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Your ref: Project Number 740
Our ref: DCP/NRC1989

September 7, 2007

Subject: AP1000 COL Responses to Requests for Additional Information (TR #94)

In support of Combined License application pre-application activities, Westinghouse is submitting responses to NRC requests for additional information (RAI) on AP1000 Standard Combined License Technical Report 94, APP-GW-GLR-066, Rev. 0, AP1000 Safeguards Assessment. These RAI responses are submitted as part of the NuStart Bellefonte COL Project (NRC Project Number 740). The information included in the responses is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification.

The responses are provided for requests for additional information RAI-TR94-NSIR-01 through RAI-TR94-NSIR-26 as finalized during a teleconference between Westinghouse and Al Tardiff on August 1, 2007. These responses complete all requests received to date for Technical Report 94.

Pursuant to 10 CFR 50.30(b), the responses to requests for additional information on Technical Report 94 is submitted as Enclosure 1 under the attached Oath of Affirmation.

Questions or requests for additional information related to the content and preparation of these responses should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

Very truly yours,

Mont D Bartley FOR

A. Sterdis, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

*Q063
D079
NRO*

/Attachment

1. "Oath of Affirmation," dated September 6, 2007

/Enclosure

1. Responses to Requests for Additional Information on Technical Report No. 94

cc:	D. Jaffe	- U.S. NRC	1E	1A
	E. McKenna	- U.S. NRC	1E	1A
	G. Curtis	- TVA	1E	1A
	P. Hastings	- Duke Power	1E	1A
	C. Ionescu	- Progress Energy	1E	1A
	A. Monroe	- SCANA	1E	1A
	M. Moran	- Florida Power & Light	1E	1A
	C. Pierce	- Southern Company	1E	1A
	E. Schmiech	- Westinghouse	1E	1A
	G. Zinke	- NuStart/Entergy	1E	1A
	A. Pfister	- Westinghouse	1E	1A

ATTACHMENT 1

“Oath of Affirmation”

ATTACHMENT 1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of:)
NuStart Bellefonte COL Project)
NRC Project Number 740)

APPLICATION FOR REVIEW OF
"AP1000 GENERAL COMBINED LICENSE INFORMATION"
FOR COL APPLICATION PRE-APPLICATION REVIEW

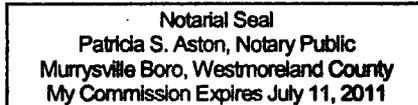
W. E. Cummins, being duly sworn, states that he is Vice President, Regulatory Affairs & Standardization, for Westinghouse Electric Company; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission this document; that all statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.



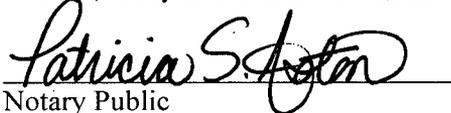
W. E. Cummins
Vice President
Regulatory Affairs & Standardization

Subscribed and sworn to
before me this *7th* day
of September 2007.

COMMONWEALTH OF PENNSYLVANIA



Member, Pennsylvania Association of Notaries


Notary Public

ENCLOSURE 1

Responses to Requests for Additional Information on Technical Report No. 94

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-01
Revision: 0

Question:

Provide a D-Sized drawing that depicts all vital areas of the AP 1000. Include a color-coded listing of the vital areas and a listing of vital components/equipment that may be cross-referenced against the drawing. Include in the diagram color-coded locations of the central alarm station, secondary alarm station, control room, and security related emergency power supplies.

Westinghouse Response:

TR 95 currently contains drawings depicting the vital area of A1000. TR 94 will be revised to include the figures of the vital area since TR 95 was rejected by the NRC. Section 13.6 of the DCD has been revised to indicate that the Physical Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan will be submitted by the combined license applicant. These drawings will be included in Revision 1 of TR 94. These figures are designated as Security Safeguards Information and re withheld from public disclosure pursuant to 10 CFR 73.21. The drawings will label the central alarm station, secondary alarm station, main control room, and security related emergency power supply. D-size drawings will be provided for review.

Vital equipment is listed in reference 3.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. APP-GW-GLR-068 Rev. 1, "AP1000 Physical Security Plan" (TR 95)
3. APP-SES-M3C-001, Rev. 0, "AP1000 Vital Equipment List"

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Design Control Document (DCD) Revision:

Table 1.8-2 (Sheet 10 of 13)					
SUMMARY OF AP1000 STANDARD PLANT COMBINED LICENSE INFORMATION ITEMS					
Item No.	Subject	Subsection	Addressed by Westinghouse Document	Action Required by COL Applicant	Action Required by COL Holder
12.5-1	Radiological Protection Organization and Procedures	12.5.5	N/A	Yes	-
13.1-1	Organizational Structure of Combined License Applicant	13.1.1	N/A	Yes	-
13.2-1	Training Program for Plant Personnel	13.2.1	N/A	Yes	-
13.3-1	Emergency Planning and Communications	13.3.1	N/A	Yes	-
13.3-2	Activation of Emergency Operations Facility	13.3.1	N/A	Yes	-
13.4-1	Operational Review	13.4.1	N/A	Yes	-
13.5-1	Plant Procedures	13.5.1	APP-GW-GLR-040	Yes	-
13.6-1	Security	13.6	APP-GW-GLR-062 APP-GW-GLR-066 APP-GW-GLR-068	Yes	-

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

9.1.1.2 Facilities Description (paragraph 6)

During fuel handling operations, a ventilation system removes gaseous radioactivity from the atmosphere above the new fuel pit. Refer to subsection 9.4.3 for a discussion of the fuel handling area HVAC system and Section 11.5 for process radiation monitoring. Security for the new fuel assemblies is described in ~~Section 13.6~~ separate security documents in section 13.6.

