measures provide for a vehicle barrier system at a stand-off distance adequate to protect personnel, equipment, and systems necessary to prevent significant core damage and spent fuel sabotage against the effects of such an assault. Further, the staff confirmed that the applicant’s PSP provides that the inspection, monitoring, and maintenance of the vehicle barrier system (VBS) are included in facility procedures. In view of the above, the staff concludes that the PSP identifies measures taken to provide high assurance that a land vehicle bomb assault can be defended against.

Accordingly, the staff concludes that the proposed vehicle control measures are consistent with the physical protection program design requirements of 10 CFR 73.55(b)(3)(ii) and 10 CFR 73.55(e)(10)(i).

### **Waterborne Threat Measures**

The provisions of 10 CFR 73.55(e)(10)(ii) require the applicant to “identify areas from which a waterborne vehicle must be restricted, and where possible, in coordination with local, State, and Federal agencies having jurisdiction over waterway approaches, deploy buoys, markers, or other equipment. In accordance with the site-specific analysis, provide periodic surveillance and observation of waterway approaches and adjacent areas.”

In **RAI 13.06.01-12**, the NRC staff requested that the applicant provide further information with regard to the waterborne threat protection measures. In RAI 13.06.01-49, the NRC staff asked follow up questions regarding the surveillance and observation of waterway approaches, specifically during the winter months. In its response, the applicant addressed the establishment of a permanent security zone by the U.S. Coast Guard and referenced other sections of the PSP that discuss additional measures that are always in place.

The staff concludes that Subsection 11.2.3 of the PSP describes protection measures adequate to protect the Fermi 3 site against waterborne threats.

Accordingly, the NRC staff found the responses to RAI 13.06.01-12 and RAI 13.06.01-49 acceptable, as they provide details on how the applicant meets the regulatory requirements of 10 CFR 73.55(e)(10)(ii). Therefore RAI 13.06.01-12 and RAI 13.06.01-49 are closed.

### **Protected Area Barriers**

The provisions of 10 CFR 73.55(e)(8)(i) require that the PA perimeter must be protected by physical barriers that are designed and constructed to: (1) limit access to only those personnel, vehicles, and materials required to perform official duties; (2) channel personnel, vehicles, and materials to designated access control portals; and (3) be separated from any other barrier designated as a vital area physical barrier, unless otherwise identified in the PSP.

The descriptions of the PA barrier are provided in PSP Section 11.3.

Section 11.3 of the PSP describes the extent to which the PA barrier at the perimeter is separated from a vital area/island barrier. The security plan identifies where the PA barrier is not separated from a vital area barrier, as required by 10 CFR 73.55(e)(8)(i)(c).

Section 11.3 of the PSP describes isolation zones. As required in 10 CFR 73.55(e)(7), the isolation zone is maintained in outdoor areas adjacent to the PA perimeter barrier and is designed to ensure the ability to observe and assess activities on either side of the PA perimeter.

These descriptions meet the definitions of physical barrier and PA in 10 CFR 73.2 and the requirements of 10 CFR 73.55(e)(8).

### **Vital Area Barriers**

The provisions of 10 CFR 73.55(e)(9) require that "Vital equipment must be located only within vital areas, which must be located within a protected area so that access to vital equipment requires passage through at least two physical barriers, except as otherwise approved by the Commission and identified in the security plans." In addition, 10 CFR 73.55(e)(5) requires that the physical barriers to access of certain vital areas shall be bullet resisting.

Section 11.4 of the PSP describes that vital areas are restricted access areas surrounded by physical barriers with the capability to restrict access to only authorized individuals. In RAI 13.06.01-17, the NRC staff asked for clarification on the protection of the secondary alarm station as required by 10 CFR 73.55(i)(4)(iii). In its response dated May 17, 2010, the applicant stated that Section 11.4 and Appendix A of the PSP would be revised to be consistent with Section 15.4 of the PSP, which states that both the CAS and SAS shall be constructed to meet the standard of 10 CFR 73.55 (i)(4)(iii).

In Revision 2 of the Fermi PSP dated June 30, 2010, the applicant provided the necessary information to satisfy the requirements of 10 CFR 73.55(i)(4)(iii).

The NRC staff finds the response to RAI 13.06.01-17 acceptable as it provides clarification on how the applicant meets requirements for the secondary alarm station, consistent with 10 CFR 73.55(i)(4)(iii). Therefore RAI 13.06.01-17 is closed. Section 11.4 also describes that the reactor control room, CAS, SAS and the location within which the last access control function for access to the PA is performed, must be bullet resisting. Accordingly, the staff finds all vital areas are constructed in accordance with established regulatory requirements.



## **Target Set Equipment**

The provisions of 10 CFR 73.55(f) require the following: “The licensee shall document and maintain the process used to develop and identify target sets, to include the site-specific analyses and methodologies used to determine and group the target set equipment or elements. The licensee shall consider cyber attacks in the development and identification of target sets. Target set equipment or elements that are not contained within a protected or vital area must be identified and documented consistent with the requirements in § 73.55(f)(1) and be accounted for in the licensee’s protective strategy. The licensee shall implement a process for the oversight of target set equipment and systems to ensure that changes to the configuration of the identified equipment and systems are considered in the licensee’s protective strategy. Where appropriate, changes must be made to documented target sets.”

Section 11.5 of the PSP describes that target set equipment or elements that are not contained within a protected or vital area are identified and accounted for in the site protective strategy

In connection with the review of the ESBWR physical protection program, the staff identified several RAIs relating to target sets. In light of these RAIs, GE Hitachi [GEH] provided additional design detail to give the applicant insight into the development of site-specific target set analyses. The applicant incorporates by reference the design of physical protection systems within the design of the vital island and vital structures for the ESBWR, as described in the ESBWR DCD including topical report, NEDE-33389, NEDE-33390, and NEDE-33391.

GE Hitachi stated in NEDE-33391, “ESBWR Safeguards Assessment Report,” that target sets were created to aid in the development of the ESBWR physical security systems, which are not considered as final or fully comprehensive because of the simplified assumptions that were made, and that a comprehensive target set document must be developed following an approved development process. GE Hitachi also stated that the insights from the development of target sets described in the ESBWR Safeguards Assessment Report should be considered and included, as appropriate. However, the simplifying assumptions need to be expanded to include the necessary combinations of Target Set elements. In addition, the Target Set document should include adjustments to reflect site-specific conditions.

The NRC staff has reviewed the applicant’s description in Sections 11.5 and 14.5 of the PSP, Section 7 of the SCP, and information in NEDE-33391, “ESBWR Safeguards Assessment Report,” for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant’s description in Sections 11.5 and 14.5 of the PSP, Section 7 of the SCP, and the information in NEDE-33391, “ESBWR Safeguards Assessment Report,” conform to the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in Sections 11.5 and 14.5 of the PSP and Section 7 of the SCP meets the requirements of 10 CFR 73.55(f)(1), (3) and (4), and is, therefore, acceptable. The target sets, target set analysis and site protective strategy are in facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii).

## **Delay Barriers**

The provisions of 10 CFR 73.55(e)(3)(ii) require that physical barriers must “provide deterrence, delay, or support access control” to perform the required function of the applicant’s physical protection program. The PSP describes the use of delay barriers at Fermi 3.

Section 11.6 of the PSP includes a description of the use of delay barriers to meet the requirements of 10 CFR 73.55(e).

The NRC staff has reviewed the applicant’s description in PSP Sections 11, 11.1, 11.2, 11.2.1, 11.2.2, and 11.2.3, and Sections 11.3 through 11.6 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant’s description in the PSP conforms to the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(e), and therefore is acceptable.

#### **13.6.4.1.12 Security Posts and Structures**

The provisions of 10 CFR 73.55(e)(5) require that the reactor control room, the CAS, and the location within which the last access control function for access to the PA is performed, must be bullet-resisting.

Section 12 of the PSP states that security posts and structures are qualified to a level commensurate with their application within the site protective strategy, and that these positions are constructed of bullet resisting materials. Section 11.4 of the PSP states the reactor control room, the CAS, and the location within which the last access control function for access to the PA is performed must be bullet resisting.

The NRC staff has reviewed the applicant’s description in PSP Section 12 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant’s description in the PSP conforms to the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(e)(5), and therefore is acceptable.

#### **13.6.4.1.13 Access Control Devices**

Regulations in 10 CFR 73.55(g)(1) state that, consistent with the function of each barrier or barrier system, the applicant shall control personnel, vehicle, and material access, as applicable, at each access control point in accordance with the physical protection program design requirements of 10 CFR 73.55(b).

The applicant addresses STD COL 13.6-6-A as follows: The provisions of 10 CFR 73.55(g)(6) require control of access control devices as stated: “The licensee shall control all keys, locks, combinations, passwords and related access control devices used to control access to protected areas, vital areas and security systems to reduce the probability of compromise.”

#### **Types of Security Related Access Control Devices**

Section 13.1 of the PSP describes that the applicant uses security-related access control devices to control access to protected and vital areas and security systems.

#### **Control and Accountability**

Subsection 13.2.1 of the PSP describes the control of security related locks. Subsection 13.2.2 of the PSP describes the controls associated with the changes to and replacements of access control devices and the accountability and inventory control process, and the circumstances that require changes in security related locks. The applicant uses facility procedures to produce, control, and recover keys, locks, and combinations for all areas and equipment which serve to reduce the probability of compromise. The issue of access control devices is limited to individuals who have unescorted access authorization and need access to perform official duties and responsibilities. Keys and locks are accounted for through a key inventory control process as described in facility procedures.

The NRC staff has reviewed the applicant's description in PSP Sections 13, 13.1, 13.2, 13.2.1, and 13.2.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the descriptions provided in the PSP meet the requirements of 10 CFR 73.55(g)(1) and (6), and therefore are acceptable.

#### **13.6.4.1.14 Access Requirements**

##### **Access Authorization and Fitness for Duty**

The provisions of 10 CFR 73.55(b)(7) require the applicant to establish, maintain, and implement an access authorization program in accordance with 10 CFR 73.56 and to describe the program in the PSP. The provisions of 10 CFR Part 26 require the applicant to establish and maintain an FFD program.

Section 14.1 of the PSP describes that the access authorization program implements regulatory requirements utilizing the provisions in RG 5.66, "Nuclear Power Plant Access Authorization Program," Revision 1, dated July 2009. RG 5.66 is an acceptable method for meeting the requirements of 10 CFR 73.55(b)(7).

The NRC staff has reviewed the applicant's description in PSP Section 14.1 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(b)(7), 10 CFR 73.56 and 10 CFR Part 26 and therefore is acceptable.

##### **Insider Mitigation Program**

The provisions of 10 CFR 73.55(b)(9) require that the applicant establish, maintain, and implement an insider mitigation program and describe the program in the PSP. The insider mitigation program must monitor the initial and continuing trustworthiness and reliability of individuals granted or retaining unescorted access authorization to a protected or vital area, and implement defense-in-depth methodologies to minimize the potential for an insider to adversely affect, either directly or indirectly, the applicant's capability to prevent significant core damage and spent fuel sabotage. The insider mitigation program must include elements from: the access authorization program; the FFD program; the cyber security program; and the physical protection program.

