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UniStar
NUCLEAR ENERGY

10 CFR 50.4
10 CFR 52.79

March 23, 2010

UN#10-070

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Response to Request for Additional Information for the
Calvert Cliffs Nuclear Power Plant, Unit 3,
RAI No. 189, Physical Security – Non-Safeguards Information

References:
1) Surinder Arora (NRC) to Robert Poche (UniStar Nuclear Energy), "FINAL RAI No. 189 RSPLB 3568" email dated November 9, 2009

2) UniStar Nuclear Energy Letter UN#09-499, from Greg Gibson to Document Control Desk, U.S. NRC, Submittal of Response to RAI No. 189, Physical Security, dated December 8, 2009

3) UniStar Nuclear Energy Letter UN#10-081, from Greg Gibson to Document Control Desk, U.S. NRC, Submittal of Response to RAI No. 189, Physical Security, dated March 23, 2010

The purpose of this letter is to respond to the request for additional information (RAI) identified in the NRC e-mail correspondence to UniStar Nuclear Energy, dated November 9, 2009 (Reference 1). This RAI addresses the Physical Security, as discussed in Section 13.6 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Combined License Application (COLA), Revision 6. This RAI also addresses the "Calvert Cliffs Nuclear Power Plant, Unit 3, Security Plan, Training and Qualification Plan, Safeguards Contingency Plan," Revision 3 and "Calvert Cliffs Nuclear Power Plant, Unit 3, Security Assessment, Revision 4," as submitted in Part 8 of the CCNPP Unit 3 COLA.

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Responses to RAI No. 189, Questions 13.06-2, 13.06-3 and 13.06-4 were provided in letter UN#09-499, dated December 8, 2009 (Reference 2) along with a schedule for the response for the remaining RAI Questions, 13.06-1 and 13.06-5 through 13.06-85, by March 23, 2010. The Enclosure to this submittal provides the responses to RAI No. 189 Questions 13.06-1 and 13.06-5 through 13.06-85 and includes COLA content. A Licensing Basis Document Change request has been initiated to incorporate these changes into a future revision of the COLA.

Our responses do not include any new regulatory commitments. This letter does not contain any sensitive or proprietary information. However, references are included in the responses to a separate transmittal (Reference 3) forwarded under Safeguards Information Controls containing the changes described in the responses.

If there are any questions regarding this transmittal, please contact me at (410) 470-4205, or Mr. Wayne A. Massie at (410) 470-5503.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on March 23, 2010

Greg Gibson

Enclosure: Response to NRC Request for Additional Information, RAI No. 189, Questions 13.06-1 and 13.06.-5 through 13.06-85, Physical Security, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: Surinder Arora, NRC Project Manager, U.S. EPR Projects Branch
Laura Quinn, NRC Environmental Project Manager, U.S. EPR COL Application
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure)
Loren Plisco, Deputy Regional Administrator, NRC Region II (w/o enclosure)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2
U.S. NRC Region I Office

UN#10-070

Enclosure

Response to NRC Request for Additional Information
RAI No. 189, Questions 13.06-1 and 13.01-5 through 13.06-85, Physical Security
Calvert Cliffs Nuclear Power Plant, Unit 3

RAI No. 189

Question 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.

RESPONSE:

FSAR Section 13.1.2.2.1.6, Other Programmatic Reviews and Controls, is added to ensure that the Safety/Security Interface is properly managed at multiple levels. This new FSAR section is proposed because it allows a more broad application of the new requirements of 10 CFR 73.58 rather than relying on the Independent Review Committee (IRC) alone to carry the responsibility for the safety/security interface, which will involve many plant organizations. In addition, due to the periodicity of their meetings, the IRC review of activities can be completed after implementation for some activities, which would not meet the intent of the rule or Regulatory Guide 5.74. Other committees, such as a plant operations review committee, will have more active in-line responsibilities and are better suited to ensure that physical security is maintained.

FSAR Section 13.1.2.2.1.6 will ensure that committees established to perform safety reviews will also consider physical security concerns for activities that include but are not limited to: reviews of corrective action program investigations and corrective actions, reporting programs, work planning and controls, engineering design, configuration management, review and audit programs, project management, and maintenance activities and programs. A reference to Regulatory Guide 5.74 is also added to FSAR Section 13.1.4.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 FSAR will be updated to add the following section:

13.1.2.2.6 Other Programmatic Reviews and Controls

Programmatic controls and processes (such as plant operations review committees, plant review boards, safety review committees, work planning and controls, corrective action and reporting programs, etc.) are established to assess and manage potential adverse safety and security issues and trends to ensure that emergent and planned operations or activities are identified, reviewed, approved, monitored, and documented as appropriate. These programmatic controls include reviews of proposed changes to the facility as described in the FSAR; reviews of violations, deviations, and reportable events; results of investigations; review of corrective actions; and reviews of audits to ensure that safety issues and issues involving physical protection, including the safety/security interface, will be appropriately addressed. (NRC, 2009).

The reference to Regulatory Guide 5.74 will be added to FSAR Section 13.1.4:

13.1.4 REFERENCES

{**ANSI, 1993**. American National Standard for Selection, Qualification, and Training of Personnel for Nuclear Power Plants, ANSI/ANS-3.1-1993, approved April 23, 1993.

ANSI, 1994. ANSI/ASME NQA-1-1994, Supplement 2S-1, "Supplementary Requirements for the Qualification of Inspection and Test Personnel," and Supplement 2S-3, "Supplementary Requirements for the Qualification of Quality Assurance Program Audit Personnel."

CFR, 2008. Conditions of Licenses, Title 10, Code of Federal Regulations, Section 50.54, U.S. Nuclear Regulatory Commission, 2008.

NEI, 2008. NEI 06-13A, Template for an Industry Training Program Description, Rev. 1, Nuclear Energy Institute, March 2008.

NRC, 1978. Quality Assurance Program Requirements (Operation), Regulatory Guide 1.33, Revision 2, U.S. Nuclear Regulatory Commission, February 1978.

NRC, 1980. Clarification of TMI Action Plan Requirements, NUREG-0737, U.S. Nuclear Regulatory Commission, November 1980.

NRC, 1985. Policy Statement on Engineering Expertise on Shift, 50 FR 43621, U.S. Nuclear Regulatory Commission, October, 28, 1985.

NRC, 1986. Policy Statement on Engineering Expertise on Shift, Generic Letter 86-04, U.S. Nuclear Regulatory Commission, February 1986.

NRC, 2000. Qualification and Training of Personnel for Nuclear Power Plants, Regulatory Guide 1.8, Revision 3, U.S. Nuclear Regulatory Commission, May 2000.

