

CCNPP3COLA NPEmails

From: Arora, Surinder
Sent: Monday, October 26, 2009 11:17 AM
To: 'Poche, Robert'; 'cc3project@constellation.com'
Cc: CCNPP3COL Resource; Lee, Peter; Huyck, Doug; Colaccino, Joseph; Chowdhury, Prosanta; Biggins, James; Vrahoretis, Susan; Hair, Christopher
Subject: DRAFT RAI No. 189 RSPLB 3568
Attachments: DRAFT RAI 189 RSPLB 3568.doc

Rob,

Attached is DRAFT RAI No. 189 (eRAI No. 3568). You have until November 9, 2009 to review it and decide whether you need a conference call to discuss it before the final issuance. After the call or after November 9, 2009, the RAI will be finalized and sent to you for response. You will then have 30 days to respond.

Thanks.

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Request for Additional Information No. 189 (eRAI 3568)
DRAFT
10/26/2009

Calvert Cliffs Unit 3
UniStar

Docket No. 52-016

SRP Section: 13.06 - Physical Security

Application Section: Part 2, Chapter 13; Part 7, Departures and Exemptions; Part 10, Section 5, Part 8 -
CCNPPU3 Security Assessment

QUESTIONS for Reactor Security and Programs Branch (NSIR/DRP/RSPLB)

13.06-1

1. **(U)** Part 2, Chapter 13, Section 13.1.2.2.5.5, Independent Review Committee (Page 13-17): Describe how the reviews of proposed changes to the facility described in the final safety analysis report (FSAR), reviews of violations, deviations, and reportable events, results of investigations, reviews of corrective actions, and reviews of audit programs described in Section 13.1.2.2.5.5 are applied to physical protection systems and security programs. Describe how physical protection will be addressed by the Independent Review Committee to address safety/security interface, maintain licensing basis described in the FSAR, and corrective actions, in accordance with 10 CFR 73.58 and 73.55(b)(10), respectively.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and a description of the implementation of the physical security plan. Title 10 CFR 73.58 and 73.55(b)(10) requires an applicant to manage safety/security interface and the licensee [i.e., applicant] shall manage security findings using the site corrective action program to track, trend, correct and prevent recurrence of failures and deficiencies in the physical protection program. Descriptions and responsibilities of the site's "Independent Review Committee" did not include statements for review and maintenance of operations in accordance with licensing basis established by the FSAR, the interfaces between safety/security, and the correction actions for physical protection. Part 8, security plans, of the COL application did not address how applicant's management measures will meet and implement requirements 10 CFR 73.58.

13.06-2

2. **(U)** Part 2, Table 13.4-1, Operational Programs Required by NRC Regulations and Program Implementation (Page 13-34): Confirm that UniStar intends to fully implement physical protection requirements (i.e., all physical protection systems and operational programs) of an operating reactor in accordance with 10 CFR 73, including Appendix B and Appendix C, "prior to initial receipt of fuel," as stated in Item 15 of the proposed license conditions and milestones

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Item 15 proposes a license condition and milestones for full

implementation of “Physical Security Program, Safeguards Contingency Program, and Training and Qualification Program,” prior to initial receipt of fuel. Title 10 CFR 73.67, Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance, may be applied for protection to storage of Category III reactor fuel assemblies, along with 10 CFR Part 74, Material Control and Accounting of Special Nuclear Material,” and security enhancements requirements that followed the events of 9/11 (i.e., NRC Orders to Cat III fuel cycle licenses) are current regulatory requirements for physical protection for the possession of Category III SNM. Appropriate physical protection commensurate with Category III material may be applied based on NRC Regulatory Guide 5.76, with appropriate application of regulatory requirement for processing request for exemption in accordance with 10 CFR Part 73.55(a)(4).

13.06-3

3. **(U)** Part 2, FSAR Chapter 13, Section 13.6, Physical Security (Page 13-43):

Delete reference to NEI 03-12, Appendix F. The applicant may voluntarily describe proposed physical protection during construction, but is not required by current NRC regulation.

Regulatory Basis: The applicant stated that a “Physical Security Plan during construction, including control of access to the new plant construction site, is consistent with NEI 03-12, Appendix F (NEI, 2007), which is currently under NRC review.” The proposed NEI 03-12 Appendix F has been reviewed and was not accepted by the NRC as acceptable for describing the physical security during construction, including access control (i.e., reference letter from the NRC to NEI, dated November 13, 2008, ML082540163). However, there are no specific regulation requiring physical protection during construction at this time and this is subject under NRC considerations as proposed rulemaking. The applicant may voluntarily describe how it will provide physical protection during construction that enhances proposed Appendix F, but is not required by regulation.

13.06-4

5. **(U)** Part 2, Chapter 1, Table 1.8-2, FSAR Sections that Address COL Items (Page 1-40): Delete “the portions of the NRC orders to the current operating plants” in COL item 13.6-1 that will be addressed in Part 2, FSAR Section 13.6.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. NRC orders to operating reactor licensees are not regulatory requirements for new reactor. The revision of 10 CFR 73 addresses adequate protection requirements implemented through NRC orders after events of September 11, 2001.

13.06-5

6. **(U)** Part 2, Chapter 2.0, Site Characteristics, Chapter 2.2, Nearby Industrial, Transportation and Military Facilities (Pages 2-1 to 43 and 2-64 to 2-114): Provide

results from evaluation of 10 CFR 100.21(f) regarding review of hazards surrounding the site and suitability and indicate any identified impediment to providing plan and measures required for physical protection of a new power reactor.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 100.21(f) requires that site characteristics must be such that adequate security plans and measures can be developed. Part 2, Section 2.2 describes nearby facilities and hazards, but did not address regulatory requirement and state clearly whether non-seismic site characteristics or nearby hazards would impact the development of plans and measures for physical security.

13.06-6

7. **(U) Figure 1.2-1, CCNPU3 Nuclear and Turbine Building Island Layout (Page 1-17) and CCNPPU3 Security Assessment, Appendix F Section F.7, Alternate Vehicle Access Point (Page F-12):** Describe how the design and planned location of alternative access point will address the following: (a) how local meteorology described in Part 2, Chapter 2, Sections 2.2 and 2.3 was considered to assure availability of both access points located on the northern portions (plan NE and NW) of CCNPPU3; (b) how remoteness or spatial separation was considered to assure availability of alternate access portal to the PA during an emergency; (c) what engineered and administrative controls will be provided for assurance of timely access, include descriptions of heavy equipment and personnel to timely remove barriers for emergency access; (c) describe how equipment will be protected and staged to ensure denial of unauthorized use, and that staged equipment do not interfere with required fields of fire for security responders to interdict and neutralize adversaries; (d) state the minimum staffing required to perform tasks to provide emergency access; and (e) describe the design of physical protection systems and/or provisions for the assurance of adequate searches of personnel and vehicle at the alternate access portal.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(g)(5)(i) requires applicant to design the access control system to accommodate potential need for rapid ingress or egress. The applicant-proposed design and provisions providing alternate access to the PA for emergency first responders for fire, hazard-material, radiological or security emergencies must be reliable and available for adequate protection and defense-in-depth. Applicant indicated in Appendix F that heavy equipment will be used to remove VBS component to allow entry into the PA. In addition, 10 CFR 50.47(b)(10) requires "a range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed." The design of the PA access portals must be sufficiently remote from each other to assure availability in emergencies.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-7

11. **(U) Section 1, Sub-Section 1.1 Technical Background and Section 1.2, Regulatory Criteria (Pages 6 and 7):** Delete reference to NRC Order EA-03-086 (Reference 14) issued to operating reactor licensees in this section and other sections throughout the CCNPU3 Security Assessment. State the appropriate reference to Title 10 CFR 73.1 (and applicable RG 5.69) for the discussions specific to the DBT and Title 10 CFR 73 for requirements for design of a physical protection systems and programs for CCNPPU3. Correct Reference No. 14 in Chapter 10, References.

(U) Regulatory Basis: New reactor design vendors and COL applicants are not subject to NRC order(s) issued after events of September 11, 2001 to operating power reactor licensees, and therefore, need not reference NRC orders as applicable regulatory requirements. NRC Order EA-03-086 dated April 29, 2003 supplementing the adversarial characteristics of the design basis threat has been codified in revision to 10 CFR 73.1 (and guidance provided in Regulatory Guide 5.69). Other NRC orders requiring enhancements to physical protection after the events of September 11, 2001 have been captured in revisions to power reactor requirements in 10 CFR 73. The physical protection requirements for power reactors are currently described in various sections of revised 10 CFR 73, in addition to those stated in 10 CFR 73.55.