Section 14.2 of the PSP describes how the applicant will establish, maintain, and implement an insider mitigation program utilizing the guidance in RG 5.77, "Insider Mitigation Program." The insider mitigation program requires elements from the access authorization program described in 10 CFR 73.56; the FFD program described in 10 CFR Part 26; the cyber security program described in 10 CFR 73.54, and the physical security program described in 10 CFR 73.55. In addition, Section 14.2 describes the integration of the programs mentioned above to form a cohesive and effective insider mitigation program. The applicant addresses the observations for the detection of tampering. RG 5.77 is an acceptable method for meeting the requirements of 10 CFR 73.55(b)(9).

In **RAI 13.06.01-46**, the NRC staff asked the applicant to address the methodology and frequency chosen to monitor and/or patrol the spent fuel pool including proposed alternative measures. In its response dated May 17, 2010, the applicant stated that the spent fuel pool for Fermi 3 will be monitored and patrolled as stated in PSP Section 14.2.

Accordingly, the NRC staff finds the response to RAI 13.06.01-46 acceptable as it provides required detail on how the applicant meets 10 CFR 73.55(i)(5). Therefore, RAI 13.06.01.46 is closed.

The NRC staff has reviewed the applicant's description in PSP Section 14.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(b)(9), and therefore is acceptable.

### **Picture Badge Systems**

Requirements for badges are stated in 10 CFR 73.55(g)(6)(ii). "The licensee shall implement a numbered photo identification badge system for all individuals authorized unescorted access to the protected area and vital areas. In addition, identification badges may be removed from the protected area under limited conditions and only by authorized personnel. Records of all badges shall be retained and shall include name and areas to which persons are granted unescorted access."

The provisions of 10 CFR 73.55(g)(7)(ii) require that individuals not employed by the applicant, but who require frequent or extended unescorted access to the PA and/or vital areas to perform duties and responsibilities required by the applicant at irregular or intermittent intervals, shall satisfy the access authorization requirements of 10 CFR 73.56 and 10 CFR Part 26 of this chapter, and shall be issued a non-employee photo identification badge that is easily distinguished from other identification badges before being allowed unescorted access to the protected and vital areas. Non-employee photo identification badges must visually reflect that the individual is a non-employee and that no escort is required.

Section 14.3 of the PSP describes the site picture badge system, as follows: Identification badges will be displayed while individuals are inside the PA or vital areas. When not in use, badges may be removed from the PA by authorized holders, provided that a process exists to deactivate the badge upon exit and positively confirm the individual's true identity and authorization for unescorted access prior to entry into the PA. Records are maintained to include the name and areas to which unescorted access is granted of all individuals to whom photo identification badges have been issued.

The NRC staff has reviewed the applicant's description in PSP Section 14.3 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(g)(6)(ii) and (7)(ii), and therefore is acceptable.

### **Searches**

The provisions of 10 CFR 73.55(h) require, in part, that the applicant meet the objective to detect, deter, and prevent the introduction of firearms, explosives, incendiary devices, or other items that could be used to commit radiological sabotage. To accomplish this, the applicant shall search individuals, vehicles, and materials consistent with the physical protection program design requirements in paragraph (b) of this section, and the function to be performed at each access control point or portal before granting access.

Section 14.4 of the PSP provides an overview description of the search process for vehicle, personnel and materials. The search process is conducted using security personnel, specifically trained non-security personnel, and technology. Detailed discussions of actions to be taken in the event unauthorized materials are discovered are found in implementing procedures.

### **Vehicle Barrier Access Control Point**

The provisions of 10 CFR 73.55(h)(2)(ii) through (v) provide the requirements for the applicant to search vehicles at the OCA and 10 CFR 73.55(h)(3) provides requirements for searches of personnel, vehicles and materials prior to entering the protected area.

Subsection 14.4.1 of the PSP describes the process for the search of personnel, vehicles and materials at predetermined locations prior to granting access to designated facility areas identified by the applicant as needed to satisfy the physical protection program. The applicant states that it has developed specific implementing procedures to address vehicle and materials searches at these locations.

### **Protected Area Packages and Materials Search**

Subsection 14.4.2 of the PSP describes the process for conducting searches of packages and materials for firearms, explosives, incendiary devices, or other items that could be used to commit radiological sabotage using equipment capable of detecting these items or through visual and physical searches or both to ensure that all items are clearly identified before these items can enter the Fermi PA. Detailed provisions for conducting these searches are found in the applicant's implementing procedures and include the search and control of bulk materials and products. The applicant's implementing procedures also discuss the control of packages and materials previously searched and tamper sealed by personnel trained in accordance with the T&QP.

### **Protected Area Vehicle Search**

Subsection 14.4.3 of the PSP describes the process for the search of vehicles for firearms, explosives, incendiary devices, or other items that could be used to commit radiological sabotage using equipment capable of detecting these items or through visual and physical searches or both to ensure that all items are clearly identified at the PA. Detailed provisions for conducting these searches are found in the applicant's implementing procedures. The applicant's implementing procedures also address the search methodologies for vehicles that must enter the PA under emergency conditions.

### **Protected Area Personnel Searches**

Subsection 14.4.4 of the PSP describes the process for searches of all personnel requesting access into PAs. The PSP describes the search for firearms, explosives, incendiary devices, or other items that could be used to commit radiological sabotage using equipment capable of detecting these items or through visual and physical searches or both to ensure that all items are clearly identified prior to granting access into the PA. All persons except official Federal, State, and Local Law Enforcement Agency personnel on official duty are subject to these searches upon entry to the PA. Detailed discussions of observation and control measures are found in the implementing procedures.

### **Protected Area Access Controls**

Subsection 14.4.5 of the PSP describes the process for controlling access at all points where personnel or vehicles could gain access into the applicant's PA. The plan notes that all points of personnel access are through a lockable portal. The entry process is normally monitored by multiple security personnel. Personnel are normally allowed access through means that verify identity and authorization following the search process. Vehicles are controlled through positive control methods described in facility procedures.

### **Escort and Visitor Requirements**

The provisions of 10 CFR 73.55(g)(7) state, in part, that the applicant may permit escorted access to protected and vital areas to individuals who have not been granted unescorted access in accordance with the requirements of 10 CFR 73.56 and 10 CFR Part 26. Provisions in 10 CFR 73.55(g)(8) establish escort requirements. The applicant is required to implement procedures for processing, escorting and controlling visitors. Procedures will address confirmation of identity of visitors, maintenance of a visitor control register, visitor badging and escort controls including, training, communications, and escort ratios.

Subsection 14.4.6 of the PSP describes the process for control of visitors. The PSP affirms that procedures address the identification, processing, and escorting of visitors, and the maintenance of a visitor control register. Training provisions for escorting visitors include responsibilities, communications and escort ratios. All escorts are trained to perform escort duties in accordance with site requirements as described in the procedures. All visitors wear a badge that clearly indicates that an escort is required.

The NRC staff has reviewed the applicant's description in PSP Sections 14.4, and 14.4.1 through 14.4.6 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Section 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(h)(2), (h)(3), (g)(7) and (g)(8), and therefore is acceptable.

### **Vital Area Access Controls**

The provisions of 10 CFR 73.55(g)(4) require that the applicant control access into vital areas consistent with established access authorization lists. In response to a site-specific credible threat or other credible information, the applicant shall implement a two-person (line-of-sight) rule for all personnel in vital areas so that no one individual is permitted access to a vital area.

The provisions of 10 CFR 73.56(j) require the applicant to establish, implement, and maintain a list of individuals who are authorized to have unescorted access to specific nuclear power plant vital areas during non-emergency conditions. The list must include only those individuals who have a continued need for access to those specific vital areas in order to perform their duties and responsibilities. The list must be approved by a cognizant manager or supervisor who is responsible for directing the work activities of the individual who is granted unescorted access to each vital area, and be updated and reapproved no less frequently than every 31 days.

Section 14.5 of the PSP describes vital areas and that the applicant maintains vital areas locked and protected by an active intrusion alarm system. An access authorization system is established to limit unescorted access that is controlled by an access authorization list that is reassessed and reapproved at least once every 31 days. Additional access control measures are described in the facility procedures.

The NRC staff has reviewed the applicant's description in PSP Section 14.5 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(g)(4), and therefore is acceptable.

#### **13.6.4.1.15 Surveillance Observation and Monitoring**

The provisions of 10 CFR 73.55(i)(1) require that the applicant establish and maintain intrusion detection systems that satisfy the design requirements of 10 CFR 73.55(b) and provide, at all times, the capability to detect and assess unauthorized persons and facilitate the effective implementation of the protective strategy.

### **Illumination**

The provisions of 10 CFR 73.55(i)(6) require, in part, that all areas of the facility are provided with illumination necessary to satisfy the design requirements of 10 CFR 73.55(b) and implement the protective strategy. Specific requirements include providing a minimum illumination level of 0.2 foot-candles, measured horizontally at ground level, in the isolation zones and appropriate exterior areas within the PA. Alternatively, the applicant may augment the facility illumination system by means of low-light technology to meet the requirements of this section or otherwise implement the protective strategy. The applicant shall describe in the security plans how the lighting requirements of this section are met and, if used, the type(s) and application of low-light technology.

Section 15.1 of the PSP describes that all isolation zones and appropriate exterior areas within the PA have lighting capabilities that provide illumination sufficient for the initiation of an adequate response to an attempted intrusion of the isolation zone, a PA, or a vital area. A

discussion of the implementation of technology using fixed and non-fixed low light level cameras or alternative technological means is provided. The applicant has addressed the potential for loss of lighting and the compensatory actions that would be taken if that event were to occur.

### **Surveillance Systems**

The provisions of 10 CFR 73.55(i)(5) require, in part, that the applicant implement, establish, and maintain intrusion detection and assessment, surveillance, and observation and monitoring systems to satisfy the design requirements of 10 CFR 73.55(b), and to conform to the applicant's OCA.

Section 15.2 of the PSP describes that surveillance is accomplished by human observation and technology. Surveillance systems include a variety of cameras, video display, and annunciation systems designed to assist the security organization in observing, detecting, and assessing alarms or unauthorized activities. Certain systems provide real-time and recorded play back of recorded video images. The specifics of surveillance systems are described in facility implementing procedures.

### **Intrusion Detection Equipment**

Section 15.3 of the PSP describes the perimeter intrusion detection system, and the PA and vital area intrusion detection systems. These systems are capable of detecting attempted penetration of the PA perimeter barrier; are monitored with assessment equipment designed to satisfy the requirements of 10 CFR 73.55(i) and provide real-time and play-back/recorded video images of the detected activities before and after each alarm annunciation. The PSP describes how the applicant will meet regulatory requirements for redundancy, tamper indication and uninterruptable power supply.

