



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

March 28, 2008

Mr. J.A. Stall, Senior Vice President
and Chief Nuclear Officer
Florida Power and Light Company
P.O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: NRC VISIT TO TURKEY POINT SITE TO OBSERVE COMBINED
LICENSE PRE-APPLICATION SUBSURFACE INVESTIGATION
ACTIVITIES (PROJECT NO. 763)

Dear Mr. Stall:

On February 26-27, 2008, Region II inspectors conducted a site visit at the Turkey Point site accompanied by members of the Office of New Reactors (NRO) staff. The purpose of the site visit was to observe in-process combined license (COL) pre-application subsurface investigation activities being conducted to obtain geotechnical/seismic data to support future COL applications for two new nuclear power plants. These observations will provide background information for the NRC's future review of the expected COL application for the Turkey Point site.

Enclosed is a summary of the site visit that includes a list of NRC participants and persons with whom discussions were held.

Sincerely,

/RA by Kathleen O'Donohue Acting For/

Mark S. Lesser, Chief
Construction Inspection Branch 1
Division of Construction Inspection

Project No. 763

Enclosure: As stated

cc w/encls: (See next page)

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E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO			

OFFICIAL RECORD COPY DOCUMENT NAME: G:\CIP\INSPECTION REPORTS\NEW REACTORS\TURKEY POINT\CIP TURKEY POINT SITE VISIT REPORT.DOC

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Letter to J.A. Stall from Mark Lesser dated March 28, 2008

SUBJECT: NRC VISIT TO TURKEY POINT SITE TO OBSERVE COMBINED LICENSE
PRE-APPLICATION SUBSURFACE INVESTIGATION ACTIVITIES (PROJECT
NO. 763)

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OBSERVATION OF COMBINED LICENSE (COL) PRE-APPLICATION
SUBSURFACE INVESTIGATION ACTIVITIES AT TURKEY POINT SITE
PROJECT NUMBER 763

Purpose of Site visit:

A site visit was conducted on February 26-27, 2008, by Nuclear Regulatory Commission (NRC) Region II and Office of New Reactors (NRO) staff. NRC inspectors observed combined license (COL) pre-application subsurface investigation activities conducted to obtain geotechnical and seismic data at the proposed location of two new nuclear power plants at the Turkey Point site in Miami-Dade County, Florida. Although this visit was not an official NRC inspection the inspectors utilized the following documents for guidance:

- NRC Inspection Manual Chapter 2502, "Construction Inspection Program: Pre-Combined License (PRE-COL) Phase"
- NRC Inspection Procedure 35004, "Pre-Docketing Early Site Permit Quality Assurance Controls Inspection"
- NRC Inspection Procedure 45051, "Geotechnical/Foundation Activities Procedure Review"

The visit served to ascertain whether adequate quality assurance controls had been established and were being implemented and to assess whether the technical requirements for geotechnical exploration for a COL had been adequately addressed through specifications, drawings, and work procedures.

Principal Persons Contacted:

K. Bell, Bechtel
M. Cook, MACTEC Site Manager
S. Criscenzo, MACTEC Chief Engineer
G. Davis, Bechtel
L. Fleischer, FPL Engineering Supervisor
S. Franzone, FPL Licensing Engineer
R. Jolly, Bechtel
M. Khan, Bechtel
R. Kies, Bechtel
A. Kottastette, MACTEC QA
J. Martin, MACTEC QA
T. McDaniel, MACTEC Project Principal
J. McLane, Bechtel
R. Yozoani, FPL Civil Engineer

NRC Inspectors:

C. Julian, Senior Project Manager, RII
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NRC Accompanying Personnel:

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J. Mazza, Project Manager, NRO
Y. Li, NRO
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F. Vega, NRO

Background:

By letter dated October 26, 2007, Florida Power & Light Company (FPL) informed the NRC of its proposed schedule for geophysical testing intended to support COL applications for the Turkey Point site. A COL is a combined construction permit and operating license with conditions for a nuclear power facility pursuant to 10 CFR Part 52 Subpart C. FPL contracted Bechtel to prepare the COL application. Bechtel has contracted MACTEC to conduct the site studies and perform the soil sample accumulation and testing required for the application.

