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TOKYO, JAPAN

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

Attention: Mr. Jeffrey A. Ciocco

Docket No. 52-021
MHI Ref: UAP-HF-09221

Subject: Partial Responses to US-APWR DCD RAI No. 282-1984, Revision 1

Reference: 1) "Request for Additional Information No. 282-1984, Revision 1, TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT), AND UAP-SGI-080002, REV.0 (HAE)," dated March 18, 2009.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") responses to Questions 13.06-5, 13,06-12 to 13.06-16, 13.06-19, 13.06-20, 13.06-37, 13-06-52, 13.06-54, 13.06-56, 13.06-60, 13.06-70, 13.06-77, 13.06-78, 13.06-82, and 13.06-87 to 92 of Request for Additional Information No. 282-1984, Revision 1. These responses are being submitted in two versions. One version (Enclosure 1) includes certain information, designated pursuant to the Commission guidance as sensitive unclassified non-safeguards information, referred to as security-related information ("SRI"), that is to be withheld from public disclosure under 10 C.F.R. § 2.390. The information that is SRI is identified by brackets. The second version (Enclosure 2) omits the SRI and is suitable for public disclosure. In the public version, the SRI is replaced by the designation "[Security-Related Information - Withheld Under 10 CFR 2.390]".

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of this submittal. His contact information is below.

Sincerely,

Y. Ogata

Yoshiki Ogata,
General Manager- APWR Promoting Department
Mitsubishi Heavy Industries, LTD.

Enclosures:

DO81
NRO

1. Partial Responses to Request for Additional Information No. 282-1984 Revision 1 (SRI included version)

2. Partial Responses to Request for Additional Information No. 282-1984 Revision 1 (SRI excluded version)

CC: J. A. Ciocco
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Enclosure 2

UAP-HF-09221
Docket No. 52-021

Partial Responses to Request for Additional Information No. 282-1984 Revision 1

April 2009

(SRI excluded version)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

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RAI NO.:	NO. 282-1984 REVISION 1
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APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-5

5. **(U)** Tier 2, Chapter 13, Section 13.6.2.4 (Page 13.6-4): Delete reference to NEI-03-12 regarding permitted alternative approaches.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). Alternative approaches described or acceptable in NEI 03-12, Reversion 4, is the application low-light technologies that have been incorporated in the proposed final security rule. Alternative approaches to the regulatory requirements are addressed on a case by case to determine adequacy for meeting regulatory requirements. NEI 03-12 is not a regulatory requirement and the commitment to an unspecified alternative approaches in the US-APWR design does not provide the technical basis for specific exemption or approval of alternative to current regulation. Each alternative described would be specifically approved by the NRC, either in the form of an NRC-granted exemption, or an NRC-approved "alternative measure" as set forth in § 73.55(r).

ANSWER:

The reference to NEI-03-12 regarding permitted alternative approaches for the application of low-light technologies will be deleted and reference will instead be made to the provisions of the new physical security rule, that becomes effective May 26, 2009, which allows the application of low-light technologies.

Impact on DCD

The last sentence of Section 13.6.2.4 of the DCD, Security Lighting, will be revised as follows:

The security lighting design provides lighting levels of 0.2 foot candles measured horizontally at ground level, or alternatively low-light technologies are used consistent with 10 CFR 73.55(i)(6) to

permit observation in outdoor areas within the protected area and the isolation zones of the abnormal presence or activity of persons or vehicles.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-05.

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DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-12

12. **(U)** Tier 2, Chapter 12, Section 13.6.5 (Page 13.6-5): Provide reference to 10 CFR 52, Licenses, Certifications, and Approval for Nuclear Power Plants, in lieu of 10 CFR 50, for application requirements for new reactors.

(U) Regulatory Basis: Part 52 is the governing regulation for design certification and licensing of new reactors, and should be stated in lieu of Part 50. Example: Applications requirements for license application for security plans are described in 10 CFR 52.3(b)(4), 52.79(a)(35), and 52.79(a)(36).

ANSWER:

The reference to 10 CFR 50.34 will be deleted and reference will instead be made to 10 CFR 52.79(a)(35) and 52.79(a)(36).

Impact on DCD

The second sentence of Section 13.6 of the DCD will be revised as follows:

"The security plan is submitted to the NRC as a separate licensing document in order to fulfill the requirements of 10 CFR 52.79(a)(35) and 52.79(a)(36). (Ref. 13.6.1)."