9.5.2.5.3 Security Communications

Specific details for the security communication system are ~~the responsibility of the Combined License applicant as described in subsections 13.6.9 and 13.6.10~~ discussed in separate security documents in section 13.6.

9.5.3 Plant Lighting System

The plant lighting system includes normal, emergency, panel, and security lighting. The normal lighting provides normal illumination during plant operating, maintenance, and test conditions. The emergency lighting provides illumination in areas where emergency operations are performed upon loss of normal lighting. The panel lighting in the control room is designed to provide the minimum illumination required at the safety panels. The security lighting system is described in separate security documents in section 13.6. See ~~subsection 13.6.8.~~

13.6 SECURITY

The Security Plan consists of the Physical Security Plan (~~Reference 1~~), Training and Qualification Plan, and the Safeguards Contingency Plan. The Security Plan ~~is~~ will be submitted to the Nuclear Regulatory Commission as a separate licensing document in order to fulfill the requirements of 10 CFR 52.79(35) and 10 CFR 52.79(36)~~0-34~~. The Security Plan ~~meets~~ will meet the requirements of 10 CFR 52.98(c)~~54~~. The Plan is classified as

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21. Additionally, the AP1000 Interim Compensatory Measures Report (Reference 2), the Enhancement Report (Reference 3), and the Safeguards Assessment Report (Reference 4) are submitted to the Nuclear Regulatory Commission as separate licensing documents to establish the design of the AP1000 Security Systems. Each document is classified as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21.

13.6.1 Combined License Information Item

Combined license applicants referencing the AP1000 certified design will address site-specific information related to the security, contingency, and guards training plans. The combined license applicant will develop the Physical Security Plan, Training and Qualification Plan, and the Safeguards Contingency Plan.

13.7 References

1. Not Used
2. APP-GW-GLR-067, "AP1000 Interim Compensatory Measures Report,"
3. APP-GW-GLR-062, "AP1000 Enhancement Report,"
4. APP-GW-GLR-066, "AP1000 Safeguards Report,"
5. APP-GW-GLR-068, "AP1000 Physical Security Plan,"

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-02
Revision: 0

Question:

Provide inspection, test, analyses and acceptance criteria (ITAAC) that addresses the physical security hardware as described in NUREG-0800 SRP 14.3.12 taken credit for in the AP 1000 design. Submit as part of the AP 1000, Design Control Document, Chapter 14.3.12.

Westinghouse Response:

ITTACS describing the physical security hardware as described in NUREG-0800 are provided in Revision 16 of the AP1000 Design Control Document (DCD) in Tier 1 section 2.6.9. They are also detailed in Revision 1 of TR 95 (APP-GW-GLR-068). These ITAACS include 5 physical security ITAACS that have been previously certified during the AP1000 design certification process. They also include 8 additional ITAACS that address applicable portions of NUREG-0800 SRP 14.3.2. The additional ITAACS in Revision 16 of the AP1000 DCD do not address the programmatic ITAACS related to physical security included in NUREG-0800 SRP 14.3.2. SECY-05-0197 concluded that operational programs and their implementation would not be described as part of the ITAACS. The staff concluded that operational programs discussed in SECY-05-0197 would be described in a COL application. Specific to security, these programs will be described in each site's Physical Security Plan.

References:

1. SECY-05-0197, "Review of Operational Programs in a Combined License Application and Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria"

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-03

Revision: 0

Question:

Provide an analysis of the delay provided by the vital area walls when challenged by the design basis threat (DBT) of radiological sabotage. The DBT of radiological sabotage is required to be protected against as described in 10 CFR 73.1(a)(1). The vital area wall makes up one of the two required physical barriers as described in 10 CFR 73.55(c)(1). Provide the design of the locked and controlled access portals to vital areas within the protected area (i.e., door systems). Barriers, such as vital area walls, as defined in 10 CFR 73.2, should be designed such that the integrity of the wall is not lessened by any opening. Therefore the access portals to vital areas should be of such a design that they take advantage of the delay time provided by the vital area wall. Locks utilized in the design of the portals should be manipulative resistant as identified in RG 5.12; or equivalent. (Guidance for breaching calculations may be found in Regulatory Information Summary 2003-06 and 2005-09 and NUREG 6190.)