### **Central Alarm Station (CAS) and Secondary Alarm Station (SAS) Operation**

The applicant addresses STD COL 13.6-7-A and EF3 COL 13.6-8-A as follows: The provisions of 10 CFR 73.55(i)(4) provide requirements for alarm stations. It is required, in 10 CFR 73.55(i)(4)(i) that both alarm stations must be designed and equipped to ensure that a single act, in accordance with the DBT of radiological sabotage defined in 10 CFR 73.1, cannot disable both alarm stations. The applicant shall ensure the survivability of at least one alarm station to maintain the ability to perform the following functions: 1) detect and assess alarms; 2) initiate and coordinate an adequate response to an alarm; 3) summon offsite assistance; and 4) provide command and control. The provisions of 10 CFR 73.55(i)(4)(iii) require, in part, that the CAS and SAS alarm stations must be equal and redundant.

Section 15.4 of the PSP describes the functional operations of the CAS and the SAS. The PSP provides that the alarm stations are equipped such that no single act will disable both alarm stations. The applicant's PSP provides that each alarm station is properly manned and that no activities are permitted that would interfere with the operator's ability to execute assigned duties and responsibilities.

In **RAI 13.06.01-21**, the NRC staff asked the applicant how COL action item 13.6-8-A will be addressed. In its response dated August 30, 2010, the applicant provided an "Analysis of the No Single Act Requirement for CAS and SAS." This analysis has been included as Appendix 8C of Part 8.



The NRC staff finds the response to RAI 13.06.01-21, in regard to EF3 COL 13.6-8-A, acceptable because the analysis shows that the CAS and SAS are designed and equipped to ensure that a single act cannot disable both stations. Therefore this portion of RAI 13.06.01-21 is closed.

## **Security Patrols**

### **Owner Controlled Area Surveillance and Response**

The provisions of 10 CFR 73.55(e)(6) require that the applicant establish and maintain physical barriers in the OCA, as needed, to satisfy the physical protection program design requirements of 10 CFR 73.55(b). It is required in 10 CFR 73.55(i)(5)(ii), in part, that the applicant provide continuous surveillance, observation and monitoring of the OCA and that these responsibilities may be performed by security personnel during continuous patrols, through the use of video technology, or by a combination of both.

Subsection 15.5.1 of the PSP describes the processes used to meet this requirement. The PSP discusses the process to be used and provides that details regarding the implementation of OCA surveillance techniques are found in facility procedures. The PSP provides a discussion regarding the implementation of manned and video options for patrolling and surveillance of the OCA.

### **Protected and Vital Area Patrols**

The provisions of 10 CFR 73.55(i)(5)(iii) through (viii) require, in part, that armed patrols check unattended openings that intersect a security boundary, such as an underground pathways, check external areas of the PA and vital area portals, periodically inspect vital areas, conduct random patrols of accessible target set equipment, be trained to recognize obvious tampering and if detected, initiate an appropriate response in accordance with established plans and procedures.

Subsection 15.5.2 of the PSP describes the process employed by the applicant to meet the above requirements. The PSP describes the areas of the facility that will be patrolled and observed, as well as the frequency of these patrols and observations. The applicant has provided for observations to detect tampering in Section 14.2 of the PSP and in the facility procedures.

The NRC staff has reviewed the applicant's description in PSP Sections 15, 15.1 through 15.4, 15.5.1, and 15.5.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. The staff has verified that the PSP provides for the identification of openings, areas, and equipment that must be checked, inspected, or otherwise observed by armed patrols. Further, the staff has determined that the PSP provides for training of patrols and procedures to recognize obvious tampering and to initiate an appropriate response to recognized tampering. In view of these staff determinations the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(b) and (i), and therefore are acceptable with respect to surveillance, observation, and monitoring.

#### **13.6.4.1.16 Communications**

The provisions of 10 CFR 73.55(j)(1) through (6) describe the requirements for establishment and maintenance of continuous communication capabilities with both onsite and offsite resources to ensure effective command and control during both normal and emergency situations. An individual assigned to an alarm station must be capable of calling for assistance, on-duty security force personnel must be capable of maintaining continuous communication with each alarm station and vehicle escorts, and personnel escorts must maintain timely communication with security personnel. Continuous communication capabilities must terminate in both alarm stations, including that between LLEA and each alarm station and the between the control room and each alarm station. Non-portable communications must remain operable from independent power sources. The applicant must identify areas where communications could be interrupted or not maintained.

### **Notifications (Security Contingency Event Notifications)**

Section 16.1 of the PSP states that the applicant has a process to ensure that continuous communications are established and maintained between the onsite security force staff and the offsite support agencies.

### **System Descriptions**

Section 16.2 of the PSP describes the establishment and maintenance of the communications system. Detailed descriptions of security systems are included in the facility procedures, including areas where communications could be interrupted or not maintained. The Fermi site security personnel have access to both hard wired and alternate communications systems. Site security personnel are assigned communications devices to maintain continuous communications with the CAS and SAS. All personnel and vehicles are assigned communications resources with which to maintain continuous communications. Continuous communication protocols are available between the CAS, SAS and the control room. The applicant maintains a secondary power source, within a vital area, for all non-portable security communications equipment.

The NRC staff has reviewed the applicant's description in PSP Sections 16, 16.1 and 16.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(j)(1) through (6), and therefore are acceptable.

#### **13.6.4.1.17 Review, Evaluation and Audit of the Physical Security Program**

The provisions of 10 CFR 73.55(m) require, in part that each element of the physical protection program be reviewed at least every 24 months. A review is required within 12 months after initial physical protection program implementation or a change in personnel, procedures, equipment or facilities that could have a potentially adverse effect on security. A review is also required as necessary based on site-specific analysis assessments, or other performance indicators. Reviews must be conducted by individuals independent of those responsible for security program and those directly responsible for implementation of the onsite physical protection program. Reviews must include an audit of security plans, implementing procedures and local law enforcement commitments. Results of reviews shall be presented to management at least one level above the level responsible for day-to-day plant operations, and findings must be entered in the site corrective action program.

Section 17 of the PSP describes that the physical security program is reviewed 12 months following initial implementation and at least every 24 months by individuals independent of both security program management and personnel who have a direct responsibility for implementation of the security program. The physical security program review includes, but is not limited to, an audit of the effectiveness of the physical security program, cyber security plans, implementing procedures, safety/security interface activities, the testing, maintenance, and calibration program, and response commitments by local, State, and Federal law enforcement authorities.

The PSP also states that a review shall be conducted as necessary based upon site-specific analyses, assessments, or other performance indicators and as soon as reasonably practical, but no longer than 12 months, after changes occur in personnel, procedures, equipment, or facilities that potentially could adversely affect safety/security.

The PSP provides further that the results and recommendations of the physical security program review, management's finding on whether the physical security program is currently effective and any actions taken as a result of recommendations from prior program reviews are documented in a report to plant management and to appropriate corporate management at least one level higher than that having responsibility for the day-to-day plant operation. The PSP provides that these reports are maintained in an auditable form and maintained for inspection.

The PSP states that findings from the onsite physical security program reviews are entered into the facility corrective action program.

The provisions of the PSP described above are virtually identical to the requirements of section 73.55(m) summarized above, and the PSP satisfies those requirements. The NRC staff, however, raised a question regarding how the application addressed the requirements of 10 CFR 73.58.

In **RAI 13.06.01-47**, the NRC staff requested that the applicant address the requirements of 10 CFR 73.58, "Safety/security requirements for nuclear power reactors." In its response, the applicant stated that procedures similar to the administrative procedures implemented for Fermi 2 will be developed and implemented to manage the safety/security interface for Fermi 3 in accordance with 10 CFR 73.58. Additionally, a description of the Fermi 3 safety/security interface program will be included in Fermi COL FSAR, Subsection 13.6.2.

The NRC staff finds that the response to **RAI 13.06.01-47** meets the requirements of 10 CFR 73.58 and is acceptable, because it provides a commitment to implement administrative procedures to manage the safety/security interface. Specifically the Fermi COL FSAR Revision 3, Subsection 13.6.2, dated February 2011, states:

STD SUP-13.6-2 [**START COM 13.6-002**] Administrative procedures have been implemented that meet the requirements of 10 CFR 73.58 for managing the safety/security interface [**END COM 13.6-002**].

The staff has verified that COM 13.6-002, has been included in the Fermi 3 FSAR. Therefore, RAI 13.06.01-47 is closed.

The NRC staff has reviewed the applicant's description in PSP Section 17 for the implementation of the site-specific physical protection program in accordance with Commission

regulations and NUREG-0800 acceptance criteria. As set forth above, the applicant's description in the PSP meets the requirements of 10 CFR 73.55(m), and therefore is acceptable.

#### **13.6.4.1.18 Response Requirements**

The provisions of 10 CFR 73.55(k) require, in part, that the applicant establish and maintain a properly trained, qualified and equipped security force required to interdict and neutralize threats up to and including the DBT defined in 10 CFR 73.1, to prevent significant core damage and spent fuel sabotage. To meet this objective, the applicant must ensure that necessary equipment is in supply, working, and readily available. The applicant must ensure training has been provided to all armed members of the security organization who will be available on site to implement the applicant's protective strategy as described in the facility procedures and 10 CFR Part 73, Appendix C. The applicant must have facility procedures to reconstitute armed response personnel and have established working agreement(s) with LLEA. The applicant must have implemented a threat warning system to accommodate heightened security threats and coordination with NRC representatives.

Section 18 of the PSP describes an armed response team, as well as its responsibilities, training and equipment, and the number of armed response force personnel required to be immediately available at all times to implement the site's protective strategy. The PSP provides for training in accordance with the requirements of 10 CFR Part 73, Appendix B that will ensure implementation of the site protective strategy in accordance with 10 CFR Part 73, Appendix C. Procedures are in place to reconstitute the armed response personnel as are agreements with LLEA. The PSP also describes procedures to manage the threat warning system.

The NRC staff has reviewed the applicant's description in PSP Section 18 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(k), and therefore is acceptable.

#### **13.6.4.1.19 Special Situations Affecting Security**

The provisions of 10 CFR 73.58 require that each nuclear power reactor applicant requesting a license be issued under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities" or 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants" comply with the following requirements: the applicant shall assess and manage the potential for adverse effects on safety and security, including the site emergency plan, before implementing changes to plant configurations, facility conditions, or security; the scope of changes to be assessed and managed must include planned and emergent activities (such as, but not limited to, physical modifications, procedural changes, changes to operator actions or security assignments, maintenance activities, system reconfiguration, access modification or restrictions, and changes to the security plan and its implementation); where potential conflicts are identified, the applicant shall communicate them to appropriate personnel and take compensatory and/or mitigative actions to maintain safety and security under applicable Commission regulations, requirements, and license conditions.

The provisions of 10 CFR 73.55(a)(2) require the applicant's security plans to identify, describe, and account for site-specific conditions that affect its capability to satisfy the requirements of that section.

