



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

March 3, 2016

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, UNITS 1 AND 2 – U.S. NUCLEAR
REGULATORY COMMISSION EMERGENCY PREPAREDNESS INSPECTION
REPORT 05000338/2016502 AND 05000339/2016502

Dear Mr. Heacock:

On February 12, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your North Anna Power Station, Units 1 and 2. The enclosed inspection report (IR) documents the inspection results that were discussed on February 11, 2016, with members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

No findings were identified during this inspection.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public inspections, exemptions, requests for withholding" of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its Enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room, or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS); accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Brian Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

Docket Nos. 50-338 and 50-339
License Nos. NPF-4 and NPF-7

Enclosure:
NRC IR 05000338 and 339/2016502
w/Attachment: Supplementary Information

cc: Distribution via Listserv

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PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
ADAMS: Yes ACCESSION NUMBER: ML16063A450 SUNSI REVIEW COMPLETE FORM 665 ATTACHED

OFFICE	RII:DRS/PSB1	RII:DRS/PSB1	RII:DRS/PSB1	RII:DRPBR5	RII:DRP/BR5	RII:DRS/PSB1
SIGNATURE	WTL via e-mail	JDH9	CAF2	GSC1 via e-mail	SON for SDR2	BRB1
NAME	W. Loo	J. Hickman	C. Fontana	G. Croon	S. Rose	B. Bonser
DATE	3/ 3 /2016	3/ 2 /2016	3/ 3 /2016	3/ 1 /2016	3/ 3 /2016	3/ 3 /2016
E-MAIL COPY	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY

Letter to David Heacock from Brian Bonser dated March 3, 2016

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 – U.S. NUCLEAR
REGULATORY COMMISSION EMERGENCY PREPAREDNESS INSPECTION
REPORT 05000338/2016502 AND 05000339/2016502

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 05000338 and 05000339

License Nos: NPF-4 and NPF-7

Report Nos: 05000338/2016502 and 05000339/2016502

Licensee: Virginia Electric and Power Company (VEPCO)

Facility: North Anna Power Station, Units 1 and 2

Location: Mineral, VA

Dates: February 8–12, 2016

Inspectors: G. Croon, Senior Resident Inspector
W. Loo, Senior Health Physicist
C. Fontana, Emergency Preparedness Inspector
J. Hickman, Emergency Preparedness Inspector

Approved by: Brian Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

Enclosure

SUMMARY

Inspection Report (IR) 05000338/2016502 and 05000339/2016502; 2/8/2016 – 2/12/2016;
North Anna Power Station, Units 1 and 2; Baseline Inspection

The report covered an inspection by two emergency preparedness inspectors, one senior health physicist, and one senior resident inspector. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation

a. Inspection Scope

Prior to the arrival onsite, the inspectors conducted an in-office review of the exercise objectives and scenario submitted to the NRC, to determine if the exercise would test major elements of the emergency plan as required by 10 CFR 50.47(b)(14).

The onsite inspection consisted of the following review and assessment:

- The adequacy of the licensee's performance in the biennial exercise, conducted on February 9, 2016, was reviewed and assessed regarding the implementation of the Risk Significant Planning Standards in 10 CFR 50.47(b)(4), (5), (9), and (10), which address emergency classification, offsite notification, radiological assessment, and protective action recommendations respectively.
- The overall adequacy of the licensee's emergency response facilities with regard to NUREG-0696, "Functional Criteria for Emergency Response Facilities" and Emergency Plan commitments. The facilities assessed were the Control Room Simulator, Technical Support Center (TSC), Operations Support Center, and the Local Emergency Operations Facility (LEOF).
- Other performance areas, such as: the emergency response organization's (ERO) recognition of abnormal plant conditions; command and control, intra- and inter-facility communications; prioritization of mitigation activities; utilization of repair and field monitoring teams; interface with offsite agencies; and the overall implementation of the emergency plan and its implementing procedures.
- Past performance issues from NRC inspection reports and Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS) exercise reports, to determine the effectiveness of corrective actions, as demonstrated during this exercise, to ensure compliance with 10 CFR 50.47(b)(14).
- The post-exercise critique process and the presentation to the licensee's senior management conducted on February 11, 2016, to evaluate the licensee's self-assessment of its ERO performance during the exercise, and to ensure compliance with 10 CFR 50, Appendix E, Subsection IV.F.2.g.

The inspectors reviewed various documents, which are listed in the Attachment. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, several revisions were made to the Radiological Emergency Plan and associated implementing procedures. The licensee determined that, in accordance with 10 CFR 50.54(q), the Plan continued to meet the requirements of 10 CFR 50.47(b), and Appendix E to 10 CFR Part 50. The inspectors reviewed the changes and sampled implementing procedure changes made between January 2015 and January 2016, to evaluate for potential reductions in the effectiveness of the Plan. As this review was not documented in a Safety Evaluation Report, and does not constitute formal NRC approval of the changes, these changes remain subject to future NRC inspection in their entirety.