NRC, 2009. Managing the Safety/Security Interface, Regulatory Guide 5.74, U.S. Nuclear Regulatory Commission, June 2009.

UniStar, 2007. "UniStar Nuclear, NRC Project No. 746, Submittal of the Published UniStar Topical Report No. UN-TR-06-001-A, 'Quality Assurance Program Description,' Revision 0", UniStar Nuclear, April 9, 2007.}

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Final Safety Analysis Report (FSAR) will be revised to add the following statement at the end of FSAR Section 2.2.3.2:

In conclusion, based on the analysis of the effects of Design-Basis Events which describes the hazards surrounding the site in Chapter 2.0, "Site Characteristic", and Chapter 2.2 "Nearby Industrial, Transportation and Military Facilities" no impediment was found to hamper, limit or not allow an adequate physical security plan to be developed for CCNPP Unit 3.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Final Safety Analysis Report (FSAR) Section 2.2.3.2 will be revised as follows:

2.2.3.2 Effects of Design-Basis Events

As concluded in the previous sections, the only event requiring further analysis for consideration as a design-basis is related to the frequency of aircraft impact in the vicinity of the CCNPP site. A probabilistic analysis which presents the probability of aircraft accidents which could potentially result in radiological consequences for the U.S. EPR at the CCNPP site is presented in Section 19.2. In conclusion, based on the analysis of the effects of Design-Basis Events which describes the hazards surrounding the site in Chapter 2.0, "Site Characteristic", and Chapter 2.2 "Nearby Industrial, Transportation and Military Facilities" no impediment was found to hamper, limit or not allow an adequate physical security plan to be developed for CCNPP Unit 3.}

Question 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. Title10 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 access control system accommodates the potential need for rapid ingress or egress of authorized individuals during emergency conditions or situations that could lead to emergency conditions.

Question 13.06-6, Parts 7(a), (b) and (c)

The location of the normal and alternative access points is not based upon local meteorology. An emergency exit diametrically opposed to the primary exit point was considered as a design alternative, however, the slope of the site and the storm water drainage system makes this alternative impractical. The most effective design solution is one where the two normal and emergency exit points are mutually excluded from impact by the same release. Based on Pasquill's diffusion curves, a simple evaluation shows that most disperse stability class (A) is approximately 45 degrees in width. Therefore, a release will not simultaneously impact the gate house and proposed emergency exit point.

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D.6, "Conceptual Design – Access Control System," has been revised to clarify that the alternate sally port is not used as an alternative personnel ingress point for the normal security gatehouse. It is used as an alternative vehicle access point for short periods when the primary sally port is undergoing maintenance. It is also used as an emergency personnel and vehicle egress point when the primary point is impacted by a radiological plume. Vehicles and emergency personnel entering the protected area will be searched in accordance with site contingency action procedures prior to allowing access to the protected area.

Question 13.06-6, Part 7(c[2])

No additional equipment is required to open the protected area fencing; therefore, it is not necessary to protect and stage equipment and there is no impact on required fields of fire for security responders to interdict and neutralize adversaries.

Question 13.06-6, Parts 7 (d) and (e)

For emergency personnel egress, no equipment is required to open the protected area fencing to allow plant personnel to exit on foot during a radiological event. The task can be accomplished by security personnel evacuated from the primary emergency exit location. The detailed number and characteristics of the security personnel relocated from the gate house is Safeguards Information.

For emergency access by vehicles (e.g., fire department, local law enforcement personnel, emergency medical personnel), two manually operated Vehicle Barrier System (VBS) qualified gates are located within the alternate sally port perimeter which provide for emergency vehicle access. Use of VBS qualified manually operated gates eliminates the need for any large equipment to provide for emergency equipment ingress. The arrangement and size of the enclosure will allow a number of emergency response vehicles to be processed simultaneously. Larger loads (e.g., large components) require movement of the VBS sections. Scheduling of the resources necessary to accomplish movement of VBS sections is part of the delivery task and is not part of the security or emergency preparedness functions.

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D.2, "Conceptual Design – Vehicle Barrier System," has been revised to include the above information.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Sections D.2 and D.6, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal, transmitted separately under Safeguards Information controls.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 1.1 was revised to remove references to the Security Order and to instead reference 10 CFR 73.1 and Regulatory Guide 5.69. Section 1.5 of the Security Assessment is also being revised to remove the Security Order and to instead reference Regulatory Guide 5.69. Accordingly, Regulatory Guide 5.69 was added as Reference 11 in Section 10 of the Security Assessment.

COLA Impact:

The Calvert Cliffs Nuclear Plant Unit 3 Security Assessment Revision 5 incorporates changes in Sections 1.1, 1.5 and 10, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The requirements and regulatory commitments for the security program are identified in the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Final Safety Analysis Report (FSAR), Subsection 13.6, AREVA NP Inc.'s Technical Report, ANP-10295, "U.S. EPR Security Features" Revision 1 which is incorporated by reference in the CCNPP Unit 3 FSAR, and the CCNPP Unit 3 Physical Security Plan. The Security Assessment provides supplemental programmatic detail and conceptual design information that when combined with the U.S. EPR certified design supports the conclusion that the comprehensive physical security program is effective. The information contained in the Security Assessment provides the basis for the physical security program basis.

The security assessment is intended to be a modifiable document containing supplemental program information for the Physical Security Plan. As such, CCNPP Unit 3 expects to modify the Security Assessment as technologies, guidance, and threats change provided these changes, consistent with the 10 CFR 50.54(p), do not decrease the effectiveness of the security program.

The CCNPP Unit 3 Security Assessment Section 1.3 was revised to indicate that the Security Assessment provides supplemental programmatic detail and conceptual design information to support the review of the CCNPP Unit 3 Physical Security Plan. As such, changes to the information provided in this security assessment are controlled by the provisions of 10CFR 50.54(p).

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 1.3, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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 NP Inc's 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.

RESPONSE:

The term "preliminary" was removed from AREVA NP Inc's Technical Report, ANP-10295 "U.S. EPR Security Features" Revision 1, Appendix F and has likewise been removed from the Calvert Cliffs Nuclear Plant Unit 3 Security Assessment Section 1.4.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section 1.4, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The assumptions used in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment are based on the current 10 CFR Part 73 regulations. The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 1.5 was revised to remove the reference to the Security Order and to instead reference Regulatory Guide 5.69. Accordingly, Regulatory Guide 5.69 was added to Section 10 "References" of the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment.