The provisions of 10 CFR 73.55(n)(8) require, in part, operational and post-maintenance performance testing to ensure operational readiness for security equipment and systems.

### **Refueling/Major Maintenance**

Section 19.1 of the PSP describes that security procedures identify measures for implementation of actions prior to refueling or major maintenance activities. These measures include controls to ensure that a search is conducted prior to revitalizing an area, that protective barriers and alarms are fully operational, and that post-maintenance performance testing is performed to ensure operational readiness of equipment in accordance with 10 CFR 73.55(n)(8).

### **Construction and Maintenance**

Section 19.2 of the PSP states that during periods of construction and maintenance when temporary modifications are necessary, the applicant will implement measures that provide for equivalency in the physical protective measures and features impacted by the activities such that physical protection measures are not degraded. The process for making such changes or modifications is included in the facility procedures.

The NRC staff has reviewed the applicant's description in PSP Sections 19.1 and 19.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(n)(8) and 10 CFR 73.58, and are, therefore, acceptable.

#### **13.6.4.1.20 Maintenance, Testing and Calibration**

In accordance with 10 CFR 73.55(n), the applicant is required to establish, maintain, and implement a maintenance, testing, and calibration program to ensure that security systems and equipment, including secondary and uninterruptible power supplies, are tested for operability and performance at predetermined intervals, maintained in operable condition, and have the capability of performing their intended functions. The regulation requires that the applicant describe its maintenance testing and calibrations program in the PSP, and that the implementing procedures describe the details and intervals for conducting these activities. Applicant procedures must identify criteria for documenting deficiencies in the corrective action program and ensuring data protection in accordance with 10 CFR 73.21. The applicant must conduct periodic operability testing of the intrusion alarm system and must conduct performance testing at the beginning and end of the period for which it is used for security, or if the period of continuous use exceeds 7 days, at least once every seven days. Communication equipment must be tested not less than daily, and search equipment must also be tested periodically. Procedures must be established for testing equipment located in hazardous areas, and procedures must be established for returning equipment to service after each repair.

Sections 20.1 through 20.6 of the PSP describe the maintenance, testing and calibration program for security-related equipment. Section 20.1 states that the applicant shall conduct

intrusion detection testing in accordance with recommended testing procedures described in RG 5.44, which specifies testing frequency. Accordingly, the staff has determined that the PSP provides for testing of each operational component credited for the implementation of the security program at a frequency in accordance with 10 CFR 73.55(n), the PSP, and implementing procedures.

The NRC staff has reviewed the applicant's description in PSP Sections 20 and 20.1 through 20.6 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(n), and therefore are acceptable.

#### **13.6.4.1.21 Compensatory Measures**

The provisions of 10 CFR 73.55(o) require, in part, that the applicant shall identify criteria and measures to compensate for degraded or inoperable equipment, systems, and components to meet the requirements of section 73.55. Compensatory measures must provide a level of protection that is equivalent to the protection that was provided by the degraded or inoperable, equipment, system, or components. Compensatory measures must be implemented within specific time frames necessary to meet the appropriate portions of 10 CFR 73.55(b) and described in the security plans.

Section 21 of the PSP identifies measures and criteria to compensate for degraded or inoperable equipment, systems, and components in accordance with 10 CFR 73.55(o) to assure that the effectiveness of the physical protection system is not reduced by failure or other contingencies affecting the operation of the security-related equipment or structures. Sections 21.1 through 21.12 of the PSP address PA and vital area barriers, intrusion detection and alarm systems, lighting, fixed and non-fixed closed circuit television, play-back and recorded video systems, computer systems, access control devices, vehicle barrier systems, channeling barrier systems, and other security related equipment.

The NRC staff has reviewed the applicant's description in PSP Sections 21 and 21.1 through 21.12, for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(o), and therefore is acceptable.

#### **13.6.4.1.22 Records**

The provisions of 10 CFR 73.55(q) and 10 CFR Part 73, Appendix B, Section VI.H, and Appendix C, Section II.C, require, in part, that the applicant must retain and maintain all records required to be kept by the Commission regulations, orders, or license conditions until the Commission terminates the license for which the records were developed, and shall maintain superseded portions of these records for at least three years after the record is superseded, unless otherwise specified by the Commission. The provisions of 10 CFR Part 26, Subpart N, 10 CFR 73.56(o), and 10 CFR 73.70 include requirements for records regarding fitness for duty, access authorization, and certain other security-related matters, respectively. Among other things, the applicant is required to keep records of contracts with any contracted security force that implements any portion of the onsite physical protection program for the

duration of the contract. The applicant must make all records, required to be kept by the Commission, available to the Commission and the Commission may inspect, copy, retain and remove all such records, reports and documents whether kept by the applicant or a contractor. Review and audit reports must be maintained and available for inspection for a period of 3 years.

Section 22 of the PSP addresses the requirements to maintain records. Sections 22.1 through 22.13 address each kind of record that the applicant will maintain and the duration of retention for each record. The following types of records are maintained in accordance with the above mentioned regulations: access authorization; suitability, physical, and psychological qualification records for security personnel; PA and vital area access control records; PA visitor access records; PA vehicle access records; vital area access transaction records; vitalization and de-vitalization records; vital area access list reviews; security plans and procedures; security patrols, inspections and tests; maintenance; CAS and SAS alarm annunciation and security response records; LLEA records; records of audits and reviews; access control devices; security training and qualification records; firearms testing and maintenance records; and engineering analysis for the vehicle barrier system.

The NRC staff has reviewed the applicant's description in PSP Sections 22 and 22.1 through 22.13 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1 the staff finds that the descriptions provided in the PSP meet the requirements of 10 CFR Part 26, 10 CFR 73.55(q), 10 CFR 73.56(o), and 10 CFR 73.70, and are, therefore, acceptable.

#### **13.6.4.1.23 Digital Systems Security**

Section 23 of the PSP addresses digital systems security. The applicant stated in its PSP that it has implemented the requirements of 10 CFR 73.54 and maintains a cyber security plan that describes how it has provided high assurance that safety, security, and emergency preparedness functions are protected against the DBT.

The NRC staff's review of the cyber security plan is found in Section 13.8 of this SER.

#### **13.6.4.1.24 Temporary Suspension of Security Measures**

The provisions of 10 CFR 73.55(p) allow the applicant to suspend implementation of affected requirements of this section under the following conditions: (i) In accordance with 10 CFR 50.54(x) and 50.54(y) of this chapter, the licensee may suspend any security measures under this section in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent. This suspension of security measures must be approved as a minimum by a licensed senior operator before taking this action. (ii) During severe weather when the suspension of affected security measures is immediately needed to protect the personal health and safety of security force personnel and no other immediately apparent action consistent with the license conditions and technical specifications can provide adequate or equivalent protection. This suspension of security measures must be approved, as a minimum, by a licensed senior operator, with input from the security supervisor or manager, before taking this action.

### **Suspension of Security Measures in Accordance with 10 CFR 50.54(x) and (y)**

Section 24.1 of the PSP addresses suspension of security measures in accordance with 10 CFR 50.54(x) and 10 CFR 50.54(y). Specifically, the plan provides description of the conditions under which suspension is permissible, the level of authority necessary to suspend security measures, and the provisions for reporting such a suspension.

### **Suspension of Security Measures during Severe Weather or Other Hazardous Conditions**

As required in 10 CFR 73.55(p), state in part, suspension of security measures are reported and documented in accordance with the provisions of 10 CFR 73.71. Section 73.55(p) states further that this suspension of security measures must be approved, as a minimum, by a licensed senior operator, with input from the security supervisor or manager, before taking this action. Suspended security measures must be reinstated as soon as conditions permit.

Section 24.2 of the PSP provides that certain security measures may be temporarily suspended during circumstances such as imminent, severe or hazardous weather conditions, but only when such action is immediately needed to protect the personal health and safety of security force personnel and no other immediately apparent action consistent with the security measures can provide adequate or equivalent protection. Under the PSP, suspended security measures shall be restored as soon as practical.

The NRC staff has reviewed the applicant's description in PSP Sections 24, 24.1, and 24.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the PSP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the PSP meets the requirements of 10 CFR 73.55(p), and therefore is acceptable.

#### **13.6.4.1.25 Appendix A Glossary of Terms and Acronyms**

Appendix A, "Glossary of Terms and Acronyms," was reviewed and found to be consistent with the NRC endorsed NEI 03-12, Revision 6 template.

#### **13.6.4.1.26 Conclusions on the Physical Security Plan**

Accordingly, the NRC staff's review described in Subsections 13.6.4.1.1 through 13.6.4.1.25 of this SER, the Fermi 3 PSP meets the requirements of 10 CFR 73.55(a) through (r). The target sets, target set analysis, and site protective strategy are in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii). The NRC staff concludes that complete and procedurally correct implementation of the PSP will 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.

### **13.6.4.2 Appendix B Training and Qualification Plan**

#### **13.6.4.2.1 Introduction**



The provisions of 10 CFR 73.55(c)(4) state that the applicant shall establish, maintain, implement, and follow a T&QP that describes how the criteria set forth in 10 CFR Part 73, Appendix B will be implemented.

The provisions of 10 CFR 73.55(d)(3) state that the applicant may not permit any individual to implement any part of the physical protection program unless the individual has been trained, equipped, and qualified to perform their assigned duties and responsibilities in accordance with 10 CFR Part 73, Appendix B and the T&QP. Non-security personnel may be assigned duties and responsibilities required to implement the physical protection program and shall:

- (i) Be trained through established applicant training programs to ensure each individual is trained, qualified, and periodically requalified to perform assigned duties.
- (ii) Be properly equipped to perform assigned duties.
- (iii) Possess the knowledge, skills, and abilities, to include physical attributes such as sight and hearing, required to perform their assigned duties and responsibilities.

In addition, 10 CFR Part 73, Appendix B, Section VI.D.2(a) states armed and unarmed individuals shall be re-qualified at least annually in accordance with regulatory requirements and the Commission-approved T&QP.

The T&QP describes that it is written to address the requirements found in 10 CFR Part 73, Appendix B, Section VI. The applicant indicates that the objective of the plan is to provide a mechanism to ensure that members of the security organization, and all others who have duties and responsibilities in implementing the security requirements and protective strategy, are properly trained, equipped and qualified. The T&QP describes how deficiencies identified during the administration of the T&QP requirements are documented in the site corrective action program.

The NRC staff has reviewed the introduction section in the T&QP and has determined that it includes all of the programmatic elements necessary to satisfy the requirements of 10 CFR 73.55 and 10 CFR Part 73, Appendix B, Section VI applicable to the T&QP. Additional section-by-section evaluations and discussions are found in the following paragraphs.

#### **13.6.4.2.2 Employment Suitability and Qualification**

Provisions for mental qualifications, documentation, and physical requalification for security personnel (applicant employee and contractor) are described in the following T&QP sections.