Westinghouse Response:

Vital area walls in the nuclear island and annex building are at least two foot thick reinforced concrete walls. Section 3.7 of Revision 16 of the AP1000 DCD details the thickness of key structural walls in the nuclear island and annex building. These walls are significantly stronger and less vulnerable than the walls analyzed in RIS 2003-06 and RIS 2005-09. As a result, these walls are not considered a viable adversary pathway when challenged by the DBT. These walls are considered to be impenetrable. The viable pathways into the vital area are through blast resistant doors as detailed in TR 94. These doors utilize manipulative resistant locks. An ITAAC to verify this requirement is included as part of the AP1000 DCD. This ITAAC appears in tier 1 section 2.6.9 of revision 16 of the AP1000 DCD. Section 4.1 of TR 94 will be revised to clearly indicate this requirement as shown below.

References:

1. NRC Regulatory Issue Summary 2003-06, "High Security Protected and Vital Area Barrier/Equipment Penetration Manual
2. NRC Regulatory Issue Summary 2005-09, "High Security Protected and Vital Area Breaching Analysis"
3. Regulatory Guide 5.12, "General Use of Locks in the Protection and Control of Facilities and Special Nuclear Materials"
4. APP-GW-C1-001 Rev. 1, "AP1000 General Civil Structural Design Criteria"
5. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Section 4.1

An access control system is utilized to permit only properly authorized individuals into designated areas of the facility. Personnel, material, and packages are physically or machine searched for firearms, explosives, and incendiary devices prior to admittance to the PA. Personnel and equipment access into the VA and into selected areas within the VAs are through locked doors. These doors are designated as security portals. These doors are normally locked and alarmed and require positive identification and authorization before access to the area within is granted. Locks utilized in the design of these doors are manipulative resistant as identified in Regulatory Guide 5.12 or equivalent.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-04
Revision: 0

Question:

Provide, at a minimum, conduit pathway design or other means of accommodating fiber-optics and electric utilities for design features such as detection aids and positive control measures at vital areas. Detection aids and positive control for vital areas are required as described in 10 CFR 73.55 (d)(7)(i)(B) and (D) respectively. Detection aids could be such items as balanced magnetic switches on vital area doors and positive control could include a means of personnel and vehicle access control such as electronic card or biometric readers at vital area doors.

Westinghouse Response:

The requested information is beyond the scope of design certification. 10 CFR 73.55 (d)(7)(i)(B) and (D) does not discuss conduit pathway design. 10 CFR 73.55 requires control of access to vital areas. Section 4.1 of TR 94 discusses access control requirements as they pertain to ensuring only authorized individuals enter vital areas. The design commitments detailed in Section 4.1 of TR 94 are sufficient to meet the requirements of 10 CFR 73.55 (d)(7)(i)(B) and (D).

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. 10 CFR 73.55 "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage"

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-05
Revision: 0

Question:

Provide information that ensures that security lighting will be designed to meet the performance requirements as described in 10 CFR 73.55(c)(5).

Westinghouse Response:

Isolation zones and exterior areas within the Protected Area are provided with illumination to permit observation of abnormal presence or activity of persons or vehicles in accordance with 10 CFR 73.55(c)(5). An ITAAC to verify this requirement is included as part of the AP1000 DCD. This ITAAC appears in Tier 1 section 2.6.9 of revision 16 of the AP1000 DCD. Section 4.1 of the AP1000 Safeguards Assessment Report (TR 94) will be revised to clearly indicate this requirement as shown below.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. 10 CFR 73.55 "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage"

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Section 4.1

- Security lighting is provided for the alarm stations, selected portions of the PAs such as building access points, and for selected internal corridors, stairs, and exits important to the security force response personnel for identifying and engaging an adversarial force. Illumination is provided at a level to support the security monitoring functions for each affected location. Isolation zones and exterior areas within the Protected Area are provided with illumination to permit observation of abnormal presence or activity of persons or vehicles.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-06
Revision: 0

Question:

Provide preliminary design information that indicates the approximate physical size and capacity of the secondary power supply. The onsite secondary power supply systems for alarm annunciator equipment and non-portable communications is required as described in 10 CFR 73.55(e)(1). Refer to NUREG/CR-0509, November 1979, and Inspection Procedure 81058 Security System Power Supply, May 9, 1984, for technical guidance. By considering the approximate capacity and subsequent physical size of the secondary power supply, greater assurance is gained that the location identified for the power supply will have adequate physical dimensions and that the capacity of the final power supply will be adequate.

Westinghouse Response:

There is a dedicated security power supply that provides power to alarm annunciation equipment and non-portable communications for 2 hours after loss of all AC power. This power supply is located within the vital area in the location shown on vital area drawings in revised TR 94. This figure is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21. This room is adequate in size to support the dedicated security power supply. The room is nominally 22' x 16'. The room has 15' ceilings. The exact sizing of this power supply has not yet been finalized, but credible power supplies are supported by the room size.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. APP-TR94-NSIR-001
3. 10 CFR 73.55 "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage"
4. 10 CFR 73.21 "Requirements for Protection of Safeguards Information"

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-07
Revision: 0

Question:

Provide recommended testing and maintenance for any physical barriers and equipment identified in the AP1000 design. Testing and maintenance of security systems is required as described in 10 CFR 73.55(g). Physical barriers are included in the scope of the security systems requiring testing and maintenance.

Westinghouse Response:

Testing and maintenance for the following physical barriers and equipment within AP1000 will be provided in the site specific Physical Security Plan as identified in section 15 of NEI 03-12.