The Calvert Cliffs Nuclear Power Plant Unit 3 FSAR, Revision 6, Section 13.6 references 10 CFR Part 73. No COLA revision is required.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates the change to Section 1.5 and Section 10, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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).

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Figure 2.1-1 was revised in Revision 5 to make the titles of the structures and systems consistent with Figure 2.1-2.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Figure 2.1-1, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The passable pathways are shown in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Figure 2.3-3. The containment penetrations for equipment trains are substantial barriers to physical access as demonstrated by the ability to remain intact at containment design pressure. Equipment train penetrations into containment that are a passable size after containment isolation will be protected by access control devices (such as bars, grates, etc) to prevent exploitation or will be impassable due to environmental conditions (e.g., temperature, pressure. submergence, etc). The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 2.3 was revised to specify the requirement for access control devices.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 2.3, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Sections 3.3.3, 4.3, and D.3 have been revised to reconcile the statements regarding "two fully independent" and "combination of a [intentionally not stated] and a [intentionally not stated] system".

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Sections 3.3.3, 4.3, and D.3, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Dependent on the surveillance technology selected during the detailed design process, areas being monitored will be divided into a number of discrete zones. For each zone, BREs that are assigned to periodically monitor that zone will be supplied video surveillance capabilities for that zone and BREs not assigned to monitor those zones will not be supplied the video surveillance capabilities. The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Sections 3.3.4 and D.4 were revised to clarify this process.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Sections 3.3.4 and D.4, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The list of structures and the range of elevations for BREs were revised in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D.7 to be consistent with Section 3.3.5 and 4.9.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 Section D.7 incorporates changes as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Design requirements, design interfaces, contingency equipment, fault tolerant design, and the safety/security interface are discussed in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.8. A reference to Appendix D, Section D.8 has been added to Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 3.3.18.

The U.S. EPR plant's capability to manage safety/security interfaces is consistent with Regulatory Guide 5.74, "Managing the Safety/Security Interface." The safety and security program activities are managed in such a manner that there are no adverse impacts on the safety and security activities should plant changes (planned or unplanned) affect the subject security equipment. Plant processes and procedures provide for effective communications between the operations, emergency planning and security staffs is maintained should the subject security equipment be actuated inadvertently or intentionally or fail.

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.8 has been updated to reference the requirements of the interface between safety and security as outlined in 10CFR73.58.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 3.3.18 and D.8, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Determination of the location for the display of external surveillance information requires component or vendor nameplate data. That information is impractical to develop or may limit component suppliers.

Dependent on the surveillance technology selected during the detailed design process, the areas being monitored will be divided into a number of discrete zones and assigned to BREs at that time. The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.4 was revised to clarify this process and contains the external surveillance performance requirements.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section D.4, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 4.5 was revised to remove the term "critical locations" and to add a reference to ANP-10295, "U.S. EPR Security Features," Section 10.1 for a list of areas intended to be monitored.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section 4.5, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The assumptions and credited delay times for various breaching techniques used against reinforced walls are addressed in AREVA NP Inc's Technical Report, ANP-10295 "U.S. EPR Security Features" Revision 1, Appendix H.

AREVA NP Inc.'s Technical Report, ANP-10295 "U.S. EPR Security Features" is a safeguards information document which was submitted as part of the U.S. EPR design certification and is therefore, incorporated by reference in Calvert Cliffs Nuclear Power Plant Unit 3 FSAR since the U.S. EPR design certification is incorporated by reference.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.13 was revised to include assumptions and credited delay times for various breaching techniques used against GSA type doors and other delay features.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section D.13, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

A passive insider was considered as an insider threat. Management controls of plant operational programs (coordinated through procedures) provide defense-in-depth. The defense-in-depth protects the power supply and the configuration of information to mitigate the insider threat. The defense-in-depth includes controls and procedures over general access to as-built documentation, installation procedures, and maintenance and service records of these unidentified pathways to prevent a passive insider supporting an adverse act.

The internal threat (specifically a passive insider) in accordance with 10 CFR 73.1(a)(1)(ii) was considered in the development of the language. The statement, "unidentified pathways assumes that identification of pathways, while not impossible, would be difficult in a short period of time" is consistent with NRC guidance provided in NUREG-1178, Assumption 9. Specifically, NUREG-1178, Assumption 9 states, "Cable runs in trays and conduit need not be protected as vital unless cables necessary for safe shutdown capability are individually identifiable and the identification is reasonably accessible." Assumption 9 rational states that, "generally, it is not feasible for a saboteur to identify individual cables in cable trays." Furthermore, "[cables that] are not readily accessible and significant effort would be required to trace them back to the actual cable identity. Thus, even in such cases, positive identification of specific individual cables is considered to be very difficult and unlikely."

Therefore, consistent with NUREG-1178, the unidentified pathways are not likely to be subject to sabotage, even in the case of an insider threat. In addition, providing the requested information was considered, however providing the information in a consolidated format (such as a Table) increases the

vulnerability of the plant in the event of an insider threat, since the passive insider would be assumed to have access to such information.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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.

RESPONSE:

Parts (a) and (b):

The "key defensive positions" include the external defensive positions identified in Figure B.3-1, "External Defensive Positions", the internal defensive positions identified in AREVA NP Inc.'s Technical Report, ANP-10295 "U.S. EPR Security Features" Revision 1, Appendix D, and the last access control point into the Protected Area. The Security Assessment Section 4.14 and Appendix D.12 are being revised to clarify the scope of "key defensive positions".

Part (c):

The system design includes communications capabilities between security responders and with CAS and SAS as described in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D.12 "Conceptual Design – Security Communications - Wired Communications System."

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section 4.14 and Appendix D.12, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 4.14 has been revised to specify locations which have duress alarm capability.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section 4.14, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 4.15 has been revised to correct the typographical error.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates the change to Section 4.15, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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 NP Inc's 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 NP Inc's 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 5.1 was revised to clarify the intent of the third bullet to be in reference to, and limited only to the 10 CFR 73.1(a)(2)(E)(iii) and (iv), applicable to coordinated external assault. In addition, a sentence was added to reference AREVA NP Inc's Technical Report, ANP-10295 "U.S. EPR Security Features" Revision 1, Section 4.0 as the applicable source for standoff distances from the DBT vehicle bombs.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 5.1 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

A sentence was added to Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 5.1 to reference AREVA NP Inc's Technical Report, ANP-10295 "U.S. EPR Security Features" Revision 1, Section 4.0 as the applicable source for standoff distances from the DBT vehicle bombs.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates the change to Section 5.1 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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 NP Inc's Technical Report ANP-10295 "U.S. EPR Security Features" Revision 1, 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.

