L. M. Stinson (Mike)
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SOUTHERN COMPANY
Energy to Serve Your World℠

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

Edwin I. Hatch Nuclear Plant
Technical Specifications Revision Request to the
Ventilation Filter Testing Program

Ladies and Gentlemen:

Pursuant to 10 CFR 50.90, Southern Nuclear hereby requests a change to Section 5.0 of the Plant Hatch Units 1 and 2 Technical Specifications (TS). This amendment will revise the Ventilation Filter Testing Program, as described in Section 5.5.7, to eliminate the requirement to test the power output of the Standby Gas Treatment System's (SGTS) electric heater. As a result, the testing requirement for the relative humidity of the charcoal adsorber air stream is being raised. Also, a surveillance requirement in LCO 3.6.4.3 (SGT System) is being revised to eliminate reference to the heater and to shorten the required SGT run time.

Enclosure 1 contains the basis for the proposed change including the significant hazards evaluation and the environmental assessment. Enclosures 2 and 3 provide the marked up and published TS and Bases pages, respectively. The Bases changes are being submitted for information only.

In accordance with the requirement of 10 CFR 50.91, a copy of this letter and all applicable attachments will be sent to the designated state official of the Environmental Protection Division of the Georgia Department of Natural Resources.

SNC requests this amendment be approved no later than July 31, 2009, with Implementation within 60 days of receiving approval.

(Affirmation and signature are provided on the following page.)

Mr. L. M. Stinson states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

L. M. Stinson
Vice President Fleet Operations Support

Sworn to and subscribed before me this 15th *day of* July, *2008.*

Notary Public

My commission expires: July 5, 2010

LMS/OCV/daj

Enclosures:
1. Basis for Proposed Change
2. Technical Specifications and Bases Markup Pages
3. Technical Specifications and Bases Clean Typed Pages

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. D. R. Madison., Vice President – Hatch
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U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Hatch
Mr. J. A. Hickey, Senior Resident Inspector – Hatch

State of Georgia
Mr. N. Holcomb, Commissioner – Department of Natural Resources

Edwin I. Hatch Nuclear Plant
Technical Specifications Revision Request to the
Ventilation Filter Testing Program

Enclosure 1

Basis for Proposed Change

Edwin I. Hatch Nuclear Plant
Technical Specifications Revision Request to the
Ventilation Filter Testing Program

Enclosure 1

Basis for Proposed Change

Table of Contents

Enclosure 1

Basis for Proposed Change

1.0 Summary Description

This evaluation supports a request to amend Operating Licenses DPR-57 and NPF-5 for Plant Hatch Units 1 and 2, respectively.

The proposed change would revise Plant Hatch Units 1 and 2 Technical Specifications (TS) Section 5.5.7, "Ventilation Filter Testing Program." Section 5.5.7.e, which describes the testing requirements of the Standby Gas Treatment System's (SGTS) electric heater, will be revised to eliminate this requirement. As a consequence, the relative humidity (RH) criteria for carbon filter efficiency testing provided in Section 5.5.7.c will be changed from 70% to 95%, and a Surveillance Requirement (SR) in the SGTS Limiting Condition for Operation (LCO 3.6.4.3) which references the heater, will be revised.

2.0 Detailed Description

This submittal proposes to eliminate the heater testing criteria for the SGTS. Specifically, Section 5.5.7.e of the TS requires verification that the SGTS heater is capable of dissipating energy at a rate of 15 to 20 kW (Unit 1) or 17 to 20 kW (Unit 2). Currently, use of the electric heater is credited such that efficiency testing of the carbon filter may be performed at an RH of 70%. Consequently, removal of the electric heater requirements will require that testing be performed at a higher RH value of 95%. Accordingly, section 5.5.7.c, which lists, among other things, the RH criteria, is being revised to change the testing criteria from 70% to 95%.

Also, SR 3.6.4.3.1 currently requires that each SGTS be operated for 10 continuous hours, with the heaters operating, once every 31 days. Since the heater will no longer be a credited component of the SGTS, this SR will be revised to eliminate reference to the electric heater and to reduce the SGTS run time requirement from 10 hours to 15 minutes.

The heater will remain in place and functional as a defense-in-depth feature.

