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

June 27, 2006

Mr. C. S. Hinnant
Sr. Vice President and Chief Nuclear Officer
Progress Energy, Inc.
PO Box 1551
Raleigh, NC 27602

SUBJECT: PRE-APPLICATION SITE VISIT TO HARRIS NUCLEAR PLANT TO OBSERVE COMBINED LICENSE PRE-APPLICATION SUBSURFACE INVESTIGATION ACTIVITIES (PROJECT NO. 738)

Dear Mr. Hinnant:

On May 17 - 18, 2006, Region II Inspectors conducted a site visit to the Harris Nuclear Plant accompanied by members of the Nuclear Reactor Regulation (NRR) staff. The purpose of the visit was to observe Combined License (COL) pre-application subsurface investigation activities being conducted to obtain geotechnical/seismic data to support a COL application for new nuclear power plants. These observations will provide background information for NRC's future review of the expected COL application for the Harris site.

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

Sincerely,

/RA/

Mark S. Lesser, Chief
Engineering Branch 3
Division of Reactor Safety

Enclosure: As stated

cc w/encl: (See next page)

Progress Energy COL Combination List:

cc w/encl cont'd:
Mr. Charles Brinkman
Westinghouse Electric Co.
Washington Operations
12300 Twinbrook Pkwy., Suite 330
Rockville, MD 20852

Mr. David Lochbaum
Nuclear Safety Engineer
Union of Concerned Scientists
1707 H Street, NW, Suite 600
Washington, DC 20006-3919

Mr. Paul Gunter
Nuclear Information & Resource Service
1424 16th Street, NW, Suite 404
Washington, DC 20036

Mr. James Riccio
Greenpeace
702 H Street, NW, Suite 300
Washington, DC 20001

Mr. Adrian Heymer
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. George Alan Zinke
Project Manager
Nuclear Business Development
Entergy Nuclear
M-ECH-683
1340 Echelon Parkway
Jackson, MS 39213

Ms. Marilyn Kray
Vice President, Special Projects
Exelon Generation
200 Exelon Way, KSA3-E
Kennett Square, PA 19348

Mr. Laurence Parme
Manager, GT-MHR Safety & Licensing
General Atomics Company
P.O. Box 85608
San Diego, CA 92186-5608

Mr. Joseph D. Hegner
Lead Engineer - Licensing
Dominion Generation
Early Site Permitting Project
5000 Dominion Boulevard
Glen Allen, VA 23060

Mr. Edward L. Quinn
Longenecker and Associates
Utility Operations Division
23292 Pompeii Drive
Dana Point, CA 92629

Mr. Paul Leventhal
Nuclear Control Institute
1000 Connecticut Avenue, NW
Suite 410
Washington, DC 20036

Ms. Patricia Campbell
Morgan, Lewis & Bockius, LLP
1111 Pennsylvania Avenue, NW
Washington, DC 20004

Mr. W. Edward Cummins
AP600 and AP1000 Projects
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355

Mr. Stephen P. Frantz
Morgan, Lewis, & Bockius, LLP
1111 Pennsylvania Avenue, NW
Washington, DC 20004

(cc w/encl cont'd - See next page)

Mr. Gary Wright, Manager
Office of Nuclear Facility Safety
Illinois Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

Mr. Brendan Hoffman
Research Associate on Nuclear Energy
Public Citizens Critical Mass Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

Mr. Lionel Batty
Nuclear Business Team
Graftech
12300 Snow Road
Parma, Ohio 44130

Mr. Ian M. Grant
Canadian Nuclear Safety Commission
280 Slater Street, Station B
P.O. Box 1046
Ottawa, Ontario
K1P 5S9

Mr. Glenn H. Archinoff
AECL Technologies
481 North Frederick Avenue
Suite 405
Gaithersburg, MD. 20877

Dr. Regis A. Matzie
Senior Vice President and
Chief Technology Officer
Westinghouse Electric Company
2000 Day Hill Road
Windsor, CT 06095-0500

Mr. Ed Wallace, General Manager
Projects
PBMR Pty LTD
PO Box 9396
Centurion 0046
Republic of South Africa