13.06-8

12. **(U) Section 1, Sub-Section 1.3, Non Regulatory Criteria and Section 9.0, Conclusions (Page 7 and Page 84):** Provide clarification of the statement that “the enhancement discussion contained in this report is not a regulatory requirement but has been developed to reference these enhancements in the applications.” Clarify what is intended by this statement and the use of the term “enhancement” and the conclusion statement in Section 9.1, Regulatory Impact.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. The statement appears to contradict the descriptions throughout the security assessment of how the applicant plans to design a physical protection system (engineered and administrative controls and programs) for meeting regulatory requirements. Physical protection systems or programmatic measures must be clearly identified to establish an adequate licensing basis. Systems or measures not credited or required for meeting regulatory requirements may be considered “enhancement” and should be clearly identified as such in the security assessment report and application. The descriptions of design of physical protection are incorporated standard requirements for the US-EPR design and would not be considered enhancements as stated.

13.06-9

13. (U) Section 1, Sub-Section 1.4, Methodology (Page 7): Review and appropriately reconcile the use of term “preliminary target sets” with AREVA Technical Report ANP-10295, Appendix F.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. AREVA (DC vendor) plans to provide a final target sets based on the standard US-EPR design in Appendix F. Final target sets identify what must be protected from the DBT to prevent radiological sabotage.

13.06-10

14. (U) Section 1, Sub-Section 1.5, Assumptions (1st bullet, Page 8): Confirm and verify that assumptions used for developing the US-EPR security requirements are based on current requirements of 10 CFR 73.1 and application of RG 5.69 for the adversarial characteristics associated with the design basis threat.

(U) Regulatory Basis: New reactor design vendors and COL applicants are not subject to NRC order(s) issued after events of September 11, 2001 to operating power reactor licensees and therefore need not reference NRC orders as applicable regulatory requirements. NRC Order EA-03-086 dated April 29, 2003 supplementing the adversarial characteristics of the design basis threat has been codified in revision to 10 CFR 73.1 (and guidance provided in Regulatory Guide 5.69). Other NRC orders requiring enhancements to security after the events of September 11, 2001 have been captured in revisions to power reactor requirements in 10 CFR 73. The physical protection requirements for power reactors are currently described in various sections of revised 10 CFR 73, in addition to those stated in 10 CFR 73.55.

13.06-11

15. (U) Section 2, Plant Layout, Figure 2.1-1 (Page 12): Review descriptions for facility, structure, or systems and their locations to correct inconsistencies of descriptions used in Figure 2.1-1 and Figure 2.1-2. Correct inappropriate identification of locations and incomplete identification on Figure 2.1-1.

(U) Regulatory Basis: Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided “shall be complete and accurate in all material respects.” Examples: Descriptions using “Emergency Services Water” and “Electric Power Generating Building” in Figure 2.1-1 are identified as “Essential Service Water Building” and Emergency Power Generating Building” in Figure 2.1-2. The location identifiers are not accurate (i.e., #21) and other structures or features are not identified (i.e., #25 and #26).

13.06-12

16. (U) Section 2, Figure 2.3-3, Interconnections Between Vital Island within Nuclear Island (Page 23): Provide clarification whether containment penetrations for equipment trains are credible adversaries pathways. Provide appropriate discussion in appropriate section(s) or graphically show credible pathways. Identify appropriately the pathways

that are credible in Figure 2.3-1 and describe how proposed design of physical protection will deny access (barriers and/or interdiction by security responders).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Penetrations between containment and vital structures must be considered for physical protection against exploitations by DBT adversaries. Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided “shall be complete and accurate in all material respects.”

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-13

17. **(U) Section 3, Sub-Section 3.3.3, Fault Tolerant Intrusion Detection System (Page 29), Section 4, Sub-section 4.3, Intrusion Detection System (Page 36), and Appendix D-3, Conceptual Design – Intrusion Detection System (Page D-9):** Provide clarification of system design described in Sub-Section 3.3, first sentence, and Sub-Section 4.2 and the system design for redundancy in Appendix D-3 that state(s) the minimum design requirement of design and installation of IDS. Reconcile the statement “two fully independent” and “combination of a [intentionally not stated] and a [intentionally not stated] system,” the latter being systems of two different types of detection capabilities.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided “shall be complete and accurate in all material respects.” Also, Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission’s rules and regulations. The descriptions of design and performance requirements in the stated sections are not consistent and must be corrected for accurate representation for the proposed design and licensing basis for a physical protection system.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate

to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-14

18. **(U)** Section 3, Sub-Section 3.3.4, Design Concepts for Minimization of Insider Impact (Page 29): Describe criteria for determining the BRE(s) that will be designed with capabilities to “monitor appropriate [intentionally not stated] cameras.” Describe design and performance requirements of system to provide capabilities for security responders to monitor assigned areas of responsibilities as stated in this section. Clearly identify, in the appropriate sections of the CCNPPU3 Security Assessment, the BRE(s) that will be designed with the capabilities stated and those that will not for detailed design after licensing and to allow for inspections and testing for verification of physical protection ITAAC.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission’s rules and regulations. The description of design and performance requirements establishes the design and basis for licensing, detailed design, and ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-15

19. **(U)** Section 3, Sub-Section 3.3.5, Embedded Bullet Resistant Enclosure (2nd paragraph, Page 30), Sub-Section 4.9, Bullet Resistant Enclosure (Page 38), and Appendix D.7, Conceptual Design – BRE (4th paragraph or sentence, Page D-20): Reconcile the inconsistency for design requirement for heights of BRE stated between Sub-Sections 3.3.5 and 4.9 and Appendix D.7.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.6, Completeness and

accuracy of information, requires information provided “shall be complete and accurate in all material respects.”

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-16

20. **(U) Section 3, Sub-Section 3.3.18, Ability to [intentionally not stated] External Lighting (Page 32):** Describe design and specification requirements of system controls to address inadvertent activating of the capability stated in this section. Address the following in the response: (a) Describe the design requirements to prevent unauthorized access and actuation of control(s) that initiates the capability stated in this section; (b) provide specific personnel contingency equipment that would be necessary, should the system described actuated inadvertently or intentionally or fails to return to normal operations in a timely manner for continuation of required security functions; (c) discuss the interface for the design requirements and performance capability stated in this section in the appropriate appendices (D.8, Conceptual Design – Security Lighting, D.9, Conceptual Design – Security Power System [Item 2], and/or D.11, Conceptual Design – CAS and SAS Stations [Interfacing Systems]) and Part 2 of the COL application; and (d) discuss how safety/security interface was considered and concerns addressed.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission’s rules and regulations. The description of design and performance requirements establishes the design basis for licensing, detailed design, and for ITA that will be verified. The description for the design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6-1. The capability described has safety/security interface concerns and must address 10 CFR 73.58 for managing safety/security interface.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-17

21. **(U)** Section 4, Sub-Section 4.4, External Surveillance Systems (Page 37):

Describe the design criteria for determining the location or locations for the display of external surveillance information. Specifically, identify which defensive position(s) for each sector (N, S, E, and W) of the plant as laid out in Figure B.3-1 will meet the design criteria. Indicate the design and performance requirements in Appendix D, Conceptual Design – External Surveillance System (Page D-11 to D-14).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. Design criteria established the technical basis for licensing, detailed design, and ITA for verification of physical security ITAAC.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-18

22. **(U)** Section 4, Sub-Section 4.5, Internal Surveillance Systems (Page 37): Describe design criteria or requirements for "critical locations," which will be subject to stated surveillance to allow for detailed design and installation of surveillance systems and components.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required as COL Information Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The descriptions of design and performance requirements establish the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be

marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-19

23. **(U)** Section 4, Sub-Section 4.6, Exterior Walls (Page 37): Indicate the assumptions and credited delay times for the statement that “reinforced walls of this thickness offers a significant deterrent to penetration due to the excessive amount of time and material required to create a breach of sufficient size to allow unauthorized entry into the vital area.” Specifically describe the range of delay time associated with the range in thickness and constructions indicated, and for the breaching methods (i.e., postulated mechanical and explosive breaching) evaluated for the estimated delay times. Identify the references (e.g., SAND2001-2168, Technology Transfer Manual, Access Delay – Volume I) used as the technical basis for expected delay times.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required as COL Information Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission’s rules and regulations. The descriptions of design and performance requirements establish the design and licensing basis for detailed design and technical basis for ITA that will be verified. The various designs and constructions are credited for physical protection, to provide delay access. Technical basis and assumptions supporting the conclusion are not described to demonstrate that the assumed or credited minimum delay capabilities of walls are reasonable and sufficiently conservative for application in the proposed physical protection of CCNPPU3.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-20

24. **(U)** Section 4, Sub-Section 4.7, Interior and Exterior Doors (Page 37): Indicate clearly the applicant’s assumptions or credited delay time for the stated GSA type door. Provide reference and/or identify the applicable references (such as SAND2001-2168, Technology Transfer Manual, Access Delay – Volume 1, generic manufacture data) or other used as the technical basis for delay against mechanical or explosive breaching of GSA doors.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required as COL Information Item 13.6.1. Vital island and structure doors are credited to provide delay access. Technical basis and assumptions supporting the conclusion are not described in the discussion to demonstrate that the credited minimum delay capabilities of walls are reasonable and conservative.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-21