3.0 Technical Evaluation

The SGTS is intended to ensure that radioactive materials leaking into the secondary containment following a design basis accident are filtered and adsorbed prior to exhausting to the environment. The analyzed accidents for which operation of the SGTS is assumed are 1) the LOCA accident, and 2) the fuel handling accident. The SGTS is assumed to automatically initiate for both these accidents. The Unit 1 and 2 SGTS each consists of two fully redundant subsystems with the following components: a demister or moisture separator, an electric heater, a pre-filter, an upstream high efficiency particulate air (HEPA) filter, an activated charcoal (carbon) bed, and a downstream HEPA filter. The components affected by this proposed revision are the electric heater and the activated carbon.

Enclosure 1

Basis for Proposed Change

The purpose of the activated carbon is to remove iodine in the form of methyl iodide (CH_3I) and elemental iodine through a process known as adsorption, i.e., the adherence of a gas molecule to a solid surface. The efficiency of the adsorption process erodes as moisture coats the surface of the charcoal. The electric heater therefore serves to enhance carbon efficiency by lowering the RH to less than 70%.

Analyses of design basis accidents assume a certain carbon adsorption efficiency in the determination of off-site and control room doses. To protect this assumption, testing of the carbon efficiency must demonstrate a higher efficiency than that assumed in accident analysis calculations. At Plant Hatch, there is a safety factor of 2 between the test acceptance requirements and the credited accident assumptions. Section 5.5.7 of the Hatch TS requires that:

"… the methyl iodide penetration be less than the value specified below [2.5%] when tested in accordance with ASTM D3803-1989…"

The 2.5% penetration is equivalent to a carbon efficiency of 97.5%. The accident analysis calculations are done at a penetration of 5%, or 95% efficiency. Thus a safety factor of 2 (5.0/2.5) is achieved. The penetration limits, or carbon efficiency requirements, are not changing. They will remain at 2.5% (carbon efficiency of 97.5%) for the Unit 1 and 2 SGTS.

Regarding the surveillance frequency, Section 5.5.7 of the TS requires testing of the SGTS, as well as the Main Control Room Environmental Control (MCREC) System, carbon adsorbers after every 720 hours of operation. This will remain unchanged following implementation of this amendment.

The relative humidity of the air stream, *per se*, is not an assumption made in the accident analysis calculations. The important factor in the accident analysis is the assumed carbon efficiency of the adsorption process. For testing, whether a 97.5% carbon efficiency is achieved with a 70% or 95% RH is immaterial; the significant factor is the hold-up of the iodine. Accordingly, this amendment request makes no changes to the penetration criteria currently in the TS. The practical difference for testing is that, following implementation of this amendment, a penetration of less than 2.5% must be demonstrated with an RH of 95%, rather than with an RH of 70%. (The MCREC system charcoal adsorbers are currently tested at an RH of 95% since the filter units have no heaters).

SR 3.6.4.3.1 currently requires that the SGTS be operated continuously for a period of 10 hours with the electric heaters operating. The run time is based on reducing the moisture in the system. Following implementation of this amendment, the heater will no longer be a credited component of the SGTS train. Consequently, laboratory testing of the carbon will be done at a higher RH level (95%) to ensure adequate iodine adsorption with a moist bed. Keeping the system dry with heater operation will therefore no longer be necessary. Nevertheless, the heater will be retained for defense-in-depth purposes. The revised run time of 15 minutes is sufficient to ensure that the associated controls are functioning properly and to check for abnormalities such as excessive vibrations, motor failures, blockages, etc.

Enclosure 1

Basis for Proposed Change

4.0 Regulatory Evaluation

4.1 Significant Hazards Consideration

Southern Nuclear Plant Hatch requests a revision to Section 5.5.7 of the Units 1 and 2 Technical Specifications (TS), "Ventilation Filter Testing Program." The revision request eliminates the requirement to test the Standby Gas Treatment System (SGTS) electric heater, by increasing the laboratory test criteria for the relative humidity of the air stream. Additionally, a Surveillance Requirement (SR) in the SGTS LCO 3.6.4.3 is being revised to eliminate reference to the electric heater and to reduce the required SGTS run time during the surveillance.

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

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

   Response: No.

