

NSIR/DSP TECHNICAL REVIEW - TAC D91660

10 CFR 50.54(p)(2) CHANGES TO SECURITY PLAN, REVISION 14

ENTERGY NUCLEAR OPERATIONS, INC.

INDIAN POINT UNITS 1, 2 AND 3

DOCKET NOS. 50-03, 50-247 AND 50-286

LICENSE NOS. DPR-5, DPR-26 AND DPR-64

## **1.0 INTRODUCTION**

By letter dated August 7, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML1217A0457), Entergy Nuclear Operations, Inc. (Entergy) submitted the Indian Point Energy Center (IPEC) Security Plan, consists of Physical Security Plan (PSP), Training and Qualification Plan (T&QP), and Safeguards Contingency Plan (SCP), Revision 14, under the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(p)(2).

The U.S. Nuclear Regulatory Commission (NRC or Commission) staff review confirmed that Entergy's changes to the Security Plan are authorized without NRC prior approval, properly concluded that changes did not decrease the safeguards effectiveness of the Commission-approved security plans, and the changes met established regulatory requirements. The staff applied NRC regulatory standard and criteria and applicable guidance contained within NUREG 0800, Standard Review Plan for Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition – Conduct of Operations (Chapters 13.6.1 and 13.6.2) for physical security, the Office of Nuclear Security and Incident Response (NSIR) Procedure LIC 800 "Security Review Procedure for 10 CFR 50.54(p)(2)" and NEI 03-12, Revision 7, "Template for the Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, [and Independent Spent Fuel Storage Installation Security Program]," for conformance with generic format and content for security plans.

## **2.0 REGULATORY EVALUATION**

The Facility Operating Licenses for IPEC require Entergy to maintain in effect all provisions of the Commission-approved PSP, T&QP, and SCP, Revision 0, and subsequent changes made under 10 CFR 50.54(p)(2) or 10 CFR 50.90. In accordance with 10 CFR 50.54(p), a licensee may not make a change which would decrease the effectiveness of a physical security plan, or guard training and qualification plan, prepared pursuant to 10 CFR 50.34(c) or 10 CFR Part 73, or of the first four categories of information (Background, Generic Planning Base, Licensee Planning Base, Responsibility Matrix) contained in a licensee's safeguards contingency plan prepared pursuant to 10 CFR 50.34(d) or 10 CFR Part 73, as applicable, without prior approval of the Commission.

A licensee desiring to make a change that would decrease the effectiveness of Security Plan is required to submit an application for a license amendment in accordance with 10 CFR 50.90.

NRC prior approval, through an amendment or an exemption, is required for a change that is outside of the established licensing bases (i.e., not previously analyzed or proposed in the Security Plan, described in the Updated Final Safety Analysis Report (FSAR), effects safety bases, etc.), a change to conditions of the license, a propose alternative measure, and an exemption to a regulatory requirement. The criteria that a change will not or did not decrease the effectiveness of Security Plan, set forth in the requirements of 10 CFR 73.55(p)(2), does not authorize or provides justification to a licensee to make changes to the licensing bases for which the Commission issued the Operating License without NRC prior approval.

The NRC staff's review determined whether the changes to the licensing bases are authorized under provisions of 10 CFR 50.54(p)(2), by confirming the changes meet the following standards and criteria: (a) the applicable prescriptive requirements of 10 CFR 73; (b) the performance requirement of 10 CFR 73.55(b) such that they continue 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," in Section 2 of the PSP;" (c) are within the scope, methods, and approaches established in the Security Plan reviewed and approved by the Commission and required by license conditions found in the Facility Operating Licenses Nos. DPR-26 and DPR-64; (d) applied processes for managing the safety/security interface (i.e., 10 CFR 73.58); (e) they did not decrease the effectiveness of the Security Plan and, therefore, provide at least equivalent methods or approaches for physical security systems, administrative controls, and/or management systems previously established in the Security Plan, to justify the use of provisions in 10 CFR 50.54(p)(2); and (f) sufficiently capture how regulatory requirements will be met and implemented (i.e., 10 CFR 73.55(2), 10 CFR 73.55(c)(3)) in the Security Plan.

