RAI Number	Reviewer	Question Summary	Full Text
13.6-152	Tardiff, A.	Vital Area Equipment Differences	On October 12, 2005, GEH submitted the ESBWR DCD Tier 2, Revision 0 Section 13.6.2, Security Assessment, to NRC, which identified, in part, the vital areas and vital equipment in the ESBWR design. The staff requested, in RAI 13.6-1, that GEH include a listing of the vital areas and the vital components cross-referenced against vital area drawings. In its response dated October 11, 2006, GEH provided, in Enclosure 2 to MFN 06-395, the vital areas list and included component description, building, floor elevation, and room number information. Further, on November 21, 2007, GEH submitted licensing topical report NEDE-33391, "ESBWR Safeguards Assessment Report," which included, in Section 4.1.1, a listing of vital equipment along with major components of vital systems located at each elevation of the reactor building, control building, and fuel building. GEH stated that the NEDE-33391 list of Vital Areas superceded and replaced the list contained in Revision 0 to the ESBWR DCD Tier 2, Section 13.6.2. In accordance with 10 CFR 73.55(c)(1), applicants are required to identify vital areas and a listing of vital equipment, by component and location, in vital areas. The staff found that the listing of vital areas in Section 4.1.1 of NEDE-33391 was missing components that were included in the ESBWR DCD Tier 2, Section 13.6.2, Revision 0: (Summary of Components) Justify the exclusion of the listed components and locations from the list of Vital equipment in Section 4.1.1 of NEDE-33391 or revise NEDE-33391 to include them in the list of vital equipment.

13.6-153	Tardiff, A.	COL Action Items	In its review of the GEH ESBWR design certification application as it relates to Physical Security, the staff noted that the responsibilities between the COL design and ESBWR design are not clearly identified for several aspects of the physical protection system design. In order for staff to complete its review of the ESBWR design certification application and clearly define the interface between the COL and ESBWR design in the physical protection system design, the staff requests that GEH identify the following as COL action items in DCD Tier 2, Section 13.6.3: a. GEH, in NEDE-33391, committed to exterior responder locations and that those responders will be in Bullet Resistant Enclosures (BREs). The staff identified that the final positioning, design features, capabilities and (redacted) on external BREs as the responsibility of the COL applicant in its site specific design. (RAIs 13.6-141 and 13.6-146) b. The staff identified the analysis of whether the amount of ammunition available to responders from protected positions and for responders who (redacted) is sufficient for the duration of the adversary engagement as the responsibility of the COL applicant. (RAI 13.6-120) c. In DCD Tier 2, Section 13.6.1.1.3 Detection Aids, GEH identified COL Item 13.6-13-A as response to (redacted) alarms. Staff found that this item did not identify (redacted) in NEDE-33391. The staff requested that GEH specify in NEDE-33391 those SSCs that are particularly important to the plant security strategy, e.g., Section 6.2.4, 6.2.7, 6.2.8, 6.2.9, 6.2.10. Provide a modification to COL item 13.6-13-A, located in NEDE-33391 that identifies these structures, systems and components (SSCs). The staff identified the validation of the assumptions in the ESBWR Safeguards Assessment Report NEDE-33391, based on location and placement of buildings, protected area fence, Red Zone Fence and vehicle barrier system, as the responsibility of the COL applicant. (RAIs 13.6-102, 13.6-140).

13.6-154	Tardiff, A.	Responder Weapons	In its response to RAI 13.6-116 dated September 15, 2008, the applicant stated that the type of weapons to be used by the armed responders is a licensee choice and outside the scope of the plant designer. While no explicit weapon caliber was specified for the armed responders it was assumed that they would be armed with weapons (redacted). The applicant also stated that there was no assumption of using weapons of a larger caliber than currently approved. The possibility of utilizing heavier caliber and/or remotely operated weapons systems (ROWS) will be evaluated by the licensee once the regulations allow. Provisions for ROWS will be considered as the detailed design is developed. The staff does not agree that this is the responsibility of the COL applicant, and requests that GEH provide the assumption that all responders are armed (redacted) in a revision to NEDE 33391.
13.6-155	Tardiff, A.	Internal and External Field of Fire	In NEDE-33391, the staff observed that no assumptions were provided for the building layout or field of fire for the response locations. Based on the standard plot plan provided in Figure 10-1 of NEDE-33391, there are several buildings/structures that will interfere with the external responders' field of fire and the distance between the response locations and the proposed adversary locations is unknown. No information is available for any of the inside responder fighting positions. In RAI 13.6-122, the staff requested that the applicant provide, for each response location, assumptions used in the scenario development for field of view/ field of fire. The staff also stated in its observation that these will become requirements for a COL applicant and should be noted as a COL responsibility in NEDE-33391. In response to RAI 13.6-122 dated September 15, 2008, the applicant stated that the field of fire zones for the (redacted) exterior bullet resistant enclosures should be apparent by looking at Figure 10-1 in NEDE-33391. (redacted). These positions also offer the opportunity for visual detection at longer range. (redacted) The fields of fire for the interior engagement positions are shown on Figures 10-2, 10-3, and 10-4. GEH stated that adequacy of the fields of view and fire will be evaluated prior to the initial force on force (FOF exercise).