   The SGTS ensures that radioactivity leaking into the secondary containment from design basis accidents is treated and filtered before being released to the environment. This TS amendment request does not require or otherwise propose any physical changes to any system intended for the prevention of accidents or intended for the mitigation of accident consequences including the SGTS system. Neither does it involve any changes to the operation or maintenance of the SGTS system, or to any other system designed for the prevention or mitigation of design basis accidents. This proposed TS change involves the elimination of the SGTS electric heater testing requirements and its concomitant increase in the testing criteria for relative humidity (RH). However, the percent penetration through the carbon bed when challenged with methyl iodide during laboratory testing will not change as a result of this amendment. Therefore, the carbon efficiency will not be decreased as a result of this amendment. With respect to the reduction of the run time requirement for SR 3.6.4.3.1, the proposed run time is adequate to ensure proper operation of the SGTS.

   For the above reasons, this TS amendment request will not result in a significant increase in the probability of occurrence, or the consequences, of a previously evaluated event.

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

   Response: No

This proposed Unit 1 and 2 TS amendment request involves elimination of the testing requirements for the SGTS electric heater. This in turn requires that the testing criteria for the air stream RH be increased from their current value of 70% to 95%. However, no changes are being made to the way the SGTS system, or any other system, is operated or maintained. Changes are being made to how the SGTS will be surveilled, however these changes will not result in the system being operated outside of its design basis. Since no new modes of operation are introduced, the probability of occurrence of an event different from any previously evaluated is not increased.

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

   Response: No

   The requirements for the Unit 1 and 2 SGTS electric heater are being eliminated. Without the benefit of the heater, the laboratory testing criteria for the RH of the air stream are higher and are therefore being changed from 70% to 95%. The requirements on carbon efficiency are not being changed by this TS revision request; the methyl iodide penetration criteria will remain at less than 2.5%. The capability of the SGTS system to holdup the iodine will therefore remain unchanged. The proposed 15 minute run time for the SR 3.6.4.3 will still allow for the adequate verification of the proper operation of the credited SGTS components. For this reason, the margin of safety is not significantly reduced.

   Based on the above, Southern Nuclear concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

4.2 Applicable Regulatory Requirements/Criteria

The SGTS is required by 10 CFR 50, Appendix A, General Design Criteria 41, "Containment Atmosphere Cleanup."

A specific efficiency is required in the Hatch TS for the charcoal bed. Section 5.5.7.c of the TS provides the required efficiency as a penetration value for methyl iodide and specifically lists it at less than 2.5%. Currently, testing is allowed at an RH of 70% because credit is taken for the electric heater in the SGTS train. Accordingly, Section 5.5.7.e requires testing the rate of energy dissipation of the electric heater. This amendment will remove the requirement for heater testing, which will in turn require carbon efficiency testing with an air stream at 95% RH.

Testing of the Hatch safety related filter trains is governed by Regulatory Guide 1.52, Revision 2 and ASTM D3803-1989. One of the essential elements of testing by this standard is that the laboratory testing for carbon efficiency may be performed at an RH of 70% or 95%.

Additionally, the standard BWR/4 TS, NUREG-1433, references the above ASTM standard as an acceptable method for testing the ventilation filter trains. The Ventilation Filter Testing Program section of the NUREG-1433 states:

When ASTM D3803-1989 is used with 30 C (86 F) and 95% RH (or 70% with humidity control) is used, the staff will accept the following:

Safety Factor $\geq$ 2 for systems with or without humidity control.

It is clear that the NUREG allows testing of the carbon adsorber either with or without humidity control, provided the safety factor remains at or above 2. Since the methyl iodide penetration percentage is not being changed as a result of this submittal, the Hatch safety factor will remain at 2.

With respect to the run time, Revision 3 of Regulatory Guide 1.52 endorses a 15 minute run time as being acceptable for the SGTS operating surveillance. Revision 2 of the Reg Guide, to which Plant Hatch is committed, does not address the run time. However, there is nothing in Rev 2, which would nullify the Rev 3 conclusion.

