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**DEC 14 2017**

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

10CFR 50.90

**SUSQUEHANNA STEAM ELECTRIC STATION  
PROPOSED AMENDMENTS TO REVISE  
TECHNICAL SPECIFICATIONS TO ADOPT  
TSTF-551, REVISE SECONDARY CONTAINMENT  
SURVEILLANCE REQUIREMENTS  
PLA-7644**

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**Docket Nos. 50-387  
and 50-388**

Pursuant to 10CFR 50.90, Susquehanna Nuclear, LLC (Susquehanna) hereby requests an amendment to the Technical Specifications (TS) for Susquehanna Steam Electric Station (SSES) Units 1 and 2, Operating Licenses NPF-14 and NPF-22.

The proposed revises TS 3.6.4.1, "Secondary Containment," Surveillance Requirement (SR) 3.6.4.1.1. The SR is revised to address conditions during which the secondary containment pressure may not meet the SR pressure requirements.

Attachment 1 provides a description and assessment of the changes along with Susquehanna's determination that the changes do not involve a significant hazard consideration. Attachment 2 provides the existing TS pages marked to show the proposed changes. Attachment 3 provides the existing TS Bases pages marked to show the changes that are for information only.

Both the Plant Operations Review Committee (PORC) and the Nuclear Safety Review Board (NSRB) have reviewed these proposed changes in accordance with the Susquehanna Quality Assurance Requirements.


Approval of the proposed amendments is requested by June 30, 2018. Once approved, these amendments shall be implemented within 60 days.

Pursuant to 10CFR 50.91, "Notice for public comment; State consultation," paragraph (b), Susquehanna is notifying the Commonwealth of Pennsylvania of this application for license amendments by transmitting a copy of this letter and its supporting attachments to the designated state official.

There are no new regulatory commitments contained in this submittal.

Should you have any questions regarding this submittal, please contact Mr. Jason Jennings, Manager – Nuclear Regulatory Affairs at (570) 542-3155.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 12/14/17  
  
B. Berryman

Attachments:

1. Description and Assessment
2. Marked-Up Technical Specification Pages – Units 1 and 2
3. Marked-Up Technical Specification Bases Changes Pages – Information Only

Copy: NRC Region I  
Ms. L. H. Micewski, NRC Sr. Resident Inspector  
Ms. T. E. Hood, NRC Project Manager  
Mr. M. Shields, PA DEP/BRP

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# **Attachment 1 to PLA-7644**

## **Description and Assessment**

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### **1.0 DESCRIPTION**

### **2.0 ASSESSMENT**

#### **2.1 Applicability of Published Safety Evaluation**

#### **2.2 Variations**

#### **2.3 Administrative Update**

### **3.0 REGULATORY ANALYSIS**

#### **3.1 No Significant Hazards Consideration Determination Analysis**

#### **3.2 Conclusion**

### **4.0 ENVIRONMENTAL EVALUATION**



## DESCRIPTION AND ASSESSMENT

### 1.0 DESCRIPTION

Susquehanna Nuclear, LLC (Susquehanna) proposes changes to the Technical Specifications (TS), Appendix A of Renewed Facility Operating License Nos. NPF-14 and NPF-22 for Susquehanna Steam Electric Station (SSES), Units 1 and 2, respectively.

The proposed change revises Technical Specification (TS) 3.6.4.1, "Secondary Containment," Surveillance Requirement (SR) 3.6.4.1.1. The SR is revised to allow conditions during which the secondary containment pressure may not meet the SR pressure requirements.

### 2.0 ASSESSMENT

#### 2.1 Applicability of Published Safety Evaluation

Susquehanna has assessed the safety evaluation for TSTF-551 provided to the Technical Specifications Task Force in a letter dated September 21, 2017. This assessment included a review of the NRC staff's evaluation, as well as the information provided in TSTF-551. Susquehanna has concluded that the justifications presented in TSTF-551 and the safety evaluation prepared by the NRC staff are applicable to Susquehanna Steam Electric Station, Units 1 and 2, and justify this amendment for the incorporation of the changes to Units 1 and 2 TS.