Reference 1 in Section 13.6.5 of the DCD will be changed as follows:

'Contents of applications; technical information in final safety analysis report,' "Combined Licenses," Energy. Title 10, Code of Federal Regulations, Part 52.79, U.S.Nuclear Regulatory Commission, Washington, DC.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-12.

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DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-13

13. **(U)** Section 1.0, Purpose and Scope (Page 1 of HAE Report): Delete reference to, or provide clarification for why, NRC Order (DBT) dated April 29, 2003.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). Regulatory requirements are in 10 CFR 73. 10 CFR Part 73.1 described current requirements of the DBT. NRC Order of April 29, 2003 has not been issued to US-APWR or DC vendors, and is not a regulatory requirement.

ANSWER:

The reference to the NRC Order (DBT) dated April 29, 2003 on page 1 of the HAE will be deleted.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

The first sentence on the first page of the HAE will be revised to delete the reference to the NRC Order (DBT) dated April 29, 200.

Impact on Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-13.

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QUESTION NO. : 13.06-14

14. **(U)** Section 1.0, Purpose and Scope (Page 1 of HAE Report): Describe how the internal and external defensive strategy would change for a single-unit reactor for a COL applicant referencing the US-APWR design with two-unit configuration (ref. Figure 1) for security. Include the discussion of changes to design requirements, technical basis, and assumptions for adversaries' pathways, adversaries and security response time lines, adequacies of bounding scenarios analyzed to address a single-unit reactor, and applicability of the proposed configuration of external DFPs indicated in Figure 1.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The descriptions of security features incorporated in the standard US-APWR design provides the technical basis for determining adequacy of a physical protection system that will protect against the DBT and meeting regulatory requirements. The protective strategy could change due to configuration changes, such as when the plant footprint is changed from proposed certified design of two-unit to a one-unit. The scope of the DC is for a single-unit plant. The configuration presented in Figure 1 is for a two-unit plant.

(U) ***Note Applicable to All RAI Responses*: *The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

As an initial point of clarification, the certified design will be for a single unit US-APWR standard plant design and not for a dual unit site. The standard plant design encompasses the structures of the nuclear island/power block, i.e., the reactor building,the two power source buildings, the turbine building, the auxiliary building and the access building. The standard plant design that is to be certified does not encompass the physical protection design and layout beyond the walls of the US APWR standard plant, e.g, the vehicle barrier system (VBS), the protected area (PA) boundary,isolation zones, intrusion detection system, etc.

The HAE was written using a US-APWR standard plant sited on the dual unit Comanche Peak reference plant site in order to provide a scenario response which included external features required by 10 CFR 73,55, such as a VBS and a PA. However, as stated in the HAE, the majority of the protective strategy is internal to the standard plant facility and could be applied to any single unit or dual unit site in the same manner.

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The external BBREs shown in Figure 1 of Revision 0 of the HAE, which provide the external defense capability, are site specific to the Comanche Peak 3 & 4 reference plant site and are not part of the standard plant design.[

Security-Related Information - Withheld Under 10 CFR 2.390

] The licensee of a single unit or dual unit could adopt the same approach, or a different approach providing equivalent external detection and interdiction capability, such that the overall protective stategy developed for the US-APWR standard plant in the HAE would remain equally applicable.

Security-Related Information - Withheld Under 10 CFR 2.390

In this respect, the objectives of the HAE for the US-APWR were two-fold. The first objective was to identify design changes to the standard plant that could be made to enhance the physical security of the US-APWR. This objective was to identify such enhancements early in the design process when such changes could be more easily accommodated. It was accomplished through an iterative process using an example protective strategy in conjunction with the standard plant

design and the evaluation of adversary scenarios. This process resulted in identifying design enhancements, described in Section 5.3 of the HAE, which include various special blast resistant doors, defensive positions and defensive barriers that have been incorporated into the standard plant design.

The second objective, directly linked to and following from the first, was to demonstrate the capability to defend the US-APWR standard plant design against malevolent attempts to commit radiological sabotage using the capabilities of the design basis threat (DBT) as defined by 10 CFR 73.1 This objective was to show that, given the design enhancements identified in the HAE for incorporation into the standard plant design, the US-APWR standard plant design was capable of being protected from the DBT assuming a fully implemented physical protection program incorporating the physical security protection requirements of 10 CFR 73.55.

