



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 20, 2000

Mr. David A. Christian
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS RE: TECHNICAL SPECIFICATIONS CHANGES
LABORATORY TESTING OF NUCLEAR-GRADE ACTIVATED CHARCOAL
(TAC NOS. MA7869 AND MA7870)

Dear Mr. Christian:

The Commission has issued the enclosed Amendments Nos. 224 and 205 to Facility Operating Licenses Nos. NPF-4 and NPF-7 for the North Anna Power Station, Unit Nos. 1 and 2. The amendments change the Technical Specifications (TS) in response to your letter dated November 29, 1999, as supplemented August 31, 2000.

These amendments revise the testing requirements in TS 4.7.7.1 and TS 4.7.8.1 to incorporate the American Society for Testing and Materials D3803-1989 standard and the application of a safety factor of 2.0 for the charcoal filter efficiency assumed in Virginia Electric and Power Company's design-basis dose analysis.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

Stephen Monarque, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosures:

1. Amendment No. 224 to NPF-4
2. Amendment No. 205 to NPF-7
3. Safety Evaluation

cc w/encls: See next page

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/RA/

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Mr. David A. Christian
Virginia Electric and Power Company

North Anna Power Station
Units 1 and 2

cc:

Mr. C. Lee Lintecum
County Administrator
Louisa County
P.O. Box 160
Louisa, Virginia 23093

Mr. W. R. Matthews
Site Vice President
North Anna Power Station
P.O. Box 402
Mineral, Virginia 23117

Mr. Donald P. Irwin, Esquire
Hunton and Williams
Riverfront Plaza, East Tower
951 E. Byrd Street
Richmond, Virginia 23219

Mr. E. S. Grecheck
Site Vice President
Surry Power Station
Virginia Electric and Power Company
5570 Hog Island Road
Surry, Virginia 23883

Dr. W. T. Lough
Virginia State Corporation
Commission
Division of Energy Regulation
P.O. Box 1197
Richmond, Virginia 23209

Robert B. Strobe, M.D., M.P.H.
State Health Commissioner
Office of the Commissioner
Virginia Department of Health
P. O. Box 2448
Richmond, Virginia 23218

Old Dominion Electric Cooperative
4201 Dominion Blvd.
Glen Allen, Virginia 23060

Mr. J. H. McCarthy, Manager
Nuclear Licensing & Operations Support
Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, Virginia 23060

Office of the Attorney General
Commonwealth of Virginia
900 East Main Street
Richmond, Virginia 23219

Senior Resident Inspector
North Anna Power Station
U.S. Nuclear Regulatory Commission
1024 Haley Drive
Mineral, Virginia 23117



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-338

NORTH ANNA POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 224
License No. NPF-4

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated November 29, 1999, as supplemented August 31, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.D.(2) of Facility Operating License No. NPF-4 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 224 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachments:
Changes to the Technical
Specifications

Date of Issuance: November 20, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 224

TO FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove Pages

3/4 7-22

3/4 7-25

Insert Pages

3/4 7-22

3/4 7-25

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

- 4.7.7.1 Each control room emergency ventilation system shall be demonstrated OPERABLE:
- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters on.
 - b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 1000 cfm \pm 10% (except as shown in Specifications 4.7.7.1e. and f.).
 2. Verifying, within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D 3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 70%.
 3. Verifying a system flow rate of 1000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
 - c. Within 31 days of completing 720 hours of charcoal adsorber operation, verify that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D 3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 70%.
 - d. At least once per 18 months by:
 1. Verifying that the pressure drop across the HEPA filter and charcoal adsorber assembly is < 6 inches Water Gauge while operating the filter train at a flow rate of 1000 cfm \pm 10%.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Cont'd)