### **3.0 TECHNICAL EVALUATION**

By letter dated August 7, 2012, Entergy submitted a report of changes under 10 CFR 50.54(p)(2) for the IPEC PSP and SCP. No changes were made to the T&QP. Entergy stated the following:

"Changes were evaluated pursuant to 10 CFR 50.54(p)(2) and do not decrease the safeguards effectiveness of the plan. "

Entergy's changes in Revision 14 of the IPEC PSP and SCP, dated August 7, 2012, are related to incorporating physical security systems and measures in the owner controlled areas (OCA) of IPEC, referred to as a Security Owner Controlled Area (SOCA), and other physical changes are described in the following sections:

- PSP, Section 11,1, "Owner Control Area (OCA) Barriers" (Pages 6-7)
- PSP, Section 15.3, "Intrusion Detection Equipment" (Pages 17-18)
- PSP, Figure 2, "Site Map" (Page 34)
- PSP, Appendix A, "Glossary of Terms and Acronyms" (Pages A-6 and A-9)
- SCP, Section 8, "Protective Strategy" (Pages C-18 to C-19)

By letter dated April 1, 2013 (ADAMS Accession No. ML12093A2500), Entergy submitted responses to the Staff's request for additional information (RAI) issued on December 6, 2012 (ADAMS Accession No. ML112338A261). The responses provided additional information

related to the changes to the licensing bases described in the Security Plan and supporting bases for applying the provision of 10 CFR 50.52(p)(2). The details related to physical security are Safeguards Information, which are protected in accordance with 10 CFR 73.21 and are not publically disclosed.

### Discussion

The changes to Security Plan consisted of the following:

- The changes in PSP Section 11.1, Pages 6-7, consisted of revised text to indicate the provisions of a Security Owner Control Area (SOCA) for early detection, assessment, and delay capabilities for security response to threats. The changes described provisions for dedicated physical security systems (as stated in Section 11.1) that are separate from those at the Protected Area (PA). The SOCA is located between the PA and the OCA. Intrusion detection is provided in areas outside of the existing vehicle barrier system (VBS). Physical barrier systems located within the VBS provide delay of adversary for security response. The descriptions included distances of SOCA detection and physical barriers systems with respect to the VBS. Entergy indicated that inspection, monitoring, maintenance, and compensatory measures for degradations, of physical security systems in the SOCA are implemented through facility procedures.
- The changes in PSP Section 15.3, Pages 17-18, consisted of revising text to reflect replacement of the existing intrusion detection system (IDS) with a new and different type of IDS at the locations north of Unit 2. The changes are intended to improve range of detection capability and reliability, and address safety concern related to maintenance of IDS. The changes also reflect the addition of interior and exterior IDS.
- The changes to Figure 2, Page 34, show the location of the SOCA fence, VBS, and PA fence.
- The changes in PSP Appendix A, Pages A-6 and A-9, consisted of additional descriptions for specific terms applicable to the SOCA (i.e., SOCA, SOCA Clear Zone, SOCA Delay Fence, SOCA Detection Fence, SOCA Detection System, and SOCA Personnel Access Control Point).
- The changes to SCP, Section 8, Pages C-18 to C-19, consist of the following: (a) additional text addressing coordinated attack; (b) addition of SOCA perimeter fence, including location and provisions for monitoring; (c ) security patrol; (d) vehicles and personnel access control measures and search requirements; (e) secondary power and manual backup capability for certain physical security system; (f) use of Vehicle Control Point for vehicle access control and security provisions for controlling access or active barriers; (g) surveillance of portion of the OCA in accordance with Section 15.5.1 of the PSP; and (h) security response for attempts to destroy and circumventing or breach the VBS.

In the responses to the staff's RAI, Entergy provided additional information that was of significance to the staff in the determinations of changes to the licensing bases for security. The information addressed the design of the physical security systems in the SOCA and applicability of prescriptive and performance requirements in 10 CFR Part 73. The following is a summary of

key licensing information for the design of physical security systems, operational requirements, and management systems and applicable regulatory requirements for the SOCA:

#### Design Bases for SOCA Physical Security Systems

- Entergy indicated that the designs and configurations of physical security systems, including active access control systems (vehicle and personnel access gates) and passive barriers, in the SOCA complied with requirements of 10 CFR 73.55(e)(1), 73.55(e)(3)(i)(A), 73.55(e)(3)(ii), 73.55(e)(4)), 73.55(e)(6), 73.55(e)(10)), 10 CFR 73.55(e)(10)(i)(B), and conform to definition in 10 CFR 73.2. Specific descriptions of the configuration and termination of the SOCA in relation to the PA are described in Entergy's response to RAI Question No. 1.c (i.e., third bullet).
- Entergy indicated that designs of physical security systems in the SOCA provide intrusion detection and assessment capabilities, including alarm annunciation, and met the requirements of 10 CFR 10 CFR 73.55(i)(3)(i) through (i)(3)(iii), and 10 CFR 73.55(i)(3)(v) through 73.55(i)(3)(vii).
- Entergy described the physical security systems for access controls. Provisions for search of personnel, vehicles, and material are provided for implementing operational requirements at the Entry Buildings for meeting the requirements of 10 CFR 73.55(g).
- Entergy specified the prescriptive regulatory requirements that are not met by designs, configurations, and/or installations of the physical security systems in the responses to RAI Questions No. 2.a.1. No. 2.a.3, No. 2.b, No. 3.a, No. 3.b, and No. 6.c.
- The staff finds the following:
  - The design bases for physical security systems in the SOCA are described in Entergy's RAI responses. However, information adequately addressing the design bases for physical security systems in the SOCA is currently not captured in changes to the PSP (i.e., a licensing basis document) to describe the specific application of the SOCA for meeting regulatory requirements.
  - The design bases for physical security systems in the SOCA addressed capabilities for detection and assessment. The configurations of physical barrier systems in the SOCA also provide capabilities for physical delays (i.e., increase adversary task times and assumptions for time lines). The physical security systems located in the SOCA are independent of those in the PA, and are not intended to interfere with the capabilities of the physical security systems at the PA to perform detection, assessment, and delay functions.
  - A licensing follow-up item is recommended to address complete and accurate descriptions for the design bases and specific intended purpose and functions for the design of physical security systems in the SOCA, as explained in responses to RAIs. The current changes incorporated in the Security Plan is not sufficient and did not describe that the SOCA is not required for meeting regulatory requirements, and provide complete and accurate information to describe how

regulatory requirements will be met or continued to be met and will be implemented, in accordance with the requirements of 10 CFR 50.34(c) and 10 CFR 73.55(c).

- Entergy's design and configurations of the SOCA does not meet certain prescriptive regulatory requirements set forth for physical security systems in 10 CFR 73.55. The non-compliance or deviations from standards and criteria set forth in NRC regulations results in limitations to system performances and affects the reliability and availability of physical security systems to perform intended functions at all time. A licensing follow-up item is recommended to address complete and accurate information related to the SOCA in the PSP (i.e., physical security systems non-compliance with regulatory requirements). If Entergy chooses to credit the SOCA for meeting regulatory requirements, the provisions 10 CFR 73.55(r), "Alternative Measures," or 10 CFR 73.5, "Specific Exemption" and 10 CFR 50.12, "Specific Exemption," may be applied to address non-compliance with specific prescriptive design requirements for a physical security system.
- The change implemented is within the scope of the current licensing bases, which established a physical protection system providing capabilities for intrusion detection, assessment, and delays for security response.
- The changes, if adequately implemented as described, does not decrease the existing required capabilities for detection and assessment previously established as license bases in the Security Plan.

#### SOCA Operational Requirements and Management Systems

- Entergy indicated that control of personnel, vehicles, and material access through the SOCA are subject to verification of identity, access controls, and searches, in accordance with established site procedures. Security drills and exercises performed under the Performance Evaluation Program (PEP), which meets the requirements of 10 CFR 73.55(b)(6), implements the physical security systems and operational requirements and controls in the SOCA. The processes and procedures for security program reviews in Sections 17, 20, and 21 of the PSP are applied to the SOCA.
- Entergy indicated that the maintenance, testing, and calibration program or requirements described in the PSP (frequencies, maintenance testing and calibration requirements and compensatory measures) are applied to the SOCA.
- In response to RAI Question No. 5.d, Entergy indicated that "[t]he use of deadly (or lethal) force for interdiction and neutralization is independent of the SOCA or protected area."
- Entergy specified the prescriptive regulatory requirements that are not met in the responses to RAI Questions No. 6.f, No. 6.g, and No. 7.c.
- The staff finds the following:

- Entergy plans to apply operational requirements and management systems for control of access, searches of personnel, vehicles, and material, and the PEP for the implementation of the SOCA.
- Entergy did not confirm whether the establishment and application of SOCA would affect the SCP Section 8 that requires Entergy to comply with the State regulations for the justified use of deadly (or lethal) force. An inspection follow-up item is recommended to confirm that Entergy's operational requirements and implementation of training requirements for the use of deadly force considered interdiction or neutralization in the SOCA and Entergy continues to comply with State regulations.
- The changes implemented is within the scope of the licensing bases that establishes a physical protection program (administrative controls and management systems) that provide capabilities for controlling access of personnel, vehicles, and material, the implementation of maintenance, testing, and calibration of systems, and implementation of compensatory measures.
- The changes, if adequately implemented as described, do not decrease the requirements for capabilities for administrative controls and management systems previously as described in the licensing bases of the Security Plan.

