



**Entergy Nuclear Operations, Inc.**  
**Palisades Nuclear Plant**  
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**Charles F. Arnone**  
Site Vice President

PNP 2016-046

November 9, 2016

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

**SUBJECT:** License Amendment Request for Editorial and Administrative Changes  
to Technical Specifications

Palisades Nuclear Plant  
Docket No. 50-255  
Renewed Facility Operating License No. DPR-20

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc. (ENO) requests Nuclear Regulatory Commission (NRC) review and approval of a proposed amendment to revise the Renewed Facility Operating License (RFOL) for the Palisades Nuclear Plant (PNP).

ENO proposes to revise PNP RFOL, Appendix A, Technical Specifications (TS), by making changes to the TS Limiting Condition for Operation 3.0.9 and TS 5.5.10, "Ventilation Filter Testing Program."

The proposed changes have been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c), and it has been determined that the changes involve no significant hazards consideration. The bases for this determination are included in Attachment 1, which also includes a description of the proposed changes, a technical evaluation, a regulatory evaluation, and an environmental consideration. Attachment 2 provides the marked-up RFOL and TS pages showing the proposed changes. Attachment 3 provides the revised RFOL and TS pages reflecting the proposed changes.

ENO requests approval of the proposed changes by November 9, 2017. Once approved, the amendment shall be implemented within 30 days.

In accordance with 10 CFR 50.91(b), a copy of this application, with attachments, is being provided to the designated State of Michigan official.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 9, 2016.

Sincerely,

A handwritten signature in black ink, appearing to read 'CFA/jse', written in a cursive style.

CFA/jse

Attachments:

1. Description and Assessment of Requested Change
2. Proposed Renewed Facility Operating License and Technical Specifications Pages
3. Page Change Instructions and Revised Renewed Facility Operating License and Revised Technical Specifications Pages

cc: Administrator, Region III, USNRC  
Project Manager, Palisades, USNRC  
Resident Inspector, Palisades, USNRC  
State of Michigan

## **Attachment 1**

### **Description and Assessment of Requested Change**

#### **1.0 SUMMARY DESCRIPTION**

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc. (ENO) requests Nuclear Regulatory Commission (NRC) review and approval of a proposed amendment to revise the Renewed Facility Operating License, Appendix A, Technical Specifications (TS), for the Palisades Nuclear Plant (PNP).

The proposed changes consist of the following:

- An editorial change to TS Limiting Condition for Operation (LCO) 3.0.9 to correct a typographical error and
- An administrative change to correct and modify the description of components within TS 5.5.10, "Ventilation Filter Testing Program."

#### **2.0 DETAILED DESCRIPTION**

The proposed changes to the TS are described in detail below:

1. A change is proposed which would add a period at the end of the first paragraph in TS LCO 3.0.9, at the bottom of TS page 3.0-3.
- 2.. Changes are proposed to TS Section 5.5.10, "Ventilation Filter Testing Program," concerning the descriptions of the control room ventilation and fuel handling area ventilation systems.

The flowrate parameters specified in TS Section 5.5.10a are corrected to reflect the flowrate parameters of the control room air filter unit fans (V-26A and V-26B) rather than the control room ventilation main supply fans (V-95 and V-96).

In addition, this section is modified to replace all component identification numbers for the systems' fans or filters with the noun names of ventilation systems (e.g., V-8A and V-8B are replaced by a reference to the fuel handling area ventilation system).

#### **3.0 TECHNICAL EVALUATION**

1. The proposed change to TS LCO 3.0.9 would add a period at the end of the last sentence in the first paragraph in TS LCO 3.0.9, located at the bottom of TS page 3.0-3.

LCO 3.0.9 was added to the TS in Amendment No. 252 (Reference 1). The associated license amendment request (Reference 2) inadvertently omitted the period at the end of this paragraph.

This change is considered to be an editorial change because the addition of the period at the end of the sentence would not change the content or meaning of the sentence.

2. The proposed changes to TS Section 5.5.10, "Ventilation Filter Testing Program," would correct and modify the descriptions of the control room ventilation and fuel handling area ventilation systems.

Specifically, TS Section 5.5.10a is corrected to reflect the flowrate of each of the control room ventilation air filter unit fans (V-26A and V-26B) rather than each of the control room ventilation air handling unit fans (V-95 and V-96).