2. Verifying, within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than or equal to 5% when tested in accordance with ASTM D 3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 95%.
 3. Verifying a system flow rate of 6,300 cfm \pm 10% during operation when tested in accordance with ANSI N510-1975.
- c. Within 31 days of completing 720 hours of charcoal adsorber operation, verify that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than or equal to 5% when tested in accordance with ASTM D 3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 95%.
- d. At least once per 18 months by:
1. Verifying that the pressure drop across the HEPA filter and charcoal adsorber assembly is < 6 inches Water Gauge while operating the ventilation system at a flow rate of 6,300 cfm \pm 10%.
 2. Verifying that on a Containment Hi-Hi Test Signal, the system automatically diverts its exhaust flow through the auxiliary building HEPA filter and charcoal adsorber assembly.
- e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove \geq 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 6,300 cfm \pm 10%.
- f. After each complete or partial replacement of a charcoal adsorber bank by verifying that that charcoal adsorbers remove \geq 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 6,300 cfm \pm 10%.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 205
License No. NPF-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated November 29, 1999, as supplemented August 31, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-7 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 205 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachments:
Changes to the Technical
Specifications

Date of Issuance: November 20, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 205

TO FACILITY OPERATING LICENSE NO. NPF-7

DOCKET NO. 50-339

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove Pages

3/4 7-19

3/4 7-22

Insert Pages

3/4 7-19

3/4 7-22

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.7.1 Each control room emergency ventilation system shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters on.
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 1. Verifying that the cleanup system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 1000 cfm \pm 10% (except as shown in Specifications 4.7.7.1e. and f.).
 2. Verifying, within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D 3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 70%.
 3. Verifying a system flow rate of 1000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.
- c. Within 31 days of completing 720 hours of charcoal adsorber operation, verify that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D 3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 70%.
- d. At least once per 18 months by:
 1. Verifying that the pressure drop across the HEPA filter and charcoal adsorber assembly is less than 6 inches Water Gauge while operating the filter train at a flow rate of 1000 cfm \pm 10%.

PLANT SYSTEM

SURVEILLANCE REQUIREMENTS (cont'd)

2. Verifying, within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than or equal to 5% when tested in accordance with ASTM D 3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 95%.
 3. Verifying a system flow rate of 6,300 cfm \pm 10% during operation when tested in accordance with ANSI N510-1975.
- c. Within 31 days of completing 720 hours of charcoal adsorber operation, verify that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than or equal to 5% when tested in accordance with ASTM D 3803-1989 at a temperature of 30°C (86°F) and a relative humidity of 95%.
- d. At least once per 18 months by:
1. Verifying that the pressure drop across the HEPA filter and charcoal adsorber assembly is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6,300 cfm \pm 10%.
 2. Verifying that on a Containment Pressure-High-High Test Signal, the system automatically diverts its exhaust flow through the auxiliary building HEPA filter and charcoal adsorber assembly.
- e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 6,300 cfm \pm 10%.
- f. After each complete or partial replacement of a charcoal adsorber bank by verifying that that charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 6,300 cfm \pm 10%.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO.224 TO FACILITY OPERATING LICENSE NO. NPF-4
AND AMENDMENT NO.205 TO FACILITY OPERATING LICENSE NO. NPF-7
VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-338 AND 50-339

1.0 INTRODUCTION

By application dated November 29, 1999, as supplemented by letter dated August 31, 2000, Virginia Electric and Power Company (the licensee) requested changes to the Technical Specifications (TS) for North Anna Power Station (NAPS), Units 1 and 2. The proposed changes would revise TS 4.7.7.1, "Control Room Emergency Habitability Systems," and TS 4.7.8.1, "Safeguards Area Ventilation System," to include the requirement for laboratory testing of Engineered Safety Feature (ESF) Ventilation System charcoal samples in accordance with the American Society for Testing and Materials (ASTM) D3803-1989 and the application of a safety factor of 2.0 for the charcoal filter efficiency assumed in the plant design-basis dose analyses. The August 31, 2000, supplement provided clarifying information that did not change the scope of the application nor the Nuclear Regulatory Commission (NRC) staff's proposed no significant hazards consideration determination.

2.0 EVALUATION

The NRC staff, with technical assistance from Brookhaven National Laboratory (BNL), has reviewed the licensee's submittals. In addition, the staff has reviewed the attached BNL Technical Evaluation Report (TER) regarding the proposed TS changes for NAPS, Units 1 and 2. Based on its review, the staff adopts the TER. In view of the above, and because the NRC staff considers ASTM D3803-1989 to be the most accurate and most realistic protocol for testing charcoal in safety-related ventilation systems, the NRC staff finds that the proposed TS changes satisfy the actions requested in Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," dated June 3, 1999, and are acceptable.

