



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

November 22, 2004

Virginia Electric and Power Company
ATTN: Mr. David A. Christian
Senior Vice President and
Chief Nuclear Officer
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060

SUBJECT: NOTIFICATION OF NORTH ANNA POWER STATION- SAFETY SYSTEM
DESIGN AND PERFORMANCE CAPABILITY INSPECTION - NRC
INSPECTION REPORT 05000338/2005007 AND 05000339/2005007

Dear Mr. Christian:

The purpose of this letter is to notify you that the U.S. Nuclear Regulatory Commission (NRC) Region II staff will conduct a safety system design and performance capability inspection at your North Anna Power Station during the weeks of March 21 and April 10, 2005. A team of five inspectors will perform this inspection. The inspection team will be led by Mr. R. Moore, a Senior Reactor Inspector from the NRC Region II Office. This biennial inspection will be conducted in accordance with baseline inspection program Attachment 71111.21, "Safety System Design and Performance Capability."

The inspection will evaluate the capability of installed plant equipment to detect and respond to a loss of coolant accident (LOCA) which includes small break LOCA, inter-system LOCA, and large break LOCA. Procedures which direct the mitigating actions for this event will also be evaluated.

During a telephone conversation on October 19, 2004, Mr. R. Moore of my staff, and Mr. J. Crossman of your staff, confirmed arrangements for an information gathering site visit and the two-week onsite inspection. The schedule is as follows:

- Information gathering visit: Week of February 21, 2005.
- Onsite inspection weeks: March 21 and April 10, 2005.

The purpose of the information gathering visit is to obtain information and documentation outlined in the enclosure needed to support the inspection. Mr. W. Rogers, a Region II Senior Reactor Analyst, may accompany Mr. Moore during the information gathering visit to review probabilistic risk assessment data and identify risk significant components which will be examined during the inspection. Please contact Mr. Moore prior to preparing copies of the materials listed in the enclosure. The inspectors will try to minimize your administrative burden by specifically identifying only those documents required for inspection preparation.

During the information gathering visit, the team leader will also discuss the following inspection support administrative details: office space; specific documents requested to be made

available to the team in their office space; arrangements for site access, and the availability of knowledgeable plant engineering and licensing personnel to serve as points of contact during the inspection.

Thank you for your cooperation in this matter. If you have any questions regarding the information requested or the inspection, please contact Mr. Moore at (404) 562-4628 or me at (404) 562-4605.

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\\

Charles R. Ogle, Chief
Engineering Branch 1
Division of Reactor Safety

Docket Nos.: 50-338, 50-339
License Nos.: NPF-4, NPF-7

Enclosure: Information Request for the Safety System Design and
Performance Capability Inspection

cc w/encl.:

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INFORMATION REQUEST FOR THE SAFETY SYSTEM DESIGN AND PERFORMANCE
CAPABILITY INSPECTION
NORTH ANNA LOCA

(Please provide the information electronically in searchable “.pdf” files on CDROM. The CDROM should be indexed and hyperlinked to facilitate ease of use. Information in “lists” should contain enough information to be easily understood by someone who has a knowledge of pressurized water reactor technology).

1. Piping and instrumentation drawings for the following systems: ECCS systems, reactor coolant system (RCS), recirculation spray system, quench spray system (Paper copies (2) are preferred for these).
2. The normal operating procedures for the systems listed above. Include the procedures which specify the normal valve alignment for these systems.
3. A list of surveillance procedures with titles, used to ensure the operability of equipment required by your Technical Specifications that is used during the mitigation of the LOCA event. Inspectors will select a sample of surveillances from this list for review.
4. Procedures used for the operational testing of check valves in portions of the emergency core cooling systems used during mitigation of the LOCA event.
5. Calibration and functional test procedures for instruments used to monitor RCS pressure, pressurizer level and pressure, RCS hot and cold leg temperature, RCS subcooling, core exit temperature, high pressure injection flow, ECCS pumps mini-flow, SI flow, refueling water storage tank level, pressurizer heater status.
6. Test procedures for the pressurizer PORVs.
7. A list of discrepancies and failures from the last two ESF actuation tests and documentation of how these were resolved. (UNIT 1 ONLY.)
8. Emergency Operating Procedures (EOPs) and supporting procedures, EOP basis documents, step deviation document, writers guide, and users guide. Abnormal Operating Procedures that would be used during a LOCA.
9. Calculations used to support the setpoints in EOPs for a LOCA event.
10. A list of engineering calculations applicable to ECCS and other systems used in the mitigation of the LOCA event.
11. A list of temporary modifications and operator work-arounds since 2002, for system and equipment used for detection and mitigation of a LOCA.
12. A list of operability determinations performed since 2002 for LOCA related equipment.
13. A list of corrective action program documents and non-routine work requests initiated since 2002 for LOCA detection and mitigation related equipment.

14. System health reports and system performance trends for LOCA detection and mitigation systems going back two years.
15. A copy of the Maintenance Rule program procedure and performance criteria for all LOCA related plant systems. A list of LOCA detection and mitigation related plant systems currently monitored under 50.65(a)(1) and the performance goals. A list of Maintenance Rule functional failures since 2002.
16. Quality Assurance audits, self-assessments and third party assessments performed on LOCA detection and mitigation systems and other related systems in the last 24 months. Quality Assurance audits, self-assessments, and third party assessments performed on engineering and maintenance department activities performed in the last 24 months.
17. Operator training lesson plans, system descriptions, and job performance measures for the EOPs, EOP support procedures, abnormal, and normal operating procedures that would be used to mitigate an LOCA event. Provide a listing of all operator time lines (actions that must be performed in a given time) assumed in the FSAR, other licensing documents, or engineering analyses. Include a reference to the applicable design or licensing document.
18. Key electrical single line drawings of the intermediate and low voltage alternating current (AC) and (DC) power systems. (Paper copies (2) are preferred for these)
19. The electrical system load list(s).
20. A brief description of the mitigation strategy for the LOCA event. This should include operator actions, equipment and power sources, as well as indications and control circuits.
21. A list of Operating Experience Program evaluations of industry, vendor, or NRC generic issues for the past three years.
22. A list of equipment and operator actions with a Risk Achievement Worth (RAW) greater than 1.02.
23. Probabilistic Risk Assessment (PRA) Event Tree for LOCA initiating events. A list of PRA system dependencies and success criteria for LOCA mitigation systems and their support systems. Provide an overall listing of SSCs with "margin challenges" or narrow margins, including any actions or corrective measures taken by the station.
24. Design Basis document, system description, etc. for major plant electrical, mechanical, and control systems for detection and mitigation of a LOCA.
25. Plant Technical Specifications, Bases, and Technical Requirements Manual.
26. A current copy of the Updated Final Safety Analysis Report.

- 27. All North Anna design basis requirements, commitments, and industry standards related to mitigation of the LOCA event. (May be same as item 24 above)
- 28. A list of all permanent plant changes, design changes, setpoint changes, procedure changes, equivalency evaluations, suitability analyses, calculations, and commercial grade dedications since 2002, for LOCA detection and mitigation equipment.
- 29. Plant procedures that provide the guidelines for the following programs: (1) Corrective Action Program, (2) Program for the evaluation of changes, tests, and experiments [50.59 Program], (3) Program for the incorporation of local and industry operating experience into North Anna programs and procedures, (4) The design control program.
- 33. A list of operations training packages which were required due to modifications during the past three years, if any.
- 34. A list of Action Requests which were initiated in the area of modifications and the 50.59 process related to LOCA mitigation equipment (if applicable).