

June 2, 2016

Ms. Jill S. Monahan, Manager
Specialized Seismic Option Licensing
1000 Westinghouse Drive
Cranberry Township, PA 16066

SUBJECT: AUDIT PLAN FOR REVIEW OF HSP-GW-GLR-001, "THE SPECIALIZED
SEISMIC OPTION REPORT"

Dear Ms. Monahan:

The U.S. Nuclear Regulatory Commission (NRC) staff has prepared an audit plan related to the review of the HSP-GW-GLR-001, "The Specialized Seismic Option Report." The audit plan describes the scope and purpose of the audit, identifies the audit team, and describes the documents requested by the NRC staff. The audit plan is enclosed.

The audit will take place at the Westinghouse Rockville Office located at 11333 Woodglen Drive, Suite 202, Rockville, Maryland 20852, on June 7–9, 2016.

If you have any questions, please contact the Project Manager, Bruce Baval, at (301) 415-6715 or Bruce.Baval@nrc.gov.

Sincerely,

/RA/

John McKirgan, Acting Chief
Licensing Branch 4
Division of New Reactor Licensing
Office of New Reactors

Project No. 0813

Enclosure:
As stated

cc: See next page

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DATE	05/31/16	05/31/16	06/2/16

OFFICIAL RECORD COPY

**AUDIT PLAN FOR REVIEW
OF AP1000 SPECIALIZED SEISMIC OPTION
June 7–9, 2016**

A. LOCATION

This audit will be conducted at:

Westinghouse Electric Company
11333 Woodglen Drive, Suite 202
Rockville, Maryland 20852
Telephone: 301-881-7040

B. BACKGROUND

The Westinghouse Electric Company (Westinghouse) AP1000 plant design [Design Control Document (DCD) Revision 19] was certified by the United States Nuclear Regulatory Commission (NRC) on December 30, 2011. A Specialized Seismic Option (SSO) for AP1000 standard design has been developed by Westinghouse for use in locations with seismic levels typically seen in portions of the western United States and certain other countries. The purpose of the SSO is to extend the range of applicability of the AP1000 standard design, by including a different seismic spectrum into the AP1000 plant design.

On December 18, 2015, the staff accepted for review, a Westinghouse topical report addressing the SSO. This topical report provides approach, methods, and changes to adapt the AP1000 plant design to a future combined operating license (COL) applicant's site. Moreover, the topical report provides specific exemptions and departures to support a future COL application in locating an AP1000 plant on a site that meets the appropriate site conditions.

In support of the staff's ongoing review, the staff plans to audit documents that support Westinghouse's SSO topical report evaluations and conclusions.

C. REGULATORY AUDIT BASES

- Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix A, General Design Criterion 2, "Design Bases for Protection Against Natural Phenomena"
- 10 CFR Part 50, Appendix S, "Earthquake Engineering Criteria for Nuclear Power Plants"
- 10 CFR 52.47(a)(27) and SECY-93-087, "Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor (ALWR) Designs," dated April 2, 1993
- Standard Review Plan Sections 3.7, 3.8, 3.9.2, 3.9.3, 3.12, and 19

D. REGULATORY AUDIT SCOPE

The audit team will review calculations and design information associated with the SSO topical report for the AP1000 plant. The specific scope of this audit will include reviewing calculations and design information within the following review areas:

Structural Engineering Branch

- Generation of Spectra and Time Histories
- Building Models (NI10)
- Seismic System Analysis
- Stability Analysis
- Demand/Capacity Evaluations
- Seismic Margin Assessment

Mechanical Engineering Branch

- HVAC and Cable Tray evaluations
- Stress Analyses of the following piping and components:
- Components and component supports
- Piping and pipe supports
- Equipment Seismic Qualifications

Reactor Systems Branch

- Documentation supporting applicable conclusions in the analysis

E. INFORMATION AND OTHER MATERIAL NECESSARY FOR THE REGULATORY AUDIT

The staff requires access to calculations and design information as well as knowledgeable personnel regarding the review areas identified under Section D above, pertaining to the SSO for the AP1000 plant. A complete list of these calculations and supporting documents should be made available to the staff prior to the start of the audit. Two hard copies of the calculations and supporting documents should be made available for review during the audit.

F. AUDIT TEAM

Bruce Baval, Project Manager, NRO
BP Jain, Senior Structural Engineer, NRO
Alissa Neuhausen, Structural Engineer, NRO
Jinsuo Nie, Structural Engineer, NRO
Robert Roche, Structural Engineer, NRO
Sujit Samaddar, Senior Structural Engineer, NRO
Joseph Braverman, NRC Consultant (BNL)
Richard Morante, NRC Consultant (BNL)
Cheng-Ih Wu, Mechanical Engineer, NRO
Tuan Le, Mechanical Engineer, NRO
Chris Van Wert, Senior Reactor Engineer, NRO

G. LOGISTICS

This audit will take place on June 7–9, 2016, from 8:30 a.m. to 3:00 p.m., and will be conducted at the Westinghouse facility in Rockville Maryland. The entrance briefing is scheduled for 8:30 a.m. on June 7, 2016, and an exit briefing is scheduled for the end of the day on June 9, 2016.

Following the entrance meeting on June 7, 2016, the applicant is to provide an overview of the SSO. Following the applicant's overview the staff will commence the audit of calculations and design information. The NRC Project Manager will coordinate any changes to the audit schedule with Westinghouse. Arrangements should be made to keep applicable audit information at the Westinghouse location for a period of 1.5 weeks following the audit exit as a follow-up reference.

H. SPECIAL REQUESTS

Please support the audit with:

1. A conference room for the NRC staff audit of calculations
2. A small private conference room for NRC internal discussions
3. Telephones to support teleconferencing (i.e., with microphone and speaker)
4. Access to a secure Wi-Fi network or Ethernet

I. DELIVERABLES

The audit team will issue a regulatory audit summary within 90 days after completing the audit. The summary will provide a summary of progress toward resolution of technical issues, and a description of any new outstanding issues that emerge during the audit. If information evaluated during the audit is needed to support a regulatory decision, the staff will identify it in a Request for Additional Information (RAI).

J. REFERENCES

NRO-REG-108, "Regulatory Audits," Agencywide Documents Access and Management System (ADAMS) Accession Number ML081910260, dated April 2, 2009.

HSP-GW-GLR-001, "The Specialized Seismic Option Report," Revision 0, dated September 20, 2015.

DC Westinghouse - AP1000 Mailing List
cc:

(Revised 10/01/2015)

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