RESPONSE:

The Vehicle Barrier System (VBS) will be designed to be consistent with guidance of NUREG 4250 (July 1985) and the updated NUREG/CR 6190 (March 2004), as indicated in Section 11.2, Vehicle Barriers, of the Calvert Cliffs Nuclear Power Plant Unit 3 Physical Security Plan, Revision 3, submitted on April 09, 2009. The additional description of the performance requirements of vehicle barrier system providing protection against vehicle bomb assault has been added to CCNPPU3 Security Assessment Appendix D.2. References were also added to Chapter 10 of the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 10 and Appendix D.2, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.2 has been revised to specify the standoff distance from the applicable sections of the Switchgear Building and a reference to Section D.2 has been added to Section 5.1.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 5.1 and Appendix D.2 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

A sentence was added to Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 5.1 referencing AREVA NP Inc's Technical Report, ANP-10295 "U.S. EPR Security Features" Revision 1, Section 4.0 as the applicable source for standoff distances from the DBT vehicle bombs. Figure 5.1-2 was revised to be consistent with the standoff distances for Safeguards Buildings 2 and 3 provided in ANP-10295 Revision 1.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 5.1 and Figure 5.1-2 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Additional clarification of minimum required standoff distances required for Criteria No. 3 stated in Section 5.1 has been added to the Security Assessment Figure 5.1-3 and Section D.7. Relevant supporting documentation is available for review at AREVA facilities.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes Section 5.1 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The adversary exterior transit timeline development process and assumptions are explained in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix B.8. Additional information regarding specific assumptions related to the delay credited for the protected area fence has been added to Figure 5.5-1 and Appendix B.8.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Figure 5.5-1 and Appendix B.8, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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 NP Inc's 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 NP Inc's 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.

RESPONSE:

No additional target set element(s) and no additional target set(s) are expected to be required based on conduct of nuclear operations.

The Calvert Cliffs Nuclear Power Plant Unit 3 FSAR incorporates by reference the standard Design Certification Application (DC) U.S. EPR FSAR which incorporates by reference AREVA NP Inc.'s Technical Report, ANP-10295 "U.S. EPR Security Features" as the applicable source for standard target sets established by AREVA NP for the U.S. EPR. Since no additional systems related to target set elements or target sets (i.e., commitment to operator actions and required equipment) are planned, and the subject source documents for the Target Set Analysis are incorporated by reference, configuration control is maintained, by administrative processes which inform UniStar of revisions to the standard DC U.S. EPR FSAR, and incorporated references, as they occur throughout the DC review.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 13.06-33

38. **(U)** Section 6, Sub-Section 6.1.3, Assumptions (4th Bullet, Page 52): Revise statement to be consistent with AREVA NP Inc's 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."

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 design philosophy is consistent with AREVA NP Inc.'s Technical Report ANP-10295, Revision 1, Assumption No. 7. Section 6.1.3 deals with the designation of equipment as vital and relies on guidance from NUREG-1178, Assumption 3 that requires assurance that one train of equipment be available to perform the function at any given time. Therefore, there is no inconsistency and no additional failure is required. There is no need to revise COL Action Item 13.6.1.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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.

RESPONSE:

The assumption that an active insider will not engage in malevolent activities is based on the effectiveness of the Insider Mitigation Program (IMP) as described in the Physical Security Plan Section 14.2, the Access Control Program described in the Physical Security Plan Section 14.1, insider mitigation features described in AREVA NP Inc.'s Technical Report, ANP-10295, "U.S. EPR Security Features" Revision 1, Section 10, and the insider mitigation features described in the Security Assessment Sections 3.3.4 and 5.3. The IMP meets the requirements for a human reliability program to mitigate the 10 CFR 73.1(a)(1)(E)(ii) active insider threat.

The assumption has been revised to include reference to the IMP.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section 6.3.3, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The assumptions for rates of personnel movement including the use of motorized vehicles, movement on foot, scaling walls are specified in the CCNPU3 Security Assessment Section 6.3.3.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 6.3.3, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

With the exception of minor editorial variations, this question is similar to RAI 189, Question 13.06-37. Therefore, see response to RAI 189, Question 13.06-37.

This question addresses the same topic as RAI 189, Question 13.06-37. The response provided for RAI 189, Question 13.06-37 addresses Question 13.06-36 as well.

COLA Impact:

See response to RAI 189, Question 13.06-37.

Question 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.

RESPONSE:

Defensive positions and designated defenders (D01, D02, D03, etc.) are designated as Armed Responders or Armed Security Officers (as defined in the Calvert Cliffs Nuclear Power Plant Unit 3 Physical Security Plan Section 18, Response Requirements in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Table 6.3-1.

In addition, the individuals identified in Table 6-3.1 are located within the PA and do not leave the PA during their assigned duties. The owner controlled area surveillance and security patrol responsibilities are described in Table 6.3-1.

Table 6.3-1 row No. 3 was revised to delete the term "typically" from the second sentence. A Note was added to Table 6.3-1 to address the original intent.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Table 6.3-1 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Defensive position D05 is located at the same structure and elevation as D04. The descriptions of the location designation for security responder D05 is being clarified in Table 6.3-1.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Table 6.3-1 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The design of BREs allow the security responder to travel from their initial location to alternate locations within a protected enclosure as indicated in the Security Assessment Appendix B Figure B.3-1. Specifically the design incorporates protected elevated routes of travel between initial and re-deploy locations. The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D.7 has been revised to include the design requirements to address the protected route design assumptions.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Appendix D.7 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Due to addition of a clarifying figure, Figures 6.4-7, 6.4-10, and 6.4-13, "Repositioned Defender Placement," have been renumbered to be Figures 6.4-8, 6.4-11, and 6.4-14, "Repositioned Defender Placement" in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment, Revision 5.

Figures 6.4-8, 6.4-11, and 6.4-14 have been revised to indicate the defender numbers (D##) and defender locations. These defender numbers and locations correlate with the Figures 6.4-9, 6.4-12, and 6.4-14, "Depth of Coverage," for the Red, Blue and Green zones, respectively.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Figures 6.4-8, 6.4-11, and 6.4-14, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The assumptions related to internal defensive positions are addressed in the Security Assessment Section 6.5.1. This section contains an equivalent statement to the 3rd bullet of Section 6.4.1.

The stated assumption is still true under situations 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. These situations may reduce the advantage provided to the security responder but do not eliminate the advantage. It is assumed that adversaries will engage defenders, therefore, whether the adversary fire is suppressive or direct engagement, the outcome is still dependent on the relative number of combatants, movement, and the relative protections provided by their protective cover.

