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

February 9, 2010

Mr. David A. Heacock
President and Chief Nuclear Officer
Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: NORTH ANNA POWER STATION, UNIT 2 - NOTIFICATION OF INSPECTION AND REQUEST FOR INFORMATION

Dear Mr. Heacock:

From March 29 to April 2, 2010, the NRC will perform the baseline inservice inspection (ISI) at the North Anna Power Station, Unit 2 (NRC Inspection Procedure 71111.08 and Temporary Instruction 2515/172, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles"). Experience has shown that this inspection is resource intensive both for the NRC inspectors and your staff. In order to minimize the impact to your on-site resources and to ensure a productive inspection, we have enclosed a request for documents needed for this inspection. These documents have been divided into two groups. The first group (section A of the enclosure) identifies information to be provided prior to the inspection to ensure that the inspectors are adequately prepared. The second group (section B of the enclosure) identifies the information the inspectors will need upon arrival at the site. It is important that all of these documents are up to date and complete in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Jay Lieberstein of your organization. Our inspection dates are subject to change based on your updated schedule of outage activities. If there are any questions about this inspection or the material requested, please contact the lead inspector Robert Williams Jr. at (404) 562-4664 (robert.williams@nrc.gov).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS)

ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Mark E. Franke, Chief
Engineering Branch 3
Division of Reactor Safety

Docket No. 50-339
License No. NPF-7

Enclosure: Inservice Inspection Document Request

(cc w/ encl – See page 3)

cc w/encl:
Daniel G. Stoddard
Site Vice President
Virginia Electric and Power Company
Electronic Mail Distribution

Eric Hendrixson
Director, Nuclear Safety and Licensing
Virginia Electric and Power Company
Electronic Mail Distribution

Chris L. Funderburk
Director, Nuclear Licensing & Operations Support
Virginia Electric and Power Company
Electronic Mail Distribution

Lillian M. Cuoco, Esq.
Senior Counsel
Dominion Resources Services, Inc.
Electronic Mail Distribution

Executive Vice President
Old Dominion Electric Cooperative
Electronic Mail Distribution

Ginger L. Alligood
Virginia Electric and Power Company
Electronic Mail Distribution

Attorney General
Supreme Court Building
900 East Main Street
Richmond, VA 23219

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
North Anna Power Station
U.S. Nuclear Regulatory Commission
P.O. Box 490
Mineral, VA 23117

Michael M. Cline
Director
Virginia Department of Emergency Services Management
Electronic Mail Distribution

County Administrator
Louisa County
P.O. Box 160
Louisa, VA 23093

Letter to David A. Heacock from Mark E. Franke dated February 9, 2010

SUBJECT: NORTH ANNA POWER STATION, UNIT 2 - NOTIFICATION OF INSPECTION AND REQUEST FOR INFORMATION

Distribution w/encl:
RIDSNRRDIRS
PUBLIC
RidsNrrPMNorthAnna Resource

X☐ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE X☐ NON-SENSITIVE

ADAMS: X ☐ Yes ACCESSION NUMBER:_____ ☐ SUNSI REVIEW COMPLETE

OFFICE	RII:DRS	RII:DRP	RII:DRS				
SIGNATURE		/RA/	/RA/				
NAME	RWILLIAMS	GMCCOY	MFRANKE				
DATE	2/ /2010	2/3/2010	2/9/2010				
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: S:\DRS\ENG BRANCH 3\NOTIFICATION LETTERS\NORTH ANNA U2 ISI RFI REW.DOC

INSERVICE INSPECTION DOCUMENT REQUEST

Inspection Dates:	March 29 – April 2, 2010
Inspection Procedures:	IP 71111.08 "Inservice Inspection (ISI) Activities" TI 2515/172 "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles"
Inspectors:	Robert Williams Jr., Reactor Inspector (Lead Inspector - ISI) Joel Rivera-Ortiz, Senior Reactor Inspection (SGISI)

A. Information Requested for the In-Office Preparation Week

The following information should be sent to the Region II office in hard copy or electronic format (CD preferred), in care of Robert Williams by March 12, 2010, to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The inspector will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week (section B of this enclosure). We ask that the specific items selected from the lists be available and ready for review on the first day of inspection. *Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector(s), and provide subject documentation during the first day of the onsite inspection. If you have any questions regarding this information request, please call the inspector as soon as possible.