The control room ventilation system contains two independent, redundant trains that recirculate and filter the air within the control room envelope. Each train has a control room air filter unit that is provided for emergency operation. Each filter unit includes upstream high-efficiency particulate air (HEPA) filters, two banks of carbon adsorber trays, downstream HEPA filters, and a fan (either V-26A or V-26B).

Each control room ventilation system train also contains an air handling unit that provides conditioned air to the control room. Each air handling unit has a fan (either V-95 or V-96) operating at a flowrate of 12,500 cfm each. During normal operations, one air handling unit is in service with the air handling unit associated with the other train in standby.

Since the HEPA filters are located in the control room air filter units, TS Section 5.5.10a. should provide the flowrate associated with each of the control room ventilation air filter unit fans (i.e., 3200 cfm, +10%, -5%) rather than the flowrate for each of the control room ventilation air handling unit fans (12,500 cfm,  $\pm 10\%$ ). This correction is considered to be an administrative change. The incorrect fan and flowrate information was added to the TS in Amendment No. 174 (Reference 3). The associated license amendment request (Reference 4) did not discuss why the control room ventilation air handling unit fan information was added rather than the control room ventilation air filter unit fan information. The correction of this erroneous information does not affect the practicability of the testing performed under the ventilation filter testing program, and has no effect on testing program acceptance criteria.

In addition, this change would modify TS Section 5.5.10 by replacing the identification numbers for the systems' components with the acronym for the noun names of the ventilation systems (e.g., fans V-8A and V-8B would be replaced by the acronym (FHAV) for the fuel handling area ventilation system). This change

would improve clarity and conforms with Section 5.5.11, "Ventilation Filter Testing Program (VFTP)," of NUREG-1432, "Standard Technical Specifications, Combustion Engineering Plants," Revision 4 (Reference 5).

## **4.0 REGULATORY EVALUATION**

### **4.1 No Significant Hazards Consideration**

Entergy Nuclear Operations, Inc. has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed changes to the Palisades Nuclear Plant (PNP) Technical Specifications (TS) are editorial or administrative in nature. The changes make an editorial correction in the TS, and correct and modify the component descriptions in the ventilation filter testing program TS. These changes do not alter accident analysis assumptions, add any initiators, or affect the function of plant systems or the manner in which systems are operated, maintained, modified, tested, or inspected. The proposed changes do not require any plant modifications which affect the performance capability of the structures, systems, and components relied upon to mitigate the consequences of postulated accidents, and have no impact on the probability or consequences of an accident previously evaluated.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed changes to the PNP TS are editorial or administrative in nature. The changes make an editorial correction in the TS, and correct and modify the component descriptions within the ventilation filter testing program TS. The proposed changes do not alter accident analysis assumptions, add any initiators, or affect the function of plant systems or the manner in which systems are operated, maintained, modified, tested, or inspected. The proposed changes do not require any plant modifications which affect the performance capability of the structures, systems, and components relied upon to mitigate the consequences of

postulated accidents, and do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No

Plant safety margins are established through limiting conditions for operation, limiting safety system settings, and safety limits specified in the technical specifications. The proposed changes to the TS are editorial or administrative in nature and do not impact any safety margins. Because there is no impact on established safety margins as a result of these changes, the proposed change does not involve a significant reduction in a margin of safety.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

#### 4.2 Conclusions

In conclusion, based on the considerations discussed above, (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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

### 5.0 ENVIRONMENTAL CONSIDERATION

The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

### 6.0 REFERENCES

1. NRC letter, "Palisades Nuclear Plant – Issuance of Amendment Re: Application for Technical Specification Change (TSTF-427) to Add Limiting Condition for Operation 3.0.9 regarding the Unavailability of Barriers Using the Consolidated Line Item Improvement Process (TAC No. MF3215)," dated October 22, 2014 (ADAMS Accession No. ML14283A287)

2. ENO letter, PNP 2013-076, "License Amendment Request – Application for Technical Specification Change (TSTF-427) to Add LCO 3.0.9 Regarding the Unavailability of Barriers Using the Consolidated Line Item Improvement Process," December 11, 2013 (ADAMS Accession No. ML13345B160)
3. NRC letter, "Palisades Plant – Issuance of Amendment Re: Revision of Administrative Controls and Related Technical Specifications (TAC No. M94287)," October 31, 1996 (ADAMS Accession No. ML020840145)
4. Consumers Power Company letter, "Technical Specification Change Request – Revision of Administrative Controls," dated December 11, 1995
5. NRC NUREG-1432, "Standard Technical Specifications, Combustion Engineering Plants," Volume 1, Revision 4, dated April 2012 (ADAMS Accession Number ML12102A165)