25. (U) Section 4, Sub-Section 4.11, Power Supply (1st and 2nd Bullets, Page 39) and Section 6.0, Sub-Section 6.1.3, Assumptions (3rd bullet, Page 52): Clarify whether the statement “unidentified pathways assumes that identification of pathways, while not impossible, would be difficult in a short period of time” considers internal threat in accordance with 10 CFR 73.1(a)(1)(ii). If insider threat (specifically a passive insider) was considered, describe the assumptions on how and what management controls of plant operational programs (engineering, configuration control, maintenance, etc.) would reasonably protect power supply and configurations information, including as-built, required or provided for design, installation, configuration management, and maintenance of these unidentified pathways.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Insider threat in accordance with 10 CFR 73.1(a)(1)(ii) must be considered. The stated assumptions for unidentified pathways (cables or piping) are difficult to identify in a short period of time is not valid if the systems information (such as design, installation, maintenance) are available for various plant population and consideration of insider threat. The assumption stated in Section 6.1.3 did not account for or discuss(ed) insider threat in accordance with DBT and does not appear sufficiently conservative.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-22

26. **(U)** Section 4, Sub-Section 4.14, Security Communications System (Second Paragraph, Page 40): Clarify how the proposed design of the security communication system as described by the statement that “key defensive positions are supplied with . . . hard-wired communications for directing relocation . . . ” will provide for the assurance of availability of communications with and from security responders that may be away from initial defensive positions within the vital island and structures. Specifically address design of security communications system to provide reliable and available two-way communications for pre-deployment, during deployment, and re-deployed to and from defensive positions for implementing the internal protective strategy. Include information in the response to clarify: (a) whether the “key defensive positions” include all of the external defensive positions identified in Figure B.3-1, “External Defensive Positions;” (b) whether this includes the last access control point at the PA; and (c) how proposed system design includes capabilities for reliable two-way communications between security responders and with CAS and SAS .

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required as COL Information Item 13.6.1. Title 10 CFR 73.55(j)(3) requires that all on-duty security force personnel shall be capable of maintaining continuous communications with an individual at each alarm station. The statement “key defensive position” does not provide reasonable descriptions of design requirement for security communications and the plan for availability of two-way communications and their reliability.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-23

27. **(U)** Section 4, Sub-Section 4.14, Security Communications System (2nd Paragraph, Page 40): Describe whether the statement regarding provisions for duress alarm is applicable for the last access control point of the PA access portal, BREs, and other locations of security functions.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required as COL Information Item 13.6.1. Title 10 CFR 73, Appendix B,

VI.G.2(b)(7) states requirement to provide armed security personnel, required for the effective implementation of the Commission-approved Safeguards Contingency Plan and implementing procedures, at a minimum, that include among other personal equipment, the capabilities of duress alarms.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-24

28. **(U) Section 4, Sub-Section 4.15, Internal Delay Features (last sentence, Page 40):** Correct typographical error, "Security Communications Systems" to indicate "Internal Delay Features" as identified in Appendix D.13.

(U) Regulatory Basis: Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided "shall be complete and accurate in all material respects." Typing error should be corrected.

13.06-25

29. **(U) Section 5, Sub-Section 5.1, Threat Evaluations (3rd bullet, Page 41):** Clarify whether item 3 of the three criteria stated is in reference to, and limited only to the 10 CFR 73.1(a)(2)(E)(iii) and (iv), applicable to coordinated external assault. Indicate reference to AREVA Technical Report ANP-10295 that provides the technical basis for the stated minimum distance that is provided for protection against the DBT vehicle bombs.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided "shall be complete and accurate in all material respects." The design basis described in AREVA Technical Report ANP-10295 provides the licensing basis for and demonstrates adequacy of the minimum standoff distance, and must be referenced for completeness of information. Clarification is needed to verify whether the applicant applied NRC guidance in RG 5.69, and that clearly indicate the limitation to the stated criteria to 10 CFR 73.1(a)(2)(E)(iii) and (iv).

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-26

30. **(U) Section, Sub-Section 5.1, Threat Evaluations (Pages 43 and 44):** Identify reference that provides the detailed blast analysis that supports the design requirements for standoff distance identified in Figure 5.1-2, "Equipment Standoff Distances Design Basis with Additional Margin – [intentionally not stated] Pound Vehicle Bomb," and Figure 5.1-3, "Personnel Protection Standoff Distance."

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided "shall be complete and accurate in all material respects."

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-27

31. **(U) Section 5.0, Sub-Section 5.1, Vehicle and Waterborne Bombs (Page 41), Appendix D, Conceptual Design – Vehicle Barrier System (Page D-7):** Confirm that the vehicle barrier system will be designed in accordance with NUREG/CR 6190 and 5250, as indicated in Section 11.2, Vehicle Barriers, of the CCNPPU3 Physical Security Plan, Revision 3, submitted on April 09, 2009. The design and performance requirements of vehicle barrier system that would provide protection against vehicle bomb assault in accordance with of 10 CFR 73.1(a)(1)(E)(iii) should be stated in this document (Appendix D) and references identified in Chapter 10.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all

time such capabilities. Title 10 CFR 73.55(e)(10)(i)(A) requires the design, construction, installation, and maintenance of a VBS at a stand-off distance to be adequate to protect personnel, equipment, and systems necessary to prevent radiological sabotage. The design of physical protection systems beyond the scope of the DC is the responsibility of the COL applicant and is required by COL Action Item 13.6-1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. Design criteria established the technical basis for detail design and licensing basis for ITA that will be verified. AREVA ANP-10295, Section 4.4, only describes planned location of VBS at a minimum required standoff distance.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-28

32. **(U)** Section 5, Figure 5.1-2, Equipment Standoff Distances Design Basis with Additional Margin [intentionally not stated] Pound Vehicle Bomb (Page 43): Indicate the minimum standard off distance required from the walls of the Switchgear Building to protect equipment within the facility, consistent with other graphical depictions of required minimum standoff distance.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Minimum required standoff distance demonstrates that the facilities and equipment will be designed and adequate protection will be provided against overpressures resulting from vehicle borne explosives in accordance with 10 CFR 73.1(a)(1)(E)(iii) and (iv), for the continuity of equipment and personnel to perform required safety and security functions. Regulatory Guide 5.69 provides guidance on DBT characteristics and acceptable methods for blast analysis to demonstrate acceptable required minimum standoff distance and protection against the DBT.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-29

33. **(U)** Section 5, Figure 5.1-2, Equipment Standoff Distances Design Basis with Additional Margin [intentionally not stated] Pound Vehicle Bomb (Page 43): Provide

clarification and verify that the stated minimum required standoff distance indicated for Safeguards Building 2 and Safeguards Building 3 is accurate for the quantity of explosive analyzed. Indicate references (AREVA ANP-10295 and 51 type engineer calculations) that support, provide technical bases, and demonstrate that the indicated distances as stated are reasonable and conservative.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Minimum standoff distance demonstrates that the facilities and equipment will be designed and adequate protection will be provided against overpressures resulting from vehicle borne explosives in accordance with 10 CFR 73.1(a)(1)(E)(iii) and (iv) for continuity of equipment and personnel to perform required safety and security functions. Regulatory Guide 5.69 provides guidance on DBT characteristics and acceptable methods for blast analysis to demonstrate acceptable required minimum standoff distance and protection against the DBT.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-30

34. **(U) Section 5, Figure 5.1-3, Personnel Protection Standoff Distance (Page 43):** Provide clarification and indicate that the minimum required standoff distance evaluated includes postulated scenarios of vehicle bomb (i.e., placement at various credible locations) to ensure that Criteria No. 3 stated in Section 5.1 has been met. Indicate references (AREVA ANP-10295 and engineer calculations – 51-90 series) that support, provide technical bases, and demonstrate that the indicated distances as stated are reasonable and conservative to provide assurance of Criteria 3 for meeting regulatory requirement.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Minimum standoff distance demonstrates that the facilities and equipment will be designed and adequate protection will be provided against overpressures resulting from vehicle borne explosives in accordance with 10 CFR 73.1(a)(1)(E)(iii) and (iv) for continuity of equipment and personnel to perform required safety and security functions. Regulatory Guide 5.69 provides guidance on DBT characteristics and acceptable methods for blast analysis to demonstrate acceptable required minimum standoff distance and protection against the DBT.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-31

36. **(U)** Section 5, Figure 5.5-1, Engagement Zone (Page 48): Provide clarification on whether the indicated cumulative delay time includes the delay time that would be provided by the PA fence after penetration of the IDS. In addition, identify engineered delay features (i.e., that are credited within the PA in Figure 5.5-1.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. Design criteria established the technical basis for licensing, detailed design, and ITA verification. The indicated cumulative delay time should accurately represent (of) the planned design of delay barriers as identified in Figure B.4-15 of Appendix B.4.4.1, Delay Fences. Additional delay added to the cumulative delay time indicated, would increase the window of opportunities for security responders to interdict and neutralize adversaries and demonstrate that layered protection is provided for defense-in-depth protection.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-32

37. **(U)** Section 6, Sub-Section 6.1, Target Set Analysis (Pages 49 - 53): Discuss whether additional target set element(s) or additional target set(s) would be required based on conduct of nuclear operations and any COL action items related to design of safety-related system (e.g., SBODG). Consider incorporating by reference the standard target sets established by AREVA in Technical Report ANP-10295 for the US-EPR design and its supporting technical basis, if the COL applicant does not plan for additional systems related to target set elements or target sets (i.e., commitment to operator actions and required equipment). Describe if required, how Unistar will ensure update to this section, Target Set Analysis, with revisions to AREVA Technical Report

ANP-10295 that is currently on-going and may change with the standard design as a result of US-EPR DC review.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Complete and accurate descriptions of security features (i.e., design requirements, performances, technical basis, and assumptions) incorporated in the standard US-EPR design is needed for understanding the approach and what the COL applicant will protect against the DBT to meet regulatory requirements. Title 10 CFR 73.55(f) requires that the applicant document the process used to develop target sets and identify target sets. AREVA Technical Report ANP-10295, will identify standard target sets based on the US-EPR design and will not include what a COL applicant credits as additional elements for identified target sets (operator actions - people and equipment).