4.3 Precedent

As mentioned in the preceding section, the Standard BWR/4 TS, NUREG 1433, allows for testing of safety related filter trains either with or without the humidity control afforded by the electric heater. In either case, the safety factor, that is the ratio of the penetration assumed in the actual analysis to the penetration testing criteria, must be at or above 2. The safety factor for Hatch is currently 2 and will remain 2 following this change.

Also, the Hope Creek Nuclear Plant tests their SGTS at an RH of 95% with no credit for the heaters.

4.4 Conclusions

In conclusion, based on the consideration 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

A Review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the

types or a significant increase in the amounts of any effluents 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

6.1 Standard Technical Specification, General Electric Plants, BWR/4, NUREG-1433.

6.2 General Design Criteria 41, "*Containment Atmosphere Cleanup".*

6.3 American Society for Testing and Materials, Standard ASTM D 3803-1989.

6.4 Regulatory Guide 1.52, "Design, Inspection, and Testing Criteria for Air Filtration and Adsorption Units of Post-Accident Engineered Safety-Feature Atmosphere Cleanup Systems in Light-Water Cooled Nuclear Power Plants.", Revision 2 and Revision 3.

Edwin I. Hatch Nuclear Plant
Technical Specifications Revision Request to the
Ventilation Filter Testing Program

Enclosure 2

Technical Specifications and Bases Markup Pages

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, Section C.6.b, and ASME N510-1989, Section 15 and Appendix B, 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 greater than or equal to the relative humidity specified below.

95

ESF Ventilation System	Penetration (%)	RH (%)
SGT System	2.5	~~70~~
MCREC System	2.5	95

d. Demonstrate for each of the ESF systems that 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 ASME N510-1989, Section 8.5.1, at the system flowrate specified below.

ESF Ventilation System	ΔP (inches wg)	Flowrate (cfm)
SGT System	< 6	3000 to 4000
MCREC System	< 6	2250 to 2750

(Not used)

e. ~~Demonstrate that the heaters for the ESF system dissipate the value specified below when tested in accordance with ASME N510-1989, Section 14.5.1.~~

~~ESF Ventilation System~~	~~Wattage (kW)~~
~~SGT System~~	~~15 to 20~~

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

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.

(continued)

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, Section C.6.b, and ASME N510-1989, Section 15 and Appendix B, 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 greater than or equal to the relative humidity specified below.

95

ESF Ventilation System	Penetration (%)	RH (%)
SGT System	2.5	~~70~~
MCREC System	2.5	95

d. Demonstrate for each of the ESF systems that 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 ASME N510-1989, Section 8.5.1, at the system flowrate specified below.

ESF Ventilation System	ΔP (inches wg)	Flowrate (cfm)
SGT System	< 6	3000 to 4000
MCREC System	< 6	2250 to 2750

(Not used)

e. ~~Demonstrate that the heaters for the ESF system dissipate the value specified below when tested in accordance with ASME N510-1989, Section 14.5.1.~~

~~ESF Ventilation System~~	~~Wattage (kW)~~
~~SGT System~~	~~17 to 20~~

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

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.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
F. Two or more required SGT subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	F.1	----------NOTE---------- LCO 3.0.3 is not applicable. ----------	
		Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	AND		
	F.2	Suspend CORE ALTERATIONS.	Immediately
	AND		
	F.3	Initiate action to suspend OPDRVs.	Immediately

minutes

SURVEILLANCE REQUIREMENTS

15 SURVEILLANCE	FREQUENCY
SR 3.6.4.3.1 Operate each required SGT subsystem for ≥ 10 continuous ~~hours with heaters operating~~.	31 days
SR 3.6.4.3.2 Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3 Verify each required SGT subsystem actuates on an actual or simulated initiation signal.	24 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. Two or more required SGT subsystems inoperable in MODE 1, 2, or 3.	E.1	Enter LCO 3.0.3.	Immediately
F. Two or more required SGT subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	F.1	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	AND		
	F.2	Suspend CORE ALTERATIONS.	Immediately
	AND		
	F.3	Initiate action to suspend OPDRVs.	Immediately

minutes

SURVEILLANCE REQUIREMENTS

15 SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each required SGT subsystem for ≥ 10 continuous ~~hours with heaters operating~~.	31 days
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each required SGT subsystem actuates on an actual or simulated initiation signal.	24 months

(However, credit is not taken for the operation of the heater. Accordingly, laboratory testing of the charcoal efficiency is performed at a relative humidity of 95%.)