**Attachment 2**

**Proposed Renewed Facility Operating License**

**and**

**Technical Specifications Pages**

(showing proposed changes; additions are highlighted and deletions are strikethrough)

Four pages follow



- (1) Pursuant to Section 104b of the Act, as amended, and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," (a) ENP to possess and use, and (b) ENO to possess, use and operate, the facility as a utilization facility at the designated location in Van Buren County, Michigan, in accordance with the procedures and limitation set forth in this license;
  - (2) ENO, pursuant to the Act and 10 CFR Parts 40 and 70, to receive, possess, and use source and special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended;
  - (3) ENO, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use byproduct, source, and special nuclear material as sealed sources for reactor startup, reactor instrumentation, radiation monitoring equipment calibration, and fission detectors in amounts as required;
  - (4) ENO, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material for sample analysis or instrument calibration, or associated with radioactive apparatus or components; and
  - (5) ENO, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operations of the facility.
- C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations in 10 CFR Chapter I and is subject to all applicable provisions of the Act; to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) ENO is authorized to operate the facility at steady-state reactor core power levels not in excess of 2565.4 Megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.
  - (2) The Technical Specifications contained in Appendix A, as revised through Amendment No. 256 xxx, and the Environmental Protection Plan contained in Appendix B are hereby incorporated in the license. ENO shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
  - (3) Fire Protection  
  
ENO shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment request dated December 12, 2012, as supplemented by letters dated February 21, 2013, September 30, 2013, October 24, 2013, December 2, 2013, April 2, 2014, May 7, 2014, June 17, 2014,

### 3.0 LCO APPLICABILITY

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**LCO 3.0.7** Special Test Exception (STE) LCOs in each applicable LCO section allow specified Technical Specifications (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with STE LCOs is optional. When an STE LCO is desired to be met but is not met, the ACTIONS of the STE LCO shall be met. When an STE LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with the other applicable Specifications.

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**LCO 3.0.8** When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

- a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or
- b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.

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**LCO 3.0.9** When one or more required barriers are unable to perform their related support function(s), any supported system LCO(s) are not required to be declared not met solely for this reason for up to 30 days provided that at least one train or subsystem of the supported system is OPERABLE and supported by barriers capable of providing their related support function(s), and risk is assessed and managed. This specification may be concurrently applied to more than one train or subsystem of a multiple train or subsystem supported system provided at least one train or subsystem of the supported system is OPERABLE and the barriers supporting each of these trains or subsystems provide their related support function(s) for different categories of initiating events.

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## 5.5 Programs and Manuals

### 5.5.9 Secondary Water Chemistry Program

A program shall be established, implemented and maintained for monitoring of secondary water chemistry to inhibit steam generator tube degradation and shall include:

- a. Identification of a sampling schedule for the critical variables and control points for these variables,
- b. Identification of the procedures used to measure the values of the critical variables,
- c. Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage,
- d. Procedures for the recording and management of data,
- e. Procedures defining corrective actions for all off-control point chemistry conditions, and
- f. A procedure identifying (a) the authority responsible for the interpretation of the data, and (b) the sequence and timing of administrative events required to initiate corrective actions.

### 5.5.10 Ventilation Filter Testing Program

A program shall be established to implement the following required testing of Control Room Ventilation (CRV) and Fuel Handling Area Ventilation (FHAV) systems at the frequencies specified in Regulatory Guide 1.52, Revision 2 (RG 1.52), and in accordance with RG 1.52 and ASME N510-1989, at the system flowrates and tolerances specified below\*:

- a. Demonstrate for each of the ventilation systems that an inplace test of the High Efficiency Particulate Air (HEPA) filters shows a penetration and system bypass < 0.05% for the CRV system and < 1.00% for the Fuel Handling Area Ventilation System FHAV system when tested in accordance with RG 1.52 and ASME N510-1989:

<u>Ventilation System</u>	<u>Flowrate (CFM)</u>
<del>V-8A or V-8B</del> FHAV (single fan operation)	7300 ± 20%
<del>V-8A and V-8B</del> FHAV (dual fan operation)	10,000 ± 20%
<del>V-95 or V-96</del> CRV	12,500 ± 10% 3200 +10% -5%

## 5.5 Programs and Manuals

### 5.5.10 Ventilation Filter Testing Program (continued)

- b. Demonstrate for each of the ventilation systems that an inplace test of the charcoal adsorber shows a penetration and system bypass < 0.05% for the CRV system and < 1.00% for the ~~Fuel Handling Area Ventilation System~~ FHAV system when tested in accordance with RG 1.52 and ASME N510-1989.

