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Your ref: Docket No. 52-006
Our ref: DCP/NRC1688


March 24, 2004

SUBJECT: Transmittal of Revised Responses to AP1000 DSER Open Items

Westinghouse letter DCP/NRC1596, "AP1000 Security Assessment," dated June 4, 2003 provided controlled copies of Revision 0 of AP1000 document APP-GS-ASR-003. Revision 0 of APP-GS-ASR-003 contains safeguards information. As indicated in DCP/NRC1596, a portion of APP-GS-ASR-003 did not contain safeguards information and is decontrolled when separated from the safeguards portion. Included in this submittal is a portion of Revision 1 of APP-GS-ASR-003, and it contains NO safeguards information. Upon revision of the safeguards portion by Southern Nuclear Company, the entire document will be reissued in a controlled, safeguards manner, and provided to NRC by March 31, 2004.

Please contact me at 412-374-4728 if you have any questions concerning this submittal.

Very truly yours,


R. P. Vijuk, Manager
Passive Plant Engineering
AP600 & AP1000 Projects

/Attachments

1. List of the AP1000 Design Certification Review, Draft Safety Evaluation Report Open Item Responses transmitted with letter DCP/NRC1688

DD03

March 24, 2004

Attachment 1

List of
Non-Proprietary Responses

Table 1 “List of Westinghouse’s Responses to DSER Open Items Transmitted in DCP/NRC1688”	
13.6-1, Revision 2 14.3.2-8 Revision 1	

Westinghouse Non-Proprietary Class 3

DCP/NRC1688
Docket No. 52-006

March 24, 2004

Attachment 2

AP1000 Design Certification Review
Draft Safety Evaluation Report Open Item Non-Proprietary Responses

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

DSER Open Item Number: 13.6-1 Revision 2

Original RAI Number(s): None

Summary of Issue:

The staff has not completed the review of the applicant's change to the security plan. At this time, the staff plans to issue a supplemental DSER that will address the AP1000 security plan, including the COL action items and any additional ITAAC. This is Open Item 13.6-1.

Westinghouse Response:

In Westinghouse letter NRC/DCP1596 dated June 6, 2003, Westinghouse submitted the AP1000 Security Assessment report that documents the compliance of the AP1000 plant to the applicable security-related requirements.

Design Control Document (DCD) Revision:

None

NRC Comment provided by email on January 6, 2004:

Westinghouse should include a COL information item to address specific material control measures as required by 10 CFR Part 70. Westinghouse should also ensure that the COL applicant addresses the guidance provided in ANSI N15.8-1974, "Nuclear Material Control Systems for Nuclear Power Plants."

Westinghouse Response (Revision 1):

Westinghouse will add a COL information item to address specific material control measures as required by 10 CFR Part 70 and the guidance provided in ANSI N15.8-1974. Please see the "Design Control Document (DCD) Revision:" portion of this DSER Open Item Response for specific DCD changes.

Design Control Document (DCD) Revision:

Add new subsection 13.6.13.4 as follows:

13.6.13.4 Nuclear Material Control System

Combined License applicants referencing the AP1000 certified design will address specific material control measures as required by 10 CFR Part 70 and the guidance provided in Reference 7.

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

Add Reference 7 to section 13.7 as follows:

7. ANSI N15.8, "Nuclear Material Control Systems for Nuclear Power Plants," 1974.

Add Item 13.6-4 to Table 1.8-2 as follows:

Item No.	Subject	Subsection
13.6-4	Nuclear Material Control Requirements	13.6.13.4

PRA Revision:

None

Summary of Issue: Revision 2

During a teleconference on March 09, 2004, the NRC had the following comments:

- The Site Boundary fence should be deleted from DCD Figure 1.2-2 and added to DCD Paragraph 13.6.13.3 Plant Security System.
- The heavy weight line on the DCD Figure 1.2-2 that depicts the boundary of the plant design features in the scope of AP1000 certification should be shown separate from the vehicle barrier.
- Paragraph 1.9.1.3 incorrectly states; " Interface requirements are described in the AP1000 Security Design Report".
- The third paragraph in Section 1 of the AP1000 Security Assessment Document APP-GS-ASR-003 states that the assessment demonstrates that the AP1000 standard design satisfies the applicable requirements of Reference 2 and 3. The appropriate references are 3 and 4.
- The location of the CAS, SAS, and the emergency power system should be indicated on the appropriate AP1000 Security Boundary Drawings or in the AP1000 Security Assessment Document APP-GS-ASR-003.

Westinghouse Response: Revision 2

The following changes will be made in Revision 10 of the DCD:

- The Site Boundary fence has been deleted from DCD Figure 1.2-2 and added to DCD Paragraph 13.6.13.3 Plant Security System. See the revised paragraph 13.6.13.3 below.
- DCD Figure 1.2-2 has been revised to delete the vehicle barrier. As such the location and the detailed design of the vehicle barrier are COL items.

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

- Paragraph 1.9.1.3 has been revised and the sentence " Interface requirements are described in the AP1000 Security Design Report" has been deleted. See the revised Paragraph 1.9.1.3 below.

