

November 18, 1999
GO2-99-203

Docket No. 50-397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21
REQUEST FOR AMENDMENT
TECHNICAL SPECIFICATION 5.5.7.c
VENTILATION FILTER TESTING PROGRAM**

Reference: NRC Generic Letter 99-02, dated June 3, 1999, "Laboratory Testing of Nuclear-Grade Activated Charcoal"

In accordance with the Code of Federal Regulations, Title 10, Parts 2.101, 50.59 and 50.90, and as requested by the referenced generic letter, Energy Northwest hereby submits a request for amendment to the WNP-2 Operating License. Specifically, we are requesting a revision to Technical Specification (TS) 5.5.7.c.

The changes would revise the requirements that: 1) a sample of the charcoal adsorber for the Standby Gas Treatment (SGT) System and the Control Room Emergency Filtration (CREF) System be tested in accordance with American Society for Testing and Materials (ASTM) D3803-1986, "Standard Test Method for Nuclear-Grade Activated Carbon"; 2) methyl iodide penetration be less than a value of .175% for the SGT System and 1.0% for the CREF System; and 3) charcoal adsorber testing be conducted at a relative humidity of greater than or equal to 70%. As requested by Generic Letter (GL) 99-02, Energy Northwest proposes that TS 5.5.7.c be revised so that: 1) testing of charcoal adsorber samples be in accordance with ASTM D3803-1989 at a specified temperature of 30° Centigrade (C) (86° Fahrenheit (F)); 2) methyl iodide penetration to be less than a value of 0.5% for the SGT System and 2.5% for the CREF System; and 3) testing be performed at 70% relative humidity.

Generic Letter 99-02 also requires that TS 5.5.7.c specify the face velocity of any system that has a face velocity greater than 44 feet per minute (fpm), so that charcoal testing will be conducted at that velocity. For this TS change, a face velocity of 75 fpm will be specified for the SGT System. The face velocity for the CREF System is below 44 fpm and need not be specified. In addition, the revision to TS 5.5.7.c will note that variations in testing parameters are permitted per the guidance in Table 1 and Section A5.2 of ASTM D3803-1989.

AOB 1

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The engineered safety feature (ESF) filter ventilation systems are described in FSAR Section 6.5.1. The SGT System is designed to limit the release of airborne radioactive contaminants from secondary containment to the atmosphere per the guidelines of 10CFR100 in the event of a design basis accident (DBA). The safety-related SGT System is a standby system which consists of two fully redundant subsystems, each with its own set of ductwork, dampers, high efficiency particulate air (HEPA)/charcoal filters, and controls. Each charcoal filter train consists of a moisture separator, two electric heater banks, a prefilter, a HEPA filter bank, two four inch charcoal adsorber banks, a second HEPA filter bank, and two centrifugal fans. The CREF System provides a radiologically controlled environment from which the plant can be safely operated following a DBA. The safety-related CREF System is a standby system which is operated to maintain the control room environment during normal operation. Upon receipt of initiation signal(s) (indicative of conditions that could result in radiation exposure to control room personnel), the CREF System automatically switches to the pressurization mode of operation to prevent infiltration of contaminated air into the control room. A system of dampers isolates the control room (from the normal intake and exhaust), and control room outside air flow is redirected and processed through either of two filter subsystems. Each subsystem consists of an electric heater, a prefilter, a HEPA filter, an activated charcoal adsorber section, a filter unit fan, a control room recirculation fan, and the associated ductwork and dampers.

In GL 99-02 the NRC noted that testing nuclear-grade activated charcoal to standards other than ASTM D3803-1989, such as ASTM D3803-1986, does not provide assurance for complying with our current licensing basis as it relates to limiting dose to the public and control room staff during a DBA. The staff considers ASTM D3803-1989 to be the most accurate and realistic protocol for testing charcoal in ESF ventilation systems because it offers the greatest assurance of accurately and consistently determining the capability of the charcoal. Generic Letter 99-02 also noted that testing charcoal at an elevated temperature greater than 30° C results in an overestimation of the actual iodine-removal capability of the charcoal, while a 30° C test temperature is more representative of limiting accident conditions.

The proposed changes to TS 5.5.7.c are consistent with the sample technical specification provided in GL 99-02. Energy Northwest will replace the reference to ASTM D3803-1986, including associated testing methods A and B, with a requirement to test in accordance with ASTM D3803-1989. Testing will occur at a temperature of 30° C (86° F). Testing will also continue at a specified relative humidity of 70% because the SGT and CREF systems have humidity control. In addition, and as permitted by the generic letter, the limits for methyl iodide penetration will be changed to less than 0.5% for the SGT System and less than 2.5% for the CREF System. Because ASTM D3803-1989 is a more accurate and demanding test method than older test methods, Energy Northwest can use a safety factor of 2 rather than 5 for determining the acceptance criteria for charcoal filter efficiency. Also, because the SGT System has a face velocity greater than 44 fpm, its face velocity of 75 fpm will be included in the revision to TS 5.5.7.c.