##### **Suitability**

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.1(a) require, in part, that before employment, or assignment to the security organization, an individual shall: (1) possess a high school diploma or pass an equivalent performance examination designed to measure basic mathematical, language, and reasoning skills, abilities, and knowledge required to perform security duties and responsibilities; (2) have attained the age of 21 for an armed capacity or the age of 18 for an unarmed capacity; (3) not have any felony convictions that reflect on the individual's reliability; and (4) not be disqualified from possessing or using firearms or

ammunition in accordance with applicable State or Federal law, including 18 U.S.C. 922, for individuals in an armed capacity. Applicants shall use information that has been obtained during the completion of the individual's background investigation for unescorted access to determine suitability. Satisfactory completion of a firearms background check for the individual under 10 CFR 73.19 of this part will also fulfill this requirement. The provisions of 10 CFR Part 73, Appendix B, Section VI.B.1(b) require that the qualification of each individual to perform assigned duties and responsibilities must be documented by a qualified training instructor and attested to by a security supervisor.

Section 2.1 of the T&QP details the requirements of qualifications for employment in the security organization that follows the regulation in 10 CFR Part 73, Appendix B, Section VI.B.1(a).

### **Physical Qualifications**

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.2 require, in part, that individuals whose duties and responsibilities are directly associated with the effective implementation of the Commission-approved security plans, applicant protective strategy, and implementing procedures, may not have any physical conditions that would adversely affect their performance of assigned security duties and responsibilities.

Section 2.2 of the T&QP details that those individuals who are directly associated with implementation of the security plans, protective strategy and procedures, may not have any physical conditions that would adversely affect their performance of assigned security duties and responsibilities. All individuals that are found on the critical task matrix shall demonstrate the necessary physical qualifications prior to duty.

### **Physical Examination**

It is stated in 10 CFR Part 73, Appendix B, Section VI.B.2(a)(2), that armed and unarmed individuals assigned security duties and responsibilities shall be subject to a physical examination designed to measure the individual's physical ability to perform assigned duties and responsibilities as identified in the Commission-approved security plans, applicant protective strategy, and implementing procedures.

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.2(a)(3) state, in part, that the physical examination must be administered by a licensed health professional with the final determination being made by a licensed physician to verify the individual's physical capability to perform assigned duties and responsibilities.

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.2.(b) through (e) provide the minimum requirements that individuals must meet, and include requirements for vision, hearing, review of existing medical conditions, and examination for potential addictions.

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.2(f) address medical examinations before returning to assigned duties following any incapacitation.

Section 2.3 of the T&QP describes the physical examinations for armed and unarmed individuals assigned security duties, as well as other individuals that implement parts of the physical protection program. Minimum requirements exist for physical examinations of vision, hearing, existing medical conditions, addiction or other physical requirements.

The NRC staff has reviewed the applicant's description in T&QP Sections 2.1, 2.2, and 2.3 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73 Appendix B, Sections VI.B.1 and VI.B.2, and are, therefore, acceptable.

### **Medical Examinations and Physical Fitness Qualifications**

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.4(a), require, in part, that armed members of the security organization shall be subject to a medical examination by a licensed physician, to determine the individual's fitness to participate in physical fitness tests, and that the applicant shall obtain and retain a written certification from the licensed physician that no medical conditions were disclosed by the medical examination that would preclude the individual's ability to participate in the physical fitness tests or meet the physical fitness attributes or objectives associated with assigned duties.

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.4(b), require, in part, that before assignment, armed members of the security organization shall demonstrate physical fitness for assigned duties and responsibilities by performing a practical physical fitness test. The physical fitness test must consider physical conditions such as strenuous activity, physical exertion, levels of stress, and exposure to the elements as they pertain to each individual's assigned security duties. The physical fitness qualification of each armed member of the security organization must be documented by a qualified training instructor and attested to by a security supervisor.

Section 2.4 of the T&QP is explicit in its requirements for medical examinations and physical qualifications.

The NRC staff has reviewed the applicant's description in T&QP Section 2.4 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.B.4(a) and 10 CFR Part 73, Appendix B, Section VI.B.4(b), and therefore is acceptable.

### **Psychological Qualifications**

#### **General Psychological Qualifications**

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.3(a), require, in part, that armed and unarmed individuals shall demonstrate the ability to apply good judgment, mental alertness, the capability to implement instructions and assigned tasks, and possess the acuity of senses and ability of expression sufficient to permit accurate communication by written, spoken, audible, visible, or other signals required by assigned duties and responsibilities.

Subsection 2.5.1 of the T&QP details that individuals whose security tasks and jobs are directly associated with the effective implementation of the security plan and protective strategy shall demonstrate the qualities in 10 CFR Part 73, Appendix B, Section VI.B.3(a).

### **Professional Psychological Examination**

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.3(b), require, in part, that a licensed psychologist, psychiatrist, or physician trained in part to identify emotional instability shall determine whether armed members of the security organization and alarm station operators in addition to meeting the requirement stated in Appendix B, Section VI.B.3(a), have no emotional instability that would interfere with the effective performance of assigned duties and responsibilities.

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.3(c), require that a person professionally trained to identify emotional instability shall determine whether unarmed individuals, in addition to meeting the requirement stated in Appendix B, Section VI.B.3(a), have no emotional instability that would interfere with the effective performance of assigned duties and responsibilities.

Subsection 2.5.2 of the T&QP provides for the administration of psychological and emotional determination that will be conducted by appropriately licensed and trained individuals.

The NRC staff has reviewed the applicant's description in T&QP Subsections 2.5.1 and 2.5.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Sections VI.B.3(a), (b) and (c), and therefore are acceptable.

### **Documentation**

The provisions of 10 CFR Part 73, Appendix B, Section VI.H.1 require, in part, the retention of all reports, records, or other documentation required by Appendix B in accordance with 10 CFR 75.55(q).

Section 2.6 of the T&QP describes that qualified training instructors create the documentation of training activities and that security supervisors attest to these records, as required. Records are retained in accordance with Section 22 of the PSP as described in Subsection 13.6.4.1.22 of this SER.

The NRC staff has reviewed the applicant's description in T&QP Section 2.6 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.H.1 and therefore is acceptable.

### **Physical Requalification**

The provisions of 10 CFR Part 73, Appendix B, Section VI.B.5 require that: (a) at least annually, armed and unarmed individuals shall be required to demonstrate the capability to meet the physical requirements of this appendix and the applicant's T&QP; and (b) the physical requalification of each armed and unarmed individual must be documented by a qualified training instructor and attested to by a security supervisor.

Section 2.7 of the T&QP describes that physical requalification is conducted at least annually, and documented as described in the PSP and as has otherwise been described in 10 CFR Part 73, Appendix B, Section VI.B.5.

The NRC staff has reviewed the applicant's description in T&QP Section 2.7 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.B.5 and therefore is acceptable.

#### **13.6.4.2.3 Individual Training and Qualification**

##### **Duty Training**

The provisions of 10 CFR Part 73, Appendix B, Section VI.C.1 provide for duty training and qualification requirements. The regulation states, in part, that all personnel who are assigned to perform any security-related duty or responsibility shall be trained and qualified to perform assigned duties and responsibilities to ensure that each individual possesses the minimum knowledge, skills, and abilities required to effectively carry out those assigned duties and responsibilities. Each individual who is assigned duties and responsibilities identified in the Commission-approved security plans shall be trained before assignment in accordance with the requirements of Part 73, Appendix B, and the T&QP and the PSP. Such personnel must be trained and qualified in the use of all equipment or devices required to effectively perform all assigned duties and responsibilities.

Section 3.1 of the T&QP details the requirements that individuals assigned duties must be trained in their duties, meet minimum qualifications, and be trained and qualified in all equipment or devices required prior to performing their duties.

The NRC staff has reviewed the applicant's description in T&QP Sections 3.0, and 3.1 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.C.1 and therefore are acceptable.

##### **On-The-Job Training**

The provisions of 10 CFR Part 73, Appendix B, Section VI.C.2(a) through (c) provide requirements for on-the-job training. On-the-job training performance standards and criteria must ensure that each individual demonstrates the requisite knowledge, skills, and abilities needed to effectively carry out assigned security duties and responsibilities. Individuals assigned contingency duties must complete a minimum of 40 hours of on-the-job training.

On-the-job training for contingency activities and drills must include, but is not limited to, hands-on application of knowledge, skills, and abilities related to: (1) response team duties; (2) use of force; (3) tactical movement; (4) cover and concealment; (5) defensive positions; (6) fields of fire; (7) redeployment; (8) communications (primary and alternate); (9) use of assigned equipment; (10) target sets; (11) table top drills; (12) command and control duties; and (13) applicant protective strategy.

The T&QP provides a comprehensive discussion of the applicant's approach to meeting the requirements for on-the-job training as identified above and covers each of the elements.

The NRC staff has reviewed the applicant's description in T&QP Section 3.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Sections VI.C.2(a) through (c), and therefore is acceptable.

### **Critical Task Matrix**

The provisions of 10 CFR Part 73, Appendix B, Section VI.C.1(b) require, in part, that each individual who is assigned duties and responsibilities identified in the Commission-approved security plans, applicant protective strategy, and implementing procedures shall, before assignment, demonstrate proficiencies in implementing the knowledge, skills and abilities to perform assigned duties.

The T&QP includes a critical task matrix as Table 1 of the T&QP. This matrix addresses the means through which each individual will demonstrate the required proficiencies. Tasks that individuals must perform are listed in RG 5.75.

The NRC staff has reviewed the applicant's description in T&QP Section 3.3 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.C.1(b) and therefore is acceptable.

### **Initial Training and Qualification Requirements**

The provisions of 10 CFR Part 73, Appendix B, Section VI.C.1(a) through (b), provide the requirements for duty training.

The provisions of 10 CFR Part 73, Appendix B, Section VI.D.1 and (2), provide requirements for demonstration of qualification.

Section 3.4 of the T&QP describes that the individuals must be trained and qualified prior to performing security-related duties within the security organization, and must meet the minimum qualifying standards in Subsections 3.4.1 and 3.4.2.

### **Written Examination**

The provisions of 10 CFR Part 73, Appendix B, Section VI.D.1(b)(1), provide that written exams must include those elements listed in the Commission-approved T&QP to demonstrate an acceptable understanding of assigned duties and responsibilities, to include the recognition of potential tampering involving both safety and security equipment and systems.

Subsection 3.4.1 of the T&QP describe the measures that are implemented by the applicant to meet the requirements in 10 CFR Part 73, Appendix B, Section VI.D.1(b)(1).

### **Hands on Performance Demonstration**

The provisions of 10 CFR Part 73, Appendix B, Section VI.D.1(b)(2), require that armed and unarmed individuals shall demonstrate hands-on performance for assigned duties and responsibilities by performing a practical hands-on demonstration for required tasks. The hands on demonstration must ensure that theory and associated learning objectives for each required task are considered and that each individual demonstrates the knowledge, skills, and abilities required to effectively perform the task.