			The staff does not agree that with the statement that adequacy of the fields of view and fire will be evaluated prior to the initial FOF exercise, and requests additional information to support the design certification. The staff requests that GEH provide a design commitment in NEDE 33391 for the gun-ports in exterior and interior BREs to be able to provide lines of fire as depicted in Figures 10-1, 10-2, 10-3, 10-4 of NEDE 33391.
13.6-156	Tardiff, A.	Engagement Positions	In NEDE-33391, the staff observed that page 7-1 of NEDE-33391 states that the positioning of the defensive engagement positions will be determined based on the final positioning of the equipment in the area as the design is finalized. Further, the staff noted there is no mention that the needs of the protective force for assessment and engagement of the adversaries will be considered in the final locations of the defensive positions. All assumptions used in the attack scenarios as far as responder location and field of fire will need to be met after the final locations are determined to ensure the high assurance objective of projection can be met. In RAI 13.6-137, the staff requested that the applicant provide a COL action item that the final locations of the defensive engagement positions will meet all the assumptions used in the attack scenarios for armed responder detection, assessment, delay and neutralization requirements. In response to RAI 13.6-137 dated September 15, 2008, the applicant stated that the assumption that was used in the ESBWR Safeguards Assessment (NEDE-33391) was that these positions were hardened and protected positions from which to engage the adversaries. The text of this section will be revised to clarify that the engagement position is hardened and protected. In order to further clarify this issue, the staff requests that GEH revise NEDE-33391 to modify section 7.0 and incorporate as a design commitment adequate assessment and engagement capabilities of hardened and protected engagement positions.
13.6-157	Tardiff, A.	Spent Fuel Pool Target	In NEDE-33391, the staff observed that on page C-1, General Assumption 4 states that all of the attack scenarios (redacted). In RAI 13.6-139, the staff requested that the applicant provide (redacted) clear indication of the adversary target.

			In response to RAI 13.6-139 dated September 15, 2008, the applicant stated that as explained in the responses to RAIs 13.6-74, 13.6-96, 13.6-106, and 13.6-131 the SFP (redacted)l of the pool. Provide a detailed analysis (redacted) noted in Section 3.1.4 of NEDE-33391.
13.6-158	Tardiff, A.	(redacted)	In Appendix B to NEDE-33391, the applicant listed (redacted). In RAI 13.6-138, the staff requested that the applicant provide the specific design, features and location of (redacted). In its response to RAI 13.6-138 dated September 15, 2008, the applicant stated that the location of the (redacted) is shown on Figures 10-2 and 10-3 of the ESBWR Safeguards Assessment Report (NEDE-33391). The location (redacted). The detailed information will be incorporated in updates to the ESBWR Safeguards Assessment Report (NEDE-33391) and factored into the updated Security Response Strategy, located in NEDE-33391, Appendix C. Provide a design commitment in NEDE-33391 to include detail describing the (redacted) the DBT, as appropriate, (redacted).
13.6-159	Tardiff, A	(redacted)	In NEDE-33391 and in its response to RAI 13.6-113, GEH stated that it will make a commitment that (redacted) the normally occupied ready response positions. The staff requests that GEH modify the design commitment in NEDE-33391 to meet the requirements of communication in accordance with 10 CFR 73.55(f) and 73.1, using the guidance in RG 5.69. (RAI 13.6-113)
13..6-160	Tardiff, A	Design Enhancements	In the ESBWR Security Enhancement Report NEDE-33389, GEH identified 16 design enhancements that were considered potential design features for the final design that could be incorporated into the site physical protection system. The staff requests that GEH provide design details for those enhancements that they are crediting in the ESBWR design, and justify those enhancements that are not credited in the design. (RAI 13.6-98)