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-33

38. **(U) Section 6, Sub-Section 6.1.3, Assumptions (4th Bullet, Page 52):** Revise statement to be consistent with AREVA Technical Reports ANP-10295, Revision 0, assumption No. 7 (page A-14) that at any given time safety train(s) may be in maintenance outage, one train fails to actuate, and two trains are available and operational to perform their intended functions.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided “shall be complete and accurate in all material respects.”

13.06-34

40. **(U) Section 6, Sub-Section 6.3.3, Assumptions (5th bullet, Page 55):** Provide technical basis for the assumption that the insider will not engage in malevolent activities and reconcile how the assumption adequately addresses the requirements for insider threat (include both active and passive) in accordance with 10 CFR 73.1(a)(1)(E)(ii). Clarify whether and how the assumption is supported by plans of physical protection and administrative controls required for an insider mitigation program. Revise appropriately the assumption.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Insider threat in accordance with 10 CFR 73.1(a)(1)(ii) must be considered. Assumption stated did not adequately describe the adversarial characteristics for the DBT.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-35

41. (U) Section 6, Sub-Section 6.3.3, Assumptions (6th bullet, Page 55): Clarify whether the assumptions include times and rates of personnel movement including the use of motorized vehicles along with movement on foot. What are the specific times and rates used for ascending walls for the postulated scenarios?

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Complete and accurate descriptions of security features (i.e., design requirements, performances, technical basis, and assumptions) incorporated in the standard US-EPR design is needed for understanding the approach and what the COL applicant will protect against the DBT to meet regulatory requirements.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-36

43. (U) Section 6, Table 6.3-1, Defensive Personnel (Pages 56-57): Identify defensive positions (D01, D02, D03, etc.) and the designated defenders in Table 6.3-1 and Figure 6.4-3, to clearly indicate the planned assignments of security responders. Provide designation of “armed responder” and “armed security officer” used in CCNPPU3 Physical Security Plan (Section 18, Response Requirements). In addition, confirm that individuals identified in Table 6-3.1 are within the PA and do not perform owner controlled area surveillance and other security patrols as stated in Sections 18 and 15 of the PSP (Part 8 of the COLA). Clarify the use of the term “typically” in the second

sentence of row No. 3, to explain whether there would be times when a required (a) security responder may not be at the(ir) designated initial location as stated.

(U) Regulatory Basis: Title 10 CFR 73.55(l)(4)(ii)(B) requires that alarm station operator not be assigned other duties or responsibilities which would interfere with the ability to execute the functions described in 10 CFR 73.55(i)(4)(i). That the descriptions of CAS and SAS operator state that it will act as Response Team Leader or respond to interdict DBT adversaries does not meet regulatory requirements. Clarification and revision to description is needed to commit CAS and SAS operators to dedicated functions within the CAS/SAS for alarm, assessment, and communications, and to confirm that they are not assigned multiple responsibilities, including command and control.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-37

43. **(U) Section 6, Table 6.3-1, Defensive Personnel (Pages 56-57):** Identify defensive positions and designated defender (D01, D02, D03, . . .) in Table 6.3-1 on Figure 6.4-3 to clearly indicate the planned assignments of security responders. Provide designation of “armed responder” and “armed security officer” used in CCNPPU3 Physical Security Plan (Section 18, Response Requirements). In addition, confirm that individuals identified in Table 6-3.1 are within the PA and do not perform owner controlled area surveillance and other security patrols as stated in Sections 18 and 15 of the PSP (Part 8 of the COLA). Clarify the use of the term “typically” in the second sentence of row No. 3, to explain whether there would be times when a required security responder may not be at the designated initial location as stated.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Descriptions for security responders do not indicate designation of AR and ASO or clearly provide their locations. The use of the term “typical” could mean that a security responder may not be at the locations indicated or more than one security responder may be at the location. The latter is a concern for meeting commitment indicated for implementing physical protection.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-38

44. **(U)** Section 6, Table 6.3-1, Defensive Personnel (Page 56): Clarify whether defensive position D05 is located at the same elevation as D04. Figure 6.4.3, “External Defensive Positions, Normal Defender Placement and Potential Relocations” and Figure B.3-1, “External Defensive Positions,” identify that they are both located at the same elevation. Reconcile, if needed, the descriptions of the location designation for the following security responder “D05” to represent the actual physical building that the defensive position will be constructed based on Figures 6.4.3 and B.3-1.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Complete and accurate descriptions of security features (i.e., design requirements, performances, technical basis, and assumptions) incorporated in the standard US-EPR design is needed for understanding the approach and what the COL applicant will protect against the DBT to meet regulatory requirements.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-39

45. **(U)** Section 6, Table 6.3-1, Defensive Personnel (Page 56): Clarify and describe the design and performance of BRE that will allow the security responder D01 (as described) to travel from initial deployed location to alternate locations in protected enclosure as indicated in Figure B.3-1. Specifically address the design of protection of travel route between initial and re-deploy locations, and confirm whether the design of the BRE is at- ground or above ground defensive position. Clearly indicate in the design requirements how the assumptions to relocate and how protected route would be addressed by design.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. COL applicant’s design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission’s

rules and regulations. Design criteria established the technical basis for licensing, detailed design, and ITA verification.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-40

46. **(U) Section 6, Figures 6.4-7, 6.4-10, and 6.4-13, Repositioned Defender Placement (Pages 73 to 75):** Provide locations and designations of defender (D##) for the Red, Blue, and Green ingress point protection that correlates with the figures 6.4-8, 6.4-11, and 6.4-14 that provide demonstration of depth of coverage (i.e., overlapping fields of fire).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. COL applicant's design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. The figures identified only show a fraction of the number of security responders and do not show their initial or redeployed positions to demonstrate and support the depth of coverage indicated in figures 6.4-8, 6.4-11, and 6.4-14. The depth of coverage is not supported by information shown or currently provided.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-41

47. **(U) Section 6, Sub-Section 6.4.1, Assumptions (3rd bullet, Page 58):** Clarify whether the stated assumption, 3rd bullet, also applies to internal defensive positions. Provide the technical basis that describes how the assumption of tactical advantage was arrived at based on consideration of the full complement weapons, including explosives, available to the DBT adversaries. Clarify whether it would be also reasonable to conclude that the stated assumption is not true under certain conditions, such as adversary suppressive fire within lines of sight of firing ports of defensive position, use of protective body armor, and tactics to obscuring lines of sight, may reduce the advantage provided to the security responder. Is the assumption valid for engagement between security responders and adversaries that are both stationary?

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The stated assumption is not sufficiently conservative and resulted in less than adequate defense-in-depth for uncertainties of postulated neutralization outcome.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-42

48. (U) Section 6.4, Sub-Section 6.4.1, Assumptions (6th bullet, Page 58): Clarify under what condition the 6th assumption would be applicable for external defensive positions that meet assumptions in 3rd through 5th bullets. Provide technical basis that the assumption is reasonable and sufficiently conservative in evaluating and providing defense-in-depth of protection (i.e., scenarios where adversaries does advances). Include discussions of how the full complement of weapons available to the adversaries was considered for the technical basis that allows for the conclusion that “neither security responders nor the adversary would have an advantage.”