A final point of clarification, the protective strategy described in Revision 0 of the HAE is an example protective strategy to protect the standard plant design. As set forth in Section II.B.3.c.(v) of Appendix C to 10 CFR Part 73, the development, documentation, implementation, and maintaince of the protective strategy are the responsibility of the licensee to implement prior to fuel load. Therefore, the protective strategy described in Revision 0 of the HAE is not part of the certified US-APWR standard plant design. The actual design certification would be limited to the physical design features of the US-APWR standard plant, which would include the security enhancements to the standard plant design set forth in Section 5.3 of Revision 0 of the HAE.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

The HAE will be revised in the following respects.

1. Section 1.0 of the HAE will be revised to clearly reflect the two objectives of the HAE (enhance the physical security design of the US-APWR and demonstrate capability to defend against the DBT) and the applicablility of the example protective strategy developed for the US-APWR standard plant (from the exterior walls of the standard plant inward) to a single unit site.

2. The introductory paragraph of Section 3.0 and subsection 3.3 of the HAE will be revised to reflect that the example protective strategy developed in the HAE is not part of the US-APWR design certification.

3. Section 6.0 will be revised to reflect that (1) the example protective strategy developed in the HAE to protect the standard plant is not part of the US-APWR design certification, and (2) the example protective strategy developed to protect the standard plant is equally applicable to a single unit or other dual unit site, with the two assumptions identified in the Answer above, i.e.,

[**Security-Related Information - Withheld Under 10 CFR 2.390**]

Security-Related Information - Withheld Under 10 CFR 2.390

Impact on Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-14.

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QUESTION NO. : 13.06-15

15. **(U)** Section 1.0, Purpose and Scope (Page 1 of HAE Report): In addition to the technical aspect of physical security system protection a proposed design configuration for two-unit reactor to a one-unit reactor, discuss MHI assumptions and determination regarding meeting or requiring a departure from certified design for a COL applicant requesting a license for operating a one-unit reactor. Does MHI intend to provide a one-unit layout for physical protection for the certification standard US-APWR design in addition to the configuration of a two-unit layout of physical protection in Figure 1?

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48). The scope of design in Tier 2, Chapter 1 of the DCD should support certification of a two unit-plant configuration proposed in Figure 1.

ANSWER:

As discussed in the Response to Question 13.06-14, MHI is requesting design certification of single unit US-APWR standard plant and not a dual unit site. Furthermore, the design certification would not encompass the physical protection design and layout beyond the walls of the US-APWR standard plant. The design and location of the vehicle barrier system, the protected area boundary, the BBREs and other defensive positions in the protected area would be site specific and will not be part of the certified design. Accordingly, no departure from the certified design would be required for a COL applicant requesting a license for a one-unit reactor.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE beyond the changes to the HAE referred to in MHI's Response to Question 13.06-14.

Impact on Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-15.

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DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-16

16. (U) Section 1.0, Purpose and Scope (Page 1 of HAE Report): Provide clarification and verify whether the scope of US-APWR design certification in the DCD (e.g., Chapter 1) has clearly established that the scope for security design includes areas that are beyond the structures of the nuclear island/power block (i.e., as proposed configuration of exterior DFPs, PA, VBS, etc.). In addition, clarify that the scope of the design certification of the DCD specifically addresses configuration of a two-unit plant and whether a one-unit plant must be also addressed to avoid potential departure from a certified design.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48). The scope of design in Tier 2, Chapter 1 of the DCD should support certification of a two unit-plant configuration proposed in Figure 1.

(U) Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available

ANSWER:

As discussed in the Responses to Questions 13.06-14 and 13.06-15, MHI is not seeking design certification for physical security protection design layout or features beyond the structures of the nuclear island/power block that comprise US-APWR standard plant design. The scope of the certified design applies equally to either a single unit or a mult-unit plant and no departure for a

single unit US-APWR is required.

In order to provide a scenario response that included external plant features, the HAE used the Comanche Peak 3 and 4 reference plant external design, to reflect external features required by 10 CFR 73, such as a VBS, an isolation zone, a PA barrier, and an intrusion detection system, as well as external BBREs. Licensees with a single unit plant will determine if the external strategy provided in the HAE is suited for their site, or if they will develop their site-specific strategy in another manner. As discussed in the Response to Question 13.06-14, licensees may use the example strategy developed in the HAE for the US-APWR standard plant design as long as the two assumptions specified in the Response to Question 13.06-14 are met.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE beyond the changes to the HAE referred to in MHI's Response to Question 13.06-14.