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As requested by GL 99-02, a recent laboratory charcoal test of the CREF System performed on August 5, 1999 used the guidance provided by ASTM D3803-1989. The results met the acceptance criterion derived from applying a safety factor of 2 to the charcoal filter efficiency assumed in our design basis analysis. The next laboratory charcoal test will be performed on the SGT System, and should be completed by December 1999. Energy Northwest will continue to test our ESF ventilation systems using the 1989 standard.

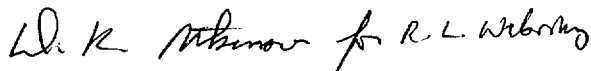
As previously discussed with the staff, this request for amendment to the WNP-2 Operating License suffices for the written response originally required by GL 99-02 within 180 days of the date of the generic letter.

Additional information has been attached to this letter to complete the amendment request. Attachment 1 describes an evaluation of the proposed changes in accordance with 10CFR50.92 and concludes they do not result in a significant hazards consideration. Attachment 2 provides the Environmental Assessment Applicability Review and notes that the proposed change meets the eligibility criteria for a categorical exclusion as set forth in 10CFR51.22(c)(9). Therefore, in accordance with 10CFR51.22(b), an environmental assessment of the change is not required. Attachment 3 provides marked up pages of the Technical Specifications. Attachment 4 consists of the typed Technical Specification pages as proposed by this amendment.

This request for amendment has been approved by the WNP-2 Plant Operations Committee and reviewed by the Energy Northwest Corporate Nuclear Safety Review Board. In accordance with 10CFR50.91, the State of Washington has been provided a copy of this letter.

Should you have any questions or desire additional information regarding this matter, please contact me or PJ Inerra at (509) 377-4147.

Respectfully,



RL Webring, Mail Drop PE08
Vice President, Operations Support/PIO

Attachments

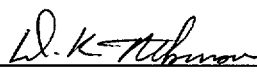
- cc: EW Merschoff - NRC RIV
JS Cushing - NRC NRR
NRC Senior Resident Inspector - 927N
DJ Ross - EFSEC
TC Poindexter - Winston & Strawn
DL Williams - BPA/1399

STATE OF WASHINGTON)
)
COUNTY OF BENTON)

Subject: Request for Amendment
Technical Specification 5.5.7.c
Ventilation Filter Testing Program

I, DK Atkinson, being duly sworn, subscribe to and say that I am the Acting Vice President, Operations Support/PIO, for ENERGY NORTHWEST, the applicant herein; that I have the full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief that the statements made in it are true.

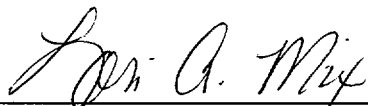
DATE November 18, 1999



DK Atkinson
Acting, Vice President, Operations Support/PIO

On this date personally appeared before me DK Atkinson, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

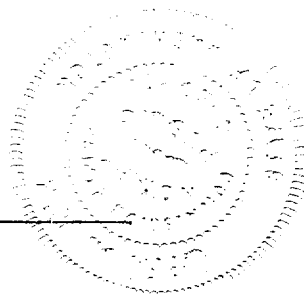
GIVEN under my hand and seal this 18 day of November 1999



Notary Public in and for the
STATE OF WASHINGTON

Residing at W. Richland

My Commission expires 3-29-01



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Attachment 1
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Evaluation of Significant Hazards Considerations

Summary of Proposed Change

As requested by Generic Letter (GL) 99-02, Energy Northwest is requesting a revision to Technical Specification (TS) 5.5.7.c. This TS presently requires that a sample of the charcoal adsorber for the Standby Gas Treatment (SGT) System and the Control Room Emergency Filtration (CREF) System be tested in accordance with American Society for Testing and Materials (ASTM) D3803-1986, "Standard Test Method for Nuclear-Grade Activated Carbon." Technical Specification 5.5.7.c also specifies that methyl iodide penetration be less than a value of 0.175% for the SGT System and 1.0% for the CREF System, and that charcoal adsorber testing be conducted at a relative humidity of greater than or equal to 70%.