<u>Ventilation System</u>	<u>Flowrate (CFM)</u>
<del>V-8A and V-8B</del> FHAV (dual fan operation)	10,000 ± 20%
<del>V-26A and V-26B</del> CRV	3200 +10% -5%

- c. Demonstrate for each of the ventilation systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in RG 1.52 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 and equal to the relative humidity specified as follows:

<u>Ventilation System</u>	<u>Penetration</u>	<u>Relative Humidity</u>
<del>VF-66</del> FHAV	6.00%	95%
<del>VFC-26A and VFC-26B</del> CRV	0.157%	70%

- d. For each of the ventilation systems, demonstrate the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested in accordance with RG 1.52 and ASME N510-1989:

<u>Ventilation System</u>	<u>Delta P (In H<sub>2</sub>O)</u>	<u>Flowrate (CFM)</u>
<del>V-8A and V-8B</del> FHAV (dual fan operation)	6.0	10,000 ± 20%
<del>VF-26A and VF-26B</del> CRV	8.0	3200 +10% -5%

- e. Demonstrate that the heaters for the CRV system dissipates the following specified value ± 20% when tested in accordance with ASME N510-1989:

<u>Ventilation System</u>	<u>Wattage</u>
<del>VHX-26A and VHX-26B</del> CRV	15 kW

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Ventilation Filter Testing Program frequencies.

- \* Should the 720-hour limitation on charcoal adsorber operation occur during a plant operation requiring the use of the charcoal adsorber - such as refueling - testing may be delayed until the completion of the plant operation or up to 1,500 hours of filter operation; whichever occurs first.

**Attachment 3**

**Page Change Instructions**

**and**

**Revised Renewed Facility Operating License**

**and**

**Revised Technical Specifications Pages**

Five pages follow

## **Page Change Instructions**

**ATTACHMENT TO LICENSE AMENDMENT NO. xxx**

**RENEWED FACILITY OPERATING LICENSE NO. DPR-20**

**DOCKET NO. 50-255**

Remove the following pages of Renewed Facility Operating License (RFOL) and Appendix A, Technical Specifications (TS), and replace with the attached revised pages. The revised pages are identified by amendment number and contain a line in the margin indicating the area of change.

### **REMOVE**

RFOL, page 3

TS, page 3.0-3

TS, pages 5.0-14 and 5.0-15

### **INSERT**

RFOL, page 3

TS, page 3.0-3

TS, pages 5.0-14 and 5.0-15

- (1) Pursuant to Section 104b of the Act, as amended, and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," (a) ENP to possess and use, and (b) ENO to possess, use and operate, the facility as a utilization facility at the designated location in Van Buren County, Michigan, in accordance with the procedures and limitation set forth in this license;
  - (2) ENO, pursuant to the Act and 10 CFR Parts 40 and 70, to receive, possess, and use source and special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended;
  - (3) ENO, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use byproduct, source, and special nuclear material as sealed sources for reactor startup, reactor instrumentation, radiation monitoring equipment calibration, and fission detectors in amounts as required;
  - (4) ENO, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material for sample analysis or instrument calibration, or associated with radioactive apparatus or components; and
  - (5) ENO, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operations of the facility.
- C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations in 10 CFR Chapter I and is subject to all applicable provisions of the Act; to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) ENO is authorized to operate the facility at steady-state reactor core power levels not in excess of 2565.4 Megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.
  - (2) The Technical Specifications contained in Appendix A, as revised through Amendment No. xxx, and the Environmental Protection Plan contained in Appendix B are hereby incorporated in the license. ENO shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
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ENO shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment request dated December 12, 2012, as supplemented by letters dated February 21, 2013, September 30, 2013, October 24, 2013, December 2, 2013, April 2, 2014, May 7, 2014, June 17, 2014,

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**LCO 3.0.7** Special Test Exception (STE) LCOs in each applicable LCO section allow specified Technical Specifications (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with STE LCOs is optional. When an STE LCO is desired to be met but is not met, the ACTIONS of the STE LCO shall be met. When an STE LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with the other applicable Specifications.