Subsection 3.4.2 of the T&QP describe the measures that are implemented by the applicant to meet the requirements in 10 CFR Part 73, Appendix B, Section VI.D.1(b)(2).

The NRC staff has reviewed the applicant's description in T&QP Sections 3.4, 3.4.1, and 3.4.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Sections VI.C.1(b)(1) and VI.D.1(b)(2), and therefore are acceptable.

### **Continuing Training and Qualification**

The provisions of 10 CFR Part 73, Appendix B, Section VI.D.2 state, in part, that armed and unarmed individuals shall be requalified at least annually in accordance with the requirements of this appendix and the Commission-approved T&QP. The results of requalification must be documented by a qualified training instructor and attested to by a security supervisor.

Section 3.5 of the T&QP provides a discussion regarding the management of the requalification program to ensure that each individual is trained and qualified. In part, the applicant's plan provides that annual requalification may be completed up to 3 months before or 3 months after the scheduled date. However, the next annual training must be scheduled 12 months from the previously scheduled date rather than the date the training was actually completed.

The NRC staff has reviewed the applicant's description in T&QP Section 3.5 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.D.2, and therefore is acceptable.

### **Annual Written Examination**

The provisions of 10 CFR Part 73, Appendix B, Section VI.D.1.(b)(3), provide that armed individuals shall be administered an annual written exam that demonstrates the required knowledge, skills, and abilities to carry out assigned duties and responsibilities as an armed member of the security organization. The annual written exam must include those elements listed in the Commission-approved T&QP to demonstrate an acceptable understanding of assigned duties and responsibilities.

Subsection 3.5.1 of the T&QP provides that each individual will be tested, in part, with an annual written exam that at a minimum covers: the role of security personnel; use of deadly force; the requirements in 10 CFR 73.21; authority of private security personnel; power of arrest; search and seizure; offsite law enforcement response; tactics; and tactical deployment and engagement.

The NRC staff has reviewed the applicant's description in T&QP Subsection 3.5.1 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.D.1.(b)(3) and is, therefore, acceptable.

### **Demonstration of Knowledge Skills and Abilities**

The provisions of 10 CFR Part 73, Appendix B, Sections VI.A., B., C., and D. (A.4, C.3(d), D.1(a), and D.1(b)(2)) state, in part, that an individual must demonstrate required knowledge, skills and abilities, to carry out assigned duties and responsibilities.

Subsection 3.5.2 of the T&QP provides that all knowledge, skills and abilities will be demonstrated in accordance with a Systematic Approach to Training (SAT) program, similar to what is described in RG 5.75.

The NRC staff has reviewed the applicant's description in T&QP Subsection 3.5.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Sections VI.A., B., C., and D. and therefore is acceptable.

### **Weapons Training and Qualification**

#### **General Firearms Training**

The provisions of 10 CFR Part 73, Appendix B, Section VI.E require that armed members of the security organization shall be trained and qualified in accordance with the requirements of this appendix and the Commission-approved T&QP. Training must be conducted by certified firearms instructors who shall be recertified at least every 3 years. Applicants shall conduct annual firearms familiarization and armed members of the security organization must participate in weapons range activities on a nominal 4 4 month periodicity.

Subsection 3.6.1 of the T&QP addresses the requirements in 10 CFR Part 73, Appendix B, Sections VI.E.1(d)(1) through (11), and includes provisions for training in the use of deadly force and participation in weapons range activities on a nominal 4 month periodicity. Each armed



member of the security organization is trained and qualified by a certified firearms instructor for the use and maintenance of each assigned weapon to include but not limited to, marksmanship, assembly, disassembly, cleaning, storage, handling, clearing, loading, unloading, and reloading, for each assigned weapon.

The NRC staff has reviewed the applicant's description in T&QP Subsection 3.6.1 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.E.1 and therefore is acceptable.

### **General Weapons Qualification**

The provisions of 10 CFR Part 73, Appendix B, Section VI.F.1, "Weapons Qualification and Requalification Program," require that qualification firing must be accomplished in accordance with Commission requirements and the Commission-approved T&QP for assigned weapons. The results of weapons qualification and requalification must be documented and retained as a record.

Subsection 3.6.2 of the T&QP provides that all armed personnel are qualified and requalified with assigned weapons. All weapons qualification and requalification must be documented and retained as a record.

The NRC staff has reviewed the applicant's description in T&QP Subsection 3.6.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.F.1 and therefore is acceptable.

### **Tactical Weapons Qualification**

The provisions of 10 CFR Part 73, Appendix B, Section VI.F.2 require that the applicant conduct tactical weapons qualification. The applicant's T&QP must describe the firearms used, the firearms qualification program, and other tactical training required to implement the Commission-approved security plans, applicant protective strategy, and implementing procedures. Applicant developed tactical qualification and requalification courses must describe the performance criteria needed to include the site-specific conditions (such as lighting, elevation, fields of fire) under which assigned personnel shall be required to carry out their assigned duties.

Subsection 3.6.3 of the T&QP provides that a tactical qualification course of fire is used to assess armed security force personnel in tactical situations to ensure they are able to demonstrate that their required tactical knowledge, skills and abilities remain proficient.

The NRC staff has reviewed the applicant's description in T&QP Subsection 3.6.3 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff

finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.F.2 and therefore is acceptable.

### **Firearms Qualification Courses**

The provisions of 10 CFR Part 73, Appendix B, Section VI.F.3, state, in part, that the applicant shall conduct the following qualification courses for each weapon used: (a) an annual daylight fire qualification course; and (b) an annual night fire qualification course.

### **Courses of Fire**

The provisions of 10 CFR Part 73, Appendix B, Section VI.F.4 describe required courses of fire.

Subsection 3.6.4 of the T&QP provides a description of the firearms qualification scores for each of the courses of fire used to ensure armed members of the security organization are properly trained and qualified. Courses of fire are used individually for handguns, semiautomatic rifles, and enhanced weapons.

The NRC staff has reviewed the applicant's description in T&QP Subsection 3.6.4 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.F.3, and 10 CFR Part 73, Appendix B, Section VI.F.4 and therefore is acceptable.

### **Firearms Regualification**

The provisions of 10 CFR Part 73, Appendix B, Section VI.F.5 provide that armed members of the security organization shall be requalified for each assigned weapon at least annually in accordance with Commission requirements and the Commission-approved T&QP, and the results documented and retained as a record. Firearms requalification must be conducted using the courses of fire outlined in 10 CFR Part 73, Appendix B, Sections VI.F.2, VI.F.3, and VI.F.4. Subsection 3.6.5 of the T&QP states that armed members of the security organization will requalify at least annually with each weapon assigned, using the courses of fire provided in the T&QP.

The NRC staff has reviewed the applicant's description in T&QP Subsection 3.6.5 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.F.5 and therefore is acceptable.

### **Weapons, Personal Equipment and Maintenance**

The provisions of 10 CFR Part 73, Appendix B, Section VI.G provide the requirements for weapons, personal equipment, and maintenance. These requirements provide that the applicant shall provide armed personnel with weapons that are capable of performing the function stated in the Commission-approved security plans, applicant protective strategy, and implementing procedures. In addition, the applicant shall ensure that each individual is

equipped or has ready access to all personal equipment or devices required for the effective implementation of the Commission-approved security plans, applicant protective strategy, and implementing procedures.

Section 3.7 of the T&QP describes that personnel are provided with weapons and personnel equipment necessary to meet the plans and the protective strategy. The equipment provided is described in Section 9 of the PSP, and maintenance is performed as described in Section 20 of the PSP. The staff's review of Section 9, "Security Personnel Training" and Section 20, "Maintenance, Testing, and Calibration," of the PSP is in Subsections 13.6.4.1.9 and 13.6.4.1.20 of this SER.

The NRC staff has reviewed the applicant's description in T&QP Section 3.7 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.G, and therefore is acceptable.

### **Documentation**

The provisions of 10 CFR Part 73, Appendix B, Section VI.H require that the applicant retain all reports, records, or other documentation required by this appendix in accordance with the requirements of 10 CFR 73.55(q). The applicant shall retain each individual's initial qualification record for 3 years after termination of the individual's employment and shall retain each requalification record for 3 years after it is superseded. The applicant shall document data and test results from each individual's suitability, physical, and psychological qualification and shall retain this documentation as a record for 3 years from the date of obtaining and recording these results.

Section 3.8 of the T&QP provides that records are retained in accordance with Section 22, "Records," of the PSP. PSP, Section 22.11 describes how the applicant will retain each individual's initial qualification record for three (3) years after termination of the individual's employment and shall retain each re-qualification record for three (3) years after it is superseded.

The NRC staff has reviewed the applicant's description in T&QP Section 3.8 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.H and therefore is acceptable.

#### **13.6.4.2.4 Performance Evaluation Program**

The provisions in 10 CFR Part 73, Appendix B, Section VI.C.3, "Performance Evaluation Program," state, in part, that:

(a) [Applicants] shall develop, implement, and maintain a Performance Evaluation Program that is documented in procedures [and] which describes how the [applicant] will demonstrate and assess the effectiveness of their onsite physical protection program and protective strategy, including the capability of the armed response team to carry out their assigned duties and

responsibilities during safeguards contingency events. The Performance Evaluation Program and procedures shall be referenced in the [applicant's T&QP].

(b) The Performance Evaluation Program shall include procedures for the conduct of tactical response drills and force-on-force exercises designed to demonstrate and assess the effectiveness of the [applicant's] physical protection program, protective strategy and contingency event response by all individuals with responsibilities for implementing the [SCP].

. . .

- (l) The Performance Evaluation Program must be designed to ensure that:
- (1) Each member of each shift who is assigned duties and responsibilities required to implement the [SCP] and [applicant] protective strategy participates in at least one (1) tactical response drill on a quarterly basis and one (1) force-on-force exercise on an annual basis[.]

Section 4 of the T&QP details the performance evaluation program consistent with the requirements of 10 CFR Part 73, Appendix B, Section VI.C.3(a) through (m). Additional details of the performance evaluation program are described in the facility procedures.

The NRC staff has reviewed the applicant's description in T&QP Section 4 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, Section VI.C.3 and therefore is acceptable.

#### **13.6.4.2.5 Definitions**

The provisions of 10 CFR Part 73, Appendix B, Section VI.J, state, in part, that terms defined in 10 CFR Part 50, 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," and 10 CFR Part 73 have the same meaning when used in this appendix. Definitions are found in the PSP, Appendix A, "Glossary of Terms and Acronyms".

Included in this section of the T&QP is the Critical Task Matrix, which is considered SGI and has not been included in this SER.

The NRC staff has reviewed the applicant's description in T&QP of the Critical Task Matrix tasks for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the T&QP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the T&QP meets the requirements of 10 CFR Part 73, Appendix B, and therefore is acceptable.