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The stated commitment in Method 1, engagement effectiveness, is not sufficiently conservative and results in less than adequate defense-in-depth for uncertainties of neutralization outcomes. Postulated scenarios that apply the 6th assumption would be less than adequate to demonstrate(d) layered protection required and defense-in-depth protection of uncertainties.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-43

49. (U) Section 6.4, Sub-Section 6.4.2.1, Method 1 (Qualitative), (Page 59): Provide technical basis supporting engagement effectiveness table from “Method 1” (NEI 05-5) referenced in the application. Specifically provide descriptions of how the results of the tables were determined. Include in the descriptions: (a) assumptions of training of

individuals (i.e., required for level of proficiency to perform as indicated); (b) assumption of target size for determining neutralization (e.g., frontal and side profile); (c) maximum rates of target movement; (d) environmental conditions; (e) considerations of physiological and psychological stress and impact on performance; (f) sample size of testing, statistical analysis of field testing data, repeatability to test and results; and (g) limitations of stated probabilities. In addition, confirm that the applicant intends to provide training and qualification for security responders to performed as stated in the Table of Method 1 (i.e., number rounds fire and hits) under site specific design of physical protection systems and expected adversarial created conditions (e.g., distances between defensive positions, height of firing positions, night, smoke, night vision equipment, etc.).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Industry standard NEI 05-05 referenced by the applicant has not been accepted or endorsed by the NRC for licensing analysis or evaluation of postulated adversarial attack scenarios to protect against the DBT. Applicant has not described or provided technical basis applying the results or performance outcomes in Method 1 for providing defense-in-depth for uncertainties. In addition, the applicant has not described how it plans to provide training of security responders, in Part 8 of this application, that will provide reasonable assurance of performance stated in Method 1. The application of Method 1, engagement effectiveness, is not sufficiently conservative based on operating experiences, and results in less than adequate considerations of defense-in-depth for uncertainties of neutralization outcomes.

U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-44

50. **(U) Section 6, Sub-Section 6.4.2.2, Computer Model (Quantitative) – Normal Defensive Forces (Page 59):** Clarify whether the referenced AREVA-developed computer model adjusts probabilities of neutralization based on angular changes and rate of travel as stated in this section including both horizontal and vertical angular changes from elevated defensive positions to account for both horizontal and vertical lines of sight for determining the probabilities of neutralization and depth of coverage (i.e., overlapping fields of fire).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Field of view from a specific location of security responder is affected

horizontally and vertically by obstructions (i.e., three-dimensional). Two-dimensional model would not adequately address or represent fields of view or lines of sight. Confirmation is needed to ensure that three-dimensional effect on fields of view or lines of sight was considered in the computer model used for determining depth of coverage.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-45

51. Section 6, Sub-Section 6.4.3, Scenarios (Page 59): Discuss how postulated scenarios (1, 2, 4, 5, 6, 7, 8, 9, and 12) pathways of ground assault considered the use of motorized vehicles within the characteristics of the DBT. Describe how timelines for adversaries are reduced using motorized vehicles versus foot travel and clarify whether security response times provide assurance for interdiction and neutralization (i.e., bounding security responding timelines are less than adversarial time lines.). Provide the evaluations and resulting timelines using the motorized transport of adversaries for bounding postulated scenarios of assaults to demonstrate that security responders' timelines are less than adversaries timelines to allow for interdiction and neutralization at the PA and along the path of travel to the VA walls or access points.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The rate of travel in motorized vehicle(s) is faster than the rate of travel on-foot, and must be considered in postulated adversaries timelines for bounding scenarios evaluated and must ensure that security responders deployment to initial fighting position provides assurance for capabilities to interdict and neutralize adversaries.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-46

52. **(U) Section 6.4, Sub-Section 6.4.3.1, Scenario 1 – Fastest Path to Vital Area Entry Point (Page 63)**: Provide and clarify that the rate of movement considered for the evaluation of the “fastest path” included all potential means of transport (both motorized and foot) and is bounding of the most challenging to plant security response (i.e., minimum times for adversaries to reach nearest vital area barrier or an entry point). Demonstrate by comparison that the maximum rate of travel using motorized vehicle(s)

will result in adequate security response times, and/or sufficient delay is provided by design at the VA barriers and entry points.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Rates of travel motorized vehicle(s) is faster than the rate of travel on-foot, and must be considered in postulated adversarial timelines for scenarios evaluated to ensure that security responders deployment to initial fighting position provides reasonable assurance for capabilities to interdict and neutralize adversaries. The clarification is required to demonstrate that postulated adversary timelines are not less than the security responder timelines and provide assurance for security responders of the opportunities to interdict and neutralize adversaries once detected.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-47

53. **(U) Section 6.4, Sub-Section 6.4.3.3, Scenario 3 – VBS Breach, Vehicle Used for Transport to Vital Area (Page 63):** Clarify that the timelines for the types of vehicles considered are bounding and/or include all types of motorized transport that must be considered for the DBT. Demonstrate that the timelines for the postulated scenarios are bounding and within the postulated timeline of Scenario 1 (e.g., fastest path). Describe how methods and tactics in Scenario 10 were considered for potentially reducing required travel times for the pathways described in Scenario 3 and other(s) postulated scenarios.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Postulated scenarios must account different rates of travel in accordance with the DBT adversarial characteristics of 10 CFR 73.1. The postulated pathways evaluated should demonstrate that they are the most challenging to security response and demonstrate adequate defense-in-depth for a bounding scenario.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-48

54. (U) Section 6.4, Sub-Section 6.4.3.1, Scenario 11 – VBS Breach, Vehicle Used for Transport to Vital Area (Page 63): Review and verify whether the description of the adversary tasks indicated should include an additional task of defeating engineered delay within the PA. An additional adversary task should be described based on the proposed design of physical protection system interior of the PA.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Design of delay systems shown in Section B.4.4, External Delay Features, indicates plans for a vehicle barrier system within the PA to limit access of authorized vehicles and would result in increased delay time for Scenario 11.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-49

55. (U) Section 6.4, Sub-Section 6.4.3.12, Scenario 12 – Fastest Point of Entry (Page 66): Provide clarification of the rate of movement considered for the fastest path, to demonstrate that all potential means of transport (along with on foot) were considered and Scenario 12 is bounding of the most challenging for security responders (i.e., minimum time for adversaries to reach a vital area barrier or entry point). Demonstrate by comparison that the maximum rate of travel using motorized vehicle(s) results in sufficient security response times and delays (VA and delay barriers) provided by standard design.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Postulated scenarios must account different rates of travel in accordance with the DBT adversarial characteristics of 10 CFR 73.1. The postulated pathways evaluated should demonstrate that they are the most challenging to security response and demonstrate adequate defense-in-depth for a bounding scenario.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as

appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-50

56. **(U)** Section 6.4.5, Result of External Evaluation (Scenario 1-12) (Page 70), Figure 6.4.3, External Defensive Positions, Normal Defender Placement and Potential Relocations, and Appendix B, Section B.3.2, External Defensive Posts (Page B-2):

Discuss how external fixed defensive positions (initial and redeployed) in Figure 6.4-3 and Figure B.3-1 provide capabilities for security responders to interdict and neutralize adversaries attempting to access the VA by means other than access doors. Specifically discuss how lines of sight (i.e., established fields of fire from proposed defensive positions) provide assurance of capabilities to neutralize adversaries attempting access the VA through walls, roof, equipment hatches, HVAC penetrations, vents or manholes, or other openings. Include in the response the following: (a) discussions of adequate fields of fire (lines of sight) from defensive positions identified in the plan south and south-west of the Figure B.3-1 to address south-west portion of the vital barriers, and (b) how the design of BRE on vital island structures will address possible interference with lines of sight due to differing elevations of roofs between location of BRE and grounds between the PA and VA.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified. The staff review of horizontal lines of sights on Figure B.3-1 and 3-dimensional depiction of vital island and structures (Figure 2.1-2) identified building structure that interfere with lines of sights to create apparent blind areas and interference of roofs located below proposed locations of BRE to affect coverage and depth of stated in Section 6.4.5. Locations that cannot be seen from BRE provide opportunities for adversaries to perform required tasks for penetrating vital area or access to vital area at other than expected ingress points, without interruption of tasks or interdiction by security responders.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-51

57. **(U)** Section 6.4.5, Result of External Evaluation (Scenario 1-12) (Page 70), Figure 6.4.3, External Defensive Positions, Normal Defender Placement and Potential Relocations, and Appendix B, Section B.3.2, External Defensive Posts (Page B-2):

Clarify whether the proposed external configurations for defensive positions are bounding for all modes of operations (e.g., full power, refueling outage, and cold shutdown physical plant conditions). Specifically describe how the configuration of the external defensive positions will address recurring changes to the PA physical configuration for routinely recurring operational refueling outage. Discuss how the plan location of lay-down yard during refueling outage had been considered in the design and location of defensive positions and how the physical change will not impact the effectiveness response capabilities. Clearly state how other major routine operations that impact or change the configuration within the PA have been considered and incorporated into the design of external defensive positions.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified and must address all modes of operations.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-52

58. **(U)** Section 6.4.5, Result of External Evaluation (Scenario 1-12) (last bullet, Page 70): Provide clarification and indicate that "all" active posts for calculating cumulative probability of kill is only based on security responders within lines of sight of adversaries at a given time and position as adversaries moved from the PA to the VA . Specifically, confirm that the calculations of probabilities of neutralization accounted for specific fields of fire only from the defensive positions along the adversary pathways.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all

time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Clarification is needed to understand technical basis for indicated and assumed cumulative probabilities of kills.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-53