Overview of Subsurface Investigation Activities Discussed and/or Observed:

The NRC team visited the FPL proposed COL site located in Miami-Dade County adjacent to the existing Turkey Point Nuclear Power Plant Units 3 & 4 to observe subsurface geotechnical and geophysical investigations being performed at the site. FPL planned to use the subsurface investigations to provide data to determine site suitability for a COL. FPL provided a brief presentation covering the environmental overview of the site, safety training and an overview of the subsurface investigation plan from two FPL's contractors (MACTEC and Bechtel).

Quality Assurance

Field work was being performed under the MACTEC Quality Assurance (QA) program which consisted of the MACTEC QA manual supplemented by a QA project document. A MACTEC QA representative performed surveillances and monitored the project for compliance. Periodic surveillances were performed by Bechtel and FPL QA personnel. For a sample of drilling activities, the inspectors observed appropriate quality control and technical site characterization procedures and verified that the following attributes were adequate:

- Approved and documented instructions, procedures, and drawings were in use for site characterization activities.
- Measures were implemented for test control and control of special processes and engineering direction was readily available.
- Measures existed to identify and resolve non-conformances and conditions adverse to quality.
- For site characterization activities performed by vendors, appropriate oversight and procurement controls were implemented.

Inspectors reviewed the following audit / surveillance reports:

- Quality Surveillance Report 25409-QSSS-08-001, Bechtel Surveillance of MACTEC
- Supplier Audit Report ESL-200509, Bechtel audit of MACTEC for inclusion on the Approved Supplier List
- Supplier Finding Report 08.06BEPMD.08.1, FPL audit of Bechtel and MACTEC QA

Inspectors reviewed copies of the eight nonconformance reports (NCRs) generated to date on the project. Issues identified were procedure adherence and data recording in nature. Documented corrective actions appeared appropriate and timely with one exception. NCR-TP 8 stated that the corrective action plan would be documented by February 23, 2008 but this had not been accomplished on February 27, 2008. By interviewing responsible personnel the inspectors learned that actual corrective action had already been taken but completion of the NCR was late.

Drilling and Sampling Observed:

Observation of work in progress included drilling, obtaining core samples, and the generation of logging records. The inspectors verified that work was being performed in accordance with appropriate procedures. Seven drilling rigs were operating during the site visit. Each drilling operation was controlled by a MACTEC rig geologist and each rig worked to an individual work instruction. Interviews were conducted with rig geologists and technicians. Personnel were knowledgeable of applicable quality assurance and technical requirements.

The inspectors observed that work was being performed in accordance with ASME NQA-1 Subpart 2.20, Quality Assurance Requirements for Subsurface Investigations for Nuclear Power Plants and project specifications. Inspectors also observed that MACTEC had posted 10CFR Part 21 information in the appropriate work locations.

The work observed was in accordance with applicable ASTM standards and procedure requirements. The rig geologist field boring logs were detailed and provided a good record of boring results. Samples were collected and stored in accordance with standard practices for preserving and transporting samples. The sample storage facility was located in a locked trailer. The inspectors visited the sample storage facility, and examined core samples and logging records. The inspectors reviewed the MACTEC soil sample inventory sheet and the rock core sample inventory sheet to confirm that the boring samples were being properly stored and logged in a controlled manner. The NRC team observed that no measures were being taken to prevent rock core samples from drying out before possible selection for laboratory testing. The applicant stated that measures will be taken to prevent future samples from drying while in storage.

The NRO staff discussed its observations with the applicant. The observations included: 1) the need to address potential tsunami risk at the site; 2) sample storage moisture control; 3) potential subsurface solution cavities; 4) potential settlement due to loose sand stratum underlying the rock stratum; 5) the sample selection process for laboratory strength testing; 6) methods of cross checking on geotechnical parameters, such as shear wave velocity; and 7) seismic source characterization for the Gulf of Mexico earthquakes.

Conclusion:

Geotechnical subsurface investigation activities were being adequately controlled with an appropriate level of supervisory and quality assurance oversight and in accordance with procedural requirements and industry standards. The QA program implementation was evaluated by discussing nonconformance reports (NCRs) generated to date. The inspectors determined that an adequate threshold existed for issuing NCRs.