#### **13.6.4.2.6 Conclusion on the Training and Qualification Plan**

On the basis of the NRC staff's review described in Subsections 13.6.4.2.1 through 13.6.4.2.5 of this SER, the Fermi 3 T&QP meets the requirements of 10 CFR Part 73, Appendix B. The target sets, target set analysis, and site protective strategy will be in the facility implementing procedures, which are not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and

10 CFR Part 73, Appendix C, Section II.B.5(iii). The NRC staff concludes that complete and procedurally correct implementation will 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.

### **13.6.4.3 Appendix C Safeguards Contingency Plan**

#### **13.6.4.3.1 Background Information**

This category of information identifies the perceived dangers and incidents that the plan addresses and a general description of how the response is organized.

#### **Purpose of the Safeguards Contingency Plan**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.1.b, indicate that the applicant should discuss general goals, objectives and operational concepts underlying the implementation of the SCP.

Section 1.1 of the SCP describes the purpose and goals of the SCP, including guidance to security and management for contingency events.

#### **Scope of the Safeguards Contingency Plan**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.1.c, delineate the types of incidents that should be covered by the applicant in the SCP, how the onsite response effort is organized and coordinated to effectively respond to a safeguards contingency event, and how the onsite response for safeguards contingency events has been integrated into other site emergency response procedures.

Section 1.2 of the SCP states the scope of the SCP to analyze and define decisions and actions of security force personnel, as well as facility operations personnel, for achieving and maintaining safe shutdown.

#### **Perceived Danger**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.1.a, require that, consistent with the DBT specified in 10 CFR 73.1(a)(1), the applicant shall identify and describe the perceived dangers, threats, and incidents against which the SCP is designed to protect.

Section 1.3 of the SCP outlines the threats used to design the physical protection systems.

The applicant adequately addresses perceived danger, provides a purpose of the plan, and describes the scope of the plan.

#### **Definitions**

Section 1.4 of the SCP describes that a list of terms and their definitions used in describing operational and technical aspects of the approved SCP as required by 10 CFR Part 73, Appendix C, Section II.B.1.d is found in Appendix A of the PSP.

The NRC staff has reviewed the applicant's description in SCP Sections 1, 1.1, 1.2, 1.3, and 1.4 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the SCP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the SCP meets the requirements of 10 CFR Part 73, Appendix C, Section II.B.1 and therefore are acceptable.

#### **13.6.4.3.2 Generic Planning Base**

As required in 10 CFR Part 73, Appendix C, Section II.B.2., this section of the plan defines the criteria for initiation and termination of responses to security events to include the specific decisions, actions, and supporting information needed to respond to each type of incident covered by the approved SCP.

#### **Situations Not Covered by the Contingency Plan**

Section 2.1 of the SCP details the general types of conditions that are not covered in the plan.

#### **Situations Covered by the Contingency Plan**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.2.a, require, in part, that the plan identify those events that will be used for signaling the beginning or aggravation of a safeguards contingency according to how they are perceived initially by the applicant's personnel. Applicants shall ensure detection of unauthorized activities and shall respond to all alarms or other indications signaling a security event, such as penetration of a PA, vital area, or unauthorized barrier penetration (vehicle or personnel); tampering, bomb threats, or other threat warnings—either verbal, such as telephoned threats, or implied, such as escalating civil disturbances.

The provisions of 10 CFR Part 73, Appendix C, Section II.B.2.b, require, in part, that the plan define the specific objective to be accomplished relative to each identified safeguards contingency event. The objective may be to obtain a level of awareness about the nature and severity of the safeguards contingency to prepare for further responses; to establish a level of response preparedness; or to successfully nullify or reduce any adverse safeguards consequences arising from the contingency.

The provisions of 10 CFR Part 73, Appendix C, Section II.B.2.c require, in part, that the applicant identify the data, criteria, procedures, mechanisms and logistical support necessary to achieve the objectives identified.

Section 2.2 of the SCP describes in detail the specific situations it covers, provides a list of objectives for each event, and provides data necessary for each event.

The NRC staff has reviewed the applicant's description in SCP Sections 2, 2.1 and 2.2 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the SCP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the SCP meets the requirements of 10 CFR Part 73, Appendix C Section II.B.2 and therefore are acceptable.

#### **13.6.4.3.3 Responsibility Matrix**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.4 state that this category of information consists of the detailed identification of responsibilities and specific actions to be taken by the applicant's organizations and/or personnel in response to safeguards contingency events. To achieve this result the applicant must address the following:

- The provisions of 10 CFR Part 73, Appendix C, Section II.B.4.a require, in part, that the applicant develop site procedures that consist of matrixes detailing the organization and/or personnel responsible for decisions and actions associated with specific responses to safeguards contingency events. The responsibility matrix and procedures must be referenced in the applicant's SCP.
- The provisions of 10 CFR Part 73, Appendix C, Section II.B.4.b require, in part, that the responsibility matrix procedures shall be based on the events outlined in the applicant's generic planning base and must include specific objectives to be accomplished, descriptions of responsibilities for decisions and actions for each event, and overall description of response actions each responding entity.
- The provisions of 10 CFR Part 73, Appendix C, Section II.B.4.c require in part, that responsibilities are to be assigned in a manner that precludes conflict of duties and responsibilities that would prevent the execution of the SCP and emergency response plans.
- The provisions of 10 CFR Part 73, Appendix C, Section II.B.4.d require, in part, that the applicant ensure that predetermined actions can be completed under the postulated conditions.

Section 3 of the SCP includes a responsibility matrix, as required by Appendix C, Section II.B.4.a. The responsibility matrix integrates the response capabilities of the security organization (described in Section 4 of the SCP) with the background information relating to decision/actions and organizational structure (described in Section 1 of the SCP), as required by Appendix C, Section II.B.4.a. The responsibility matrix provides an overall description of the response actions and their interrelationships, as required by Appendix C, Section II.B.4.b. Responsibilities and actions have been predetermined to the maximum extent possible and assigned to specific entities to preclude conflicts that would interfere with or prevent the implementation of the SCP or the ability to protect against the DBT of radiological sabotage, as required by Appendix C, Section II.B.4.c. The applicant has described how it will ensure that predetermined actions can be completed under the postulated conditions as required by Appendix C, Section II.B.4.d.

The NRC staff has reviewed the applicant's description in SCP Section 3 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the SCP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the SCP meets the requirements of 10 CFR Part 73, Appendix C, Section II.B.4 and therefore is acceptable.

#### **13.6.4.3.4 Licensee Planning Base**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3 require, in part, that the applicant's planning base include factors affecting the SCP that are specific for each facility.

### **Licensee Organization**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3.a require, in part, that the SCP describe the organization's chain of command and delegation of authority during safeguards contingency events, to include a general description of how command and control functions will be coordinated and maintained.

### **Duties/Communication Protocols**

Subsection 4.1.1 of the SCP details the duties and communications protocols of each member of the security organization responsible for implementing any portion of the applicant's protective strategy, which will allow for coordination and maintenance of command and control functions as required by Appendix C, Section II.B.3.a.

### **Security Chain of Command/Delegation of Authority**

Subsection 4.1.2 of the SCP describes in detail the chain of command and delegation of authority during contingency events, and this is also described in the responsibility matrix portions of the SCP. The chain of command and delegation of authority during normal operations is discussed in the PSP. Accordingly, the staff concludes that the applicant has described the chain of command and delegation of authority during contingency events as required by Appendix C, Section II.B.3.a.

### **Physical Layout**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3.b, require, in part, that the SCP include a site map depicting the physical structures located on the site, including onsite independent spent fuel storage installations, and a description of the structures depicted on the map. Plans must also include a description and map of the site in relation to nearby towns, transportation routes (e.g., rail, water, and roads), pipelines, airports, hazardous material facilities, and pertinent environmental features that may have an effect upon coordination of response activities. Descriptions and maps must indicate main and alternate entry routes for law enforcement or other offsite response and support agencies and the location for marshaling and coordinating response activities.

Section 4.2 of the SCP references Sections 1.1 and 14.5 of the PSP for layouts of the OCA, PA, vital areas, site maps, and descriptions of site features. The staff confirmed that these layouts, maps, and descriptions include the detailed information required by Appendix C, Section II.B.3.b and described above.

### **Safeguards Systems**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3.c require, in part, that the SCP include a description of the physical security systems that support and influence how the applicant will respond to an event in accordance with the DBT described in 10 CFR 73.1(a). The description must begin with onsite physical protection measures to be implemented at the



outermost facility perimeter, and must move inward through those measures to be implemented to protect target set equipment.

Section 4.3 of the SCP describes that safeguards systems are described in PSP Sections 9, 11, 12, 13, 15 and 16, and in the facility implementing procedures/documents. Section 8 of the SCP describes how physical security systems will be used to respond to a threat at the site, as required by Appendix C, Section II.B.3.c. As further required by Appendix C, Section II.B.3.c, the SCP description begins with physical protection measures proposed at the outermost facility perimeter, and moves inward through those measures proposed to protect target set equipment.

### **Law Enforcement Assistance**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3.d require, in part, that the applicant provide a listing of available law enforcement agencies, a general description of their response capabilities, their criteria for response, and a discussion of working agreements or arrangements for communicating with these agencies.

Section 4.4 of the SCP states in detail the role of LLEA in the site protective strategy. In accordance with Appendix C, Section II.B.3.d, these details include LLEA response capabilities, LLEA criteria for response, and the working agreements or arrangements for communicating with these LLEAs. Additional details regarding LLEA are included in Section 8 of the PSP and Section 5.6 of the SCP.

### **Policy Constraints and Assumptions**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3.e require, in part, that the SCP include a discussion of State laws, local ordinances, and company policies and practices that govern the applicant's response to incidents. These must include, but are not limited to, the following: 1) use of deadly force; 2) recall of off-duty employees; 3) site jurisdictional boundaries, and 4) use of enhanced weapons, if applicable.

Section 4.5 of the SCP details the site security policies, including the use of deadly force, provisions for the recall of off-duty employees, site jurisdictional boundaries, and authority to request offsite assistance, as required by Appendix C, Section II.B.3.e.

### **Administrative and Logistical Considerations**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3.f require, in part, that the applicant provide descriptions of practices which influence how the security organization responds to a safeguards contingency event to include, but not limited to, a description of the procedures that will be used for ensuring that equipment needed to facilitate responses will be readily accessible, in good working order, and in sufficient supply.

Section 4.6 of the SCP outlines administrative duties of the Manager-Nuclear Security and the Security Shift Supervisor, and the use of facility procedures and administrative forms.

The NRC staff has reviewed the applicant's description in SCP Sections 4, 4.1, 4.1.1, 4.1.2, and 4.2 through 4.6 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the SCP is consistent with the acceptance criteria in NUREG-0800,

Subsection 13.6.1, the staff finds that the description provided in the SCP meets the requirements of 10 CFR Part 73, Appendix C, Section II.B.3 and therefore are acceptable.