The NRC received a letter from ASTM in response to a March 8, 2000, *Federal Register* Notice (65 FR 12286) related to revising testing standards in accordance with ASTM D3803-1989 for laboratory testing of activated charcoal in response to GL 99-02. ASTM notified the NRC that the 1989 standard is out-of-date and should be replaced by ASTM D3803-1991 (1998). The staff acknowledges that the most current version of ASTM D3803 is ASTM D3803-1991 (reaffirmed in 1998). However, it was decided, for consistency purposes, to have all of the nuclear reactors test to the same standard (ASTM D3803-1989) because, prior

to GL 99-02 being issued, approximately one third of nuclear reactors had TS that referenced ASTM D3803-1989, and there were no substantive changes between the 1989 and 1998 versions.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (65 FR 6413). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Attachment: Technical Evaluation Report, Brookhaven National Laboratory

Principal Contributor: Stephen Monarque

Date: November 20, 2000

**TECHNICAL EVALUATION REPORT
BROOKHAVEN NATIONAL LABORATORY
FOR THE OFFICE OF NUCLEAR REACTOR REGULATION
DIVISION OF SYSTEMS SAFETY AND ANALYSIS
PLANT SYSTEMS BRANCH
RELATED TO AMENDMENT TO FACILITY OPERATING LICENSE NO. NPF- 4 & NPF-7
VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION - UNITS 1 & 2
DOCKETS NO. 50 - 338 & 50 - 339**

1.0 INTRODUCTION

By letter dated November 29, 1999 (99-339B), Virginia Electric and Power Company (VEPCO) submitted its response to the actions requested in Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," dated June 3, 1999, for the North Anna Power Station-Units 1&2. By the same letter dated November 29, 1999, VEPCO requested changes to the Technical Specifications (TS) Sections 4.7.7.1 and 4.7.8.1, covering the Control Room Emergency Habitability System (CREHS), and the Safeguards Area Ventilation System (SAVS), respectively, for both Units of the North Anna Power Station. By letter dated August 31, 2000 (00-424), VEPCO submitted additional information on the actual face velocities of both the ventilation systems. These proposed changes would revise the TS surveillance testing of the safety related ventilation system charcoal to meet the requested actions of GL 99-02.

2.0 BACKGROUND

Safety-related air-cleaning units used in the engineered safety features (ESF) ventilation systems of nuclear power plants reduce the potential onsite and offsite consequences of a radiological accident by filtering radioiodine. Analyses of design basis accidents assume particular safety related charcoal adsorption efficiencies when calculating offsite and control room operator doses. To ensure that the charcoal filters used in these systems will perform in a manner that is consistent with the licensing basis of a facility, licensees have requirements in their TS to periodically perform a laboratory test (in accordance with a test standard) of charcoal samples taken from these ventilation systems.

In GL 99-02, the staff alerted licensees that testing nuclear-grade activated charcoal to standards other than American Society for Testing and Materials (ASTM) D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," does not provide assurance for complying with their current licensing bases with respect to the dose limits of General Design Criterion (GDC) 19 of Appendix A to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR) and Subpart A of 10 CFR Part 100.

GL 99-02 requested that all licensees determine whether their TS reference ASTM D3803-1989 for charcoal filter laboratory testing. Licensees whose TS do not reference ASTM D3803-1989 were requested to either amend their TS to reference ASTM D3803-1989 or propose an alternative test protocol.

3.0 EVALUATION

3.1 Laboratory Charcoal Sample Testing Surveillance Requirements

The current and proposed laboratory charcoal sample testing TS surveillance requirements for the CREHS, and the SAVS are shown in Table 1 and Table 2, respectively, for North Anna, Units 1&2.

The proposed use of ASTM D3803-1989 is acceptable because it provides accurate and reproducible test results. The proposed test temperature of 30°C for both systems is acceptable because it is consistent with ASTM D3803-1989. The proposed test relative humidity (RH) of 70% for the CREHS and 95% for the SAVS are also acceptable, because the CREHS is equipped with safety-related heaters to maintain the RH at less than or equal to 70% during accident conditions and 95% RH for SAVS is consistent with ASTM D3803-1989. This is consistent with the actions requested in GL 99-02.