This document will be submitted as part of the COL application and is beyond the scope of review for TR 49, 94, and 96.

References:

1. NEI 03-12 Rev. 4, "Physical Security Plan, Training and Qualification Plan, and the Safeguards Contingency Plan"

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-08
Revision: 0

Question:

Provide a more comprehensive listing of references in the TR's. The listed references neither includes 10 CFR 50.54 (security plans) nor 10 CFR 74 (material control and accounting). NRC Inspection Manual, Inspection Procedures: 81058 Security System Power Supply (05/09/84), 81066 Assessment Aids (05/09/84), and 81080 Detection Aids (05/09/84) should be added and could be used to identify NRC expectations. Include the NRC "acceptable for use" security engineering references. These recommended additions do not comprise a comprehensive listing of additions.

Westinghouse Response:

Section 9 of TR 94 will include a more comprehensive listing of references. These references will include all applicable NRC guidance documents that were used to compile the Safeguards Assessment during its initial revision or subsequent revision based upon responses to RAIs APP-TR49-NSIR-001 through APP-TR49-NSIR-026 as shown below.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

REFERENCES

1. AP600 Security Design Report, GS-ASR-001, Rev. 6
2. AP600 Security Design Vulnerability Analyses Report, GS-ASR-002, Rev. 3
3. AP1000 Probabilistic Risk Assessment, APP-GW-GL-022, Rev. 8
4. MPR-2769, AP1000 Security Assessment. MPR Associates, Inc
5. Physical Security Plan, Training and Qualification Plan, and the Safeguards Contingency Plan, NEI 03-12 Rev. 4
6. AP1000 Enhancement Report, APP-GW-GLR-062, Rev. 1
7. High Security Protected and Vital Area Barrier/Equipment Penetration Manual, NRC Regulatory Issue Summary 2003-06
8. High Security Protected and Vital Area Breaching Analysis, NRC Regulatory Issue Summary 2005-09
9. AP1000 General Civil Structural Design Criteria, APP-GW-C1-001 Rev. 1
10. Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage, 10 CFR 73.55
11. Requirements for Protection of Safeguards Information, 10 CFR 73.21
12. Nuclear Power Plant Security Assessment Format and Content Guide (Draft) August 2007
13. Regulatory Guide 5.12, "General Use of Locks in the Protection and Control of Facilities and Special Nuclear Material"

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-09
Revision: 0

Question:

Provide the exact location of the central alarm station and the secondary power supply. Both the central alarm station and the secondary power supply are required to be in an area designated as a vital area as described in 10 CFR 73.55 (e)(1). Provide the design of the location and design (e.g., within walls non-accessible, hardened conduit, fire resistant) of the cabling pathways for the required secondary power supply.

Westinghouse Response:

Both the central alarm station and secondary power supply are located within a vital area in accordance with 10 CFR 73.55. TR 94 will be revised to include the figures of the vital area. These figures are designated as Security Safeguards Information and are withheld from public disclosure pursuant to 10 CFR 73.21. The drawings will label the central alarm station and the security related emergency power supply. D-size drawings will be provided for review. Cable pathways are beyond the scope of design certification.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. 10 CFR 73.55 "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage"
3. APP-TR49-NSIR-01
4. APP-GW-GLR-068 Rev. 1, "AP1000 Physical Security Plan" (TR 95)
5. 4. 10 CFR 73.21 "Requirements for Protection of Safeguards Information"

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-10
Revision: 0

Question:

Provide the design of the security features related to the rapid ingress, egress, and alarming of vital area emergency exits. Requirements for the rapid ingress or egress for vital areas is described in 10 CFR 73.55(d)(7)(i)(D)(ii), and alarm requirements for all emergency exits in the vital area are described in 10 CFR 73.55(e)(3).

Westinghouse Response:

Design characteristics of the security features related to rapid ingress and egress of vital area emergency exits are addressed in the site specific Physical Security Plan as identified in section 8.2.2 of NEI 03-12. Alarming of vital area emergency exits is described in the site specific Physical Security Plan as identified in section 9.6 of NEI 03-12. The Physical Security Plan will be submitted as part of the COL application and is beyond the scope of review for TR 49, 94, and 96.

References:

1. NEI 03-12 Rev. 4, "Physical Security Plan, Training and Qualification Plan, and the Safeguards Contingency Plan"

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW
Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-11
Revision: 0

Question:

Provide the location and design of the barriers for all unattended openings that cross or intersect a vital area boundary. To preclude unauthorized vital area personnel access, those unattended openings that have dimensional characteristics of 96 square inches of cross-sectional open area and greater than six inches in any one dimension that cross a vital area boundary, should have barriers installed. Barriers are defined in 10 CFR 73.2. Requirements for barriers are as described in 10 CFR 73.55(c). Regulatory guidance for unattended openings may be found in Regulatory Guide 5.65 and Regulatory Information Summary 2005-04.