A.1 ISI / Welding Programs and Schedule Information

a) A detailed schedule (including preliminary dates) of:

i) Nondestructive examinations (NDEs) planned for Class 1 & 2 systems (labeled as such) and containment, performed as part of your ASME Section XI, Risk Informed (if applicable), and augmented ISI Programs during the upcoming outage.

Provide a status summary of the NDE inspection activities vs. the required inspection period percentages for this Interval by category per ASME Section XI, IWX-2400. (Do not provide separately if other documentation requested contains this information)

ii) Reactor pressure vessel head (RPVH) examinations planned for the upcoming outage.

iii) Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope. (If applicable)

iv) Examinations planned as part of your Boric Acid Corrosion Control Program (Mode 3 walkdowns, bolted connection walkdowns, etc.).

v) Welding activities that are scheduled to be completed during the upcoming outage. (ASME Class 1, 2, or 3 structures, systems, or components (SSCs))

b) A copy of ASME Section XI Code Relief Requests and associated NRC Safety Evaluations applicable to the examinations identified above.

c) A list of NDE reports (ultrasonic, radiography, magnetic particle, and dye penetrant) which have identified surface or volumetric indications that were analytically evaluated and accepted for continued service on Code Class 1, 2, & 3 systems since the beginning of the last refueling outage. This should include the previous Section XI pressure test(s) conducted during start up and any evaluations associated with the results of the pressure tests.

d) A list with a brief description (e.g. system, material, pipe size, weld number, and NDE performed) of the welds in Code Class 1, 2, and 3 systems which have been fabricated due to component repair/replacement activities since the beginning of the last refueling outage, or are planned to be fabricated this refueling outage. Also, please indicate which of those welds are risk significant.

e) If reactor vessel shell weld examinations required by the ASME Code are scheduled to occur during the upcoming outage, provide a detailed description of the welds to be examined, and the extent of the planned examination. Please also provide reference numbers for applicable procedures that will be used to conduct these examinations.

f) Copy of any 10 CFR Part 21 reports applicable to your SSCs within the scope of Section XI of the ASME Code that have been identified since the beginning of the last refueling outage.

g) A list of any temporary non-code repairs in service (e.g. pinhole leaks).

h) Please provide copies of the most recent self assessments for the ISI, Welding, and Alloy 600 Programs.

A.2 <u>Reactor Pressure Vessel Head (RPVH)</u>

a) Provide the detailed scope of the planned NDE of the reactor vessel head which identifies the types of NDE methods to be used on each specific part of the vessel head to meet the augmented inspection requirements of 10CFR50.55a(g)(6)(ii)(D). Also, include examination scope expansion criteria and planned expansion sample sizes if relevant indications are identified. (If applicable)

b) A list of the standards and/or requirements that will be used to evaluate indications identified during NDE of the reactor vessel head (e.g. the specific industry or procedural standards which will be used to evaluate potential leakage and/or flaw indications).

c) A list of the NDE reports with identified surface or volumetric indications in the

RPVH penetration nozzles which have been analytically evaluated and accepted for continued service. The list of NDE reports should include a brief description of the SSC where the recordable indication was identified.

A.3 Boric Acid Corrosion Control Program (BACCP)

a) Copy of the procedures that govern the scope, equipment and implementation of the inspections required to identify boric acid leakage and the procedures for boric acid leakage/corrosion evaluation.

b) Please provide a list of leaks (including code class of the components) that have been identified since the last refueling outage and associated corrective action documentation. If during the last cycle, the Unit was shutdown, please provide documentation of containment walk-down inspections performed as part of the BACCP.

c) Please provide a copy of the most recent self-assessment performed for the BACCP.

