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Your ref: Docket No. 52-006
Our ref: DCP/NRC2369

February 2, 2009

Subject: AP1000 Response to Request for Additional Information (SRP 14)

Westinghouse is resubmitting a response to the NRC request for additional information (RAI) on SRP Section 14. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in the response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application. This letter replaces letter DCP/NRC2295 sent November 7, 2008 in its entirety.

A response is provided for RAI-SRP14.3.12-NSIR-06.

Enclosure 1 contains sensitive unclassified non-safeguards information relative to the physical protection of an AP1000 Nuclear Power Plant that should be withheld from public disclosure pursuant to 10 CFR 2.390(d). Enclosure 2 provides the redacted version (public version).

Questions or requests for additional information related to the content and preparation of this response 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,

A handwritten signature in black ink, appearing to read "Robert Sisk".

Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

/Enclosure

1. RAI-SRP14.3.12-NSIR-06 Rev.0, "AP1000 Security ITAAC - Vital Area Barrier ITAACs to COLA," (Sensitive Version)
2. RAI-SRP14.3.12-NSIR-06 Rev.0 NS, "AP1000 Security ITAAC - Vital Area Barrier ITAACs to COLA," (Public Version)

cc: D. Jaffe - U.S. NRC 1E
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RAI Response Number: RAI-SRP 14.3.12-NSIR-06 NS
Revision: 0

Question:

Guidance: NUREG 0800, Standard Review Plan (SRP) 14.3.12.

Observation: The AP1000 Design Control Document (DCD) currently depicts ITAAC that is not within scope of the AP1000 design. The AP1000 applicant recently conveyed "ITAAC Design Commitments" attached. The NRC agrees with the approach of the attached with the exception of ITAAC #1. Attribute and or characteristic of at least the vital area barrier (encompassing the vital area itself) should be described in Tier 2 of the DCD (i.e., resistant to X lbs of explosive, has design of X foot thick of concrete with reinforcing of Y, provides X amount of delay).

Question: Please provide a modified submission in the DCD with respect to physical security hardware ITAAC in accordance with the attached, SRP 14.3.12 and add attribute and/or characteristic of the vital area barrier, in Tier 2.

Westinghouse Response:

Westinghouse agrees that it is inappropriate to include several of the security ITAACs that are related to the protected area boundary and the intrusion detection system within the AP1000 Design Certification Document because section 1.8 of the AP1000 DCD specifically states that the boundary fence (i.e. protected area fence) is not included in the scope of design certification. As a result, portions of AP1000 ITAAC #1 in Tier 1 Section 2.6.9 and the entirety of ITAACs #2, #10, #11, #12, and #14 in Tier 1 Section 2.6.9 should be removed from the DCD. A design description of the features and functions described in these ITAACs is provided by the COL applicant in the "Physical Security Plan, Training and Qualification Plan, and the Safeguards Contingency Plan" (Reference 1) which is identified in Table 1.8 of the AP1000 DCD as a COL action item. As appropriate, the COL applicant will incorporate these standard ITAACs into their COL applications.

"REDACTED VERSION – WITHHELD UNDER 10 CFR 2.390"

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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. 1, "AP1000 Safeguards Assessment" (TR 94)

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Design Control Document (DCD) Revision: 2.6.9 Plant Security System

Design Description

The physical security system provides physical features to detect, delay, assist response to, and defend against the design basis threat (DBT) for radiological sabotage. The physical security system consists of physical barriers and an intrusion detection system. The details of the physical security system are categorized as Safeguards Information. The physical security system provides protection for vital equipment and plant personnel.

1. The external walls, doors, ceiling, and floors in the main control room; and the central alarm station; ~~and the last access control function for access to the protected area~~ are bullet-resistant.
2. ~~Physical barriers for the protected area perimeter are not part of the vital area barriers.~~ Not used
3. Secondary security power supply system for alarm annunciator equipment and non-portable communications equipment is located within a vital area.
4. Vital areas are locked and alarmed with active intrusion detection systems that annunciate in the central and secondary alarm stations upon intrusion into a vital area.
5. Security alarm annunciation occurs in the central alarm station and in at least one other continuously manned station not necessarily onsite.
6. The vehicle barrier system is installed and located at the necessary stand-off distance to protect against the DBT vehicle bombs.
7.
 - a) Vital equipment is located only within a vital area.
 - b) Access to vital equipment requires passage through at least two physical barriers.
8. 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.
9. Emergency exits through the protected area perimeter and the vital area boundaries are alarmed.
10. ~~An intrusion detection system can detect penetration or attempted penetration of the protected area barrier.~~ Not used
11. ~~An access control system with numbered picture badges is installed for use by individuals who are authorized access to protected areas without escort.~~ Not used