Westinghouse Response:

Unattended openings that cross or intersect a vital area boundary that have dimensional characteristics of 96 square inches of cross sectional open area and greater than six inches in any one dimension have barriers that preclude unauthorized vital area personnel access in accordance with 10 CFR 73.55(c). Section 4.1 of the AP1000 Safeguards Assessment Report (TR 94) will be revised to clearly indicate this requirement as shown below.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. 10 CFR 73.55 "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors against Radiological Sabotage"

Design Control Document (DCD) Revision:

None

PRA Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Section 4.1

- An access control system is utilized to permit only properly authorized individuals may into designated areas of the facility. Personnel, material, and packages are physically or machine searched for firearms, explosives, and incendiary devices prior to admittance to the PA. Personnel and equipment access into the VA and into selected areas within the VAs are through locked doors. These doors are designated as security portals. These doors are normally locked and alarmed and require positive identification and authorization before access to the area within is granted. Locks utilized in the design of these doors are manipulative resistant as identified in Regulatory Guide 5.12 or equivalent. Unattended openings that cross or intersect a vital area boundary that have dimensional characteristics of 96 square inches of cross sectional open area and greater than six inches in any one dimension have barriers that preclude unauthorized vital area access. Similarly, some rooms within the VA that contain equipment necessary for safe operation or shutdown of the plant are normally locked and alarmed and require positive identification and authorization before access is granted. Furthermore, some equipment, such a remote panels or motor control centers, that allow operation of safety-related equipment or contain associated circuitry are locked and alarmed to indicate potential tampering. Positive identification and authorization are required before access is granted for routine operational or maintenance activities.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-12
Revision: 0

Question:

Provide additional information that specifies the minimum bullet resistance for the main control room and central alarm station, and the design of the bullet resistance and bullet resistant features of the main control room and central alarm station. Provide information that can clearly indicate that the central alarm station is located and designed in such a manner that the interior is not visible from the protected area. Provide the description of the design features of the central alarm station that would assist a combined license applicant referencing the AP1000 design to meet the "no single act" requirement. Minimum bullet resistance specified should be UL 752 Level IV or NIJ Standard 0108.01 Type III. The requirements for bullet resistance of the control room and central alarm station are described in 10 CFR 73.55(c)(6) and (e)(1), respectively. Requirement for the interior of the central alarm station not to be viewed from the protected area is described in 10 CFR 73.55(e)(1). The requirement that the central alarm station shall be located so that no single act can remove the capability of calling for assistance or otherwise responding to an alarm is described in 10 CFR 73.55(e)(1).

Westinghouse Response:

The walls, doors, ceilings, and floors in the main control room, central alarm station, and secondary alarm station are bullet-resistant to a UL level IV round. An ITAAC to verify this requirement is included in the AP1000 certified design. This ITAAC appears in Tier 1 section 2.6.9 of revision 16 of the AP1000 DCD. Section 4.1 of the AP1000 Safeguards Assessment Report (TR 94) will be revised to clearly indicate this requirement as shown below. Figure 7 of TR 94 illustrates that the central alarm station is located in such a manner that the interior is not visible from the protected area. Section 4.1 of TR 94 demonstrates that due to the location and design of the central alarm station "no single act" can remove the capability of calling for assistance or otherwise responding to an alarm. This information is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. 10 CFR 73.21 "Requirements for Protection of Safeguards Information"

Design Control Document (DCD) Revision:
None

PRA Revision:
None



AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Section 4.1

- Two continuously manned security alarm stations are located within the VA boundary: a central alarm station (CAS) and a secondary alarm station (SAS). The walls, floors, ceilings, doors, and windows of these stations are designed as bullet-resistant to a UL 752 level IV to provide protection for security equipment and security response force personnel located inside.
- The walls, floors, ceilings, doors, and windows of the main control room are bullet resistant to a UL 752 level IV round.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-13
Revision: 0

Question:

Provide scenario analyses based upon a standard set of NRC developed DBT scenarios. The scenarios utilized in TR-94 do not adequately cover the complete breadth (i.e., do not include essential adversary tactics, attributes and characteristics) of the design basis threat (DBT) of radiological sabotage. To provide a comprehensive evaluation of the AP1000 physical protection system design against the DBT, a set of standard scenarios, developed by the NRC staff for the purpose of being utilized by design certification and combined license applicants when performing a security assessment, should be utilized. (The scenarios have been determined to be safeguards information and will be provided upon request from the NRC.)

Westinghouse Response:

After reviewing the "Nuclear Power Plant Security Assessment Format and Content Guide" provided by the NRC, Westinghouse believes that the TR 94 covers applicable scenarios discussed in section 2.5.1.2 of the NRC format and content guide. The 10 scenarios detailed in TR 94 detail both dedicated and coordinated attacks from reasonable locations. The 10 scenarios in TR 94 detail potential adversary paths based on tactical advantages and attacks that provided the adversary the shortest paths to gain entry into the vital area as described in the NRC format and content guide.

In order to bound the scenarios, TR 94 assumed that an adversary team was comprised of a full complement of people and equipment as defined by the DBT. TR 94 assumes that the adversary team has information regarding the location of target set equipment and pathways that will lead them to create fuel damage. TR 94 also assumes an adversary always has enough charge such that the team would be able to breach any of the defined barriers along his path. Not specifying specific amounts of charge required for each barrier allows the analysis in TR 94 to bound future situations as adversary characteristics, attributes, and equipment may change.