The inspection was conducted in accordance with NRC inspection procedure (IP) 71114, Attachment 04, Emergency Action Level and Emergency Plan Changes. The applicable planning standards of 10 CFR 50.47(b) and its related requirements in 10 CFR Part 50, Appendix E, were used as reference criteria.

The inspectors reviewed various documents, which are listed in the Attachment. This inspection activity satisfied one inspection sample for the emergency action level, and emergency plan changes on an annual basis.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation – Scenario Review

a. Inspection Scope

Prior to the inspection activity, the inspectors conducted an in-office review of the exercise objectives and scenario submitted to the NRC using IP 71114.08, "Exercise Evaluation - Scenario Review," to determine if the exercise would test major elements of the emergency plan as required by 10 CFR 50.47(b)(14). The inspectors reviewed various documents, which are listed in the Attachment. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors sampled licensee submittals relative to the performance indicators (PIs) listed below for the period April 1 through December 31, 2015. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, was used to confirm the reporting basis for each data element.

Emergency Preparedness Cornerstone

- Emergency Response Organization Drill/Exercise Performance (DEP)
- Emergency Response Organization Readiness (ERO)
- Alert and Notification System Reliability (ANS)

For the specified review period, the inspectors examined data reported to the NRC, procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspectors verified the accuracy of the DEP through review of a sample of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the ERO PI for personnel assigned to key positions in the ERO. The inspectors verified the accuracy of the PI for ANS reliability through review of a sample of the licensee's records of periodic system tests. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment.

The inspectors reviewed various documents which are listed in the Attachment. This inspection activity satisfied one inspection sample for each of the three Emergency Preparedness PIs (i.e., DEP, ERO, and ANS) on an annual basis.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On February 11, 2016, the lead inspectors presented the inspection results to Mr. J. Bischof, Site Vice President, and other members of the plant staff. The inspectors confirmed that proprietary information was provided during the inspection, but returned after review of such information.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

J. Bischof–Site Vice President
E. Collins–Corporate Director, Emergency Preparedness (EP)
W. Detwiler–Drill Manager
B. Evans–Radiation Protection Manager
L. Hilbert–Director, Nuclear Station Safety & Licensing
M. Hofmann–Supervisor, Nuclear EP
P. Kemp–EP Manager
J. Leberstien–Technical Consultant, Licensing
F. Mladen–Plant Manager
D. Plogger–EP Specialist
J. Slattery–Manager, Nuclear Operations

LIST OF DOCUMENTS REVIEWED

1EP1 Exercise Evaluation

Procedures

CPIP-3.1, CERC and CEOF Activation, Revision 28
CPIP-3.2, North Anna LEOF Activation, Revision 23
CPIP-6.0, LEOF Recovery Manager Guidance, Revision 13
CPIP-6.2, Radiological Assessment Coordinator, Revision 15
Emergency Action Level Technical Bases Document, Revision 7
EP-AA-400, Drill and Exercise Program, Revision 8
EPIP-1.01, Emergency Manager Controlling Procedure, Revision 51
EPIP-1.04, Response to Site Area Emergency, Revision 22
EPIP-1.05, Response to General Emergency, Revision 24
EPIP-1.06, Protective Action Recommendation, Revision 11
EPIP-2.01, Notification of State and Local Governments, Revision 39
EPIP-2.02, Notification of NRC, Revision 22
EPIP-3.02, Activation of Technical Support Center, Revision 36
EPIP-3.03, Activation of Operational Support Center, Revision 22
EPIP-3.05, Augmentation of Emergency Response Organization, Revision 9
EPIP-4.03, Dose Assessment Team Controlling Procedure (with five Attachments), Revision 20
EPIP-4.07, Protective Measures, Revisions 22 and 23
EPIP-4.18, Monitoring of LEOF, Revision 15
EPIP-4.28, TSC/LEOF Monitoring System, Revision 9
EPIP-4.34, Field Team Radio Operator Instructions, Revision 7
EPIP-5.03, Personnel Accountability, Revision 21
EPIP-5.05, Site Evacuation, Revision 16
EPIP-5.07, Administration of Radio-Protective Drugs, Revision 11
EPIP-6.01, Re-Entry/Recovery Guidelines, Revision 9
North Anna Power Station Emergency Plan, Revisions 42 and 43