Impact on Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-15.

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QUESTION NO. : 13.06-19

19. **(U)** Section 4.3, Identification of Potential Attractive Targets (Page 5 of HAE Report): Describe how and by what means will MHI maintain and update the HAE report to evaluate and address final changes to the physical design of plant layout, and design and configuration of SSCs that may impact current assumptions (i.e., attractive target sets) of the HAE. Similarly, clarify how, other than by means of a specific COLA information or action item, will the COL applicant provide additional evaluation and/or additional design and performance requirements for assessing site specific conditions affecting attractive target sets, including security engineered systems that have not been described in the DCD (e.g., PA barrier and exterior intrusion and detection system, DFPs, VBS, active barriers, etc.) or need further development to address site specific conditions.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The descriptions of security features incorporated in the standard US-APWR design provides the technical basis for determining adequacy of a physical protection system that will protect against the DBT and meeting regulatory requirements. However, SSCs, layout, and current description of design of the US-APWR may change prior to final design certification and may impact security design that will require update of descriptions and assumptions.

(U) ***Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should***

be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.

ANSWER:

The HAE is intended to be a one-time report to identify physical security enhancements to the US-APWR standard plant design and to establish the capability of the standard plant design to be protected against the DBT. The development and maintenance of target sets and the protective strategy to actually defend an operating US-APWR plant are the responsibility of the licensee and would be fully implemented prior to fuel load.

In this respect, the target sets developed in revision 0 of the HAE are preliminary target sets, and not final target sets. Target sets are part of the detailed operational physical security program that will be implemented prior to fuel load and are to be reviewed and updated by the licensee on a regular basis. The new physical security regulations, effective May 26, 2009, set forth the process and requirements for licensees to develop and maintain target sets. Licensees are to "document and maintain the process used to develop and identify target sets, to include the site-specific analyses and methodologies used to determine and group the target set equipment or elements." New 10 CFR 73.55(f)(1), effective May 26, 2009. Per the statement of considerations for the new rule, target sets are to be maintained in project records (site procedures, engineering calculations, or other records) that are subject to review by "an authorized representative of the NRC, and which "can be appropriately updated and modified to account for changes to site-specific conditions without prior Commission approval." Furthermore, licensees are "expected to periodically review target sets for completeness and continued applicability consistent with the requirements in the final rule" so as "to ensure target sets are complete and accurate at all times." 74 Fed. Reg. 13,926,13,940 (March 27, 2009).

Therefore, the target sets developed and set forth in the HAE are intended to be preliminary target sets to be used as input for future development of detailed target sets by the licensee to fulfill the requirements of 73.55(f) and to be implemented prior to fuel load. The final target sets developed by the licensee would need to be documented and maintained per the requirements of 73.55(f). Thus, MHI does not need to develop a process to update and maintain the target sets in the HAE. Nor, therefore, is a COL Information item needed. The development of the final target sets by the licensee would be part of the detailed physical security operational program that needs to be completed, per Section 13.4 of the licensee FSAR, prior to fuel load.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-19.

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QUESTION NO. : 13.06-20

20. **(U)** Section 4.3, Identification of Potential Attractive Targets (Page 5 of HAE Report): Describe whether it is the intent of MHI to address the need to depart from certified design by a COL applicant by providing the proposed internal and external protective strategy (i.e., required configurations of security engineered features, such as the proposed number and location of DFPs, indicated in Figure 1) as the minimum requirements from a referenced US-APWR design.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73:55(a)). Section 13.6.1 and indication of "preliminary listing of SSCs identified in Section 4.3, the final configuration of engineered and administrative controls for may change based on final detail design and as-built conditions. Clarification is needed regarding how MHI intent to maintain design assumptions and basis for security features indicated in the DC. Figure 1 and HAE appears to describe the required security features based on analysis of standard design, but may not sufficiently address all site specific conditions that could require additional evaluations or analysis.