BASES

BACKGROUND (continued)

exfiltration of air from the building when exposed to winds as high as 31 mph.

The demister is provided to remove entrained water in the air, while the electric heater reduces the relative humidity of the airstream ~~to~~ ~~≤ 70%~~ (Refs. 2 and 3). The prefilter removes large particulate matter, while the HEPA filter removes fine particulate matter and protects the charcoal from fouling. The charcoal adsorbers remove gaseous elemental iodine and organic iodides, and the final HEPA filter collects any carbon fines exhausted from the charcoal adsorber.

The Unit 1 and Unit 2 SGT Systems automatically start and operate in response to actuation signals indicative of conditions or an accident that could require operation of the system. Following initiation, all required charcoal filter train fans start. Upon verification that the required subsystems are operating, the redundant required subsystem is normally shut down.

APPLICABLE SAFETY ANALYSES

The design basis for the Unit 1 and Unit 2 SGT Systems is to mitigate the consequences of a loss of coolant accident and fuel handling accidents (Refs. 2 and 3). For all events analyzed, the SGT Systems are shown to be automatically initiated to reduce, via filtration and adsorption, the radioactive material released to the environment.

The SGT System satisfies Criterion 3 of the NRC Policy Statement (Ref. 5).

LCO

Following a DBA, a minimum number of SGT subsystems are required to maintain the secondary containment at a negative pressure with respect to the environment and to process gaseous releases. Meeting the LCO requirements for OPERABLE subsystems ensures operation of the minimum number of SGT subsystems in the event of a single active failure. The required number of SGT subsystems is dependent on the configuration required to meet LCO 3.6.4.1, "Secondary Containment." For secondary containment OPERABILITY consisting of all three zones, the required number of SGT subsystems is four. With secondary containment OPERABILITY consisting of one reactor building and the common refueling floor zones, the required number of SGT subsystem is three. Allowed

(continued)

(However, credit is not taken for the operation of the heater. Accordingly, laboratory testing of the charcoal efficiency is performed at a relative humidity of 95%.)

BASES

BACKGROUND (continued)

exfiltration of air from the building when exposed to winds as high as 31 mph.

The demister is provided to remove entrained water in the air, while the electric heater reduces the relative humidity of the airstream ~~to~~ ~~< 70%~~ (Refs. 2 and 3). The prefilter removes large particulate matter, while the HEPA filter removes fine particulate matter and protects the charcoal from fouling. The charcoal adsorbers remove gaseous elemental iodine and organic iodides, and the final HEPA filter collects any carbon fines exhausted from the charcoal adsorber.

The Unit 1 and Unit 2 SGT Systems automatically start and operate in response to actuation signals indicative of conditions or an accident that could require operation of the system. Following initiation, all required charcoal filter train fans start. Upon verification that the required subsystems are operating, the redundant required subsystem is normally shut down.

APPLICABLE SAFETY ANALYSES

The design basis for the Unit 1 and Unit 2 SGT Systems is to mitigate the consequences of a loss of coolant accident and fuel handling accidents (Refs. 2, 3, 4, and 5). For all events analyzed, the SGT Systems are shown to be automatically initiated to reduce, via filtration and adsorption, the radioactive material released to the environment.

The SGT System satisfies Criterion 3 of the NRC Policy Statement (Ref. 7).

LCO

Following a DBA, a minimum number of SGT subsystems are required to maintain the secondary containment at a negative pressure with respect to the environment and to process gaseous releases. Meeting the LCO requirements for OPERABLE subsystems ensures operation of the minimum number of SGT subsystems in the event of a single active failure. The required number of SGT subsystems is dependent on the configuration required to meet LCO 3.6.4.1, "Secondary Containment." For secondary containment OPERABILITY consisting of all three zones, the required number of SGT subsystems is four. With secondary containment OPERABILITY consisting of one reactor building and the common refueling floor zones, the required number of SGT subsystem is three. Allowed

(continued)

15

minutes

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.4.3.1

Operating each required Unit 1 and Unit 2 SGT subsystem for ≥ 10 continuous hours ensures that they are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. ~~Operation with the heaters on for ≥ 10 continuous hours every 31 days eliminates moisture on the adsorbers and HEPA filters.~~ The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system.