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**LCO 3.0.8** When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

- a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or
- b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.

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**LCO 3.0.9** When one or more required barriers are unable to perform their related support function(s), any supported system LCO(s) are not required to be declared not met solely for this reason for up to 30 days provided that at least one train or subsystem of the supported system is OPERABLE and supported by barriers capable of providing their related support function(s), and risk is assessed and managed. This specification may be concurrently applied to more than one train or subsystem of a multiple train or subsystem supported system provided at least one train or subsystem of the supported system is OPERABLE and the barriers supporting each of these trains or subsystems provide their related support function(s) for different categories of initiating events.

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## 5.5 Programs and Manuals

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### 5.5.9 Secondary Water Chemistry Program

A program shall be established, implemented and maintained for monitoring of secondary water chemistry to inhibit steam generator tube degradation and shall include:

- a. Identification of a sampling schedule for the critical variables and control points for these variables,
- b. Identification of the procedures used to measure the values of the critical variables,
- c. Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage,
- d. Procedures for the recording and management of data,
- e. Procedures defining corrective actions for all off-control point chemistry conditions, and
- f. A procedure identifying (a) the authority responsible for the interpretation of the data, and (b) the sequence and timing of administrative events required to initiate corrective actions.

### 5.5.10 Ventilation Filter Testing Program

A program shall be established to implement the following required testing of Control Room Ventilation (CRV) and Fuel Handling Area Ventilation (FHAV) systems at the frequencies specified in Regulatory Guide 1.52, Revision 2 (RG 1.52), and in accordance with RG 1.52 and ASME N510-1989, at the system flowrates and tolerances specified below\*:

- a. Demonstrate for each of the ventilation systems that an inplace test of the High Efficiency Particulate Air (HEPA) filters shows a penetration and system bypass < 0.05% for the CRV system and < 1.00% for the FHAV system when tested in accordance with RG 1.52 and ASME N510-1989:

<u>Ventilation System</u>	<u>Flowrate (CFM)</u>
FHAV (single fan operation)	7300 $\pm$ 20%
FHAV (dual fan operation)	10,000 $\pm$ 20%
CRV	3200 +10% -5%

## 5.5 Programs and Manuals

### 5.5.10 Ventilation Filter Testing Program (continued)

- b. Demonstrate for each of the ventilation systems that an inplace test of the charcoal adsorber shows a penetration and system bypass < 0.05% for the CRV system and < 1.00% for the FHAV system when tested in accordance with RG 1.52 and ASME N510-1989.

<u>Ventilation System</u>	<u>Flowrate (CFM)</u>
FHAV (dual fan operation)	10,000 $\pm$ 20%
CRV	3200 +10% -5%

- c. Demonstrate for each of the ventilation systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in RG 1.52 shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1989 at a temperature of  $\leq 30^{\circ}\text{C}$  and equal to the relative humidity specified as follows:

<u>Ventilation System</u>	<u>Penetration</u>	<u>Relative Humidity</u>
FHAV	6.00%	95%
CRV	0.157%	70%

- d. For each of the ventilation systems, demonstrate the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested in accordance with RG 1.52 and ASME N510-1989:

<u>Ventilation System</u>	<u>Delta P (In H<sub>2</sub>O)</u>	<u>Flowrate (CFM)</u>
FHAV (dual fan operation)	6.0	10,000 $\pm$ 20%
CRV	8.0	3200 +10% -5%

- e. Demonstrate that the heaters for the CRV system dissipates the following specified value  $\pm$  20% when tested in accordance with ASME N510-1989:

<u>Ventilation System</u>	<u>Wattage</u>
CRV	15 kW

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Ventilation Filter Testing Program frequencies.

- \* Should the 720-hour limitation on charcoal adsorber operation occur during a plant operation requiring the use of the charcoal adsorber - such as refueling - testing may be delayed until the completion of the plant operation or up to 1,500 hours of filter operation; whichever occurs first.