(U) ***Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

As discussed in the Response to Questions 13.06-14 and 13.06-16, the example protective strategy set forth in the HAE is not part of the US-APWR design certification. Furthermore as discussed in those responses, MHI is not seeking design certification for the physical security protection design layout or security engineered features that are beyond the structures of the nuclear island/power block that comprise the US-APWR standard plant design. Therefore, the BBREs in the protected area shown in Figure 1 of Revision 0 of the HAE are not part of the certified design. MHI is, however, seeking design certification for the security engineered features located within buildings that comprise the US-APWR standard plant design, including specifically the physical security design enhancements identified in Section 5.3 of Revision 0 of the HAE. These security engineered features will be available to US-APWR licensees to implement their protective strategy in accordance with the requirements of 10 CFR 73.55. Also, COL applicants or licensees could provide for additional or supplemental security engineered features within the standard plant, if they deem desirable to implement their protective strategy, without the need to undertake a departure.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE beyond the changes to the HAE referred to in MHI's Response to Question 13.06-14.

Impact on the Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-20.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-37

37. **(U)** Section 5.3 US-APWR Design Enhancement (Page 12 of HAE Report): Provide clarification on what is "a small opening" regarding blast resistant vault doors as a consequence of indicated explosive charge. Discuss whether the expected opening exceeds 96 square inches (i.e., smallest opening from laboratory tests that would allow a small person to pass through).

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The USAPWR design incorporates proposed design features to protect target sets from the DBT. Proposed physical security design credits features of the US-APWR design for safety, such as structural components for delays. Additional information is needed on the assumptions of design features that provide security functions.

(U) ***Note Applicable to RAI Responses*: *The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

Security-Related Information - Withheld Under 10 CFR 2.390

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

Impact on HAE

There is no impact on the HAE beyond the changes to the HAE referred to in MHI's Response to Question 13.06-14.

Impact on the Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-37.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

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SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-52

52. **(U)** Section 6.2,2, General Assumptions for the Evaluation (Page 14 of HAE Report): 10th bullet. Assumptions stated (first and second sentence) are not consistent with regulatory requirements and do not sufficiently considered capabilities of the DBT (i.e., active and passive insider assistance in accordance with 10 CFR 73.1(a)(1)(B)). Describe assumptions and physical design features or systems that are credited to facilitate physical access controls. Discuss design features that MHI plans to provide for protection of security significant systems, including active barriers and/or weapon systems.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). Regulatory Guidance 5.69 should be considered in addressing insider assistance.

(U) ***Note Applicable to RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

Security-Related Information - Withheld Under 10 CFR 2.390

As required by NRC regulations, the plant will have access control systems, including personnel identification, card readers, physical controls, etc., to control access to the protected area and to vital areas. The performance standards for these systems will be consistent with Regulatory Guides 5.12 and 5.65 (as revised in current draft Regulatory Guide 5027).

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

Impact on HAE

Security-Related Information - Withheld Under 10 CFR 2.390

Impact on the Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-52.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

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SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-54

54. **(U)** Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy (Page 17, 1st and 2nd bullet, of HAE): Describe assumptions for responders that may be performing non-response functions or deployed within the VA at any give time with varying distance from designated deployment locations. Specifically discuss travel distances and associated times for travel (horizontal and vertical) from the most remote location that is addressed in time line calculations.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). Reasonable assumptions are needed to reflect performance of tasks. The US-APWR proposed design features to protect standard target sets from the DBT and discussed time lines associated with deployment of responders to designated DFPs.

(U) *Note Applicable to RAI Responses*: *The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.*

ANSWER:

The permissible non-response functions and deployment for the armed responders referenced in the first and second bullet on page 17 of Revision 0 of the HAE would be identified in the detailed protective strategy procedures developed under the licensee's operational physical security program and implemented prior to fuel load.

Security-Related Information - Withheld Under 10 CFR 2.390

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the VE Report.

This completes MHI's response to NRC Question 13.06-54.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-56

56. **(U)** Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy (Page 17, 3rd bullet, of HAE): Clarify whether the intent of the proposed protective strategy requires the assignment to the "one commanding security officer" to perform both security incident command functions and perform functions of monitoring the security systems and communications (e.g., assessment, alarm response, radio dispatching, communicating off-site, etc.). Discuss how MHI intends on meeting regulatory requirements and the assurance of the CAS (and SAS) operator to perform required functions in the event of a security event.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). Clarification is needed to understand statement indicated in the DCD.