59. **(U) Section 6.0, Figure 6.4-3, External Defensive Positions, Normal Defender Placement and Potential Relocations (Page 71):** For the proposed external configurations of the defensive positions, describe the defense-in-depth protection provided between the VA and PA boundaries that will deny adversaries access to the vital island and vital structures. Include in the response the following: (a) illustrate and describe the fields of fire and the vital area boundaries assigned to each defensive position and credited to defend against each of the postulated bounding attack scenarios; (b) illustrate or describe the capabilities of each defensive position to provide lines of sight of adversaries within responsible fields of fire to engage adversaries along travel routes up to the VA; and (c) describe any assumptions and illustrate fields of fire and locations of the defensive position that will allow responders to interdict adversaries attempting to scale walls to access VA boundaries from the roof and gaining access to other penetrations.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Additional descriptions and discussions of technical basis and assumptions of defense-in-depth or layered-protections are needed to demonstrate that the proposed design of physical protection system provides defense-in-depth for capabilities to interdict and neutralize DBT adversaries from causing radiological sabotage.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-54

60. **(U) Section 6, Figures 6.4-4 through 6.4-15 (Page 72-75):** Clarify and discuss how “depth of coverage” and “cumulative probability of kill” account for both horizontal and vertical angular changes from elevated defensive positions for assurance of lines of sight.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-55

61. **(U) Section 6.4, Sub-Section 6.4.5, Results of External Evaluations (Scenarios 1-12), (Pages 70-71):** Verify and demonstrate that security responders in defensive positions planned will be provided "view and field of fire" and "depth of coverage" of the VA barrier between buildings designated as No.2 and No. 11 (see Figure 2.1-2, Page 12).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. NRC Staff review identified two potential areas of the VA barrier that applicant will need to demonstrate that it met assumptions of view and field of fire and depth of coverage (bullet 4 on Page 70). VA barriers not in field of fire would not allow the minimum required security responders at locations indicated to effectively interdict and neutralize adversaries and will not allow for interruption of adversaries tasks, such as mechanical(ly) or explosive breach. The depth of coverage is inadequate and does not meet assumptions of number of responders available to a high assurance of neutralization.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-56

62. **(U)** Section 6.4, Sub-Section 6.4.5, Results of External Evaluations (Scenarios 1-12), (Pages 70- 71): Describe how “Depth of Coverage” was evaluated and incorporated the vertical fields of view or fire for elevated BRE. Example: Figure 6.4.3, “External Defensive Positions, Normal Defender Placement and Potential Relocations” (Page 71) - Describe evaluation and results of the vertical view and field of fire available for security responders in Building No. 16 and 17 as designated in Figure 2.1-1 (Page 12). Specifically, do the building structures projecting outward below the elevation of the proposed BRE interfere with the lines of sights toward the vital barriers (Figure 2.1-2, Layout of Key Structures)? Similarly, how vertical fields of view or fire are evaluated for BRE(s) located at highest roof elevation and may have projected lower level roofs (e.g., Building No. 10, 16, 17, 20, 21, , as indicated Figure 2.1-1)

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. NRC Staff review identified two potential areas of the VA barrier that applicant will need to demonstrate that it met assumptions of view and field of fire and depth of coverage (bullet 4 on Page 70). The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission’s rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-57

63. **(U)** Section 6.4, Figures 6.4-5, 6.4-6, 6.4-8, 6.4-9, 6.4-11, 6.4.12, 6.4-14, and 6.4-15,(Pages 70- 71): Describe how the resulting depth of coverage and cumulative probabilities of kill shown graphically in the figures address the vertical fields of view and limitation imposed by physical structures of buildings. Clarify and explain how the 3-dimensional fields of view and fields of fire are incorporated in the application of Method 2 (Computer Model) for evaluating “depth of coverage” and “cumulative probability of kill”

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that

the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Clarification is needed to understand technical basis for indicated and assumed cumulative probabilities for neutralization.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-58

65. **(U)** Section 6.5, Table 6.5-1, Internal Relocation Timelines (Pages 79-80): Incorporate graphical depictions showing locations of all defensive positions identified in Table 6.5-1. Include the following in the response: (a) provide plan view showing defensive positions stated and their locations on level of the nuclear and vital island (+00', +12', +24', +39', +53', +64', etc.) in reference to AREVA Technical Report ANP-10295, Appendix D designation and locations of internal defensive positions; (b) provide summary of side view showing dimension of required vertical travel on stairs; (c) state clearly the assumed rates of movement for determining time required to climb stairs (vertical travel) and horizontal rate of travel used in calculating durations for relocation indicated in Table 6.5-1; and (d) demonstrate by comparison of security response and adversaries timelines that security responders who are not at designated response positions would arrive at their initial assigned locations in sufficient and adequate time to engage adversaries in the fields of fire and window of times associated with the postulated pathways of the adversaries.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Additional descriptions and discussions of technical bases and assumptions of defense-in-depth or layered-protections are needed to demonstrate that the proposed design of a physical protection system provides defense-in-depth for capabilities to interdict and neutralize DBT adversaries from causing radiological sabotage.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-59

66. **(U)** Section 6.5, Sub-Section 6.5.2, Interior Defensive Strategy (1st and 2nd bullets, Page 81): Confirm that the distance indicated in the bullets represents the expected

operational maximum travel distance (and associated travel timelines) between the supplemental responders and the designated response positions at the Access Building. In the response, state clearly the following: (a) the letter designations of defensive positions that each of the supplemental responders will respond to on initial deployment; (b) provide the bounding (i.e., worst case) travel time for indicated maximum travel distance; and (c) provide discussions of how the indicated distance 1st and 2nd bullets were determined.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Additional descriptions and discussions of technical bases and assumptions of defense-in-depth or layered-protections are needed to demonstrate that the proposed design of a physical protection system, if implemented adequately, provides defense-in-depth for capabilities interdict and neutralize DBT adversaries from causing radiological sabotage.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-60

67. **(U) Section 6.5, Sub-Section 6.5.2, Interior Defensive Strategy (last sentence, Page 81):** Provide clarification for reallocation of external defensive positions as stated in the last sentence of Page 81. Specifically explain whether the statement implies (i.e., commitment) to reallocate security responders, assigned to fixed defensive positions described in Figure 6.4-3, in pursuit of adversaries, to collapse security perimeter, and for redeployment of responders to predetermined positions. If the statement is intended to establish pursuit, describe (a) how postulated scenarios or plans will address assurance for continued capabilities to maintain exterior protection of the areas between the PA and VA; (b) how reallocation will be accomplished for assurance of effective pursuit; (c) what are required training of security responders for pursuit (including room entry and clearing); (d) what are the measures planned for addressing friendly fire; (e) when reallocation would be initiated.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Additional descriptions and discussions of technical bases and assumptions of defense-in-depth or layered-protections are needed to demonstrate that the proposed design of a physical protection system, if implemented adequately, provides defense-in-depth for capabilities to interdict and neutralize DBT adversaries from causing radiological sabotage.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-61

68. **(U)** Section 6.5, Sub-Sections 6.5.2.1 to 6.5.2.3, Red Zone, Blue Zone, and Green Zone and Appendix B, Section B.8, Analysis of Adversary Vital Area Breach Time (Pages 84 – 86 and Pages B-52 to B-53): Provide all security response timelines for analyzed zones (i.e., time assumed for alarm, assessment, communications, and deployment time) and verify the cumulative times required to fully defended a particular zone have accounted for the time required to initiate response. The response should include the following: (a) discuss and indicate assumptions on how the evaluation considered when to redeploy security responders based on knowledge of locations and analyzed time lines for adversaries in each of the zones; (b) specific to the Red Zone evaluation, provide clarification and explain why the times indicated in this section for deployment of responders is greater than the time indicated in Appendix B.8.1 adversaries breach of Access Building (5th bullet) would be acceptable and clarify the statement that the Red Zone breach point is fully defended at the time indicated, when compared with the time indicated in the 5th bullet of Appendix B.8.1; and (c) specific to the Green Zone, discuss the margin available and the adequacies when comparing the cumulative time for security responders and accounting of time required to initiate response with that of the adversaries on Page B-53.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Additional descriptions and discussions of technical bases and assumptions of defense-in-depth or layered-protections are needed to demonstrate that the proposed design of a physical protection system provides defense-in-depth for capabilities to interdict and neutralize DBT adversaries from causing radiological sabotage. Redeployment cannot be initiated effectively without assessment and identification of adversaries positions.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-62

69. **(U)** Section 6.5, Sub-Section 6.5.2, Interior Defensive Strategy (5th paragraph, Page 82): Provide clarification or confirm that the “short period of absence” (i.e.,

“maybe randomly be away from their normal initial defensive position”) is equivalent or less than the duration stated in the 4th paragraph for security responder D12 (i.e., the shortest of the durations indicated for security responders D11 and D12). Indicate clearly the security responders that are required to meet this limiting condition and indicate the rate of speed for travel assumed for the duration (e.g., maximum rate for horizontal and vertical travel).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Additional descriptions and discussions of technical bases and assumptions of defense-in-depth or layered-protections are needed to demonstrate that the proposed design of a physical protection system provides defense-in-depth for capabilities to interdict and neutralize DBT adversaries from causing radiological sabotage.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-63

