

August 2, 2012

**NORTH ANNA NUCLEAR POWER PLANT, UNIT 3  
COMBINED LICENSE APPLICATION**

**NRC Audit of Seismic Hazard Software for the New Central and Eastern United States  
Seismic Source Characterization Model Implementation**

**August 20 - 21, 2012**

**Docket No: 52-017**

Location: LCI Office  
1981 N. Broadway, Suite 330  
Walnut Creek, CA 94596  
(925)-282-0360

Purpose:

The U.S. Nuclear Regulatory Commission (NRC) staff is preparing to audit distinct seismic hazard calculation software being used by the industry to respond to the near-term task force Recommendation 2.1, seismic request for additional information (RAI) issued to all Combined License (COL) and Early Site Permit applicants. The purpose of these planned audits is to review seismic hazard software and examine the implementation of the new seismic source models described in NUREG 2115, "Central and Eastern United States Seismic Source Characterization for Nuclear Facilities." The objective is to gain in-depth understanding of the seismic software being used and the implementation of the new seismic source model into the existing codes. Performing these audits will help the staff to conduct its reviews more efficiently when the full responses are submitted. The audit for North Anna Unit 3, COL application is being conducted at LCI Office per Dominion Virginia Power's (Dominion) request.

Regulatory Audit Basis

The basis for the audit is found in the following regulations:

- 10 CFR 100.23, "Geologic and seismic siting criteria."
- 10 CFR 52.79, "Contents of applications; technical information in final safety analysis report."

Regulatory Audit Scope or Methodology

1. Review seismic hazard software.
2. Review details of the implementation of the new Central and Eastern United States (CEUS) seismic source model in hazard calculations.

3. Review the CEUS Seismic Source Characterization model input parameters.
4. Review new model implementation by comparing seismic hazard calculations conducted at the seven test sites presented in NUREG-2115.
5. Review any additional test run calculations and conduct test runs.
6. Review application of the new cumulative absolute velocity filter settings for removing effect of non-damaging earthquakes in seismic hazard calculations.

Information and Other Material Necessary for Audit:

Dominion is requested to provide the following information and logistical support for the duration of the audit.

- All documents, such as calculation reports, sources of data and methods, and computer codes and quality assurance documentation for the computer codes that are relevant for the discussion.
- Audiovisual equipment that might be necessary for the discussion, including a computer display projector.
- Subject matter experts responsible for the technical analysis are requested to be available for the duration of the audit.

Audit Team:

The NRC staff attending the audit will include the NRC technical reviewer, in addition to the project management personnel. The following personnel will participate in the audit:

Chandu Patel, NRC  
Dogun Seber, NRC

Logistics:

The NRC staff expects the audit to last for about one and a half days. The audit is scheduled to start on Monday, August 20, 2012, and end on Tuesday, August 21, 2012. The audit will occur at LCI's office location located in Walnut Creek, California.

The NRC staff will conduct an entrance meeting scheduled for Monday, August 20, 2012, starting at 9:00 a.m. The audit will conclude with an exit briefing scheduled for Tuesday, August 21, 2012.

Deliverables:

An audit report will be generated after the completion of the audit. The audit outcome will be used to identify any additional information which may need to be submitted for making regulatory decisions.

Docket No: 52-017

Enclosure:  
Audit Agenda

cc w/encl: See next page

Deliverables:

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Enclosure:  
Audit Agenda

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**NRC-001**

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<b>DATE</b>	08/01/2012	08/01/2012	08/01/2012	08/01/2012	08/02/2012

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## **Audit Agenda**

### **August 20, 2012**

- 9:00 a.m. - 12:00 p.m: Introduction and overview of the seismic hazard software, hazard calculation procedures, quality assurance (Q/A) process and implementation, discussion on input model preparations, and hazard comparisons with the seven test sites.
- 1:00 p.m. - 5:00 p.m: Q/A documentations review and discussions.

### **August 21, 2012**

- 9:00 a.m. - 1:00 p.m: Software test runs, confirmation of the new Central and Eastern United States Source model input parameters, cumulative absolute velocity implementation process, and audit closure.

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