

April 19, 2004

MEMORANDUM TO: Laura A. Dudes, Chief
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

FROM: Michael L. Scott, Dominion ESP Project Manager */RA/*
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
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SUBJECT: TRIP REPORT FROM SITE VISIT TO THE NORTH ANNA EARLY
SITE PERMIT (ESP) SITE AND AUDIT OF SEISMOLOGICAL AND
GEOLOGICAL ASPECTS OF NORTH ANNA ESP APPLICATION

On March 2 through 4, 2004, members of the Office of Nuclear Reactor Regulation, the Office of Research, and supporting contractor personnel conducted an audit of seismological- and geological-related information in the application by Dominion Nuclear North Anna, LLC for an ESP for its North Anna ESP site. This trip included a visit to the North Anna ESP site and areas nearby of relevance to the staff's review of seismic and geological aspects of the application. Attached are the trip report and the applicant's speaker's notes from this activity.

cc w/o atts: D. Matthews
F. Gillespie
J. Lyons
G. Imbro

Docket No. 52-008

Attachments: As stated

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OFFICE	PM:RNRP*	SC:EMEB*	OGC*	SC:RNRP*
NAME	MScott	KManoly	RWeisman	LDudes
DATE	04/19/04	03/24/04	04/08/04	4/16/04

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**TRIP REPORT
AUDIT AND SITE VISIT
NORTH ANNA EARLY SITE PERMIT APPLICATION REVIEW
March 2-4, 2004**

Subject

Audit and site visit in support of review of seismological and geological sections of North Anna early site permit (ESP) application

Dates of Travel

March 2-4, 2004

NRC staff participants

- Gene Imbro, Division of Engineering, Office of Nuclear Reactor Regulation
- Kamal Manoly, Division of Engineering, Office of Nuclear Reactor Regulation
- Clifford Munson, Division of Engineering, Office of Nuclear Reactor Regulation
- Goutam Bagchi, Division of Engineering, Office of Nuclear Reactor Regulation
- Raman Pichumani, Division of Engineering, Office of Nuclear Reactor Regulation
- Michael Scott, Division of Regulatory Improvement Programs, Office of Nuclear Reactor Regulation
- Andrew Murphy, Office of Nuclear Regulatory Research
- Yong Li, Office of Nuclear Regulatory Research
- Tony Crone, U.S. Geological Survey (consultant)
- Charles Mueller, U.S. Geological Survey (consultant)
- Russell Wheeler, U.S. Geological Survey (consultant)

Applicant staff participants

Dominion Energy:

- Marvin Smith
- Joe Hegner
- David Batalo

Bechtel:

- Sanj Malushte
- John Davie
- Stew Taylor
- Loran Matthews
- Louise Smith
- Orhan Gurbuz
- Joe Litehiser
- Rich Baker
- Steve Routh
- Jim Marrone

Other:

- William Lettis, Wm Lettis and Associates, Inc.
- Scott Lindvall, Wm Lettis and Associates, Inc.
- Bob Kennedy (Consultant)
- Allen Cornell (Consultant)
- Robin McGuire, Risk Engineering, Inc.

Background/Purpose

By letter dated September 25, 2003, Dominion Nuclear North Anna, LLC (Dominion) submitted an early site permit (ESP) application to the NRC for a site designated in Dominion's application as the North Anna ESP site. By letter dated October 23, 2003, and by *Federal Register* Notice (68 FR 61705), the NRC accepted Dominion's application for review.

As part of the NRC staff's review of the Dominion ESP application, the staff assesses the compliance of the applicant's site safety analysis report (SSAR) with applicable regulations. In support of the staff's review of the applicant's SSAR to help determine compliance, staff reviewers visit the ESP site to observe relevant onsite and local area conditions. The staff also audits information in the SSAR and its references. These audits may include visits to the applicant's offices to obtain a better understanding of the application's contents through technical discussions with knowledgeable applicant staff.

This trip report documents the staff's audit of seismological and geological aspects of the Dominion ESP application on March 2 through 4, 2004.

Discussion

On March 2 through 4, 2004, the NRC staff and its consultants from the U.S. Geological Survey conducted an audit of the geological and seismological information contained in the ESP application submitted by Dominion for the North Anna ESP site. The staff focused on the seismological aspects of the application in an audit held at the offices of Bechtel Power Corporation in Frederick, MD. (Bechtel is the applicant's prime contractor supporting the development of the ESP application.) On March 4, 2004, the staff visited the proposed ESP site and nearby areas of geologic interest to discuss the information contained in Section 2.5.1 of the ESP application.

During the seismic audit at Bechtel's offices, the staff and its consultant sought to better understand the applicant's characterization of potential seismic sources in the site region, as well as the method used by the applicant to develop the Safe Shutdown Earthquake (SSE) for the proposed ESP site. The applicant and its contractors made informal presentations on these subjects (copies attached to this trip report), and the staff discussed the information presented with the cognizant applicant and contractor staff.

The applicant provided explanations of the:

- Seismic source characterizations that were updated for the ESP application
- New ground motion attenuation models used for the ESP application
- Use of an alternative methodology to develop the SSE for the ESP site

During the site visit, the staff and its consultants viewed the proposed ESP site area, including locations where geotechnical and geophysical investigations were conducted. In addition, the staff discussed with the applicant the characterization of the unnamed fault “a”, which traverses the ESP site. After these onsite discussions, the staff and its consultants visited other nearby geologic faults with the applicant, focusing on near-surface stratigraphy and geomorphology to assess the capability of the faults in the site area.

No documents were provided to the staff during the audit or site visit other than the materials attached to this trip report.

Attachments

Applicant’s speakers’ notes from audit