Westinghouse requests that NRC provide the standard scenarios when formally issued.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. "Nuclear Power Plant Security Assessment Format and Content Guide" (Draft) August 2007

Design Control Document (DCD) Revision: None

PRA Revision: None

Technical Report (TR) Revision: None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-14
Revision: 0

Question:

Provide D-size color drawings for all drawing included in technical reports (*TR 49 (Enhancement Report)*, *TR 94 (Safeguards Assessment Report)*, *TR 96 (Interim Compensatory Measures)*, and *TR 105 (Building and Structure Configuration, Layout, and General Arrangement Design Updates)* submitted. (The current 8" X 10" documents are difficult to read. TR 105 drawings are grey-highlighted and are very obscure.)

Westinghouse Response:

D-size drawings will be provided for the figures in TR 94 when it is submitted as Revision 1. These figures are designated as Security Safeguards Information and are withheld from public disclosure pursuant to 10 CFR 73.21. The Power Block drawings from TR 49 have been revised since TR 49 was submitted. These are also the same drawings that are included in TR 94. TR 96 does not contain any drawings.

The drawings in TR 105 can be found in Revision 16 of the DCD. The drawings from DCD Revision 16 should be much easier to read. Furthermore, D-size room numbering drawings that are required to assess the physical security system will be submitted in Revision 1 of the TR 94. These drawings are consistent with the drawings that were provided in DCD Revision 16. Providing the drawings pertinent to the physical security system from TR 105 is therefore not required. The remaining drawings in TR 105 do not pertain to security and are not required to perform the necessary review.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. APP-GW-GLR-105 Rev. 0, "Building and Structure Configuration, Layout, and General Arrangement Design Updates" (TR 105)
3. APP-GW-GLR-062 Rev. 1, "AP1000 Enhancement Report" (TR 49)
4. APP-GW-GLR-067 Rev. 1, "AP1000 Interim Compensatory Measures Report" (TR 96)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-15
Revision: 0

Question:

Provide detail (i.e., detection and delay characteristics), sufficient to perform a more comprehensive security assessment, of the PIDAS. In addition, locate the PA barrier 360 feet (minimum as described in RG 4.7) from vital areas, with vehicle barrier systems, (at minimum standoff, as described in NUREG/CR-6190), and a number of armed responders, to enable a more comprehensive evaluation (i.e., scenario analyses) of the proposed physical protection system.

Westinghouse Response:

Compensatory measures related to the perimeter intrusion detection alarm system will be described in the site specific Physical Security Plan in section 16.3 of NEI 03-12 which will be submitted as part of the COL application.

The exact location of the site specific vehicle barrier system (VBS) and protected area (PA) barrier will be specified in the site specific Physical Security Plan as identified in section 6.1 and 6.2 of NEI 03-12. Standard AP1000 drawings do not exist that detail the location of each barrier. The AP1000 Safeguards Assessment (TR 94) assumes a minimum distance for each fence based on calculations of the minimum safe standoff distance for protection against both a large and small vehicle bomb that protect the associated resources. This information is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21. The distances assumed are factored into the timelines in Attachment 2 of this report. Attachment 2 of the Safeguards Assessment will be revised to clearly state the assumed minimum distance for each barrier.

The number of armed responders credited for protecting the exterior of the Power Block is defined in TR 94. This information is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment"
2. NEI 03-12, "Physical Security Plan, Training and Qualification Plan, and the Safeguards Contingency Plan"

Design Control Document (DCD) Revision: None

PRA Revision: None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)



AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-16
Revision: 0

Question:

Provide design characteristics and details of physical barriers. Describe design characteristics of physical barriers in detail to include: dimensions, weights, explosive breaching charge calculations required to breach barrier, delay times associated with each barrier, construction materials, bullet resistance ratings, blast resistant ratings, hinges, locks, anti-tamper features, and anti-manipulation features.

Westinghouse Response:

Design characteristics of the PA fence and vehicle barrier system are outside of the scope of the standard plant will be provided in the site specific Physical Security Plan as identified in section 6 of NEI 03-12. The Physical Security Plan will be submitted as part of the COL application. The timelines in TR 94 detail the minimum total time required to breach the PA fence. This barrier will be designed to provide at least the delay time attributed by TR 94. The vehicle barrier system is designed to prevent entry beyond the safe standoff distance for both a large and small vehicle bomb as described in section 6 of NEI 03-12. This information is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21.

Design of the Red Zone Delay fence and the blast resistant doors are addressed by RAI-TR94-NSIR-17 and RAI-TR94-NSIR-23 respectively.

References:

1. NEI 03-12 Rev. 4, "Physical Security Plan, Training and Qualification Plan, and the Safeguards Contingency Plan"
2. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
3. RAI-TR94-NSIR-17
4. RAI-TR94-NSIR-23

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None



AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-17
Revision: 0

Question:

Provide design details of inner delay boundary fences. Describe design characteristics of delay barriers in detail to include: dimensions, explosive breaching charge calculation/analyses detailing what is required to breach delay fencing, delay provided by these fences (for cutting and explosives breach) and construction materials.