SR 3.6.4.3.2

This SR verifies that the required Unit 1 and Unit 2 SGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.6.4.3.3

This SR verifies that each required Unit 1 and Unit 2 SGT subsystem starts on receipt of an actual or simulated initiation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.2.5 overlaps this SR to provide complete testing of the safety function. This Surveillance can be performed with the reactor at power. The 24 month Frequency is based on a review of the surveillance test history and Reference 6.

(continued)

BASES

ACTIONS
(continued)

F.1, F.2, and F.3

When two or more required SGT subsystems are inoperable, if applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in secondary containment must immediately be suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

Required Action F.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

15 minutes

SURVEILLANCE
REQUIREMENTS

SR 3.6.4.3.1

Operating each required Unit 1 and Unit 2 SGT subsystem for ≥ ~~10~~ continuous ~~hours~~ ensures that they are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. ~~Operation with the heaters on for ≥ 10 continuous hours every 31 days eliminates moisture on the adsorbers and HEPA filters.~~ The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system.

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This SR verifies that the required Unit 1 and Unit 2 SGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

(continued)

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Technical Specifications Revision Request to the
Ventilation Filter Testing Program

Enclosure 3

Technical Specifications and Bases Clean Typed Pages

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, Section C.6.b, and ASME N510-1989, Section 15 and Appendix B, 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 greater than or equal to the relative humidity specified below.

ESF Ventilation System	Penetration (%)	RH (%)
SGT System	2.5	95
MCREC System	2.5	95

d. Demonstrate for each of the ESF systems that 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 ASME N510-1989, Section 8.5.1, at the system flowrate specified below.

ESF Ventilation System	ΔP (inches wg)	Flowrate (cfm)
SGT System	< 6	3000 to 4000
MCREC System	< 6	2250 to 2750

e. (Not used)

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

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.

(continued)

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

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MCREC System	2.5	95

d. Demonstrate for each of the ESF systems that 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 ASME N510-1989, Section 8.5.1, at the system flowrate specified below.

ESF Ventilation System	ΔP (inches wg)	Flowrate (cfm)
SGT System	< 6	3000 to 4000
MCREC System	< 6	2250 to 2750

e. (Not used)

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

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.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two or more required SGT subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	F.1 ----------NOTE---------- LCO 3.0.3 is not applicable. ---------- Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	AND	
	F.2 Suspend CORE ALTERATIONS.	Immediately
	AND	
	F.3 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each required SGT subsystem for ≥ 15 continuous minutes.	31 days
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each required SGT subsystem actuates on an actual or simulated initiation signal.	24 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two or more required SGT subsystems inoperable in MODE 1, 2, or 3.	E.1 Enter LCO 3.0.3.	Immediately
F. Two or more required SGT subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	F.1 ----------NOTE---------- LCO 3.0.3 is not applicable. ---------- Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	AND	
	F.2 Suspend CORE ALTERATIONS.	Immediately
	AND	
	F.3 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each required SGT subsystem for ≥ 15 continuous minutes.	31 days
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each required SGT subsystem actuates on an actual or simulated initiation signal.	24 months

BASES

BACKGROUND (continued)

exfiltration of air from the building when exposed to winds as high as 31 mph.

The demister is provided to remove entrained water in the air, while the electric heater reduces the relative humidity of the airstream (Refs. 2 and 3). (However, credit is not taken for the operation of the heater. Accordingly, laboratory testing of the charcoal efficiency is performed at a relative humidity of 95%.) The prefilter removes large particulate matter, while the HEPA filter removes fine particulate matter and protects the charcoal from fouling. The charcoal adsorbers remove gaseous elemental iodine and organic iodides, and the final HEPA filter collects any carbon fines exhausted from the charcoal adsorber.

The Unit 1 and Unit 2 SGT Systems automatically start and operate in response to actuation signals indicative of conditions or an accident that could require operation of the system. Following initiation, all required charcoal filter train fans start. Upon verification that the required subsystems are operating, the redundant required subsystem is normally shut down.