A.4 Steam Generator (SG) Inspections

a) A detailed schedule of:

i) SG tube inspection, data analyses, and repair activities for the upcoming outage. (If occurring)

ii) SG secondary side inspection activities for the upcoming outage. (If occurring)

b) Please provide a copy of your SG ISI Inspection Program and Plan. Please include a copy of the Operational Assessment from last outage, and a copy of the following documents as they become available:

i) Degradation Assessment
ii) Condition Monitoring Assessment

c) If you are planning on modifying your Technical Specifications such that they are consistent with TSTF-449, please provide copies of your correspondence with the NRC regarding deviations from the STS.

d) Copy of SG history documentation given to vendors performing eddy current (ET) testing of the SGs during the upcoming outage.

e) Copy of SG Eddy Current Data Analyst Guidelines, and Site Validated Eddy Current Technique. Additionally, please provide a copy of EPRI Appendix H Eddy Current Technique Qualification Records.

f) Identify and quantify any SG tube leakage experienced during the previous operating cycle. Also provide documentation identifying which SG was leaking and corrective actions completed or planned for this condition. (If applicable)

g) Provide past history of the condition and issues pertaining to the secondary side

of the steam generators (including items such as loose parts, fouling, top of tube sheet condition, crud removal amounts, etc.)

h) Please provide copies of your most recent self assessments of the SG monitoring, loose parts monitoring, and secondary side water chemistry control programs.

i) Please also indicate where the primary, secondary, and resolution analyses are scheduled to take place.

j) Please provide a summary of the scope of the SG ISI examinations, including examination methods such as Bobbin, Rotating Pancake, or Plus Points, and the percentage of tubes to be examined. **Do not provide these documents separately if already included in other information requested*.

A.5 Additional information related to all ISI activities

a) A list with a brief description of ISI, BACCP, and SG ISI related issues (e.g., condition reports) entered into your corrective action program since the beginning of the last refueling outage (for Units 1 and 2). For example, a list based upon data base searches using key words related to piping or SG tube degradation such as: ISI, ASME Code, Section XI, NDE, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping/SG tube examinations.

b) Please provide names and phone numbers for the following program leads:

ISI contacts (Examination, planning)
Containment Exams
RPVH Exams
Snubbers and Supports
Repair and Replacement Program Manager
Licensing Contact
Site Welding Engineer
Boric Acid Corrosion Control Program
SG Inspection Activities (site lead and vendor contact)

B. Information to be provided on-site to the inspector at the entrance meeting (March 29, 2010):

B.1 ISI / Welding Programs and Schedule Information

a) Updated schedules for ISI/NDE activities, including SG ISI, planned welding activities, and schedule showing contingency repair plans, if available.

b) For ASME Class 1, 2, and 3 welds selected by the inspector from the lists provided from section A of this enclosure, please provide copies of the following documentation for each subject weld:

i) Weld data sheet (traveler)

ii) Weld configuration and system location
iii) Applicable Code Edition and Addenda for weldment
iv) Applicable Code Edition and Addenda for welding procedures
v) Applicable weld procedures (WPS) used to fabricate the welds
vi) Copies of procedure qualification records (PQRs) supporting the WPS from B.1.b.v
vii) Copies of mechanical test reports identified in the PQRs above
viii) Copies of the nonconformance reports for the selected welds (If Applicable)
ix) Radiographs of the selected welds and access to equipment to allow viewing radiographs (If RT was performed)
x) Copies of the preservice examination records for the selected welds.
xi) Copies of welder performance qualifications records applicable to WPS, including documentation that welder maintained proficiency in the applicable welding processes specified in the WPS (At least six months prior to date subject work)
xii) Copies of NDE personnel qualifications (VT, PT, UT, RT) *As applicable*

c) For the ISI related corrective action issues selected by the inspector from section A of this enclosure, provide a copy of the corrective actions and supporting documentation.

d) For the NDE reports with relevant indications on Code Class 1, 2, & 3 systems selected by the inspector from section A above, provide a copy of the examination records, examiner qualification records, and associated corrective action documents.

e) A copy of (or ready access to) most current revision of the ISI Program Manual and Plan for the current Interval.

f) For the NDEs selected by the inspector from section A of this enclosure, provide copy of the NDE procedures used to perform the examinations (including calibration and flaw characterization/sizing procedures). For ultrasonic examination procedures qualified in accordance with ASME Code, Section XI, Appendix VIII, provide documentation supporting the procedure qualification (e.g., the EPRI performance demonstration qualification summary sheets). Also, include documentation of the specific equipment to be used (e.g., ultrasonic unit, cables, and transducers including serial numbers) and NDE personnel qualification records.