The third bullet addresses stationary defenders against moving adversaries, In the case of an engagement between security responders and adversaries that are both stationary, the third bullet is not applicable but the first, fourth, fifth, and sixth bullets would be applicable.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.4.1, "Assumptions," contains six bulleted items. The first five bullets address qualitative advantages for either the adversaries or the defenders. The sixth bullet provides the criteria used to determine if an engagement is effective, that is, if the defenders are able to stop further advance of the adversaries.

The criterion in the sixth bullet requires application of expert opinion in evaluating the relative advantages of the defenders and adversaries and considers:

- the nature of the engagement environment (smoke, darkness, etc)
- the weaponry available to the defenders and adversaries
- the information available to the defenders from surveillance systems
- the nature and characteristics of the defensive positions

The outcome of the evaluation is a determination of probable advancement by the adversaries. This is an input to, but not the sole factor in, the defense in depth evaluation. Increased effectiveness of the defenders in each engagement results in fewer layers of defense-in-depth being required to produce high assurance of success.

The process described in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.4.1 incorporates the tabletop evaluation process utilized by the industry in conduct of the Force on Force exercises. The method is an industry recognized practice in evaluating engagements when evaluating the strength and weakness of a security concept. Throughout the industry, the method is considered

appropriately conservative in evaluating engagement outcomes. Finally, it is a method that has been validated by the execution of multiple force-on-force exercises.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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.
RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.4.2.1 has been revised and references a new Section F.14 where the requested descriptions have been added.

Parts (a) and (g):

The training program in the Physical Security Plan (PSP) relies on experience and processes from NRC licensees as well as similar training programs in other secure facilities, such as the Department of Energy (DOE) facilities. Consistency in security officer training is the basis for assuming predictability in engagement effectiveness when using the NEI 05-5 engagement effectiveness data as shown in NEI 05-05 Table A-1.

The technical basis for testing, evaluation, and expert judgment applied in the tabletop engagement evaluations is based on training, personnel experience, and other reference material such as DOE

Standard Safeguards and Security Functional Area Qualification Standard for DOE Defense Nuclear Facilities Technical Personnel DOE-STD-1171-2009, NRC Regulatory Guide 5.75 "Training and Qualification of Security Personnel at Nuclear Power Reactor Facilities," and DOE M 470.4-3 Protective Force, Section C, Appendix C-5 Practical Shooting Courses.

Training of the individuals is based on their abilities to meet established criteria of the individual to have:

1. Knowledge of and ability to perform site and routine patrol duty requirements.
2. Operation of individual and post equipment, and vehicles.
3. Operation of communication equipment employed, including proficiency in accepted communication terminology, acronyms, and phonetics, and the methods for verifying operator identity of incoming signals and signaling duress.
4. Knowledge of (and the ability to apply) directives, site policies, plans, Post Orders (PO)/General Orders (GO), and procedures governing the Security Officer's role in site protection.
5. Knowledge of Federal- and State-granted authority applicable to assigned activities and responsibilities between the Protection Force and local law enforcement agencies.
6. Knowledge of post or patrol operations, including the following, as applicable.

    a) Access control systems, procedures, and operations including visitor and employee identification, badging, passes, visitor logging procedures, and property identification.
    b) Prohibited article detection and handling requirements, including the operation of personnel, vehicle, and package-screening devices.
    c) Inspection techniques for persons, packages, and vehicles.
    d) Procedures for personnel and vehicle escorts.
    e) Implementation of plans, POs, GOs, and procedures to protect the site during disruptive events (e.g., fire and civil disturbances).
    f) Recognition of Safety and Security interests being protected, including locations, routine uses, and movements of the interests through or at the duty post.
    g) Reporting incidents, observations, and assessments of alarm annunciations.
    h) Methods of unarmed self-defense.
    i) Use of assigned personal protective equipment (PPE).

Part (b):

The security training procedures include target criteria standards that consider DOE M 470.4-3, Section C, Appendix C-4 titled Precision Rifle/Forward Observer Team Marksmanship Qualification Scoring Template, DOE Standard Target and Precision Rifle Qualification Course Scoring Templates describing Head Scoring Template and Center of Mass Scoring Template. The target size is based DOE M 470-4-3, Section C, Appendix C-4, page C4-2 and C4-3 (Frontal dimensions of 6 inch by 8 inch, Profile minimum 8 inch by 8 inch with a maximum of 10 11/16 inch by 8 inch). Additional target criteria is described in Appendix C-5-Practical Shooting Courses as the DOE-15P target (Size: 23" x 35") and the NRA B-27 target (Size: 35" x 45").

Part (c):

The security training procedures include 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 based on established industry guidance including DOE M 470.4-3, Section C.

Part (d):

The security training procedures include the methodology for scoring firearms testing that is based on industry guidance and considers the DOE procedures. DOE M 470.4-3, Section C is divided into five Appendixes. Appendix C-1 describes DOE requirements for lighting standards and measurement techniques; Appendix C-2 sets forth the remedial qualification course; Appendix C-3 provides target specifications and scoring details and requirements; Appendix C-4 contains descriptions of scoring templates used during Precision Rifle Qualification Courses; Appendix C-5 describes the practical shooting courses. The shooting courses vary to allow the examiner at his discretion to change the environmental conditions to allow for body armor, respirator, dark lighting conditions where flashlights are used, etc.

The security training procedures include varied environmental conditions for tests performed, including day, dawn, dust, and night in a manner similar to those set forth in DOE M 470.4-3.

Part (e):

The security training procedures include use of physiological and psychological stress to impact the performance of the qualifying individual are applied including the use of time limitations, physical activities, loud noises, weapon malfunctions, light limitations, equipment failures, simulation of incapacitation, and use of chemical agents requiring the donning of protective equipment.

Part (f):

The security training procedures include establishment of sample sizes of individuals tested and evaluated that are based on established industry guidance similar to those set forth in DOE M 470.4-3. The supporting field test data, repeatability of test and results consider guidance in DOE M 470.4-3.

Part (g):

The limitations of stated probabilities of the sample size of testing, statistical analysis of field testing data, repeatability to test and results were based on statistical information gained from expert judgment within the nuclear industry and the application of data gained from U. S Department of the Army, FM 23-9, "Rife Marksmanship", Appendix G Live-Fire Exercise, section "Shot-Group Analysis";Research Report 1491 "The Development and Implementation of Basic Advanced, and Unit M16A1 Rifle Marksmanship Training Programs, August 1988, U.S. Army Research Institute for the Behavioral and Social Sciences; pg 2-13 Basic Rifle Marksmanship; Research Report 1255 "Effectiveness of Improved Basic Rifle Marksmanship Training Programs pg 5-29 and Appendix A; and Research Report 1292, "Summary of the ARI-Benning Research Program on M16A1 Rifle Marksmanship" pg 16, Figure 5 and pg 17, Figure 6 .