The implementation of alternative radiological source term (AST) was evaluated by the NRC for issuance of Units 1 and 2 Amendments 239 and 216, respectively.<sup>(1)</sup> A more recent revision of the radiological consequence analysis was evaluated by the NRC in the safety evaluation dated March 18, 2009.<sup>(2)</sup> The LOCA offsite and control room dose consequence analysis is documented in FSAR Section 15.6. Susquehanna has confirmed that the brief, inadvertent, simultaneous opening of both an inner and outer personnel access door during normal entry and exit conditions, and their prompt closure by normal means, is bounded by the radiological dose consequence analysis. The NRC recently evaluated and approved this condition in a safety evaluation, dated March 27, 2017.<sup>(3)</sup> In the unlikely event that an accident would occur when both personnel access doors are open for entry or exit, the brief time required to close one of the doors is small compared to the 10 minutes assumed in the accident analysis for reducing the post-accident secondary containment pressure to 0.25 inch of vacuum water gauge, and will not

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<sup>(1)</sup> NRC Safety Evaluation, "Issuance of Amendment [Nos. 239 and 216] re: Implementation of Alternative Radiological Source Term (TAC Nos. MC8730 and MC8731)," dated January 31, 2007, with correction in letter May 10, 2007, (Accession ML070080301 and ML071270053).

<sup>(2)</sup> NRC Safety Evaluation, "Issuance of Amendment re: Technical Specification Change to Technical Specification 3.6.1.3 to Increase the Maximum Allowable Secondary Containment Bypass Leakage Limit," dated March 18, 2009 (Accession ML090500233).

<sup>(3)</sup> NRC Safety Evaluation, "Issuance of Amendments [267 and 249] re: Secondary Containment Access Openings," dated March 27, 2017 (Accession ML17067A444).



result in an increase in any onsite or offsite dose. Although, the Standby Gas Treatment (SGT) System is not required to draw down secondary containment until the time stated in the Bases for SR 3.6.4.1.4, the typical time it takes SGT System to draw down secondary containment at Susquehanna, Units 1 and 2, when tested for SR 3.6.4.1.4 is 75 seconds.

## 2.2 Variations

Susquehanna is proposing the following variations from the TS changes described in the TSTF-551 or the applicable parts of the NRC staff's safety evaluation. These variations do not affect the applicability of TSTF-551 or the NRC staff's safety evaluation to the proposed license amendment.

1. The TS already contains an allowance, similar to that made to SR 3.6.4.1.3. Therefore, the proposed change does not contain this portion of TSTF-551.
2. The existing Note for SR 3.6.4.1.3 describes that single door access openings may be opened for entry and exit. The Note is not in the NUREG-1433 and is unnecessary. The Note is redundant to the SR itself that already contains an allowance for an access opening used for entry and exit purposes. Therefore, the proposed change removes the Note. This does not change the intent of the existing SR.

## 2.3 Administrative Update

Changes in the TOC are administrative, in that they correct spelling and a section title.

1. In Unit 1 Table of Contents (TOC), the misspelled word 'INSTURMENTATION' on page TOC-2 will change to 'INSTRUMENTATION'.
2. In Units 1 and 2 TOC, the Section 3.7.8 is added to the TOC.
3. In Units 1 and 2 TOC, a PPL Rev. annotation is removed from the header.

## 3.0 REGULATORY ANALYSIS

### 3.1 No Significant Hazards Consideration Determination Analysis

Susquehanna requests adoption of TSTF-551, "Revise Secondary Containment Surveillance Requirements," which is an approved change to the standard technical specifications (STS), into the Susquehanna Steam Electric Station, Units 1 and 2, Technical Specifications (TS). The proposed change revises Technical Specification (TS) Surveillance Requirement (SR) 3.6.4.1.1. The SR is revised to permit conditions during which the secondary containment may not meet the SR acceptance criterion for a period of up to 4 hours if an analysis demonstrates that one standby gas treatment (SGT) subsystem remains capable of establishing the required secondary containment vacuum. Editorial changes are also included to remove the Note of SR 3.6.4.1.3 that is no longer necessary and redundant to the SR itself, and to edit the Table of Contents.

