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U.S. Nuclear Regulatory Commission
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Your ref: Docket No. 52-006
Our ref: DCP/NRC2333

December 23, 2008

Subject: AP1000 Response to Request for Additional Information (SRP3)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 3. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in the responses is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

Enclosure 1 provides the response for the following RAIs:

RAI-SRP3.3.2-SEB1-01

This information was previously transmitted via an e-mail to Billy Gleaves. This letter provides a formal response to the question.

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,

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

/Enclosure

1. Response to Request for Additional Information on SRP Section 3

D063
NRO

cc:	D. Jaffe	-	U.S. NRC	1E
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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 3

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP3.3.2-SEB1-01
Revision: 0

Question:

In TR-005 Revision 4 "Structures Adjacent to Nuclear Island," Westinghouse proposes revising COL Information Items 3.3-1 and 3.5-1 to partially close them by addressing AP1000 design specific information. The proposed revised COL Information Items then state that the COL applicant need only address wind and tornado loadings related to site specific structures and changes to the typical site plan. In Section 2.2.3 of TR005, Revision 4, it is stated that siding is permitted to blow off during the tornado at both annex building and turbine building. (TR005, Rev. 4, Page 6 of 12).

In the event of a tornado, the insulated metallic siding at the exterior of both annex and turbine buildings is allowed to be blow-off as a missile. The likelihood of this siding-produced missile may compromise the safety of the nearby nuclear island structures is of a major concern. In Section 2.3 "Missile Protection" of the TR-005 revision 4 report, three missile types are considered in Table 2.2-1 for AP1000 design tornado missiles: (1) Auto; (2) Armor Piercing Artillery Shell; and (3) Solid Steel Sphere. The type of missile produced by the blow-off of siding appears to be outside the scope of the tornado missile spectrum considered in the AP1000 standard design (see DCD 3.5.1.4). Consequently, a new analysis taking into account of the shape, dimensions, rigidity and mass density of the siding is required to show that the missile energy produced by the siding is bounded by the AP1000 design tornado missile energies described in Table 2.2-1. If not, the affect of the missile with higher energy must be evaluated and demonstrate that it does not compromise the safety of the AP1000 safety-related structures.

Provide an analysis to show the blow-off of siding will not compromise the structural integrity of the nuclear island safety-related structures during a tornado event.

Westinghouse Response:

The missile spectrum used for the AP1000 and the analysis of the effects of potential missile impacts are covered by the design finality of the AP1000 Design Certification. Westinghouse has not altered the tornado missile spectrum in the DCD. The AP1000 tornado missile spectrum is based on a spectrum originally included in a Standard Review Plant Section. The use of metal siding on buildings included in the AP1000 design, including the turbine building and portions of the annex building, is included as a part of the AP1000 design in the information supporting the Certified Design and is not changed. Revision 15 of the DCD specifically mentions the use of insulated metal siding for the annex building. It also describes the turbine building as being of steel framed construction.

The automobile in the missile spectrum included in the AP1000 would appear to bound the mass and energy of sheet metal siding. Also there are no safety-related structures, systems, and components outside of the Auxiliary Building and Shield Building. The walls of these buildings are reinforced concrete at least two feet thick. Tornado driven siding would not be expected to be a challenge to reinforced concrete walls.

Since Westinghouse has not altered the AP1000 tornado missile spectrum and the use of metal siding is included in the DCD supporting the Certified Design, this issue is covered by design finality and the DCD will not be revised and no additional analysis is required.

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None