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12. ~~Access control points are established to a) control vehicle and personnel access into the protected area and b) detect firearms, explosives, and incendiary devices at the protected area personnel access points. Not used~~
13. The central and secondary alarm stations: a) have conventional (landline) telephone service and other communication capabilities with local law enforcement authorities and b) are capable of continuous communications with security personnel.
14. ~~Isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area that allows 20 feet of observation on either side of the barrier. Where permanent buildings do not allow a 20-foot observation distance on the inside of the protected area, the building walls are immediately adjacent to, or an integral part of, the protected area barrier. Not used~~
15. Security alarm devices including transmission lines to annunciators are tamper indicating and self-checking (e.g., an automatic indication is provided when failure of the alarm system or a component occurs, or when on standby power). Alarm annunciation shall indicate the type of alarm (e.g., intrusion alarms and emergency exit alarm) and location.
16. Equipment exists to record onsite security alarm annunciation, including the location of the alarm, false alarm, alarm check, and tamper indication; and the type of alarm, location, alarm circuit, date, and time.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.6.9-1 specifies the inspections, tests, analyses, and associated acceptance criteria for the physical security system.

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Table 2.6.9-1 Inspections, Tests, Analyses, and Acceptance Criteria		
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The external walls, doors, ceiling, and floors in the main control room and the central alarm station, and the last access control function for access to the protected area are bullet-resistant.	See Tier 1 Material, Table 3.3-6, item 14.	See Tier 1 Material, Table 3.3-6, item 14.
2. Physical barriers for the protected area perimeter are not part of the vital area barriers. Not used	An inspection of the protected area perimeter barrier will be performed to verify that physical barriers at the perimeter of the protected area are separated from any other barrier designated as a vital area barrier.	Physical barriers at the perimeter of the protected area are separated from any other barrier designated as a vital area barrier.
3. Secondary security power supply system for alarm annunciator equipment and non-portable communications equipment is located within the vital area.	See Tier 1 Material, Table 3.3-6, item 16.	See Tier 1 Material, Table 3.3-6, item 6.
4. Vital areas are locked and alarmed with active intrusion detection systems that annunciate in the central and secondary alarm stations upon intrusion into a vital area.	See Tier 1 Material, Table 3.3-6, item 17.	See Tier 1 Material, Table 3.3-6, item 17.
5. Security alarm annunciation occurs in the central alarm station and in at least one other continuously manned station not necessarily onsite.	Test, inspection, or a combination of test and inspections of the installed systems will be performed to ensure that security alarms annunciate in the central alarm station and in at least one other continuously manned station.	Security alarms annunciate in the continuously manned central alarm station located within the protected area and in at least one other continuously manned station.

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Table 2.6.9-1 Inspections, Tests, Analyses, and Acceptance Criteria		
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. The vehicle barrier system is installed and located at the necessary stand-off distance to protect against the DBT vehicle bombs.	Type test, analysis, or a combination of type test and analysis will be performed for the vehicle barrier system to ensure it will protect against the DBT vehicle bombs based upon the stand-off distance for the system.	A report exists and concludes that the vehicle barrier system will protect against the DBT vehicle bombs based upon the stand-off distance of the system.
7.a) Vital equipment is located only within a vital area.	Inspection will be performed to confirm that vital equipment is located within a vital area.	All vital equipment is located only within a vital area.
7.b) Access to vital equipment requires passage through at least two physical barriers.	Inspection will be performed to confirm that access to vital equipment requires passage through at least two physical barriers.	Access to vital equipment requires passage through at least two physical barriers.
8. 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.	Inspection of the illumination in the isolation zones and external areas of the protected area will be performed to confirm sufficient illumination to permit observation.	The illumination in isolation zones and exterior areas within the protected area is 0.2 foot candles measured horizontally at ground level or, alternatively, sufficient to permit observation.
9. Emergency exits through the protected area perimeter and the vital area boundaries are alarmed.	Test, inspection, or a combination of tests and inspections will be performed to verify that the emergency exits through the protected area perimeter and the vital area boundaries are alarmed.	The emergency exists through the protected area perimeter and the vital area boundaries are alarmed.

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Table 2.6.9-1 Inspections, Tests, Analyses, and Acceptance Criteria		
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
<p>10. An intrusion detection system can detect penetration or attempted penetration of the protected area barrier.</p> <p>Not used</p>	<p>Tests, inspections, or a combination of tests and inspections of the intrusion detection system will be performed to verify the system can detect penetration or attempted penetration of the protected area barrier and that subsequent alarms annunciate in both the Central Alarm Station and Secondary Alarm Station.</p>	<p>The intrusion detection system detects penetration or attempted penetration of the protected area barrier and subsequent alarms annunciate in the Central Alarm Station and Secondary Alarm Station.</p>
<p>11. An access control system with numbered picture badges is installed for use by individuals who are authorized access to protected areas without escort.</p> <p>Not used</p>	<p>A test of the access control system with numbered picture badges will be performed to verify that unescorted access to protected areas is granted only to authorized personnel.</p>	<p>An access authorization system with numbered picture badges can identify and authorize protected area access only to those personnel with unescorted access authorization.</p>
<p>12. Access control points are established to: a) control vehicle and personnel access into the protected area and b) detect firearms, explosives, and incendiary devices at the protected area personnel access points.</p> <p>Not used</p>	<p>A test, inspection, or combination of tests and inspections of installed systems and equipment will be performed to verify that access control points to the protected area exist and that:</p> <p>i) Personnel and vehicle access into the protected area is controlled.</p> <p>ii) Detection equipment is capable of detecting explosives, incendiary devices, and firearms at the protected area personnel access points.</p>	<p>A report exists and concludes that:</p> <p>i) Access points for the protected area are configured to control access,</p> <p>ii) Detection equipment is capable of detecting firearms, incendiary devices, and explosives at the protected personnel access points.</p>