#### **13.6.4.3.5 Response Capabilities**

This section outlines the response by the applicant to threats to the facility. As set forth below, the applicant describes in detail how they protect against the DBT with onsite and offsite organizations, in accordance with the regulations in 10 CFR 50.54(p)(1) and (hh)(1), 10 CFR 73.55(k), 10 CFR Part 73, Appendix B, Section VI and 10 CFR Part 73, Appendix C, Section II.B.3. In addition, Appendix C, "Introduction," states, in part, that it is important to note that an applicant's SCP is intended to be complementary to any emergency plans developed pursuant to Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," of 10 CFR Part 50 and 10 CFR 52.79, "Contents of Applications; Technical Information and Final Safety Analysis Report.

#### **Response to Threats**

Section 5.1 of the SCP describes the protective strategy design to defend the facility against all aspects of the DBT. Each organization has defined roles and responsibilities.

#### **Armed Response Force**

Section 5.2 of the SCP notes the individuals included in the responsibility matrix and their role in the site protective strategy. This section also notes the minimum number of individuals and their contingency equipment for implementation of the protective strategy. The applicant described the armed response team consistent with 10 CFR 73.55(k)(4), (5), (6) and (7), 10 CFR Part 73, Appendix B, Section VI, and 10 CFR Part 73, Appendix C, Section II.B.3.

#### **Supplemental Security Officer**

Section 5.3 of the SCP describes in detail the use of supplemental security officers in the site protective strategy. The applicant described the use of supplemental security officers, consistent with the requirements in 10 CFR 73.55(k)(4).

#### **Facility Operations Response**

Section 5.4 of the SCP describes the role of operations personnel in the site protective strategy, including responsibilities, strategies and conditions for operator actions as discussed in 10 CFR 50.54(hh)(1).

#### **Emergency Plan Response**

Section 5.5 of the SCP notes the integration of the Emergency Plan (EP) with the applicant's protective strategy, and it gives some examples of how the EP can influence the protective strategy as discussed in 10 CFR 73.55(b)(11).

#### **Local Law Enforcement Agencies (LLEA)**

Section 5.6 of the SCP documents the current agreements with applicable LLEA, and therefore meets the requirements of 10 CFR 73.55(k)(9) and 10 CFR Part 73, Appendix C, Section II.B.3.d and lists the LLEAs that will respond to the site as a part of the protective

strategy. Details on the LLEA response are located in Section 8 of the PSP. Further, Section 5.6 provides a general description of the LLEA response capability and meets the corresponding portions of 10 CFR 73.55(k)(9).

### **State Response Agencies**

Section 5.7 of the SCP documents the current agreements with applicable LLEA, and therefore meets the requirements of 10 CFR 73.55(k)(9) and 10 CFR Part 73, Appendix C, Section II.B.3.d and lists the State response agencies that will respond to the site as a part of the protective strategy. Further Section 5.7 provides a general description of the LLEA response capability and meets the corresponding portions of 10 CFR 73.55(k)(9).

### **Federal Response Agencies**

Section 5.8 of the SCP documents the current agreements with applicable LLEA, and therefore meets the requirements of 10 CFR 73.55(k)(9) and 10 CFR Part 73, Appendix C, Section II.B.3.d and lists the Federal response agencies that will respond to the site as a part of the protective strategy. Further Section 5.7 provides a general description of the LLEA response capability and meets the corresponding portions of 10 CFR 73.55(k)(9).

### **Response to Independent Spent Fuel Storage Installation (ISFSI) Events**

Section 5.9 of the SCP meets the requirements of 10 CFR 73.55(k)(9) and 10 CFR Part 73, Appendix C, Section II.B.3.d, and describes the Response Requirements for ISFSI as a part of the protective strategy.

In **RAI 13.06.01-55**, the NRC staff asked for additional information on the physical security protection measures for the existing ISFSI in the current Fermi 2 operating plant protected area, and requested justification for the omission of information from the Fermi 2 PSP, including Appendix D, in the Fermi 3 PSP.

In a letter dated September 23, 2011, the applicant submitted a revised the PSP, Revision 5, to include information in Appendix C, Section 5.9, and Appendix D relative to the protection of the ISFSI located within the PA, consistent with the existing Fermi 2 PSP.

The NRC staff finds the responses to RAI 13.06.01-55 acceptable, as it provided details on how the applicant meets the requirements in 10 CFR Part 73 for physical protection of an ISFSI. Therefore RAI 13.06.01-55 is closed.

The NRC staff has reviewed the applicant's description in SCP Sections 5.0 through 5.9 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the SCP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the SCP meet the requirements of 10 CFR 50.54(p)(1) and (hh)(1), 10 CFR 73.55(k), 10 CFR Part 73, Appendix B, Section VI and 10 CFR Part 73, Appendix C, Section II.B.3 and therefore are acceptable. In addition, Appendix C, "Introduction" states, in part, that it is important to note that an applicant's SCP is intended to be complementary to any EPs developed pursuant to Appendix E to 10 CFR Part 50 and 10 CFR 52.17.

#### **13.6.4.3.6 Defense-In-Depth**

Section 6 of the SCP lists site physical security characteristics, programs, and strategy elements intended to illustrate the defense in depth nature of the site protective strategy, as required in 10 CFR 73.55(b)(3).

The NRC staff has reviewed the applicant's description in SCP Section 6 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the SCP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the SCP meets the requirements of 10 CFR 73.55(b)(3) and therefore are acceptable.

#### **13.6.4.3.7 Primary Security Functions**

Section 7 of the SCP details the primary security functions of the site, and their roles in the site protective strategy. It also notes the development of target sets, and their function in the development of the applicant's protective strategy.

The NRC staff has reviewed the applicant's description in SCP Section 7 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the SCP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the description provided in the SCP meets the requirements of 10 CFR 73.55(b) and therefore is acceptable.

#### **13.6.4.3.8 Protective Strategy**

The provisions of 10 CFR Part 73, Appendix C, Section II.B.3.c(v) require that applicants develop, implement, and maintain a written protective strategy that shall: 1) be designed to meet the performance objectives of 10 CFR 73.55 (a) through (k); 2) identify predetermined actions, areas of responsibilities, and timelines for the deployment of armed personnel; 3) include measures that limit the exposure of security personnel to possible attack; 4) include a description of the physical security systems and measures that provide defense in depth; 5) describe the specific structure and responsibilities of the armed response organization; and 6) provide a command and control structure.

Section 8 of the SCP describes the site protective strategy.

In **RAI 13.06.01-33**, the NRC staff asked for clarification of the duties and number of officers that are described in the last paragraph of page C-34 and the last paragraph of C-33.

The NRC staff finds the response to RAI 13.06.01-33 acceptable as it provides clarification on the site protective strategy that will be implemented in compliance with 10 CFR Part 73, Appendix C, Section II.B.3.c(v). Therefore RAI 13.06.01-33 is closed.

The NRC staff has reviewed the applicant's description in SCP Section 8 for the implementation of the site-specific physical protection program in accordance with Commission regulations and NUREG-0800 acceptance criteria. Because the applicant's description in the SCP is consistent with the acceptance criteria in NUREG-0800, Subsection 13.6.1, the staff finds that the

description provided in the SCP meets the requirements of 10 CFR 73.55(a) through (r) and 10 CFR Part 73, Appendix C and therefore is acceptable.

#### **13.6.4.3.9 Conclusions on the Safeguards Contingency Plan**

Accordingly, the NRC staff's review described in Subsections 13.6.4.3.1 through 13.6.4.3.8 of this SER, the SCP meets the requirements of 10 CFR Part 73, Appendix C, in accordance with the DBT of radiological sabotage as stated in 10 CFR 73.1. The target sets, target set analysis, and site protective strategy will be in facility implementing procedures, which are not subject to NRC staff review as part of this COL application and are, therefore, subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii). The NRC staff concludes that complete and procedurally correct implementation of the SCP will 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.

#### **13.6.5 Post Combined License Activities**

For the reasons discussed in the technical evaluation section above, the staff finds the following license condition to track implementation of the Physical Security Program, the Safeguards Contingency Program, and the Training and Qualification Program, acceptable.

**License Condition (13-1)** - No later than 12 months after issuance of the COL, the licensee shall submit to the Director of NRO, or the Director's designee, a schedule for implementation of the operational programs listed in FSAR Table 13.4-201, including the associated estimated date for initial loading of fuel. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until the operational programs in the FSAR table have been fully implemented.

The applicant identified the following commitments to track implementation of the Physical Security Program, the Safeguards Contingency Program, and the Training and Qualification Program:

1. Physical Security Program - Implemented prior to fuel onsite **[COM 13.4-017]**
2. Safeguards Contingency Program - Implemented prior to fuel onsite **[COM 13.4-017]**
3. Training and Qualification Program - Implemented prior to fuel onsite **[COM 13.4-017]**

#### **13.6.6 Conclusions**

The NRC staff reviewed the application and checked the referenced DCD. The NRC staff's review confirmed that the applicant addressed the required information relating to physical security, and there is no outstanding information that needs to be addressed in the Fermi COL FSAR related to this section. The results of the NRC staff's technical evaluation of the information incorporated by reference in the Fermi COL application are documented in NUREG-1966.

The staff concludes that the relevant information presented in the Fermi COL FSAR is acceptable based on the applicable regulations specified in Subsection 13.6.4 of this SER. The staff based its conclusion on the following:

The NRC staff's review of the PSP, T&QP and SCP has focused on ensuring the necessary programmatic elements are included in these plans in order 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.

As described in this section, the NRC staff has determined that these plans include the necessary programmatic elements that, when effectively implemented, will provide the required high assurance. The burden to effectively implement these plans remains with the applicant. Effective implementation is dependent on the procedures and practices the applicant develops to satisfy the programmatic elements of its PSP, T&QP, and SCP. The target sets, target set analysis and site protective strategy are in the facility implementing procedures, which were not subject to NRC staff review as part of this COL application, and are therefore subject to future NRC inspection in accordance with 10 CFR 73.55(c)(7)(iv) and 10 CFR Part 73, Appendix C, Section II.B.5(iii). As provided by Section 3 of the applicant's PSP, a performance evaluation program will be implemented that periodically tests and evaluates the effectiveness of the overall protective strategy. This program provides that deficiencies be corrected. In addition, NRC inspectors will conduct periodic force-on-force exercises that will test the effectiveness of the applicant's protective strategy. Based on the results of the applicant's own testing and evaluation, the NRC's baseline inspections and force-on-force exercises, enhancements to the applicant's PSP, T&QP, and SCP may be necessary to ensure that the overall protective strategy can be effectively implemented. As such, the NRC staff approval of the applicant's PSP, T&QP, and SCP is limited to the programmatic elements necessary to provide the required high assurance as stated above. Should deficiencies be identified with the programmatic elements of these plans as a result of the periodic applicant or NRC conducted drills or exercises that test the effectiveness of the overall protective strategy, the plans shall be corrected to address these deficiencies in a timely manner and the applicant should notify the NRC of these plan changes in accordance with the requirements of 10 CFR 50.54(p) or 10 CFR 50.90.

The COL applicant's security plan information is withheld from public disclosure in accordance with the provisions of 10 CFR 73.21.