The staff has noted in GL 99-02 that testing nuclear-grade activated charcoal to standards other than ASTM D3803-1989, such as ASTM D3803-1986, does not provide assurance for complying with our current licensing basis as it relates to limiting dose to the public and the control room during a design basis accident (DBA). The staff considers ASTM D3803-1989 to be the most accurate and realistic protocol for testing charcoal in engineered safety feature (ESF) ventilation systems because it offers the greatest assurance of accurately and consistently determining the capability of the charcoal. Energy Northwest proposes a revision to TS 5.5.7.c that is consistent with the sample technical specification provided in GL 99-02. The change will replace the reference to ASTM D3803-1986, including associated testing methods A and B, with a requirement to test in accordance with ASTM D3803-1989. The change will also specify that: 1) testing will occur at a temperature of 30° Centigrade (86° Fahrenheit); 2) testing will occur at a relative humidity of 70% due to the SGT and CREF systems having humidity control; 3) the limits for methyl iodide penetration will be changed to less than 0.5% for the SGT System and less than 2.5% for the CREF System; 4) testing for the SGT System occurs at its design face velocity of 75 feet per minute; and 5) variations in the testing parameters (noted above) are permitted per the guidance in Table 1 and Section A5.2 of ASTM D3803-1989.

No Significant Hazards Consideration Determination

Energy Northwest has evaluated the proposed change to the Technical Specifications using the criteria established in 10CFR50.92(c) and has determined that it does not represent a significant hazards consideration as described below:

- **The operation of WNP-2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.**

The SGT System is designed to limit the release of airborne radioactive contaminants from secondary containment to the atmosphere within the guidelines of 10CFR100 in the event of a DBA. The CREF System provides a radiologically controlled environment from

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which the plant can be safely operated following a DBA. The proposed amendment will require that charcoal from these two ESF systems be tested to the more conservative standards of ASTM D3803-1989. Using the more conservative ASTM D3803-1989 testing standard will provide no increase in the probability of an accident previously evaluated.

The staff considers ASTM D3803-1989 to be the most accurate and most realistic protocol for testing charcoal in ESF ventilation systems because it offers the greatest assurance of accurately and consistently determining the capability of the charcoal. Using the more conservative ASTM D3803-1989 testing standard will provide greater assurance that the ESF ventilation systems will properly perform their safety function, thus assuring no increase in the radiological consequences of a DBA.

Therefore, operation of WNP-2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

- **The operation of WNP-2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.**

The proposed change will not create a new or different kind of accident since it only requires that charcoal from the SGT and CREF safety-related filtration systems be tested to the more conservative standards of ASTM D3803-1989. Using the more conservative ASTM D3803-1989 testing standard will provide even greater assurance that the ESF ventilation systems will properly perform their safety function, thus helping to minimize the radiological consequences of a DBA. The increased margin provided by the more conservative testing standard will assure no new or different kinds of accidents result from the proposed change.

Therefore, the operation of WNP-2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

- **The operation of WNP-2 in accordance with the proposed amendment will not involve a significant reduction in the margin of safety.**

The proposed amendment requires that more conservative ESF charcoal filter testing criteria be used to verify ESF ventilation systems are operable. More conservative testing criteria will provide greater assurance that the ESF ventilation systems will properly perform their safety function, thus helping to minimize the radiological consequences of a DBA. Using more conservative testing criteria will result in maintaining the current margin of safety.

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In addition, the proposed methyl iodide penetration acceptance criteria include a safety factor of two as permitted by GL 99-02. This safety factor provides a degree of assurance that, at the end of the operating cycle, the charcoal will be capable of performing at a level at least as good as that assumed in the design basis accident dose analysis. The NRC found this factor of safety acceptable, based on the accuracy of test results obtained using the ASTM D3803-1989 standard, as noted in the NRC safety evaluation report enclosed in the letter dated May 13, 1998, NRC to OD Kingsley, "Issuance of Amendments (TAC NOS. M99726 AND M99727)."

Therefore, operation of WNP-2 in accordance with the proposed amendment will not involve a significant reduction in the margin of safety.

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Environmental Assessment Applicability Review

Energy Northwest has evaluated the proposed amendment against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10CFR51.21.

The proposed change meets the criteria for categorical exclusion as provided for in 10CFR51.22(c)(9). The change request does not pose a significant hazards consideration nor does it involve an increase in the amounts, or a change in the types, of any effluent that may be released off-site.

Furthermore, this proposed request does not involve an increase in individual or cumulative occupational exposure.