APPLICABLE SAFETY ANALYSES

The design basis for the Unit 1 and Unit 2 SGT Systems is to mitigate the consequences of a loss of coolant accident and fuel handling accidents (Refs. 2 and 3). For all events analyzed, the SGT Systems are shown to be automatically initiated to reduce, via filtration and adsorption, the radioactive material released to the environment.

The SGT System satisfies Criterion 3 of the NRC Policy Statement (Ref. 5).

LCO

Following a DBA, a minimum number of SGT subsystems are required to maintain the secondary containment at a negative pressure with respect to the environment and to process gaseous releases. Meeting the LCO requirements for OPERABLE subsystems ensures operation of the minimum number of SGT subsystems in the event of a single active failure. The required number of SGT subsystems is dependent on the configuration required to meet LCO 3.6.4.1, "Secondary Containment." For secondary containment OPERABILITY consisting of all three zones, the required number of SGT subsystems is four. With secondary containment OPERABILITY consisting of one reactor building and the common refueling floor zones, the required number of SGT subsystem is three. Allowed

(continued)

BASES

BACKGROUND (continued)

exfiltration of air from the building when exposed to winds as high as 31 mph.

The demister is provided to remove entrained water in the air, while the electric heater reduces the relative humidity of the airstream (Refs. 2 and 3). (However, credit is not taken for the operation of the heater. Accordingly, laboratory testing of the charcoal efficiency is performed at a relative humidity of 95%.) The prefilter removes large particulate matter, while the HEPA filter removes fine particulate matter and protects the charcoal from fouling. The charcoal adsorbers remove gaseous elemental iodine and organic iodides, and the final HEPA filter collects any carbon fines exhausted from the charcoal adsorber.

The Unit 1 and Unit 2 SGT Systems automatically start and operate in response to actuation signals indicative of conditions or an accident that could require operation of the system. Following initiation, all required charcoal filter train fans start. Upon verification that the required subsystems are operating, the redundant required subsystem is normally shut down.

APPLICABLE SAFETY ANALYSES

The design basis for the Unit 1 and Unit 2 SGT Systems is to mitigate the consequences of a loss of coolant accident and fuel handling accidents (Refs. 2, 3, 4, and 5). For all events analyzed, the SGT Systems are shown to be automatically initiated to reduce, via filtration and adsorption, the radioactive material released to the environment.

The SGT System satisfies Criterion 3 of the NRC Policy Statement (Ref. 7).

LCO

Following a DBA, a minimum number of SGT subsystems are required to maintain the secondary containment at a negative pressure with respect to the environment and to process gaseous releases. Meeting the LCO requirements for OPERABLE subsystems ensures operation of the minimum number of SGT subsystems in the event of a single active failure. The required number of SGT subsystems is dependent on the configuration required to meet LCO 3.6.4.1, "Secondary Containment." For secondary containment OPERABILITY consisting of all three zones, the required number of SGT subsystems is four. With secondary containment OPERABILITY consisting of one reactor building and the common refueling floor zones, the required number of SGT subsystem is three. Allowed

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.4.3.1

Operating each required Unit 1 and Unit 2 SGT subsystem for ≥ 15 continuous minutes ensures that they are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system.

SR 3.6.4.3.2

This SR verifies that the required Unit 1 and Unit 2 SGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.6.4.3.3

This SR verifies that each required Unit 1 and Unit 2 SGT subsystem starts on receipt of an actual or simulated initiation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.2.5 overlaps this SR to provide complete testing of the safety function. This Surveillance can be performed with the reactor at power. The 24 month Frequency is based on a review of the surveillance test history and Reference 6.

(continued)

BASES

ACTIONS (continued)

F.1, F.2, and F.3

When two or more required SGT subsystems are inoperable, if applicable, CORE ALTERATIONS and movement of irradiated fuel assemblies in secondary containment must immediately be suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must immediately be initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

Required Action F.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE REQUIREMENTS

SR 3.6.4.3.1

Operating each required Unit 1 and Unit 2 SGT subsystem for ≥ 15 continuous minutes ensures that they are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. The 31 day Frequency was developed in consideration of the known reliability of fan motors and controls and the redundancy available in the system.

SR 3.6.4.3.2

This SR verifies that the required Unit 1 and Unit 2 SGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

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