

May 17, 2011

MEMORANDUM TO: Eileen M. McKenna, Chief  
AP1000 Projects Branch 2  
Division of New Reactor Licensing  
Office of New Reactors

FROM: William C. Gleaves, Sr. Project Manager  
AP1000 Projects Branch 2 /RA/  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: SUMMARY OF A CATEGORY 1 MEETING WITH  
WESTINGHOUSE ELECTRIC COMPANY REGARDING AP1000  
SHIELD BUILDING DESIGN METHODOLOGY, IN ROCKVILLE,  
MARYLAND ON APRIL 12-13, 2011

The U.S. Nuclear Regulatory Commission (NRC) held a closed meeting, April 12-13, 2011, with Westinghouse Electric Company (Westinghouse), at their local Twinbrook office in Rockville, Maryland. The NRC's Office of New Reactors (NRO) staff and contractors met with Westinghouse technical and licensing staff, their contractors, and other stakeholders to discuss NRC's comments on the documentation of results of structural analyses given in the design certification amendment (DCA) and the Shield Building (SB) Design Report. Specifically, the staff's questions related to documenting certain aspects of the analysis that Westinghouse completed to meet applicable design codes and the adequate documentation of the results of its analyses. The purpose of this meeting summary is to briefly describe the meeting, its participants, and to delineate the results.

This Category I meeting was closed to the public due to the proprietary nature of the design and the proprietary design methodology that would be discussed. There were 24 persons in attendance at the meeting location, and 2 persons attending by conference call. The meeting was held between at 10:00 p.m. and 5:00 p.m. EDT on April 12, 2011, and 10:00 a.m. and 11:30 a.m. on April 13, 2011.

Enclosed with this memorandum are materials relevant to this meeting. The enclosures are as follows: 1) the meeting attendee list, 2) NRC's meeting slide, 3) Westinghouse's proprietary slides, and 4) non-proprietary meeting slides.

CONTACT: Billy Gleaves, NRO/DNRL  
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Discussion

This meeting was the first face-to-face meeting, following two telephone conference calls to discuss NRC's concerns with respect to Westinghouse use of load combinations for the analysis of the SB modules. During the previously mentioned conference calls, the staff had learned that Westinghouse did not numerically combine ambient thermal loads (from temperatures outside and inside the shield building) with safe shutdown earthquake loads, judging that the loads would not be significant and would be relieved by cracking. These concerns were identified during the closure process for Confirmatory Items (CIs) from the AP1000 Advanced Final Safety Analysis report. The scope of this meeting was the methodology and use of load combinations as presented in both the AP1000 DCD in Section 3.8.4 and the AP1000 SB Design Report. This meeting was to discuss the staff comments and concerns with respect to the review of Westinghouse's use of, and exceptions to, load combinations required by the ACI-349 Code. Specifically, the meeting was to address what steps Westinghouse intended to take to close the CI related to Westinghouse's analysis of and information provided in the design control document (DCD) and supporting documentation.

The meeting began with comments by NRC staff regarding the goal of the meeting. WEC made its presentation of the slides attached to this summary. The staff discussed with WEC on the meaning of the slides throughout the meeting. Some preliminary information was discussed about locations in the shield building where the thermal loads may be important, such as where part of the shield building adjoins the temperature-controlled auxiliary building and part is exposed to the extreme outside temperature (-40 degrees F is the design basis value).

Westinghouse stated that in response to NRC's concerns, Westinghouse would, on a schedule to be determined, revise its analysis of the SB modules under thermal + SSE loads, and revise the associated calculation sheets, the SB Design Report, and the DCD as appropriate. The staff noted that the technical content described in the Westinghouse slides are preliminary and likely to change, and may not represent the actual conclusions which will apply to the overall issues and ultimate resolution of the staff concerns. The staff also noted that a significant change to the DCA may require a public meeting to be held where these changes could be identified in an open and public manner as possible.

E. McKenna

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Conclusion

The staff thanked the participants for their participation, reinforced the priority of this design center in NRC/NRO, the importance of Westinghouse complete response submitted on the docket, and expressed anticipation for Westinghouse's submittal dates.

Docket No. 52-006

Enclosures:

As stated

Conclusion

The staff thanked the participants for their participation, reinforced the priority of this design center in NRC/NRO, the importance of Westinghouse complete response submitted on the docket, and expressed anticipation for Westinghouse's submittal dates.

Docket No. 52-006

Enclosures:

As stated

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NAME	RButler	BGleaves	EMcKenna
DATE	5/17/2011	5/17/2011	5/17/2011

**OFFICIAL RECORD COPY**

## AP1000 Shield Building Closed Meeting

### Meeting Attendance List

April 12-13, 2011

<u>Name</u>	<u>Organization</u>
Francis Akstulewicz	NRC
Mohamed Shams	NRC
Bret Tegeler	NRC
Eileen McKenna	NRC
Rich Morante*	NRC/BNL
Billy Gleaves	NRC
Pravin Patel	NRC
Mohammed Shuaibi	NRC
Jose Pires	NRC
Perry Buckberg	NRC
Ravi Joshi	NRC
Milton Valentin	NRC
Rolf Ziesing	Westinghouse
Mike Corletti	Westinghouse/Engineering
Stanley Ritterbusch	Westinghouse
Donald Lindgren	Westinghouse/Licensing
Narendra Prasad	Westinghouse/Engineering
Keith Coogler	Westinghouse/Engineering
Tod Baker	Westinghouse/Engineering
Lee Tunon-Sanjur	Westinghouse/Engineering
Mike Melton	Westinghouse
JJ Deblasio	Westinghouse - NPP
Richard Orr	Westinghouse/Engineering
Nate Andrulonis*	Westinghouse
Eddie Grant	NuStart/Excel
Don Moore	Southern Nuclear
Charles Pierce	Southern Nuclear

\*attended by teleconference

## **NRC Meeting Handout**

Enclosure 2

## **AP1000 SB - Application of Design Codes**

- NRC is reviewing Safety of Shield Building
- WECs application of Design Code
- Description of Methodology in DCD
- Reviewing AFSER for changes
- Possible impacts on our Design Certification
- Confidence/Trust in WEC statements

## **WEC Proprietary Meeting Handouts**



**Non-Proprietary Version of WEC Meeting Handouts**