B.2 <u>Reactor Pressure Vessel Head (RPVH)</u>

a) Provide the NDE personnel qualification records for the examiners who will perform examinations of the RPVH.

b) Provide drawings showing the following: (If a visual examination is planned for the upcoming refueling outage)

i) RPVH and CRDM nozzle configurations

ii) RPVH insulation configuration

The drawings listed above should include fabrication drawings for the nozzle attachment welds as applicable.

c) Copy of NDE reports from the last RPVH examination.

d) Copy of evaluation or calculation demonstrating that the scope of the visual examination of the upper head will meet the 95% minimum coverage required by ASME Code Case N-729-1 (If a visual examination is planned for the upcoming refueling outage).

e) Provide a copy of the procedures that will be used to identify the source of any boric acid deposits identified on the RPVH. If no explicit procedures exist which govern this activity, provide a description of the process to be followed including personnel responsibilities and expectations.

f) Provide a copy of the updated calculation of effective degradation years (EDY) and re-inspection years (RIY) for the RPVH crack initiation and propagation susceptibility parameters.

g) Provide copy of the vendor qualification report(s) that demonstrates the detection capability of the NDE equipment used for the RPVH examinations. Also, identify any changes in equipment configurations used for the RPVH examinations which differ from that used in the vendor qualification or demonstration report(s).

B.3 Boric Acid Corrosion Control Program (BACCP)

a) Please provide boric acid walk down inspection results, an updated list of boric acid leaks identified so far this outage, associated corrective action documentation, and overall status of planned boric acid inspections.

b) Please provide any engineering evaluations completed for boric acid leaks identified since the end of the last refueling outage. Please include a status of corrective actions to repair and/or clean these boric acid leaks. Please specify which known leaks, if any, have remained in service or will remain in service as active leaks.

c) In accordance with NRC inspection procedure 71111.08, the inspector would like to conduct an independent boric acid walk down of the Reactor Building early in the inspection week. Please have knowledgeable BACCP staff available to accompany the inspector during the walk down.

B.4 Steam Generator (SG) Inspections

a) Copies of the Examination Technique Specification Sheets (ETSS) and associated justification for any revisions.

b) Copy of the guidance to be followed if a loose part or foreign material is identified in the SGs.

c) Please provide a copy of the ET procedures used to perform the SG ISI (specifically calibration and flaw characterization/sizing procedures, etc.). Also include documentation for the specific equipment to be used.

d) Please provide copies of your responses to NRC and industry operating experience communications such as Generic Letters, Information Notices, etc. (As applicable to SG inspections) **Do not provide these documents separately if already included in other information requested such as the degradation assessment.*

e) List of corrective action documents generated by the vendor and/or site with respect to SG inspection activities.

B.5 Codes and Standards

a) Ready access to: (i.e. copies provided to the inspector to use for the duration of the inspection at the on-site inspection location, or room number and location where available)

i) Applicable editions of the ASME Code (Sections V, IX and XI) for the inservice inspection program and the repair/replacement program.

ii) EPRI and industry standards referenced in the procedures used to perform the SG tube eddy current examination.

Inspector Contact Information:

Robert Williams Jr.
Reactor Inspector
404-562-4664
robert.williams@nrc.gov

Joel Rivera-Ortiz
Senior Reactor Inspector
404-562-4825
joel.rivera-ortiz@nrc.gov mailto:alexandra.vargas@nrc.gov

Mailing Address:
US NRC Region 2
Attn: Robert Williams Jr.
61 Forsyth Street SW, Suite 23T85
Atlanta, GA 30303