Licensing Bases and Assumptions for a Physical Protection System Meeting the Performance Requirements of 10 CFR 73.55(b):

- In response to RAI Question 1.a, Entergy stated that “The SOCA provides separation of the OCA and PA with early warning/detection of attempted unauthorized entry to the SOCA to assist the protective strategy.” In addition Entergy indicated that the SOCA functions to delay advancement of potential threats toward the PA in order to facilitate an implementation of the site's protective strategy.
- In responses to RAI Question No. 1.b, Entergy indicated, that the minimum delay times resulting from the SOCA had been assessed using assumptions applied for physical barrier systems in the PA. However, the additional minimum delay time provided with detection at the SOCA is not credited to increase or change the previous or existing security force response timelines. Entergy indicated that no changes have been made to security force response timelines to take credit for expanded adversary time and distance (e.g., expanded post boundaries).
- In response to RAI Question No. 2.e, Entergy stated that “[t]he other functions of the SOCA barrier as discussed in SCP Section 8, Page C-18 are not changes to the licensing basis to meet the requirement of 10 CFR 73, but are enhancements that are recognized to provide an additional security layer that should be considered by the response strategy.”

- In response to RAI Question No. 3.b, Entergy indicated that the surveillance systems at the SOCA do not replace the performance capability and reliability for assessment, observation, and monitoring previously established in the PSP to meet regulation.
- In response to RAI Question No. 3.c, Entergy stated that “the SOCA provides an enhancement to the existing security system that is used to meet regulatory requirements and is not credited for meeting those requirements. The SOCA is not specifically provided to meet the requirements of 10 CFR 73.55(i)(5)(i).”
- In response to RAI Question No.4.a, Entergy stated that “[t]he SOCA surveillance system was designed to enhance the security system and not to specifically meet 10 CFR 73.55(i)(6)(i) for surveillance, observation, and monitoring for satisfying the requirement of 10 CFR 73.55(b). The design and performance requirement of the SOCA surveillance system described above eliminates the need for illumination.”
- In response to RAI Question No. 5.b, Entergy indicated that “[r]ange qualification as described in Appendix “B” Section 3.6.3(2) of the PSP are based on the distance for the PA as required by the PSP.”
- In response to RAI Question No. 5.c, Entergy stated that “[t]he SOCA security system is an enhancement to the PA and therefore not required to meet the Performance Evaluation Program requirement of 73.55(b)(6) and Appendix B to 10 CFR 73 (Section VI, C.3).”
- In response to RAI Question No.6.d, Entergy stated that “[a]s discussed above, the SOCA provides an enhancement to the existing security system that is used to meet regulatory requirements and is not credited for meeting those regulations. As an enhancement, the access controls, physical barriers, intrusion detection, and assessment systems at the SOCA may be used in addition to the required physical security systems but need not meet the required delay, detection, and assessment functions.”
- The staff finds the following:
  - Entergy’s responses, as indicated above, explicitly stated that the SOCA is not credited for meeting regulatory requirements. Entergy did not make changes to licensing bases for security previously established to provide detection, assessment, and delay functions. The SOCA functions and capabilities are not required for a physical protection system designed to meet the regulatory requirements of 10 CFR 73.55(b). A licensing follow-up item is recommended to address clearly in the PSP, accurate and complete, that the SOCA is not credited or required in meeting the requirements of 10 CFR 73.55(b)(3)(i) and 73.55(b)(3)(ii), as it relates detection and assessment functions.
  - The establishment of the SOCA does not address or provide the operational capabilities for interdiction and neutralization of adversary. The assurance for the capability to neutralize functions continues to be addressed and bounded by

the implementation of the requirements in Section 3.6.3(2) Appendix “B” of the PSP for the PA.