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 6.4.2.1 and Appendix F.14 were revised, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The characteristics and assumptions of the AREVA NP quantitative model are described in Appendix J of AREVA NP Inc's Technical Report, ANP-10295, "U.S. EPR Security Features" Revision 1. The referenced 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).

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment was revised to add Section B.6.5, "Relative Effect of Foot versus Motorized Assault" which compares relative timing for foot assault versus motorized assault. This section includes evaluations and resulting timelines using the motorized transport of adversaries for the bounding postulated assault scenario. The evaluation in Appendix B demonstrates that the bounding security responding timelines are less than adversarial time lines for both motorized and foot assault.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 was revised to add Appendix B, Section B.6.5, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment was revised to add Section B.6.5 "Relative Effect of Foot versus Motorized Assault" which compares relative timing for foot assault versus motorized assault. This section includes evaluations and resulting timelines using the motorized transport of adversaries for the bounding postulated assault scenario. The evaluation in Appendix B demonstrates that the bounding security responding timelines are less than adversarial time lines for both motorized and foot assault.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 was revised to add Appendix B, Section B.6.5, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B was revised to add Section B.6.5, "Relative Effect of Foot versus Motorized Assault" which compares relative timing for foot assault versus motorized assault. This section includes evaluations and resulting timelines using the motorized transport of adversaries for the bounding postulated assault scenario. The timelines for the motorized assault scenario is considered bounding for all types of motorized transport that must be considered for the DBT. As demonstrated in Section B.6.5 and B.7 scenarios, the timelines for the postulated scenarios are bounding and within the postulated timeline of Scenario 1. In developing Scenario 3, methods and tactics considered for potentially reducing required travel times are described in Section B.7.3, including increased rate of travel.

The evaluation in Appendix B demonstrates that the bounding security responding timelines are less than adversarial time lines for both motorized and foot assault.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 was revised to add Appendix B, Section B.6.5, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The detailed timelines for the exterior scenarios in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix B, Section B.7 are being revised to address the engineered delay features, including the subject delay system.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Appendix B, Section B.7, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix B was revised to add Section B.6.5, "Relative Effect of Foot versus Motorized Assault" which compares relative timing for foot assault versus motorized assault. This section includes evaluations and resulting timelines using the motorized transport of adversaries for the bounding postulated assault scenario. The evaluation in Appendix B demonstrates that the bounding security responding timelines are less than adversarial time lines for both motorized and foot assault.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 was revised to add Appendix B, Section B.6.5,as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The discussion of the defense of walls and roofs has been added to Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.4.2. Figures B.4-14 through B.4-35 are being added to the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment to demonstrate the lines of sight from each defensive position. The lines of sight include 3-dimensional views of the grounds from the Bullet Resistant Enclosures (BRE) and discussion of the walls and roofs that can be viewed from each BRE.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Appendix B, Section B.4.2, as described in the response. Figures B.4-14 through B.4-35 are being added to the Calvert Cliffs Nuclear Power Plant, Unit 3, Security Assessment. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D, Section D.1 has been revised to include a discussion of the planned outage lay-down area and its value to the defensive strategy.

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). For modes of operation that force departures from the planned strategy, configuration for defensive positions will be controlled by compensatory measures as implemented by plant processes and procedures. Contingency plans, consistent with site processes and procedures will be implemented to address recurring changes due to refueling outages.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Appendix D, Section D.1, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

In the quantitative modeling process for calculating cumulative probability of kill, only active posts with security responders within line of sight of the adversary at the given time may contribute to neutralization of that adversary. Specifically, a defensive position may contribute to the probabilities of neutralization only during timeframes when an adversary is within that position's specific field of fire.

The characteristics and assumptions of the AREVA NP quantitative model are described in Appendix J of AREVA NP Inc's Technical Report, ANP-10295, "U.S. EPR Security Features," Revision 1.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.4.2 was revised to add Figures B.4-14 through B.4-35 to illustrate the fields of fire and the vital area boundaries defendable for each credited defensive position. These figures include horizontal adversary travel routes to the Vital Area perimeter and coverage of the exterior walls and roofs of the Vital Area perimeter.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 Appendix B, Section B.4.2 was revised to add Figures B.4-14 through B.4-35, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The characteristics and assumptions of the AREVA NP quantitative model are described in Appendix J of AREVA NP Inc's Technical Report, ANP-10295 "U.S. EPR Security Features" Revision 1.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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.

RESPONSE:

A defensive position was added to the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Table 6.3-1, "Defensive Personnel," to provide effective coverage of the area of concern. Figure 6.4-4 was revised to indicate the new defensive position. Figure B.4-27 and Table B.4-1 indicate the field of fire and the visual coverage of the new defensive position.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Table 6.3-1, Figure 6.4-4, Table B.4-1 and Figure B.4-27 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Bullet Resistant Enclosures (BREs) located atop building numbers 16 and 17 (as designated in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Figure 2.1-1) are on raised platforms to account for the difference in elevations of the various sections of the buildings. This positioning provides for a BRE perimeter that matches the ground level perimeter of the building and results in an unobstructed view of all sides of the buildings.

The vertical fields of view or fire for BRE(s) located at highest roof elevation have accounted for lower level roofs of adjacent buildings. The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix B, Table B.4-1 addresses the view of the vertical surfaces and roof areas of each structure.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The basis of Method 2 (Computer Model) is discussed in AREVA NP Inc.'s Technical Report ANP-10295 "U.S. EPR Security Features" Appendix J.

COLA Impact:

The COLA will not be revised as a result of this response.

Question 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 NP Inc's 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.

RESPONSE:

AREVA NP Inc.'s (AREVA) Technical Report ANP-10295 "U.S. EPR Security Features" Appendix D contains the requested graphical depictions showing locations and elevations of all listed defensive positions. Vertical travel required on stairs is the difference in elevations as shown in the graphical depictions. A detailed basis for travel distances and times is available at AREVA facilities.

The discussion of repositioning margin in the subsections of Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2 have been enhanced to clearly describe the layered defensive response and demonstrate the defensive positioning prior to adversarial engagement.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section 6.5.2, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5 has been revised to provide clarification, as requested. The initial deployments of each internal defender are specified in sub-sections of Section 6.5. Each sub-section addresses a different point of adversary entry and the associated internal redeployments. The defenders that are not assigned to a definitive defensive location (i.e., rotation and other random rounds) are assumed to be at a conservative location (furthest point in normal rounds or most remote normal rotation point). Travel times are shown in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Table 6.5-1, "Internal Relocation Timelines."