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VENTILATION FILTER TESTING PROGRAM
Attachment 3**

Marked-Up Version of Technical Specification 5.5.7.c

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

- c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1986 (Method ~~1989 B for the SGT System and Method A for the CREF System~~) at a temperature of 30°C (86°F) and the relative humidity ~~greater than or equal to the value specified below~~ below. Testing of the SGT System will also be conducted at a face velocity of ~~4~~ ¹⁵ feet per minute.

ESF Ventilation System	Penetration (%)	RH (%)
SGT System	0.175 0.5	70
CREF System	1.0 2.5	70

- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters and the charcoal adsorbers is less than the value specified below when tested at the system flowrate specified below:

ESF Ventilation System	Delta P (inches wg)	Flowrate (cfm)
SGT System	< 8	4012 to 4902
CREF System	< 6	900 to 1100

- e. Demonstrate that the heaters for each of the ESF systems dissipate the nominal value specified below when tested in accordance with ASME N510-1989:

ESF Ventilation System	Wattage (kW)
SGT System	18.6 to 22.8
CREF System	4.5 to 5.5

5.5.8 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Main Condenser Offgas Treatment System and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks.

The program shall include:

(continued)

{ Variations in the ^{above} testing parameters of temperature, relative humidity, and face velocity are permitted per Table 1 and Section A5.2 of ASTM D3803-1989.

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Attachment 4**

Replacement Pages for Technical Specification 5.5.7.c

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

- c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1989 at a temperature of 30°C (86°F) and the relative humidity specified below. Testing of the SGT System will also be conducted at a face velocity of 75 feet per minute.

ESF Ventilation System	Penetration (%)	RH (%)
SGT System	0.5	70
CREF System	2.5	70

Variations in the above testing parameters of temperature, relative humidity, and face velocity are permitted per Table 1 and Section A5.2 of ASTM 03803-1989.

- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters and the charcoal adsorbers is less than the value specified below when tested at the system flowrate specified below:

ESF Ventilation System	Delta P (inches wg)	Flowrate (cfm)
SGT System	< 8	4012 to 4902
CREF System	< 6	900 to 1100

- e. Demonstrate that the heaters for each of the ESF systems dissipate the nominal value specified below when tested in accordance with ASME N510-1989:

ESF Ventilation System	Wattage (kW)
SGT System	18.6 to 22.8
CREF System	4.5 to 5.5

(continued)

5.5 Programs and Manuals (continued)

5.5.8 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Main Condenser Offgas Treatment System and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks.

The program shall include:

- a. The limits for concentrations of hydrogen in the Main Condenser Offgas Treatment System and a surveillance program to ensure the limits are maintained. Such limits shall be appropriate to the system's design criteria (i.e., whether or not the system is designed to withstand a hydrogen explosion); and
- b. A surveillance program to ensure that the quantity of radioactivity contained in all outside temporary liquid radwaste tanks that are not surrounded by liners, dikes, or walls, capable of holding the tanks' contents and that do not have tank overflows and surrounding area drains connected to the Liquid Radwaste Treatment System is less than the amount that would result in concentrations greater than the limits of Appendix B, Table 2, Column 2 to 10 CFR 20.1001 - 20.2402, at the nearest potable water supply and the nearest surface water supply in an unrestricted area, in the event of an uncontrolled release of the tanks' contents.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Explosive Gas and Storage Tank Radioactivity Monitoring Program Surveillance Frequencies.

5.5.9 Diesel Fuel Oil Testing Program

A diesel fuel oil testing program shall establish the required testing of both new fuel oil and stored fuel oil. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

- a. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:
 1. An API gravity, a specific gravity, or an absolute specific gravity within limits,

(continued)

5.5 Programs and Manuals

5.5.9 Diesel Fuel Oil Testing Program (continued)

2. A kinematic viscosity, if gravity was not determined by comparison with the supplier's certificate, and a flash point within limits for ASTM 2-D fuel oil,
 3. A water and sediment content within limits or a clear and bright appearance with proper color;
- b. Other properties for ASTM 2-D fuel oil are within limits within 31 days following sampling and addition to storage tanks; and
 - c. Total particulate concentration of the fuel oil in the storage tanks is ≤ 10 mg/l when tested every 31 days in accordance with ASTM D-2276, Method A-2 or A-3.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Diesel Fuel Oil Testing Program test Frequencies.

5.5.10 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases to these Technical Specifications.

- a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.
- b. Licensees may make changes to Bases without prior NRC approval provided the changes do not involve either of the following:
 1. A change in the TS incorporated in the license; or
 2. A change to the FSAR or Bases that involves an unreviewed safety question as defined in 10 CFR 50.59.
- c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the FSAR.
- d. Proposed changes that meet the criteria of 5.5.10.b above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

(continued)