(U) ***Note Applicable to RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

As described in greater detail in the response to Question 13.06-60, the Response Team Leader (RTL) would be responsible for providing command and control of the security response team and would not be assigned other duties, such as those of the CAS/SAS operator that would interfere with duties associated with being the RTL. The separation between the RTL and the

CAS/SAS operator roles would be confirmed by administrative procedures and task assignments to be developed under the licensee's operational physical security program and implemented prior to fuel load.

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

Impact on HAE

There is no impact on the HAE.

Impact on the Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question13.06-56.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-60

60. **(U)** Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy (Page 18, 1st bullet, of HAE): Provide location of the "Response Leader" and clarify whether he/she is an additional security responder to the proposed numbers indicated in previous discussions.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). In addition, 10 CFR 73.45(b) through (g) requires physical protection system performance capable of protecting against the DBT. Clarification is needed to understand statements indicated in the DCD.

(U) ***Note Applicable to RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

The Response Team Leader (RTL) would be responsible for providing command and control of the security response time and would come from the ranks of shift supervisors.[

Security-Related Information - Withheld Under 10 CFR 2.390

]

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

Impact on HAE

There is no impact on the HAE.

Impact on the Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question13.06-60.

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04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-70

80. **(U)** Discuss how the results and insights of the US-APWR probabilistic risk assessment (PRA) were used in preparing the vital equipment list.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). Title 10 CFR 73.2 defines vital equipment as "equipment, system, device, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. To adequately protect against the DBT of radiological sabotage, a design applicant must first identify a complete and accurate list of vital equipment and subsequently target sets for which the design of a physical protection systems and COL security programs are provided to meet general performance requirements of 10 CFR 73.20, 73.45, and 73.55.

(U) ***Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

As discussed in the Response to Question 13.06-64, MHI used a deterministic process to generate the VE list and the PRA was not used to identify VE. As discussed in Section 4.4 of the HAE, the PRA was used in developing the preliminary target sets for the HAE report.

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

Impact on HAE

There is no impact on the HAE.

Impact on the Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question13.06-70.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-77

96. **(U)** Section 5.2, Physical Security Design Features and Systems (Page 11, 1st full bullet, of HAE Report): Provide location of SAS for US-APWR design of a single unit reactor. Describe the design and performance requirements for a single-unit reactor that would protect the functions of both the CAS and SAS.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). Additional information is needed on design requirements to provide protection of SAS against the DBT. MHI describes design requirements for locating CAS and SAS for a two unit reactor, which would not be fully applicable for a single unit reactor.

(U) *Note Applicable to All RAI Responses*: *The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.*

ANSWER:

As stated in Section 3.2 of Revision 1 of the Vital Equipment Report, the location of the SAS for a single unit US-APWR site is site specific. The COL applicant of a single unit would need to make provision for the location of the SAS and its design and performance capabilities in accordance with NRC regulatory requirements.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE.

Impact on the Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-77.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

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US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-78

97. **(U)** Section 5.2, Physical Security Design Features and Systems (Page 11, 1st full bullet, of HAE Report): Provide clarification of the design and performance requirements for providing redundancy of security functions of CAS at the SAS. In addition, clarify whether the MHI assumptions for a COL is that the SAS would be continuously manned.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). MHI describes design requirements for locating CAS and SAS for a two-unit plant configuration, which would not be fully applicable for a single unit reactor. Additional information is needed on the assumptions of related to CAS and SAS.

(U) ***Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

In accordance with NRC physical security requirements for alarm stations for new nuclear powr plants, the CAS and SAS would have equal and redundant capabilities so that all the functions needed to satisfy the requirements of 10 CFR 73.55 can be performed in both alarm stations. Also,in accordance with NRC physical security requirements, the HAE assumes that the SAS would be continuously manned. The licensee's operational physical security program would include this requirement, which would be implemented prior to fuel load.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

The first full bullet on page 11 of Revision 0 of the HAE Report will be clarified to state that the HAE assumes that CAS and SAS will be provided with equal and redundant capabilities in accordance with NRC regulatory requirements and that the SAS would be continuously manned.

Impact on the Vital Equipment Report

There is no impact on the Vital Equipment Report.

This completes MHI's response to NRC Question 13.06-78.