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section 6.5 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Parts (a), (b), and (e):

The defensive strategy includes the opportunity for the response team leader to reallocate security responders assigned to fixed external defensive positions to internal defensive positions in pursuit of adversaries. This includes the opportunity to collapse portions of external security perimeter and to redeploy external responders to predetermined internal positions after adversaries have reached locations where the value of the additional internal defender(s) outweighs the value of the external responder(s). The relocation strategy evaluates the continued adequacy of the exterior protection of areas between the PA and VA after relocation.

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5 has been revised to provide a discussion of the internal defensive strategy which demonstrates the criteria for initiation of relocation, timeframe required for relocation, measures planned for addressing friendly fire, and effectiveness of the relocation.

Part (c):

The security training procedures include training of security responders for pursuit that considers guidelines and procedures in DOE M 473.2-2 (Reference 34), Attachment 2, Section 5, "Fresh Pursuit

Procedures" and Field Manual 90-10-1 Department of the Army, "An Infantryman's Guide to Combat in Built-up Areas" (Reference 33), Appendix G.

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2 has been revised to reference a new Section F.14 where clarification of training regarding pursuit has been added.

Part (d):

The security training procedures include training of security responders for target confirmation, expected routes of defensive personnel repositioning, and use of available surveillance systems as methods of reducing the risk of friendly fire events.

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2 has been revised to reference a new Section F.14 where clarification of training regarding friendly fire has been added.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Sections 6.5 and Appendix F.14 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2 has been revised to describe assumptions related to how the response team leader would determine whether or not to invoke a change in the zone defense and redeploy defensive personnel.

The exterior side of the Red Zone entry point is fully defended at event initiation (T=0:00) by defensive position ZULU. The time of adversary breach into the interior of the Red Zone is listed in the last bullet in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.8.1. This is not to be confused with the breach into an intermediate area as identified in an earlier bullet. The interior side of the Red Zone breach point is fully defended prior to the adversary breach into the interior of that area. Section 6.5.2.1 has been revised to clarify that the Red Zone breach point is fully defended at the times indicated.

Likewise, the exterior side of the Green Zone entry point is fully defended prior to adversary arrival at the time listed in the last bullet of Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.8.3. This is not to be confused with the breach into an intermediate area as identified in an earlier bullet. Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2.3 has been revised to clarify defensive strategy in case of a breach into the Green Zone.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Section 6.5.2, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Random internal patrols are conducted by internal responders to detect aberrant behavior and detect sabotage in their assigned areas. During the time period of the patrols, the internal defender will be away from the assigned normal defensive position. These rounds are not on a fixed schedule and only one random patrol is conducted at a time. There is no effect on the internal defensive strategy as the random patrol can be in their internal response position before the adversaries reach the point of engagement. Section 6.5.2 has been revised to clarify that the effect on the external defensive strategy by a single defender being delayed is bounded by the margin analysis described in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7. Assumptions for rates of travel for both defenders and adversaries are provided in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.3.3.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Section 6.5.2, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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; (c) 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.

RESPONSE:

This question addresses the same topic as RAI 189, Question 13.06-43. The response provided for RAI 189, Question 13.06-43 addresses Question 13.06-63 as well.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 6.4.2.1 and Appendix F.14 were revised, as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Parts A and B
The Calvert Cliffs Nuclear Power Plant Unit 3 Appendix D, Section D.13 has been enhanced to provide a clarifying discussion of physical protection of equipment hatches, use of the hatches, and compensatory measures during use.

Part C
All equipment hatch openings are within line of sights from one or more BRE as demonstrated by the depth of coverage Figures B.4-3, B.4-6, B.4-9, and B.4-12 in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix B, Section B.4.

Part D
Both mechanical and explosive breaching techniques were considered as discussed in Appendix D, Section D.13.

Part E
All equipment hatch openings are on the +00 elevation and are clearly identified on elevation plans included in the FSAR.

Part F
The doors shown in Figure D.**13**-1 are locked and alarmed.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D, Section D.13 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7 has been revised to provide a detailed scenario timeline for each of the analyzed scenarios.

D15 is initially positioned to engage adversaries in exterior areas from defensive positions within the structure being defended. D14 is initially positioned to engage adversaries in intermediate structures from defensive positions within the structure being defended. Once the adversary is beyond the field of fire for this position, the defender relocates to an internal defensive position as discussed in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2.1. The relocation is a planned automatic action along a planned and time analyzed route. Relocation routes and relocation timing evaluations are available at AREVA faculties.

Defenders in their initial assigned locations are positioned to create a varied field of fire. In some cases, as with D17 for a Red Zone approach, the field of fire from an initial (T=0:00) position may involve engagement over only a portion of the route of travel by the adversaries but not the attempted point of entry. It is appropriate, however, to account for these contributions in the overall defense of the site. In some cases, an external defender may relocate to an improved firing position. In these cases, the detailed scenario timeline in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7 for each scenario identifies the relocation, the distance traveled, and the time to accomplish the relocation.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Section B.7 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7 has been revised to provide a detailed scenario timeline for each of the analyzed scenarios.

D11 is positioned to respond to a defensive position within the structure being defended that allows engagement of adversaries in exterior areas. The time to respond to the defensive position is included in the engagement analysis. D13 is initially positioned to engage adversaries in exterior areas from defensive positions within the structure being defended. D14 is initially positioned to engage adversaries in intermediate structures from defensive positions within the structure being defended. Once the adversary is beyond the field of fire for this position, the defender relocates to an internal defensive position as discussed in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2.2. The relocation is a planned automatic action along a planned and time analyzed route. Relocation routes and relocation timing evaluations are available at AREVA faculties.

In some cases, an external defender, such as D05 or D06, may relocate to an improved firing position. In these cases, the detailed scenario timeline in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7 for each scenario will identify the relocation, the distance traveled, and the time to accomplish the relocation.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Section B.7 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7 has been revised to provide a detailed scenario timeline for each of the analyzed scenarios.

D15 is initially positioned to engage adversaries in exterior areas from defensive positions within the structure being defended. Once the adversary is beyond the field of fire for this position, the defender relocates to an internal defensive position as discussed in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2.2.The relocation is a planned automatic action along a planned and time analyzed route. Relocation routes and relocation timing evaluations are available at AREVA faculties.