Westinghouse Response:

Attachment 2 of TR 94 details the minimum total time required to breach Red Zone Delay Fence. The detailed design of this barrier has not yet been finalized. This barrier will be designed to provide at least the delay time attributed by TR 94. This information is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-18
Revision: 0

Question:

Provide details of distances traveled between PIDAS, PA Fence, Red Zone Fence and nearest exterior door. Describe details of the time required to traverse each delay fence, distances between fences and nearest exterior door, explosive breaching charge calculations, cutting times, alarm annunciation, and details of the PIDAS for each standard scenario.

Westinghouse Response:

TR 94 assumes minimum distances between the PIDAS, the PA Fence, the Red Zone Delay Fence and the nearest exterior door. These distances are designated as Safeguards Information. Attachment 2 of TR 94 will be revised to specifically define the minimum assumed distances between each point.

The timelines detailed in TR 94 attribute specific delay times for the PA Fence, the Red Zone Delay Fence, specific exterior doors, and blast resistant interior doors. This information is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21. Each of these fences and doors will be designed to provide at least the delay time attributed by TR 94. Attachment 2 of TR 94 defines the minimum delay time attributed to each barrier.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-19
Revision: 0

Question:

Provide details of each exterior door. Describe design characteristics of exterior doors (pertinent to the security assessment) to include: dimensions, weights, explosive breaching charge calculations for breaching doors, construction materials, bullet resistance ratings, blast resistant ratings, hinges, locks, anti-tamper features, delay afforded and anti-manipulation features.

Westinghouse Response:

Attachment 2 of TR 94 details the minimum total time required to breach both external and internal doors that an adversary would be required to breach in order to successfully complete an intended target set. The detailed design of these doors is vendor specific and is therefore beyond the scope of the Design Certification review. Each of these doors will be designed to provide at least the delay time attributed by TR 94.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-20
Revision: 0

Question:

Provide details of external security force firing positions. Describe design characteristics of external security firing positions, in detailed D-size drawings, to include: fields of fire, rates of fire, restricted fields of fire, elevation of the firing positions, lines-of-sight, traverse and azimuth limits of the weapon system, construction materials, hardening design, bullet-resistance ratings, human fragility limits, gun-port sizes and design, primary and secondary communications, and fields of view.

Westinghouse Response:

The location of the external security responders is shown in TR 94. This figure is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21. The detailed design of each of these external security firing positions has not yet been finalized. The location and design of each firing position will be sufficient to provide adequate responder protection and fields of fire that protect the credible adversary entry paths into the Vital Area. 94 will be revised to clearly indicate external responder location and firing positions. This drawing will be provided as a D-size drawing.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-21
Revision: 0

Question:

Provide details of internal armed responder designated response positions. Describe design characteristics of internal armed responder designated response positions, in detailed D-size drawings, to include: fields of fire, rates of fire, restricted fields of fire, danger fire zones, clear fire zones, human fragility limits, elevation of the firing positions, lines-of-sight, traverse and azimuth limits of the weapon system, construction materials, hardening design, bullet-resistance ratings, gun-port sizes and design, primary and secondary communications, and fields of view.

Westinghouse Response:

The normal response positions of the internal security responders are shown in TR 94. Additionally, Table 2 of Attachment 2 of TR 94 details the basic role and responsibility of each armed responder. The detailed design of the internal security firing positions has not yet been finalized. The location and design of each firing position will be sufficient to provide adequate responder protection and fields of fire that protect the credible adversary entry paths leading to vital equipment. The figures in TR 94 will be resubmitted as D-size drawings to clearly indicate internal responder locations.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-22
Revision: 0

Question:

For each scenario analyzed; provide detailed D-size, color-coded drawings and explanation of adversary paths and timelines from the PA boundary fence to the target area(s) or area of neutralization. Provide D-size, color-coded drawings of adversary paths and identify: adversary routes and timelines, response force timelines, door openings, hallway sizes, stairs, barriers, delay fences, explosive breaching charge calculations, delay times, probability of detection, probability of interruption, probability of neutralization, physical security system probability of effectiveness, adversary characteristics/attributes/tactics and capabilities, and adversary equipment.

Westinghouse Response:

TR 94 will be revised to add D-size color-coded drawings detailing adversary paths for each of the 10 scenarios analyzed in TR 94. Timelines and descriptions for each scenario are already detailed in Attachment 2 of TR 94. This information is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21. These timeline credit delays times for specific barriers which an adversary would have to defeat in order to successfully defeat the intended target set. The design of these barriers will be sufficient to provide at least the minimum breaching time specified in TR 94.

Section 5.2.1 of TR 94 defines the general assumptions regarding adversary characteristics, attributes, tactics, capabilities, and equipment. Each scenario assumed that an adversary had a full complement of equipment as defined by the Design Basis Threat. In order to bound the scenarios, it was assumed that an adversary always had enough charge such that he would be able to breach any of the defined barriers along his path. Not specifying specific amounts of charge required for each barrier allows the analysis in TR 94 to bound future adversary characteristics, attributes, and equipment.