70. **(U) Appendix B, Section B.3.7, External Defensive Posts (Page B-6):** Provide technical basis supporting engagement effectiveness table from “Method 1” (NEI 05-5, Table A-1). Specifically provide descriptions of standard and protocols for “testing” and “evaluations” and assumptions of “subject matter expert judgment” that will be the licensing basis and required proficiency of training to perform as stated in the Table A-1. Include in the response, the technical basis and descriptions for testing, evaluation, and expert judgment documented that include the following: (a) assumptions of training of individuals (i.e., level of proficiency of security responders) tested; (b) standard for tests conducted, including target size (i.e., frontal and side profile), maximum distance greater than 150 yards, the maximum rate of target movement; specific test weapons and sighting equipment; tested shooting position; standard for placement of round on target for a hit vs. neutralization; (ec) environmental conditions for tests performed, include day, dawn, dust, and night; (d) sample size of individuals tested and evaluated, supporting field test data, repeatability of test and results; (e) assumptions or standard incorporating physiological and/or psychological stress (i.e., individual factor); and (f) limitations of stated probabilities, including how the result would be applied to a target with body armor for probability for neutralization.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. NEI 05-05 has not been endorsed by the U.S. NRC for licensing

analysis or evaluation of postulated adversarial attack scenarios based on the DBT. Applicant has described or provided technical basis applying the results or performance outcomes in Method 1 for providing defense-in-depth for uncertainties and described how his plans for training and qualification of security responders, in Part 8 of the application, will provide reasonable assurance of performance stated in Method 1. The stated commitment in Method 1, engagement effectiveness not sufficiently conservative based on operating experiences and results in less than adequate considerations of defense-in-depth for uncertainties of neutralization outcomes. NEI 05-05, Controller Responsibility Guidelines, Revision 1 (June 2006) states that "The data listed in the weapons engagement Table A-1 was established through testing, evaluations, and subject matter expert judgment within the nuclear security industry." The guidance further states the applicability of the table as "The tables are to be used as a guideline for controllers to make reasonable judgments when confronted with situations where MILES is not effective e.g. "RED GUN", MILES malfunctions, and false cover, etc." for inspection application.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-64

71. **(U) Appendix B, Section B.4.3, Limited Ingress Points (Page B-15):** Clarify and provide technical basis that supports that "other openings in the perimeter are heavy equipment hatches with internal hard point latches which preclude timely entry." Specifically, provide assumptions of the following: (a) availability of heavy equipment; (b) how is opening protected when operational mode requires use of hatches; (c) if all openings are within line of sights from BRE and availability of depth of coverage; (d) kind of explosive and mechanical breaching methods that were considered; (e) provide and identify locations of all openings evaluated for the stated assumptions; and (f) ingress points are locked and alarmed.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be

marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-65

72. **(U)** Appendix B, Section B.4.3, Limited Ingress Points, Red Zone (Page B-16): Provide assumptions on how D15 (or D14) assigned to engage adversaries in external defense of the access point will affect the ability to redeploy and participate in internal defense of the access point. Provide evaluations that include only external security responders that have fields of fire on the adversaries for the approach to the access point or describe timeline and availability of D17 to defend Red Zone in the proximity of the VA barriers and access point.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Security responder timelines and overlapping fields of fire must be accurate and complete to reflect task times that include initiation of response, deployment, and redeployment to demonstrate adequate protection against the DBT.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-66

73. **(U)** Appendix B, Section B.4.3, Limited Ingress Points, Blue Zone (Page B-16): Provide and indicate what defensive positions will be used by security responders D05 and D13 to protect both internally and externally access pathways of adversaries. In addition provide assumptions and discuss how D11 and D14 engagement in external defense of the access point will affect the ability to redeploy and participate in internal defense of the access point. Discuss the evaluation and results that include only external security responders that have fields of fire on the adversaries for the approach to the access point or describe timeline and availability of D06 to defend Blue Zone in the proximity of the VA barriers and access point. Describe how the postulated cumulative timelines for security responders for the Blue Zone accounted for the time required for initiating security response (initial response) and how sequences of events and the time-line accounted for initiating relocation of security responders.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that

the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Security responder timelines and overlapping fields of fire must be accurate and complete to reflect task times that include initiation of response, deployment, and redeployment to demonstrate adequate protection against the DBT.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-67

74. **(U)** Appendix B, Section B.4.3, Limited Ingress Points, Green Zone (Page B-17): Provide and indicate what fighting position will be used by security responder D15 to protect both internally and externally access pathways of adversaries. In addition provide assumptions for how D15 engagement in external defense of the access point will affect the ability to redeploy and participate in internal defense of the access point. Discuss the evaluation and results that include only external security responders that have fields of fire on the adversaries for the approach to the access point or describe timeline and availability of D01 to defend the Green Zone in the proximity of the VA barriers and access point. Describe how the postulated cumulative timelines for security responders for this zone accounted for the time required for initiating security response (initial response) and how sequences of events and the time-line accounted for initiating relocation of security responders

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Security responder timelines and overlapping fields of fire must be accurate and complete to reflect task times that include initiation of response, deployment, and redeployment to demonstrate adequate protection against the DBT.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-68

75. **(U)** Appendix B, Section B4.4, External Delay Features (Page B-18): Clarify whether the design and performance requirements of the delay fencing connected to interior vehicle bollards are intended to stop motorized vehicles as described in postulated Scenario 10. Clarify whether this portion of the delay fencing is intended to delay personnel and vehicles, including possible vehicle bomb.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Clarification is needed regarding whether the COL applicant plans on crediting this system in scenarios analyzed or whether the system is provided for operational purpose to control and limit normal vehicle traffic within the PA.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-69

76. (U) Appendix B, Section B.4.4.2, [Intentionally Not Stated] (Page B-19): Provide description on design and performance requirement for item no. 3 identified on Page B-19 that provides a barrier for delay. Include in the description of system performance the following: (a) normal position of barrier; (b) remote or local control to activate delay barrier; and (c) key material of construction for required or credited delay.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-70

79. (U) Appendix B, Section B.5.10, [intentionally not stated] (Page B-23): Provide description of design and performance of the physical protection system stated to clearly

indicate the area of coverage and required capabilities. In addition, (a) clarify whether surveillance cameras are integrated to provide rapid assessment for the intended functions as stated; (b) clarify which internal locations in Figure 6.5-1 are considered dedicated internal positions provided with stated capabilities in the last paragraph of Page B-23, and (c) clarify how redeployed security responders from dedicated positions will maintain capabilities for two-way communications.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-71

80. **(U) Appendix B, Section B.6.2, Computer Model (Quantitative) – Normal Defensive Forces, (last paragraph, Page B-24):** Provide clarification of the term “automatic weapons.” Specifically clarify whether this is consistent with that indicated in Part 8, Physical Security Plan, of the application and confirm that the types of weapons are within NRC regulation.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Clarification is needed to understand that proposed weapons are within NRC regulation (i.e., acceptable for power reactor licensees) and is described in the Part 8, Physical Security Plan of the COLA.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as

appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-72

81. **(U)** Appendix B, Section B.7, Results of Evaluations (Pages B-27 to B-50): Provide reference to document or computational model runs that support each of the summaries of results and evaluations indicated for the twelve postulated bounding scenarios of adversarial pathways and attack in Section B.7. Identify armed responders and locations of BRE as indicated in Table B.3-1, Defensive Personnel, to clearly describe security responders involved in the scenarios and which defender was not accounted for in calculation of margin for defense-in-depth.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Security response to postulated attack scenarios must demonstrate defense-in-depth for assurance of adequate protection against the DBT. Reference document or computation files provide details supporting the results and evaluation of the licensing basis demonstrating adequate protection.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-73

82. **(U)** Appendix B, Section B.7.1, Scenario 3, Scenario 6, Scenario 8, Scenario 11, Scenario 13, (Page B-31): Provide the following: (a) Scenario 3: Confirm whether the stated delay barrier is located inside or outside of the access point and indicate appropriately in Figure C.11-1 of AREVA Technical Report ANP-10295; (b) Scenario 6: Identify the armed responder assigned to Post 19 (BRE); Scenario 8: Clarify how the security responder initially deployed to position X-ray that is assigned to implement internal protective strategy and also protect the external of the VA structure; Scenario 11: Confirm whether the stated delay barrier is located inside or outside of the access point and indicate appropriately in Figure C.11-1 of AREVA Technical Report ANP-10295; Scenario 13: Clarify whether "PAS" indicated should be "CAS."