Susquehanna has evaluated the proposed change against the criteria of 10CFR 50.92(c) to determine if the proposed change results in any significant hazards. The following is the evaluation of each of the 10CFR 50.92(c) criteria:

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

**Response: No**

The proposed change addresses conditions during which the secondary containment SR is not met. The secondary containment is not an initiator of any accident previously evaluated. As a result, the probability of any accident previously evaluated is not increased. The consequences of an accident previously evaluated while utilizing the proposed changes are no different than the consequences of an accident while utilizing the existing four hour Completion Time for an inoperable secondary containment. In addition, the proposed Note for SR 3.6.4.1.1 provides an alternative means to ensure the secondary containment safety function is met. Additionally, the Note removed from SR 3.6.4.1.3 is editorial because it is redundant to the SR itself and does not alter the requirement. As a result, the consequences of an accident previously evaluated are not significantly increased.

Therefore, the proposed change does 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 previously evaluated?

**Response: No**

The proposed change does not alter the protection system design, create new failure modes, or change any modes of operation. The proposed change does not involve a physical alteration of the plant; and no new or different kind of equipment will be installed. Consequently, there are no new initiators that could result in a new or different kind of accident.

Therefore, the proposed change does 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**

The proposed change addresses conditions during which the secondary containment SR is not met. Conditions in which the secondary containment vacuum is less than the required vacuum are acceptable provided the conditions do not affect the ability of the SGT System to establish the required secondary containment vacuum under post-accident conditions within the time assumed in the accident analysis. This condition is incorporated in the proposed change by requiring an analysis of actual environmental and secondary containment pressure conditions to confirm the capability of the SGT System is maintained within the assumptions of the accident analysis. Therefore, the safety function of the secondary containment is not affected.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, Susquehanna concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

### 3.2 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.

## 4.0 ENVIRONMENTAL EVALUATION

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 10CFR 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 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 10CFR 51.22(c)(9). Therefore, pursuant to 10CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.



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## **Attachment 2 of PLA-7644**

### **Marked-Up Technical Specification Pages**

Unit 1 TS Pages

TOC-1 thru TOC-4

3.6-35 (No Changes),  
3.6-36, and 3.6-37

Unit 2 TS Pages

TOC-1 thru TOC-4

3.6-35 (No Changes),  
3.6-36, and 3.6-37

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**For Information  
No Changes This Page**

Secondary Containment  
3.6.4.1

### 3.6 CONTAINMENT SYSTEMS

#### 3.6.4.1 Secondary Containment

LCO 3.6.4.1 The secondary containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,  
During movement of irradiated fuel assemblies in the secondary containment,  
During CORE ALTERATIONS,  
During operations with a potential for draining the reactor vessel (OPDRVs).

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Secondary containment inoperable in MODE 1, 2, or 3.	A.1 Restore secondary containment to OPERABLE status.	4 hours  <u>OR</u>  48 hours for a one-time outage for replacement of the Reactor Building Recirculating Fan Damper Motors, to be completed by December 31, 2005.
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.  <u>AND</u>  B.2 Be in MODE 4.	12 hours    36 hours

(continued)



ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Secondary containment inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	C.1 -----NOTE----- LCO 3.0.3 is not applicable. -----  Suspend movement of irradiated fuel assemblies in the secondary containment.  <u>AND</u>	Immediately
	C.2 Suspend CORE ALTERATIONS.  <u>AND</u>	Immediately
	C.3 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1.1 -----NOTE----- <u>Not required to be met for 4 hours if analysis demonstrates one standby gas treatment (SGT) subsystem is capable of establishing the required secondary containment vacuum.</u> -----  Verify secondary containment vacuum is $\geq 0.25$ inch of vacuum water gauge.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.2 Verify all required secondary containment removable walls and equipment hatches required to be closed are closed and sealed.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p style="text-align: center;"><del>NOTE</del></p> <p style="text-align: center;"><del>Single door access openings between required zones within the secondary containment boundary may be opened for entry and exit.</del></p> <p>SR 3.6.4.1.3 Verify one secondary containment access door in each access opening is closed, except when the access opening is being used for entry and exit.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.6.4.1.4 <del>NOTE</del></p> <p>The maximum time allowed for secondary containment draw down is dependent on the secondary containment configuration.</p> <p>Verify each <del>standby gas treatment (SGT)</del> subsystem will draw down the secondary containment to <math>\geq 0.25</math> inch of vacuum water gauge in less than or equal to the maximum time allowed for the secondary containment configuration that is OPERABLE.</p>	<p><del>NOTE</del></p> <p>Test each configuration at least one time every 60 months.</p> <p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.6.4.1.5 <del>NOTE</del></p> <p>The maximum flow allowed for maintaining secondary containment vacuum is dependent on the secondary containment configuration.</p> <p>Verify each SGT subsystem can maintain <math>\geq 0.25</math> inch of vacuum water gauge in the secondary containment for at least 1 hour at a flow rate less than or equal to the maximum flow rate permitted for the secondary containment configuration that is OPERABLE.</p>	<p><del>NOTE</del></p> <p>Test each configuration at least one time every 60 months.</p> <p>In accordance with the Surveillance Frequency Control Program</p>

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**For Information  
No Changes This Page**

Secondary Containment  
3.6.4.1

### 3.6 CONTAINMENT SYSTEMS

#### 3.6.4.1 Secondary Containment

LCO 3.6.4.1 The secondary containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,  
During movement of irradiated fuel assemblies in the secondary containment,  
During CORE ALTERATIONS,  
During operations with a potential for draining the reactor vessel (OPDRVs).

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Secondary containment inoperable in MODE 1, 2, or 3.	A.1 Restore secondary containment to OPERABLE status.	4 hours  <u>OR</u>  48 hours for a one-time outage for replacement of the Reactor Building Recirculating Fan Damper Motors, to be completed by December 31, 2005.
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.  <u>AND</u>  B.2 Be in MODE 4.	12 hours    36 hours

(continued)



ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Secondary containment inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	C.1 -----NOTE----- LCO 3.0.3 is not applicable. -----  Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>	
	C.2 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	C.3 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1.1 -----NOTE----- <u>Not required to be met for 4 hours if analysis demonstrates one standby gas treatment (SGT) subsystem is capable of establishing the required secondary containment vacuum.</u> -----  Verify secondary containment vacuum is $\geq 0.25$ inch of vacuum water gauge.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.2 Verify all required secondary containment removable walls and equipment hatches required to be closed are closed and sealed.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p style="text-align: center;"><del>NOTE</del></p> <p style="text-align: center;"><del>Single door access openings between required zones within the secondary containment boundary may be opened for entry and exit.</del></p> <p>SR 3.6.4.1.3 Verify one secondary containment access door in each access opening is closed, except when the access opening is being used for entry and exit.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.6.4.1.4 <del>NOTE</del></p> <p>The maximum time allowed for secondary containment draw down is dependent on the secondary containment configuration.</p> <p>Verify each <del>standby gas treatment (SGT)</del> subsystem will draw down the secondary containment to <math>\geq 0.25</math> inch of vacuum water gauge in less than or equal to the maximum time allowed for the secondary containment configuration that is OPERABLE.</p>	<p><del>NOTE</del></p> <p>Test each configuration at least one time every 60 months.</p> <p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.6.4.1.5 <del>NOTE</del></p> <p>The maximum flow allowed for maintaining secondary containment vacuum is dependent on the secondary containment configuration.</p> <p>Verify each SGT subsystem can maintain <math>\geq 0.25</math> inch of vacuum water gauge in the secondary containment for at least 1 hour at a flow rate less than or equal to the maximum flow rate permitted for the secondary containment configuration that is OPERABLE.</p>	<p><del>NOTE</del></p> <p>Test each configuration at least one time every 60 months.</p> <p>In accordance with the Surveillance Frequency Control Program</p>

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## **Attachment 3 of PLA-7644**

### **Marked-Up Technical Specification Bases Pages**

(For Information Only)

Units 1 and 2, Section for SR 3.6.4.1.1

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BASES

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ACTIONS  
(continued)

C.1, C.2, and C.3

Movement of irradiated fuel assemblies in the secondary containment, CORE ALTERATIONS, and OPDRVs can be postulated to cause fission product release to the secondary containment. In such cases, the secondary containment is the only barrier to release of fission products to the environment. CORE ALTERATIONS and movement of irradiated fuel assemblies must be immediately suspended if the secondary containment is inoperable.