In some cases, an external defender, such as D01, may relocate to an improved firing position. In these cases, the detailed scenario timeline in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7 for each scenario will identify the relocation, the distance traveled, and the time to accomplish the relocation.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Section B.7 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.2 "Conceptual Design – Vehicle Barrier System", Figure D.2-1 "Vehicle Barrier System", and Figure D.1-1 "Site Layout" were revised to specify the vehicular deterrent features and which portions of the delay fencing include those features.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.4.4.2 was revised to include the normal position of barrier, remote control location, and key material of construction.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Section B.4.4.2 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Question 13.06-70 (a) and (b):

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.5.10 was revised to provide additional information on coverage and capabilities.

Question 13.06-70 (c):

Communications with security responders is addressed in the response to Question 13.06-22.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Section B.5.10 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.6.2 was revised to clearly indicate any weapons utilized will be described in the Calvert Cliffs Nuclear Power Plant Unit 3 Physical Security Plan, as allowed by federal regulations.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Section B.6.2 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Security Assessment Section B.7 is based on the quantitative model described in AREVA NP Inc's Technical Report, ANP-10295 "U.S. EPR Security Features" Revision 1, Appendix J.

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7 has been revised to provide a detailed scenario timeline for each of the analyzed scenarios. These timelines identify the armed responders, locations of BREs, and defenders involved in the scenarios and which defender was not accounted for in calculation of margin for defense-in-depth.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Section B.7 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7 has been revised to provide a detailed scenario timeline for each of the analyzed scenarios. These timelines identify the armed responders, locations of BREs, and defenders involved in the scenarios and which defender was not accounted for in calculation of margin for defense-in-depth.

Scenario 3 has been revised based on changes in barrier layout. B.7.3, Scenario 3, has been revised to clarify the location of each of the delay barriers and the type of delay barriers assumed.

In Scenario 6, the terminology "Post 19" was changed to identify the armed responder assigned to that location.

In Scenario 8, the defender in position XRAY is initially positioned to engage adversaries in external areas from defensive positions within the structure being defended. Once the adversary is beyond the field of fire for this position, the defender relocates to an internal defensive position as discussed in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section 6.5.2.2. The relocation is a planned automatic action along a planned and time analyzed route. Relocation routes and relocation timing evaluations are available at AREVA faculties.

Scenario 11 has been revised based on changes in barrier layout. B.7.11, Scenario 11, has been revised to clarify the location of the delay barriers, the type of delay barriers assumed and correct the timeline.

In Scenario 13, "PAS" is the correct acronym for Process Automation System. SAS is the acronym for Safety Automation System. Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section B.7.13 has been revised to clarify the use of the terminology.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Section B.7 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The subject information has been clarified in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Sections B.7.3 and B.7.11. The subject information was not intended to indicate a need for engagement of internal defensive personnel to successfully neutralize the adversaries.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix B, Sections B.7.3 and B.7.11 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.2 "Conceptual Design – Vehicle Barrier System", Figure D.2-1 "Vehicle Barrier System", and Figure D.1-1 "Site Layout" were revised to specify the vehicular deterrent features and which portions of the delay fencing include those features.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The design considerations for the construction of ground surface and substrates beneath the surfaces of the areas between the PA fence and nuisance fence (including grading, drainage, and measures against tunneling) are provided in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.3.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D, Section D.3 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Sections D.2, D.15 and Figure D.15-1 were revised to include the requested information. Questions (a) through (d) are addressed in Section D.15. Question (e) and (f) are addressed in Section D.2.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Section D.6 has been revised to clarify that the alternate access point (i.e., alternate sally port) is not used as an alternative personnel ingress point for the normal security gatehouse. It is used as an alternative vehicle access point for short periods when the primary sally port is unavailable due to maintenance or for situations where the normal sally port is of insufficient size for the component being delivered. Contingency actions for alternate personnel search methods during the temporary unavailability of normal personnel search equipment in the security gatehouse will be described in security program procedures.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to Appendix D, Section D.6 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The last four paragraphs in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.6 were inadvertently included and have been removed.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D, Section D.6 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The firing port design was modified to address the concerns with visibility with a scoped weapon. With the changes in the firing port design as shown in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D, Section D.7, the heights for the BREs and the slopes shown provide sufficient lines of sight to allow security responders to engage adversaries at the PA isolations zones. The discussion also describes the visibility from the firing port necessary to provide the assumed fields of view.

The revised Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D, Section D.7 addresses: (a) capability to provide a continuous overlapping of fields of fire between firing ports; (b) overlapping fields of fire for the coverage of areas beneath BRE; (c) firing ports on the floor of BRE to

enable security responders within to engage adversaries underneath the stand-alone BRE and (d) access control to BRE against unauthorized access.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D, Section D.7 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The firing port design was modified to address the concerns with visibility with a scoped weapon. With the changes in the firing port design as shown in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix D, Section D.7, the heights for the BREs and the slopes shown provide sufficient lines of sight to allow security responders to engage adversaries at the PA isolations zones. The discussion also describes the height of the firing ports relative to the floor of the BRE and the security responder.

The revision illustrates the physical positions 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.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D, Section D.7 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.13 was revised to specify the performance level for each component of the delay system as well as to specify the thickness of heavy grade turbine grating.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D, Section D.13 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

Calvert Cliffs Nuclear Power Plant Unit 3 incorporates a flood water diversion wall, also referred to as a flood wall, which is also credited as a security feature. This wall functions both as a retaining wall for backfill used to provide for leveling of the site but also to divert water away from the existing units. The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.2 has been revised to provide the technical basis and assumptions for the application of the existing flood wall as a security feature to protect Calvert Cliffs Nuclear Power Plant Unit 3.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes to D.2 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 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.

RESPONSE:

The firing port design was modified to address the concerns with visibility with a scoped weapon. With the changes in the firing port design as shown in Appendix D, Section D.7, the heights for the BREs and the horizontal distances shown in the Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix F provide sufficient lines of sight to allow security responders to engage adversaries at the PA isolations zones. With visibility into the drainage ditches, the height of BRE, and the modified design of firing ports provide depth of coverage described in Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Appendix B.4.2, Overlapping Fields of Fire.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.

Question 13.06-85

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.

RESPONSE:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Section D.2 "Conceptual Design – Vehicle Barrier System" was revised to specify the over watch locations and the weapons provided in those over watch locations.

COLA Impact:

The Calvert Cliffs Nuclear Power Plant Unit 3 Security Assessment Revision 5 incorporates changes in Appendix D, Section D.2 as described in the response. This Safeguards Information document is included in Section 8 of the COL submittal.