The following changes will be made to the non-safeguards information in Revision 1 of AP1000 Security Assessment Document, APP-GS-ASR-003:

- The third paragraph in Section 1 has been revised to state that the assessment demonstrates that the AP1000 standard design satisfies the applicable requirements of Reference 3 and 4.
- Section 5.0 has been revised to address the location of the CAS, SAS, and the emergency power system.

Changes will be made to the safeguards information in Revision 1 of AP1000 Security Assessment Document, APP-GS-ASR-003 to specify the locations of the CAS, SAS, and the emergency power system. This safeguards information will be provided separately in the controlled manner.

Design Control Document (DCD) Revision:

- Figure 1.2-2 will be revised to remove the site boundary fence and the vehicle barrier. Revised figure not shown here, but will be included in DCD Rev. 10.
- Paragraph 1.9.1.3 – revised as shown below.
- Paragraph 13.6.13.3 – revised as shown below.

1.9.1.3 Division 5 Regulatory Guides - Materials and Plant Protection

Three Division 5 regulatory guides, Regulatory Guides 5.9, 5.12, and 5.65 merit discussion. Regulatory Guide 5.9, "Guidelines for Germanium Spectroscopy Systems for Measurement of Special Nuclear Material", provides guidelines for data acquisition systems associated with the use of a lithium-drifted germanium gamma ray spectroscopy system. This regulatory guide is not applicable to AP1000 design certification.

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

Regulatory Guide 5.12, "General Use of Locks in the Protection and Control of Facilities and Special Nuclear Materials," provides guidelines for the selection and use of commercially available locks in the protection of facilities and special nuclear material. The guidance of this regulatory guide is considered as appropriate in the AP1000 design. ~~Interface requirements are described in the AP1000 Security Design Report.~~

Regulatory Guide 5.65, "Vital Area Access Controls, Protection of Physical Security Equipment, and Key and Lock Controls", is not applicable to design certification.

13.6.13.3 Plant Security System

Combined License applicants referencing the AP1000 certified design will address site-specific information related to the design, maintenance, and testing of the plant security system, including definition of the protected area; definition and location of the site boundary- fence, definition, location, and the detail design of the vehicle barrier; definition of control points for personnel, vehicle, and material access into the protected areas; detection and alarm design features; security lighting; security power supply including the interface to the UPS system; and communication system.

PRA Revision:

None

AP1000 Security Assessment Document Revision:

The non-safeguards AP1000 Security Assessment Document, APP-GS-ASR-003, Rev. 0, will be revised as shown below.

Section 1.0

Security Assessment Document Introduction

For the AP600 Design Certification, an AP600 Security Design Report (Reference 1) and AP600 Security Design Vulnerability Analysis Report (Reference 2) were reviewed and approved by the NRC as discussed in NUREG-1512. These reports document the compliance of the AP600 to the applicable requirements of 10 CFR 73.55.

Subsequent to the issuance of AP600 Design Certification, and as a result of the events of September 11, 2001, the NRC issued orders to power reactor licensees titled "Interim Compensatory Measures for High Threat Environment" (Reference 3). On April 29, 2003, the NRC also issued a revised "Design Basis Threat for Radiological Sabotage for Operating Power Reactors" (Reference 4).

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

This AP1000 Security Assessment Document provides an assessment of the impact of References 3 and 4 on the AP1000 design and identifies the applicable requirements in References 3 and 4 that are the responsibility of the Combined License Applicant. This assessment demonstrates that the AP1000 standard design satisfies the applicable requirements of Reference 2-3 and 34.

The comprehensive physical security program for AP1000 is the responsibility of the Combined License applicant and will be addressed in the security plan, contingency plan, and guard training plan provided by the Combined License applicant. The AP600 security reports (Reference 1 and 2) may be utilized by the Combined License Applicant in the development of the security design for AP1000.

The description of the AP1000 site-specific physical security organization is the responsibility of the Combined License Applicant. The size and capabilities of the physical security organization's armed response team will be established by a vulnerability analysis and protective strategy prepared by the Combined License Applicant.

For additional information on the responsibility of the Combined License see Paragraph 13.6 of Reference 5 (AP1000 Design Control Document, Volume 9, Chapter 13, Conduct of Operation).

Section 5.0

AP1000 Security Boundary Drawings

The purpose of the AP1000 Security Boundary Drawings is to identify the AP1000 ~~vehicle barrier system, the vital area boundaries, and the vital area access portals.~~ Background information, such as general arrangement, room descriptions, and room numbers, are provided for information only as necessary for this purpose. For complete information of this type see the General Arrangement and Room Numbering Drawings.

The AP1000 Security Boundary Drawings show only the Nuclear Island and the Annex Building. The Turbine Building, the Radwaste Building, and the Diesel Building are not within the AP1000 vital area boundary, therefore these buildings have been excluded from the AP1000 Security Boundary Drawings.

The Central Alarm Station (CAS) and the Security Emergency Power System are located within the Vital Area boundary. The Secondary Alarm Station (SAS) will be located within the Protected Area boundary as defined by the Combined License Applicant.