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Table 2.6.9-1 Inspections, Tests, Analyses, and Acceptance Criteria		
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
<p>13. The central and secondary alarm stations: a) have conventional (landline) telephone service and other communication capabilities with local law enforcement authorities and b) are capable of continuous communication with security personnel.</p>	<p>Test, inspection, analysis, or a combination of test, inspection and analysis will be performed to verify that the alarm stations:</p> <ul style="list-style-type: none"> i) Are equipped with conventional (landline) telephone service and other capability to communicate with local law enforcement authorities, and ii) Are equipped with the capability to continuously communicate with each security officer, watchman, or armed response individual, or any security personnel that have responsibilities during a contingency event. 	<p>A report exists and concludes that the alarm stations:</p> <ul style="list-style-type: none"> i) Are equipped with conventional (landline) telephone service and other capability to communicate with local law enforcement authorities, and ii) Are equipped with the capability to continuously communicate with each security officer, watchman, or armed response individual, or any security personnel that have responsibilities during a contingency event.
<p>14. Isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area that allows 20 feet of observation on either side of the barrier. Where permanent buildings do not allow a 20-foot observation distance on the inside of the protected area, the building walls are immediately adjacent to, or an integral part of, the protected area barrier.</p> <p>Not used</p>	<p>An inspection of the isolation zone will be performed to verify that the isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and allow 20 feet of observation of the activities of people on either side of the barrier except where permanent buildings do not allow a 20-foot observation distance on the inside of the protected area barrier, the inspection will confirm that the building walls are immediately adjacent to, or an integral part of, the protected area barrier.</p>	<p>A report exists and concludes that isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and allow 20 feet of observation of the activities of people on either side of the barrier. Where permanent buildings do not allow a 20-foot observation on the inside of the protected area, the building walls are immediately adjacent to, or an integral part of, the protected area barrier and the 20-foot observation distance does not apply.</p>

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Table 2.6.9-1 Inspections, Tests, Analyses, and Acceptance Criteria		
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
15. Security alarm devices, including transmission lines to annunciators, are tamper indicating and self-checking (e.g., an automatic indication is provided when failure of the alarm system or a component occurs, or when on standby power). Alarm annunciation shall indicate the type of alarm (e.g., intrusion alarms and emergency exit alarm) and location.	A test will be performed to verify that security alarms, including transmission lines to annunciators, are tamper indicating and self-checking (e.g., an automatic indication is provided when failure of the alarm system or a component occurs, or when on standby power) and that alarm annunciation indicates the type of alarm (e.g., intrusion alarms and emergency exit alarms) and location.	A report exists and concludes that security alarm devices, including transmission lines to annunciators, are tamper indicating and self-checking (e.g., an automatic indication is provided when failure of the alarm system or a component occurs, or when the system is on standby power) and that alarm annunciation indicates the type of alarm (e.g., intrusion alarms and emergency exit alarms) and location.
16. Equipment exists to record onsite security alarm annunciation, including the location of the alarm, false alarm, alarm check, and tamper indication; and the type of alarm, location, alarm circuit, date, and time.	Test, analysis, or a combination of test and analysis will be performed to ensure that equipment is capable of recording each onsite security alarm annunciation, including the location of the alarm, false alarm, alarm check, and tamper indication; and the type of alarm, location, alarm circuit, date, and time.	A report exists and concludes that equipment is capable of recording each onsite security alarm annunciation, including the location of the alarm, false alarm, alarm check, and tamper indication; and the type of alarm, location, alarm circuit, date, and time.

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3.3 Buildings

14. The walls, doors, ceiling, and floors in the main control room and the central alarm station, ~~and the last access control function for access to the protected area~~ are bullet-resistant.

Table 3.3-6 Inspections, Tests, Analyses, and Acceptance Criteria		
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
14. The walls, doors, ceiling, and floors in the main control room <u>and</u> the central alarm station, and the last access control function for access to the protected area are bullet-resistant.	Type test, analysis, or a combination of type test and analysis will be performed for the walls, doors, ceilings, and floors in the main control room <u>and</u> the central alarm station, and the last access control function for access to the protected area .	A report exists and concludes that the walls, doors, ceilings, and floors in the main control room <u>and</u> central alarm station, and the last access control function for access to the protected area are bullet-resistant.

PRA Revision: None

Technical Report (TR) Revision: None