Entergy also provided additional information on the changes to the existing perimeter intrusion detection systems (PIDS). In the responses, Entergy indicated the following:

- Changes implemented included replacements and modifications of PIDS components providing intrusion detection functions near Indian Point Unit 2 to improve capability and reliability and address equipment aging, testing and maintenance, and safety concerns.
- The design requirements, including the replacement detection system technology, detection zone, number of detectors, system configurations, and other design bases related information are described in response to RAI Question No. 2.f. Entergy indicated that the PIDS is independent of the equipment in the SOCA, and the new PIDS equipment meets regulatory requirements.
- The staff finds the following:
  - The changes described the replacement of components of the PIDS that are intended to be equivalent in the capability of the physical security system credited for intrusion detection to meet performance and prescriptive regulatory requirements.
  - The replacement of components of PIDS is within the scope of the licensing bases that established a physical protection system providing intrusion detection.
  - The changes, if adequately implemented as described, do not decrease the requirements for capabilities for detection previously established in the licensing bases of the Security Plan.

#### **4.0 CONCLUSIONS**

The staff confirms that Entergy’s changes to the licensing bases are authorized under the provisions of 10 CFR 50.54(p)(2), based on the standard and criteria (a) through (f), previously stated in Section 2. The staff concludes the following:

- Entergy’s changes: (a) meet all applicable prescriptive requirements of 10 CFR 73; (b) do not affect the performance requirements of 10 CFR 73.55(b) and continue 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;” (c) are within the scope, methods, and approaches established in the Security Plan reviewed and approved by the Commission and required by a condition of license for the Facility Operating Licenses Nos. DPR-26 and DPR-64; (d) applied processes required for managing the safety/security interface; (e) do not decrease the effectiveness of the Security Plan and, therefore, provide at least equivalent methods or approaches for physical security systems, administrative controls, and/or management systems previously established in the Security Plan, to justify the use of provisions in 10 CFR 50.54(p)(2); and (f) do not affect descriptions of the licensing bases that capture



how regulatory requirements will be met and implemented (i.e., 10 CFR 73.55(2), 10 CFR 73.55(c)(3)) in the Security Plan.

- The SOCA is not credited, and Entergy do not require it as engineered controls for meeting performance requirements of 10 CFR 73.55(b) to protect against the design basis threat (DBT) for radiological sabotage. The addition of the SOCA does not update the licensing bases previously established for detection, assessment, and delay functions required in a physical protection system designed to meet the performance regulatory requirements in 10 CFR 73.55(b) and prescriptive requirements in 10 CFR 73.55.
- The changes incorporating the SOCA in the Security Plan, additional engineered controls providing earlier detection and assessment capabilities, is not credited as defense-in-depth in the capabilities for detection and assessment of the existing physical protection system designed to meet the performance requirement of 10 CFR 73.55(b). The physical protection system previously established in the Security Plan is relied on 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,” without the requirement of the SOCA.
- The changes are within the scope, methods, and approaches established in the Security Plan reviewed and approved by the Commission and required by license conditions found in Facility Operating Licenses Nos. DPR-26 and DPR-64.
- The licensee applied management systems for managing the safety/security interface (i.e., 10 CFR 73.58) and determined that changes in the Security Plan did not affect plant safety and operations.
- The replacement PIDS equipment provides at least equivalent methods or approaches for physical security systems, administrative controls, and management systems previously established in the Security Plan. Therefore, the changes did not decrease the effectiveness of the Security Plan and justified the use of provisions in 10 CFR 50.54(p)(2).
- Entergy described how regulatory requirements are met, continued to be met, and will be implemented. However, the descriptions provided in RAI responses are not considered a part of the licensing bases (i.e., 10 CFR 73.55(2), 10 CFR 73.55(c)(3)) captured in the Security Plan. Future update to the Security Plan must provide the licensing bases descriptions provided in the Entergy’s RAI responses to establish that the SOCA is not required for meeting performance requirements of 10 CFR 73.55(b) to protect against the DBT for radiological sabotage.
- Entergy properly concluded that the changes to the Security Plan, as described in Revision 14, submitted on August 7, 2012, do not result in a decrease in safeguards effectiveness, and as such, Entergy’s changes to the security plans do not require prior NRC approval.

The effectiveness of the security plans and supporting facility implementing procedures and practices will continue to be subject to future NRC review and inspection, including NRC-conducted force-on-force exercises. The staff recommends follow-up actions as indicated under NRC licensing and inspection oversight activities.

5.0 REVIEWED BY:

Peter S. Lee, NSIR/DSP/RSLB

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