The effectiveness of the physical security system is demonstrated by detailing scenarios that encompass both dedicated and coordinated attacks from the reasonable entry locations. The general assumptions regarding probability of detection, interruption, and neutralization are outlined in the general assumptions regarding rules of engagement between members of the security organization response forces and the adversary team in section 5.2 of TR 94.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-23
Revision: 0

Question:

Provide detailed analysis of blast-resistant doors. Describe design characteristics of blast-resistant doors to include: explosive breaching charge calculations for breaching, composition, dimensions, locking devices, hinges, expected delay provided and opening dimensions.

Westinghouse Response:

Attachment 2 of TR 94 details the minimum total time required to breach both external and internal doors that an adversary would be required to breach in order to successfully complete an intended target set. The detailed design of these doors is vendor specific and is therefore beyond the scope of the Design Certification review. Each of these doors will be designed to provide at least the delay time attributed by TR 94.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-24
Revision: 0

Question:

Provide, for each scenario, a color-coded, D-size drawing and explanation/description associated with detection, assessment, and response of all armed responder paths and positions to include: consideration of security system delay associated with detection in the timeline analysis (i.e., delay in the detection of adversary – to – assessment of adversary – to – response to adversary, and communication of assessed adversary), response of protective force to the assessed adversary, responder routes, rooms, door openings, hallway sizes, stairs, barriers, delay times, probabilities of neutralization, probabilities of detection, probabilities of effectiveness, probabilities of interception, assumed armed responder characteristics and capabilities, assumed armed responder equipment, and details of firing zones (i.e., fields of fire) of the physical protection system, identify clear and danger zones of fire, and physical impediments for responders (in route and at firing positions), to provide a more comprehensive security assessment.

Westinghouse Response:

TR 94 will be revised to add D-size color-coded drawings detailing armed responder paths for each of the 10 scenarios analyzed in TR 94. Timelines and descriptions for each scenario are already detailed in Attachment 2 of TR 94. This information is designated as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21. These timelines credit delays for armed responders to reach their response positions following a PIDS alarm and notification by a commanding officer.

Section 5.2.1 of TR 94 defines the general assumptions regarding rules of engagement between an armed responder and an adversary. Armed responders have an advantage due to their hardened defensive positions. The design of these defensive positions will be adequate to provide protection of the armed responders when engaging an adversary and allow for sufficient fields of fire to protect the pathways towards leading towards vital equipment. The location of these hardened positions will be defined such that physical impediments will not block fields of fire that are necessary to protect the pathways leading towards vital equipment.

The effectiveness of the physical security system is demonstrated by detailing scenarios that encompass both dedicated and coordinated attacks from the reasonable entry locations. The general assumptions regarding probability of detection, interruption, and neutralization are outlined in the general assumptions regarding rules of engagement between members of the security organization response forces and the adversary team in section 5.2 of TR 94.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-25
Revision: 0

Question:

Provide a cross reference that identifies all security related changes in TR 105. (TR 105, as currently written, neither explicitly points out, nor identifies, the security related changes.)

Westinghouse Response:

TR 105 revises the general arrangement drawings that are included in the Design Control Document. Several general arrangement drawings were revised to reflect enhancements made to the physical security system. Enhancements made to the physical security system are detailed in the AP1000 Enhancement Report (TR 49). TR 105 incorporates these enhancements into the applicable general arrangement drawings. These enhancements include various access control improvements such as specialty doors and turnstiles. The location of these doors is detailed in Attachment 2 of TR 94. TR 105 also indicates the location of external security force firing positions. The location of these firing positions is detailed in TR 94. Several rooms are also dedicated for security in TR 105. These rooms are assigned for the central alarm station and the secondary alarm station within the standard plant. The location of these rooms will be detailed in Revision 1 of TR 94.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)
2. APP-GW-GLR-062 Rev. 1, "AP1000 Enhancement Report" (TR 49)
3. APP-GW-GLN-105 Rev. 0, "Building and Structure Configuration, Layout, and General Arrangement Updates"
4. RAI-TR49-NSIR-01
5. RAI-TR49-NSIR-20

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR94-NSIR-26
Revision: 0

Question:

Provide an analyses that considers the implementation of advanced security system technologies and concepts (i.e., cold smoke, sticky foam, munitions based access denial system (MBADS), remotely operated weapons system (ROWS)), as described in chapters 4 and 6 of NUREG/CR1345, Rev. 1, "Nuclear Power Plant Design Concepts for Sabotage Protection." (The draft Chapters will be provided upon request from the NRC.)

Westinghouse Response:

Westinghouse has submitted four Technical Reports detailing how AP1000 can withstand a Design Basis Threat (DBT) attack with high assurance. The difference between the design of AP1000 and that of a conventional PWR represents a significant reduction in vulnerability to a wide range of security threats. The need for advance security system technologies and concepts to defend against the DBT has been considered throughout the evolution of the physical security system design. TR 94 concludes that the current design of the AP1000 and its physical security system is sufficient to withstand a DBT attack. The physical security system is designed in accordance with the applicable regulations. No exceptions to regulation with respect to the design of the AP1000 standard plant physical security system have been identified.

References:

1. APP-GW-GLR-066 Rev. 0, "AP1000 Safeguards Assessment" (TR 94)

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None