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. Security response to postulated attack scenarios must demonstrate defense-in-depth for assurance of adequate protection against the DBT.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-74

83. **(U) Appendix B, Section B.9, Conclusions (Page B-54):** Indicate conclusions to reflect results of scenarios (#3 and #11) that resulted in using Red Zone defense internal of vital structures (i.e., internal and external defense provided defense-in-depth for a high assurance of protection).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Penetrations between containment and vital structures must be considered for physical protection against exploitations by DBT adversaries. Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided "shall be complete and accurate in all material respects." Concluding statement only credited external protective strategy for providing high assurance of adequate protection.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-75

84. **(U) Appendix D, Section D.1, Conceptual Design – Site Layout and Protected Area, Figure D.1-1, Site Layout (Page D-2):** Indicate design and performance requirements for the delay fence that forms a continued barrier intended to limit access to vehicle travel to the north sector of the plant. Clarify whether the design of the delay barrier and bollards are intended to provide additional delay of DBT land vehicle bomb in accordance with 10 CFR 73.1(a)(1)(E)(iii).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements

establishes the basis for detailed design and technical basis for ITA that will be verified. Clarification is required to understand whether the performance of the delay fence includes stopping a DBT vehicle bomb.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-76

85. **(U) Appendix D, Section D.3, Conceptual Design – Intrusion Detection System (Pages D-9 to D-10):** Provide design requirements or considerations for the construction of ground surface and substrates beneath the surfaces of the areas between the PA fence and nuisance fence (e.g. grading, drainage, measures against tunneling, etc.).

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-77

86. **(U) Appendix D, Section D.6, Conceptual Design – Access Control System (Pages D-17 to D-19):** Provide plan and section views for the conceptual design showing the locations and configurations of physical protection systems for implementing searches within the control facility at the PA. Discuss the following related to the design and configurations of engineered systems and the layout of the facility: (a) indicate clearly whether engineered systems for conducting personnel searches include explosive detectors; (b) provide discussion and descriptions for the design of physical barriers and configurations of search area for the control of vehicles at the access portal and integration with the facility for personnel control and searches; (c) describe engineered barriers or measures required for preventing by-pass of persons; (d) describe and

indicate location of last access control point within the facility; (e) indicate location of external defensive positions that will provide oversight of the vehicle search at the vehicle access portal; and (f) provide location of the pre-mounted weapon discussed in Appendix B, Section B.5.3.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-78

87. **(U) Appendix D, Section D.6, Conceptual Design – Access Control System (Pages D-17 to D-19):** Indicate the design and performance requirement for required access control systems at the alternative access point to the PA. Clarify how engineered systems will be applied to implement access control and search requirements of personnel and vehicles into the PA when the alternative point of access to the PA is used.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The applicant has not described how access control system will be provided for alternative access to the PA.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-79

88. **(U)** Appendix D, Section D.6, Conceptual Design - Access Control System (Pages D-18 to D19): Review applicability of 10 CFR 73.20, "General Performance Requirements," and 73.45, "Performance Capabilities for Fixed Sites Physical Protection Systems" for the design and performance requirements described under "Typical Keycard door" in Appendix D.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Penetrations between contain and vital structures must be considered for physical protection against exploitations by DBT adversaries. Title 10 CFR 52.6, Completeness and accuracy of information, requires information provided "shall be complete and accurate in all material respects." Indicated referenced section of Part 73 is applicable to Category I material licensees that possess and process SSNM. Clarification is needed on whether the applicant intends to meet stated regulations.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-80

89. **(U)** Appendix D, Section D.7, Conceptual Design – BRE, Suppression Resistance (Pages D-20): Clarify how the assumption that "the suppression of a port by an adversary will result in only a narrow area being eliminated from being engaged from a fire port" is valid for suppressive fire from adversaries on the ground, that are in direct lines of sight with the firing port. Describe design requirements for the minimum opening of a firing port and the required spacing between firing ports for the design to provide depth of coverage assumed in Figures 6.4-5, 6.4-6, 6.4-8, 6.4-9, 6.4-11, 6.4-12, 6.4-14, and 6.4-15 (Pages 70- 71). Include in the response the following: (a) how the design of openings and placement was evaluated to ensure capability to provide a continuous overlapping of fields of fire between firing ports; (b) clarify whether the design considered overlapping fields of fire for the coverage of areas beneath BRE to provide protection against adversaries; (c) discuss whether the design BRE, as applicable, includes firing ports on the floor of BRE to enable security responders within to engage adversaries underneath the stand-alone BRE and consideration of a firing port at access door to defend the BRE; and (d) provide descriptions of the design for the access control to BRE against unauthorized access.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of

the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified. The design and specification of the fire ports has significant impact on the fields of view or fields of fire that allow for security responders to engage adversaries.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-81

90. **(U) Appendix D, Figure D.7-4, [intentionally not stated] Port (Pages D-25):** Provide evaluation that verified that a security responder will be capable of engaging target as indicated in the vertical and horizontal distances (ratio as stated) using scope mounted (thermal or infrared) on weapon through the firing port. Describe or illustrate what physical positions are required of a security responder to fire through the ports to provide field of fire covering the area at 90 degree (straight down) and at slope of angle indicated in Figure D.7-4. Include the descriptions of the height of the fire ports relative to the floor of the BRE and the security responder.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified. The design and specification of the fire ports has significant impact on the fields of view or fields of fire that allow for security responders to engage adversaries. The fire ports should be designed to allow security responder to easily establish reasonable body positions necessary for acquiring and engaging a target.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-82

91. **(U)** Appendix D, Section D.13, Conceptual Design – Internal Delay Features (Pages D-46 and D-47): Indicate performance requirement for each component of the delay system described on Pages D-46 and D-47. Indicate the design requirements for the thickness of heavy grade turbine grating.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified. The design and specification of the fire ports must support assumptions of depth of coverage and allow security responders to engage adversaries.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-83

92. **(U)** Appendix F, Section F.2, Topographic Impacts (Page F-2): Describe, and indicate, additional technical basis and assumptions for the application of the existing "Flood wall" as a security feature to protect CCNPPU3 as stated.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Minimum required standoff distance demonstrates that the facilities and equipment will be design and adequate protection will be provided against overpressures resulting from vehicle borne explosives in accordance with 10 CFR 73.1(a)(1)(E)(iii) and (iv), for the continuity of equipment and personnel to performed required safety and security functions. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified.

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

13.06-84

93. **(U) Appendix F, Figures F.2-2, F.2-3, F.2-4, F.2-5, and F.2.6 [cross section ditches and height of BRE towers (Pages F-3 to F-7):** Verify that the BRE lines of sight based on the information identified in the figures for the adequacy of heights for installation of BREs and distances to the PA (fence and isolations) and application of the BRE design as indicated in Appendix D-7, with the configuration of firing ports as stated, will allow security responders to interdict and neutralize adversaries at the PA fence, isolation zones and delay barriers (i.e., along path of travel). Verify that the height of BRE and the position of firing ports as planned will provide depth of coverage as analyzed and described in Appendix B, Section B.4.2, Overlapping Fields of Fire. In addition, evaluate whether the proposed design of drainage ditches in the figures of Appendix F, with the exception of F.2-5, would interfere with the lines of sight from the BRE to engage adversaries at the isolation zones and PA fence.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Title 10 CFR 52.80(a) requires the application to contain information for ITA and criteria necessary and sufficient to provide reasonable assurance that the facility has been constructed and will operate in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations. The description of design and performance requirements establishes the basis for detailed design and technical basis for ITA that will be verified. The examination of heights for the BREs and the horizontal distances shown in figures do not support that the design of firing ports (in horizontal positions) will provide sufficient lines of sight to allow security responders to engage adversaries at the PA (i.e., the PA, isolations zones are out of lines of sight). The designs of drainage ditches interfere or obstruct the lines of sight of the PA fence due to differences in the elevations of the ground level of the drainage ditches (high elevation) and the ground level of the PA fences (lower elevation).

(U) Note: The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for additional information (RAI) as appropriate to identify SGI (or Official-Use-Only Security-Related Information) that reveals the specific details of physical protection.

94. **(U)** Appendix B, Section B.5.3, Vehicle Barrier System and Vehicular Access Areas (Page B-21): Indicate the performance requirements and example of the type of weapon that will be provided to responders to implement the statement that “. . . are equipped with weapons capable of disabling vehicles that attempt to enter the site without approval.” Provide technical basis and assumption of effectiveness of the weapon and specific conditions under which it will be effective. Describe the fields of fire that will be provided by the pre-mounted weapon and provide specific coverage area of the pre-mounted weapon.

(U) Regulatory Basis: Subpart C of Title 10 CFR (10 CFR) 52, § 52.79(a)(35)(i) and (ii) requires that information submitted for combined license (COL) include how the applicant will meet the requirements of 10 CFR 73 and descriptions of implementation of the physical security plan. Title 10 CFR 73.55(b)(3)(i) requires applicant to ensure that the capabilities to detect, assess, interdict, and neutralize the DBT and maintain at all time such capabilities. The design of physical protection systems beyond the scope of the DC is required by COL Action Item 13.6.1. Clarification is needed to understand that proposed weapon relied on for the statement indicated on Page B-21 and verify that it is within regulatory requirement (i.e., acceptable for power reactor licensees) and is consistent with or is described in the Part 8, Physical Security Plan of the COLA.