Records and Data

2014 and 2015 Emergency Exercise and drill scenario documents
 Control Room Simulator, Corporate Emergency Operations Facility, Joint Information Center,
 Local Emergency Operations Facility, Operational Support Center, Technical Support
 Center - Documentation packages (Logs, Event Notification Forms, Protective Action
 Recommendations, Media Releases, and Radiological Dose Assessments)
 List of Emergency Action Level Initiating Conditions to Demonstrate over the 8-Year Cycle,
 dated 2/8/2016
 North Anna February 9, 2016, NRC Biennial Exercise Drill, Management Critique
 North Anna Power Station, Emergency Preparedness, North Anna Biennial Exercise
 (NFEB16 BE), EP Exercise Manual
 Twelve-Year Exercise Plan Objectives and Elements 2015–2026, dated 2/8/2016

Corrective Action Program Documents

554084, Communicator did not relieve U2 SRO in call to the NRC
 1026615, EP to develop plan to ensure all EAL ICs demonstrated
 1026702, NRC Communicator mistakenly contacted NRC and did not preface with:
 “This is a drill.”
 1026743, MIDAS printout provided unexpected results, followup actions taken, 2/9/2016
 1026760, During NFEB16 BE Drill, LEOF Objective 3, Offsite Protective Measures was
 evaluated as NOT MET overall, 2/9/2016
 1026761, Notification of State and Local Counties were not within 15 minutes
 1026762, During NFEB16 BE Drill, LEOF Objective 5, Offsite Dose Assessment was
 determined to be NOT MET overall, 2/9/2016
 1026765, Dose Assessment weakness identified during exercise, 2/9/2016
 1026830, Improvement Items were identified during NAPS graded exercise
 1026860, During NFEB16 BE Drill, LEOF Objective 4 was met with problems, 2/10/2016
 1026871, During NFEB16 BE NP Drill, Objective 14 was met with problems in the LEOF,
 2/10/2016
 1026875, Critique Enhancement for the Simulator
 1026881, MIDAS printout provided unexpected results, followup actions taken, 2/10/2016
 1026901, Participants did not self-identify their own performance issues

1EP4 Emergency Action Level and Emergency Plan ChangesProcedures

50 CFR 50.54(q)(3) screening form for EPIP-1.01, Emergency Manager Controlling Procedure,
 Revisions 50 and 51
 CM-AA-400 – Attachment 1, 50.59/72.48, Applicability for Review for EPIP-1.01, Revision 51,
 Emergency Manager Controlling Procedure, 9/9/2014 and 9/12/2014
 Emergency Action Level Technical Bases Document, Revision 7
 EP-AA-101, 10 CFR 50.54(q) Change Evaluation, Revision 5
 EPIP-1.01, Emergency Manager Controlling Procedure, Revisions 50 and 51
 EPIP-4.07, Protective Measures, Revisions 22 and 23
 EPIP-5.07, Administration of Radio-protective Drugs, Revision 11
 EPIP-6.01, Re-Entry/Recovery Guideline, Revision 9
 North Anna Power Station Emergency Plan, Revision 43
 North Anna Power Station Emergency Plan, Revision 42

Change Packages

North Anna Power Station Emergency Plan, Revisions 42 and 43

EPIP-1.01, Emergency Manager Controlling Procedure, Revision 51
 EPIP-1.06, Protective Action Recommendation, Revision 11

Corrective Action Program Documents

282080, Revise NAEP Table 5.1 to clarify on-shift total number
 295865, Revise NAEP Table 7.2 to align with UFSAR section 2.3.3.21

Section 40A1: Performance Indicator Verification

Procedures

EP-AA-103, Emergency Preparedness Performance Indicators, Revision 4
 0-PT-172.6, ANS Emergency Planning Periodic Test, Early Warning System Polling Functional Test, Revisions 3–5

Records and Data

0-PT-172.6, ANS Emergency Planning Periodic Tests, 2/19/2014 – 12/2/2015
 DEP opportunities documentation for second Quarter 2015 through fourth Quarter 2015
 Verification of PI Performance of the ANS for Quarter 2015 through fourth Quarter 2015
 Drill and exercise participation records of ERO personnel for second Quarter 2015 through fourth Quarter 2015

Corrective Action Program Documents

549751, EWS Siren #27 has indication of at least one bad driver or amplifier
 553568, Unreported successful DEP opportunities
 572003, EWS Sirens 45, 48, and 50 responded to polling with elevated DC
 572021, NAPS Quarterly Siren activation complete with one discrepancy
 578841, Incorrect emergency class announced and recorded during drill
 582936, Unanticipated classification in TSC
 1021607, EWS Siren # 49 Loss of vendor supplied power

LIST OF ACRONYMS USED

ANS	Alert and Notification System
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
EP	Emergency Preparedness
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
IP	Inspection Procedure
LEOF	Local Emergency Operations Facility
PIs	Performance Indicators
TSC	Technical Support Center