AP1000 Vehicle Barrier System

~~The AP1000 Security Boundary Site Plot Plan, 0000-AS-001 Revision 0, identifies the vehicle barrier system boundary. The vital areas are surrounded by a vehicle barrier system that provides a barrier such that no location along the perimeter will permit forced entry of a vehicle. The vehicle barrier system is designed to stop the Design Basis Vehicle before it reaches the safe standoff distance for the vital equipment located inside the vital areas. No point along the perimeter of the vehicle barrier system is located closer than the minimum safe standoff distance for the vital area barrier. Vital equipment/components are not expected to be damaged to the extent that they are no longer able to maintain the plant in a safe condition as a result of detonation of a design basis bomb at the vehicle barrier system boundary. Active gates are located at the two vehicle portals that provide the only access for vehicles to enter the area enclosed by the vehicle barrier system. Vehicles that are authorized for access and that have a need to enter the area enclosed by the vehicle barrier system are searched at these gates for items that could be used for~~

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

radiological sabotage. There is no general parking within the area enclosed by the vehicle barrier system. The Combined License Applicant is responsible for the definition, location, and the detail design of the AP1000 Vehicle Barrier System.

AP1000 Vital Area Boundary Drawings

The AP1000 vital area boundary is defined on the following drawings:

APP-0000-AS-101 Revision 0	AP1000 Security Boundary-Level 1 El. 66'-6"
APP-0000-AS-102 Revision 0	AP1000 Security Boundary-Level 2 El. 82'-6"
APP-0000-ASK-103 Revision 0	AP1000 Security Boundary-Level 3 El. 100'-0"
APP-0000-ASK-104 Revision 0	AP1000 Security Boundary-Level 4 El. 117'-6"
APP-0000-ASK-105 Revision 0	AP1000 Security Boundary-Level 5 El. 135'-3"
APP-0000-ASK-106 Revision 0	AP1000 Security Boundary-Roof Plan
APP-0000-ASK-901 Revision 0	AP1000 Security Boundary-Section A-A
APP-0000-AS-902 Revision 0	AP1000 Security Boundary-Section B-B
APP-0000-AS-903 Revision 0	AP1000 Security Boundary-Section G-G

Vital equipment is located within designated vital areas. The AP1000 vital areas are encompassed by the boundary formed by the shield building, a reinforced concrete and steel structure surrounding containment, and by portions of the reinforced concrete perimeter and interior walls of the auxiliary and annex buildings.

Access Control Requirements

The AP1000 access controls for the vital access portals are shown on the following drawings and they are defined by the preceding Legend sheet:

APP-0000-AS-101 Revision 0	AP1000 Security Boundary-Level 1 El. 66'-6"
APP-0000-AS-102 Revision 0	AP1000 Security Boundary-Level 2 El. 82'-6"
APP-0000-ASK-103 Revision 0	AP1000 Security Boundary-Level 3 El. 100'-0"
APP-0000-ASK-104 Revision 0	AP1000 Security Boundary-Level 4 El. 117'-6"
APP-0000-ASK-105 Revision 0	AP1000 Security Boundary-Level 5 El. 135'-3"

Positive control features are implemented to provide authorization for personnel and vehicles entering the protected and vital areas. The Combined License applicant is responsible for the following access control features:

- Means for positive identification of authorized personnel entering the protected and vital areas.
- Means for searching individuals, packages, and materials for firearms, explosives, and incendiary devices. This may be accomplished using detection devices such as metal detectors, explosive detectors, and x-ray machines.

The AP1000 design certification scope includes:

- Access portals entering the vital areas are identified and unmanned portals are provided with alarm annunciation in the continuously manned alarm stations.
- Vital area ingress and egress are designed to interface with other plant requirements and not impair plant operations during emergency conditions.

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

Protected Area

The definition of the protected area is the responsibility of the Combined License applicant.

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

DSER Open Item Number: 14.3.2-8 Revision 1

Original RAI Number(s): None

Summary of Issue:

Sections 2.6.9 and 2.6.10. The staff cannot complete its review of these ITAAC because the staff's review of the security program for AP1000 is not complete (see Section 13.6 of this report). This is Open Item 14.3.2-8.

Westinghouse Response:

DCD Sections 2.6.9 and 2.6.10 is the Tier 1 information for the Plant Security Systems and the Closed Circuit TV System. The AP1000 Tier 1 information contains "No entry" for these systems. This is consistent with the approach taken for the other certified designs including the AP600. In Westinghouse letter NRC/DCP1596 dated June 6, 2003, Westinghouse submitted the AP1000 Security Assessment report that documents the compliance of the AP1000 plant to the applicable security-related requirements. Westinghouse does not believe that additional information is required in Tier 1 Sections 2.6.9 and 2.6.10.

Westinghouse Response (Revision 1):

The AP1000 Security Assessment is revised as discussed in our response to Open Item 13.6-1 Revision 2.

Design Control Document (DCD) Revision:

None

PRA Revision:

None