Suspension of these activities shall not preclude completing an action that involves moving a component to a safe position. Also, action must be immediately initiated to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

Required Action C.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.

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SURVEILLANCE  
REQUIREMENTS

SR 3.6.4.1.1

This SR ensures that the secondary containment boundary is sufficiently leak tight to preclude exfiltration under expected wind conditions.

The SR is modified by a Note which states the SR is not required to be met for up to 4 hours if an analysis demonstrates that one SGT subsystem remains capable of establishing the required secondary containment vacuum. Use of the Note is expected to be infrequent but may be necessitated by situations in which secondary containment vacuum may be less than the required containment vacuum, such as, but not limited to, wind gusts or failure or change of operating normal ventilation subsystems. These conditions do not indicate any change in the leak tightness of the secondary containment boundary. The analysis should consider the actual conditions (equipment configuration, temperature, atmospheric pressure, wind conditions, measured secondary containment vacuum, etc.) to determine whether, if an accident requiring secondary containment to be OPERABLE were to occur, one train of SGT could establish the assumed secondary

(continued)

containment vacuum within the time assumed in the accident analysis. If so, the SR may be considered met for a period up to 4 hours. The 4 hour limit is based on the expected short duration of the situations when the Note would be applied.

~~Expected wind conditions are defined as sustained wind speeds of less than or equal to 16 mph at the 60m meteorological tower or less than or equal to 11 mph at the 10m meteorological tower if the 60m tower wind speed is not available. Changes in indicated reactor building differential pressure observed during periods of short term wind speed gusts above these sustained speeds do not by themselves impact secondary containment integrity. However, if secondary containment integrity is known to be compromised, the LCO must be entered regardless of wind speed.~~

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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BASES

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ACTIONS  
(continued)

C.1, C.2, and C.3

Movement of irradiated fuel assemblies in the secondary containment, CORE ALTERATIONS, and OPDRVs can be postulated to cause fission product release to the secondary containment. In such cases, the secondary containment is the only barrier to release of fission products to the environment. CORE ALTERATIONS and movement of irradiated fuel assemblies must be immediately suspended if the secondary containment is inoperable.

Suspension of these activities shall not preclude completing an action that involves moving a component to a safe position. Also, action must be immediately initiated to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

Required Action C.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.

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SURVEILLANCE  
REQUIREMENTS

SR 3.6.4.1.1

This SR ensures that the secondary containment boundary is sufficiently leak tight to preclude exfiltration under expected wind conditions.

The SR is modified by a Note which states the SR is not required to be met for up to 4 hours if an analysis demonstrates that one SGT subsystem remains capable of establishing the required secondary containment vacuum. Use of the Note is expected to be infrequent but may be necessitated by situations in which secondary containment vacuum may be less than the required containment vacuum, such as, but not limited to, wind gusts or failure or change of operating normal ventilation subsystems. These conditions do not indicate any change in the leak tightness of the secondary containment boundary. The analysis should consider the actual conditions (equipment configuration, temperature, atmospheric pressure, wind conditions, measured secondary containment vacuum, etc.) to determine whether, if an accident requiring secondary containment to be OPERABLE were to occur, one train of SGT could establish the assumed secondary containment vacuum within the time assumed in the accident analysis. If so, the SR may be considered met for a period up to 4 hours. The 4 hour limit is based on the expected short duration of the situations when the Note would

(continued)



be applied.

~~Expected wind conditions are defined as sustained wind speeds of less than or equal to 16 mph at the 60m meteorological tower or less than or equal to 11 mph at the 10m meteorological tower if the 60m tower wind speed is not available. Changes in indicated reactor building differential pressure observed during periods of short term wind speed gusts above these sustained speeds do not by themselves impact secondary containment integrity. However, if secondary containment integrity is known to be compromised, the LCO must be entered regardless of wind speed.~~

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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