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04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-82

101. **(U)** Section 6.2.2, General Assumptions for the Evaluation (Page 15, 2nd bullet, of HAE Report): Provide clarification and basis for the assumption stated regarding "coincident with an independent single failure or independently initiated design basis event." Describe how MHI considered or addressed insider knowledge of plant conditions related to possible single failure and the initiation of or on-going design basis event.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The USAPWR design incorporates proposed design features to protect target sets from the DBT. MHI postulated adversary attack scenarios that were considered credible and determined others to be not credible and were not further developed. Additional information is needed on how MHI evaluation considered all credible scenarios specific to the US-APWR design and assumptions for systematically arriving at a final set of credible scenarios for determining protection against the DBT.

(U) Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.

Answer:

Security-Related Information - Withheld Under 10 CFR 2.390

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the VE Report.

This completes MHI's response to NRC Question 13.06-82.

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Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-87

106. **(U)** Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy, (Page 17, 1st bullet, of HAE Report): State clearly the number of responders in each of the units and include the specific armed responders designation number as described in Page 36 and as postulated in scenarios. The responder designation numbers should not be repeated, to allow clear indications of the assumption for total numbers and responder actions.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The statements in the text did not clearly indicate the number of armed responders in non-radiological portion of the VA for each unit for a dual-unit.

(U) ***Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

The number of interior armed responders for each unit of the dual unit reference plant is the same, and this number is the sum of the numbers specified in the first and second bullets on page 17 of Revision 0 of the HAE. Because the HAE assumes that interior armed responders do not leave the unit to which they are assigned, the HAE provides interior armed responder designation numbers only for a single unit.

For clarity, the first and second bullets on page 17 of revision 0 of the HAE will be revised to identify the interior armed responders' numbers and will ensure that these numbers correspond with the numbers provided on page 36 of the report. .

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA.

Impact on HAE

The first and second bullets on page 17 of Revision 0 of the HAE will be revised to identify the interior armed responders' numbers and will ensure that these numbers correspond with the numbers provided on page 36 of the report

Impact on Vital Equipment Report

There is no impact on the VE Report.

This completes MHI's response to NRC Question 13.06-87.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

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US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-88

107. (U) Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy, (Page 17, 1st bullet, of HAE Report): Provide clarification that the MHI evaluation of interior response used the worst case assumptions of locations in determining response time for each armed responder. Revise, as required, the time line assumptions for armed responders performing surveillance or patrol functions within the VA. Describe the assumptions for protection of responders on patrol to survive an adversary's attack from locations interior or exterior patrols to designated initial response positions. Clarify if responders on patrol or other duties are limited to a single unit or if he/she may be performing duties in either unit, and discuss how this was considered in time lines for initial response.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The USAPWR design incorporates proposed design features to protect target sets from the DBT. Overlapping fields of fire from DFPs provides for reliability of interdicting adversaries' tasks and denial access to a vital area. Additional information and MHI depictions of fields of fire relied on for determining adequacy of the proposed response within the powerblock, placement of internal DFPs, and to evaluate the reliability of the response to deny access to VA equipment.

(U) ***Note Applicable to All RAI Responses*: *The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC***

Tier 1 document must be publicly available.

ANSWER:

Security-Related Information - Withheld Under 10 CFR 2.390

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the VE Report.

This completes MHI's response to NRC Question 13.06-88.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

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Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-89

108. **(U)** Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy, (Page 17, 2nd bullet, of HAE Report): Clarify the specific number of armed responders in each of the units analyzed. Clearly identify the specific responder designation numbers as described on Page 36 and postulated scenarios. The responder designation numbers should not be repeated in the two units, to allow clear indications of the assumption for total numbers and responder actions.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The statements in the text did not clearly indicate the number of armed responders in non-radiological portion of the VA for each unit for a dual-unit. The statements did not clearly indicate the numbers of armed responders in non-radiological portion of the VA for each unit for a dual-unit.

(U) ***Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

As stated in MHI's Response to Question 13.06-87 the number of interior armed responders for each unit of the dual unit reference plant is the same, and this number is the sum of the numbers specified in the first and second bullets on page 17 of Revision 0 of the HAE. Because the HAE

assumes that interior armed responders do not leave the unit to which they are assigned, the HAE provides interior armed responder designation numbers only for a single unit.

For clarity, the first and second bullets on page 17 of Revision 0 of the HAE will be revised to identify the interior armed responders' numbers and will ensure that these numbers correspond with the numbers provided on page 36 of the report.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

the first and second bullets on page 17 of Revision 0 of the HAE will be revised to identify the interior armed responders' numbers and will ensure that these numbers correspond with the numbers provided on page 36 of the report

Impact on Vital Equipment Report

There is no impact on the VE Report.