Mr. Dobie McArthur
Director, Washington Operations
General Atomics
1899 Pennsylvania Avenue, NW, Suite 300
Washington, DC 20006

Mr. Russell Bell
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Ms. Vanessa E. Quinn, Chief
Radiological Emergency Preparedness
Branch
Nuclear and Chemical Preparedness and
Protection Division
Department of Homeland Security
1800 South Bell Street, Room 837
Crystal City-Arlington, VA 22202-3546

Mr. Ron Simard
6170 Masters Club Drive
Suwanee, GA 30024

Ms. Sandra Sloan
Areva NP, Inc.
3315 Old Forest Road
P.O. Box 10935
Lynchburg, VA 24506-0935

Ms. Kathryn Sutton, Esq.
Morgan, Lewis & Bockius, LLP
1111 Pennsylvania Avenue, NW
Washington, DC 20004

Ms. Anne W. Cottingham
Assistant General Counsel
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, DC 20006

(cc cont'd - see next page)

(cc w/encl cont'd)
Mr. David Repka
Winston & Strawn LLP
1700 K Street, NW
Washington, DC 20006-3817

Mr. Robert E. Sweeney
IBEX ESI
4641 Montgomery Avenue
Suite 350
Bethesda, MD. 20814

Mr. Eugene S. Grecheck
Vice President, Nuclear Support Services
Dominion Energy, Inc.
5000 Dominion Blvd.
Glen Allen, VA 23060

Mr. John O' Neill
Pillsbury, Winthrop, Shaw, Pittman
2300 N Street NW
Washington, DC 20037

Mr. John Runkle
General Counsel
Conservation Council of NC
PO Box 3793
Chapel Hill, NC 27515

Mr. Paul Bauer
607 Deer Mountain Road
Pittsboro, NC 27312

NRC E-Mail:
SCollins
MDapas
RBlough
MGamberoni
BHolian
WTravers
LPlisco
VMcCree
CCasto
JCaldwell
GGrant
CPederson
MSatorius
BMallett
TGwynn
DChamberlain
AHowell

E-Mail:
tom.miller@hq.doe.gov
sandra.sloan@areva.com
mwetterhahn@winston.com
gcesare@enercon.com
whorin@winston.com
eddie.grant@exeloncorp.com
louis.quintana@ge.com
steven.hucik@ge.com
david.hinds@ge.com
chris.maslak@ge.com
jim@mcwarn.org
pshastings@duke-energy.com
ronald.hagen@eia.doe.gov
murawski@newsobserver.com
james1.beard@ge.com
ecullington@earthlink.net

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Sincerely,
/RA/
Mark S. Lesser, Chief
Engineering Branch 3
Division of Reactor Safety

Enclosure: As stated

Distribution w/encl:
E-Mail:
J. Starefos, NRR
C. Munson, NRR
L. Dudes, NRR
S. Coffin, NRR
G. Imbro, NRR
D. Matthews, NRR
R. Musser, Harris SRI
P. Fredrickson, DRP
M. Lesser, DRP

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ADAMS: X Yes ACCESSION NUMBER:_____

OFFICE	RII:DRS	RII:DRS	RII:DRS	HQ:NRR	HQ:NRR	RII:DRP	
SIGNATURE	/RA/	/RA/	/RA/	/RA By CJulian for/	/RA By CJulian for/	/RA/	
NAME	CJulian	TNazario	RCarrion	CMunson	JStarefos	PfFedrickson	
DATE	6/26/06	6/12/06	6/15/06	6/21/06	6/20/06	6/22/06	
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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PRE-APPLICATION SITE VISIT TO HARRIS NUCLEAR PLANT TO OBSERVE
COMBINED OPERATING LICENSE (COL) PRE-APPLICATION
SUBSURFACE INVESTIGATION ACTIVITIES
PROJECT NUMBER 738

Purpose of Visit:

The information gathering visit was conducted by staff of the Nuclear Regulatory Commission (NRC), Region II and the Office of Nuclear Reactor Regulation (NRR). Region II inspectors observed combined operating license (COL) pre-application subsurface investigation activities conducted to obtain geotechnical and seismic data at the proposed location of new nuclear power plants at the Harris site. Although this visit was not termed an NRC inspection, the inspectors employed the guidance of the following documents:

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

Principal Persons Contacted:

D. Anderson, Geotechnical Engineer, CH2M HILL
L. Garner, Facilities Supervisor, Progress Nuclear
M. Gavin, Geotechnical Task lead, CH2M HILL
K. Hanson, Consultant, Geomatrix Consultants
J. Neville, Lead Engineer, Progress Nuclear
G. Miller, Manager, Nuclear Plant Engineering, Progress Nuclear
S. Shannon, Sr. Geologist, CH2M HILL

NRC inspectors:

C. Julian, Team Leader, RII
T. Nazario, RII
R. Carrion, RII

NRC Accompanying Personnel:

J. Starefos, Senior Project Manager, NRR
C. Munson, NRR

Background:

During a public meeting at NRC Headquarters, between NRC and Progress Energy, on November 1, 2005, Progress Energy informed the staff that it had selected the Harris site for a COL application, with the intent of submitting the application in 2007. 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. Progress Energy has contracted Nustart Energy as a nuclear

services provider to develop the COL application and CH2M HILL to conduct the geological site studies required for the COL application.

Overview of subsurface investigation activities discussed and/or observed:

Progress Energy plans to use the subsurface investigations described below to provide geological data to determine site suitability for a COL. Progress Energy's current subsurface investigation activities were conducted in areas which would be the site of cooling towers, yard structures and the reactor sites. The scope of the site characterization activities includes the following:

Field Exploration Methods
- Standard Penetration Testing (SPT)
- Rock coring
- Seismic downhole velocity measurements (P-S logging)
- Borehole televiewer profiles
- Spectral analysis of surface waves (SASW)
- Borehole Packer testing
- Cone Penetration Test (CPT)
- Observation wells
- Geologic mapping
- Test pit excavation and mapping

Geotechnical Laboratory Testing
- Age dating
- Geotechnical index measurement
- Geotechincal strength testing
- Dynamic testing

Drilling and sampling observations:

On May 17 and 18, 2006, members of the Region II and NRR team toured the locations where borings were being drilled within the site characterization boundary. The team verified that NRC Regulatory Guide 1.132, "Site Investigations for Foundations of Nuclear Power Plants," was being used as guidance for site investigation activities. The boreholes were being drilled under direction of CH2M HILL using rotary drill rig equipment. Most of the boreholes are planned to be drilled to a minimum depth of 20 ft into competent rock, or to a depth of at least 33 ft below the planned foundation. Three boreholes are planned to approximately 200 ft.

The team was able to observe seismic refraction activities taking place at the site. Seismic refraction profiles are used to measure seismic P-wave velocities of the soil and rock. In addition, the team discussed and observed magnetometer surveys which were being used to locate intrusive dikes in the site area.

Undisturbed sampling operations were not witnessed; however, the team verified that the undisturbed samples collected prior to the team's arrival were properly stored and sealed in accordance with ASTM D4220,"Standard Practices for Preserving and Transporting Soil Samples." The team examined the core sample field log document for samples stored in a controlled environment and noted that three Shelby tube samples were not logged in

accordance with the Site Investigation Workplan procedure, Appendix B. Progress Energy representatives stated they had neglected to update the log when samples were moved recently; they plan to correct the logging oversite and to generate a nonconformance report to address the issue.

Disturbed samples are collected from this operation using a split-barrel sampler. Jar samples are collected, and stored in accordance with ASTM D4220. The team examined samples of the remaining Field Boring Logs and found them adequate.

The team also obtained applicable procedures, for review and discussed technical aspects of the testing with the CH2M HILL and subcontractors staff performing the site investigation. The team inspected the samples stored inside locked SeaLand containers within the owner-controlled area.

The team inquired what quality assurance (QA) measures were being applied to the work and were informed that the fieldwork is being completed in accordance with CH2M HILL's Project Quality Plan. The team reviewed the one QA audit report completed to date and a resulting nonconformance report which had been identified prior to the NRC visit.

All testing activities appeared to be controlled by adequate procedures and standards, with an appropriate level of supervisory and quality assurance oversight. The locations of numerous borings were visited. From these observations, the team considered the work to be adequately controlled and executed.