The credited removal efficiencies for radioactive organic iodine for the CREHS and the SAVS are 95 % and 90%, respectively. The proposed test penetrations for radioactive methyl iodide for the CREHS and the SAVS are less than 2.5% and 5.0%, respectively. The proposed test penetration is obtained by applying a safety factor of 2 to the credited efficiency. The proposed safety factor of 2 for both systems is acceptable because it ensures that the efficiency credited in the accident analysis is still valid at the end of the surveillance interval. This is consistent with the minimum safety factor of 2 specified in GL 99-02.

The August 23, 1999 errata to GL 99-02 clarified that if the maximum actual face velocity is greater than 110% of 40 fpm, then the test face velocity should be specified in the TS. Based on the letter dated August 31, 2000, the licensee stated that the face velocities for the CREHS and SAVS based on their design flows are 38.3 fpm and 40.9 fpm, respectively. However, when the actual maximum flow conditions are considered these face velocities for the CREHS and SAVS are 42.1 fpm and 33 fpm, respectively. The proposed testing of the charcoal adsorbers will be performed in accordance with ASTM D3803-1989 which specifies a test face velocity of 40 fpm with appropriate margins. This is acceptable because it ensures that the testing will be consistent with the operation of the ventilation systems during accident conditions. Therefore, it is not necessary to specify the face velocity in the proposed TS change. This is consistent with the August 23, 1999 errata to GL 99-02.

4.0 CONCLUSION

On the basis of its evaluation, BNL recommends that the NRC staff consider the proposed TS changes to be acceptable.

Principal Contributors: Richard E. Deem
Anthony Fresco
Mano Subudhi

Date: October 2, 2000

NORTH ANNA POWER STATION - UNITS 1&2

TABLE 1 - CURRENT TS REQUIREMENTS											
System Description						Current TS Requirements					
TS Section	System	Bed Thickness (inches)	Actual Charcoal		Credited Efficiency (% organic iodine)	Test Penetration (% methyl iodide)	Safety Factor	Test Standard	Test Temp (° C)	Test RH %	Test Face Velocity (fpm)
			Res. Time (sec)	Face Velocity (fpm)							
4.7.7.1	Control Room Emergency Habitability System (CREHS)	2	0.25	38.3 design 42.1 actual max.	95%	<1%	Not stated (5)*	Reg. Guide 1.52, Rev.2, March 1978 (ASTM D3803- 1979)**	Not stated (80)**	Not stated (70)**	Not stated
4.7.8.1	Safeguards Area Ventilation System (SAVS)	2	0.25	40.9 design 33 actual max.	90%	<1%	Not stated (10)*	Reg. Guide 1.52, Rev.2 (ASTM D3803- 1979)**	Not stated (80)**	Not stated (70)**	Not stated

* The safety factor is calculated based on the credited efficiency and the allowable test penetration.

** The information in parentheses is not stated in the TS but is discussed in the November 29, 1999 letter.

NORTH ANNA POWER STATION - UNITS 1&2

TABLE 2 - PROPOSED TS REQUIREMENTS											
System Description						Proposed TS Requirements					
TS Section	System	Bed Thickness (inches)	Actual Charcoal		Credited Efficiency (methyl iodide)	Test Penetration (methyl iodide)	Safety Factor	Test Standard	Test Temp (° C)	Test RH	Test Face Velocity (fpm)
			Res. Time (sec)	Face Velocity (fpm)							
4.7.7.1	Control Room Emergency Habitability System (CREHS)	2"	0.25	38.3 design 42.1 actual max.	95%	<2.5%	2	ASTM D3803-1989	30	70%	Not stated (40)*
4.7.8.1	Safeguards Area Ventilation System (SAVS)	2"	0.25	40.9 design 33 actual max.	90%	<5%	2	ASTM D3803-1989	30	95%	Not stated (40)*

* The test face velocity of 40 fpm is based on the test velocity in ASTM D3803-1989.