This completes MHI's response to NRC Question 13.06-89.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-90

109. **(U)** Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy, (Page 17, 2nd bullet, of HAE Report): Provide evaluation that includes and demonstrates that the worst case response time (e.g., most remote location or greatest travel time) for each of the responders would be less than the anticipated adversarial task times, demonstrating that the responders would be available to interdict adversaries in postulated scenarios. Clarify whether a responder on patrol is limited or assigned to a single unit or assigned to performing duties in both units. If a responder must travel from a duty location in one unit to a response position in another unit, describe and provide the response times.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The USAPWR design incorporates design features to protect target sets from the DBT. Response times used for postulated scenarios should be worst case and not the best case to ensure reliability and availability of responders to interdict adversaries.

(U) ***Note Applicable to All RAI Responses*: *The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

Security-Related Information - Withheld Under 10 CFR 2.390

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the VE Report.

This completes MHI's response to NRC Question 13.06-90.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-91

110. **(U)** Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy, (Page 17, 1st and 2nd bullet, of HAE Report): Provide a clarifying statement on whether the same "ready room" is used by both the responders assigned to radiological and non-radiological area of responsibilities in the VA. Provide assumptions whether designation of radiological areas has an impact of delaying response time-lines or access to route of travel. Discuss whether radiological conditions (posting) would change during modes of operations and how the response assumptions have addressed such changes.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The USAPWR design incorporates design features to protect target sets from the DBT. The response time used for postulated scenarios should be worst case and not the best case to ensure reliability and availability of responders to interdict adversaries. Clarification is needed to understand how MHI considered radiological conditions in its response assumptions and postulated time lines.

(U) ***Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive informationshould be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

Security-Related Information - Withheld Under 10 CFR 2.390

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the VE Report.

This completes MHI's response to NRC Question 13.06-91.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

04/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 282-1984 REVISION 1
SRP SECTION:	SRP SECTION: 13.06 - PHYSICAL SECURITY
APPLICATION SECTION:	TIER 1, CHAPTER 2, TIER 2, CHAPTER 13.6, REV.1, MHI TECHNICAL REPORTS UAP-SGI-08001, REV.1 (SECURITY ELEMENT REPORT) AND UAP-SGI-080002, REV.0 (HAE)
DATE OF RAI ISSUE:	3/18/2009

QUESTION NO. : 13.06-92

111. **(U)** Section 6.2.3, US-APWR Security Force Implementation of Protective Strategy, (Pages 16, 17, and 18 of HAE Report): Clarify in the MHI discussion of command and control functions, who has the main responsibility for directing responders, and what level of command and control responsibilities for the individuals identified. Clarify assumptions of responsibility for coordinating with local law enforcement from designated location of command and control. Clearly state who is the "Response Leader" in the 1st bullet of Page 18.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, and 10 CFR 73.55(a)). The USAPWR design incorporates design features to protect a standard target sets from the DBT. Administrative controls (i.e., security responses) are integrated with US-APWR design features to provide the required protection. MHI discusses command and control functions for individuals. Clarification is needed to understand MHI assumptions for command and control and roles/deployment of security leadership in response.

(U) ***Note Applicable to All RAI Responses: The information addressing specific details related to security features will be safeguards information (SGI) and must 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 that reveals the specific details of security features incorporated in the US-APWR design. Other security-related or not of sensitive information should be identified and protected as required. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

ANSWER:

The Response Team Leader (RTL) is the commander in control during a security event. This individual is neither the CAS or SAS operator, but a senior member of the security response team. The individual will provide overall control of the security response, including directing the

individual responders, communicating with the main control room, and communicating with CAS and SAS operators.

Site operating procedures would clearly specify who is designated to contact and coordinate with local law enforcement and these procedures would be required as part of the security operating program and implemented prior to fuel load. As an example, the current operating units at Comanche Peak designate the CAS operator for the responsibility to communicate with local law enforcement and if the CAS operator becomes unavailable, then the SAS operator becomes the designee.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Impact on HAE

There is no impact on the HAE.

Impact on Vital Equipment Report

There is no impact on the VE Report.

This completes MHI's response to NRC Question 13.06-92.