



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

January 23, 2008  
NOC-AE-07002228  
10CFR50.90

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
One White Flint North  
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Rockville, MD 20852-2738

South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
License Amendment Request  
Proposed Revision to Technical Specification 3.6.1.3, "Containment Air Locks"

In accordance with the provisions of 10 CFR 50.90, STP Nuclear Operating Company (STPNOC) hereby requests a license amendment to South Texas Project Operating Licenses NPF-76 and NPF-80. This license amendment revises the Technical Specification (TS) 3.6.1.3 Actions to allow entry and exit through the containment air lock doors, even if the applicable action requires the containment air lock door to be closed and expands the current guidance provided to address inoperable air lock components.

The Enclosure provides a technical and regulatory evaluation of the changes. Proposed TS page markups and Bases changes are included as attachments to the Enclosure.

Approval of the proposed amendment is requested by November 30, 2008. The requested approval date will allow STPNOC to implement the change after the Unit 2 fall outage. STPNOC will implement the amendment within 90 days of the NRC approval date.

The STPNOC Plant Operations Review Committee has reviewed and concurred with the proposed change to the Technical Specifications.

In accordance with 10 CFR 50.91(b), STPNOC is notifying the State of Texas of this request for license amendment by providing a copy of this letter and its Enclosure.

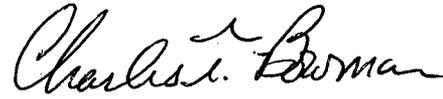
There are no commitments in this letter.

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If there are any questions regarding the proposed amendment, please contact Mr. A. W. Harrison at (361) 972-7298 or me at (361) 972-7454.

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

Executed on January 23, 2008.  
Date



Charles T. Bowman  
General Manager, Oversight

Enclosure: Evaluation of the Proposed Change

cc:

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## ENCLOSURE

### Evaluation of the Proposed Change

Subject: Proposed Revision to Technical Specification 3.6.1.3, "Containment Air Locks,"  
Action Requirements

- 1.0 SUMMARY DESCRIPTION
- 2.0 DETAILED DESCRIPTION
- 3.0 TECHNICAL EVALUATION
- 4.0 REGULATORY EVALUATION
- 5.0 ENVIRONMENTAL CONSIDERATION
- 6.0 REFERENCES

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#### ATTACHMENTS:

- 1. Technical Specification Page Markups
- 2. Technical Specification Bases Page Markups

## ENCLOSURE

### 1.0 SUMMARY DESCRIPTION

The proposed amendment will revise the Technical Specification (TS) 3.6.1.3, "Containment Air Locks," action requirements associated with the containment air locks, and expand the current guidance provided to address inoperable air lock components. The operability requirements for the containment air locks will remain the same. The Bases for TS 3.6.1.3 will be modified to address the proposed changes.

The proposed amendment will allow plant personnel to enter and exit through the containment air lock doors to perform repairs on air lock components, even if the applicable action requirements require the containment air lock doors to be closed. Additional changes allow plant operation to continue indefinitely with an inoperable interlock mechanism provided an operable air lock door is locked closed and periodically verified. A provision is included to allow use of the air lock for containment access if a dedicated individual is used to ensure only one door is opened at a time (i.e., replaces the inoperable interlock mechanism). These changes allow plant personnel to effect repairs on containment air lock components with the plant remaining at power and ensure that the containment air locks will continue to meet their design-basis requirements.

Attachment 1 provides the markups for the TS pages. Attachment 2 provides the markups for the TS Bases pages.

The proposed changes to the action requirements of Technical Specification 3.6.1.3 are consistent with generic industry guidance provided in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," Revision 3, June 2004 (TS 3.6.2).

### 2.0 DETAILED DESCRIPTION

TS 3.6.1.3 currently would not allow personnel to enter through an inoperable containment air lock door to effect repairs on containment air lock door components. In addition, TS 3.6.1.3 currently requires an inoperable air lock interlock mechanism to be restored within 24 hours or a plant shutdown initiated. The changes described below will allow plant personnel to effect repairs on inoperable containment air lock components, even if entry and exit through an inoperable containment air lock door is required, and will allow operation to continue indefinitely with an inoperable interlock mechanism, provided an operable air lock door is locked closed and verified periodically. Provision is made to allow use of the containment air lock for containment access provided a dedicated individual is used to ensure only one door is open at a time.

1. The TS 3.6.1.3 action requirements will be modified by adding a note stating "Entry and exit through the containment air lock doors is permitted to perform repairs on the affected air lock components," before the specific action requirements. This note will allow entry and exit through the containment air lock doors, even if the applicable action requirement requires the containment air lock doors to be closed. Use of the containment air lock doors is acceptable in this situation only to allow repair activities of inoperable air lock components. This is a less restrictive change.

2. ACTION a.
  - a. The word "only" will be added to ACTION a. This will provide additional clarification to ensure that this action requirement will only be utilized to address one inoperable air lock door. This will not result in any technical change to the current requirement.
  - b. The phrase "Maintain at least the OPERABLE air lock door closed" will be replaced with the phrase "Verify the OPERABLE air lock door is closed within 1 hour" in ACTION a.1. The proposed modification will not change the requirement to ensure the operable air lock door is closed. It will provide a specific time (1 hour) to accomplish this action. Because the current requirement does not specify a time, an immediate response would be required. This is a less restrictive change.
  - c. The phrase "until performance of the next required overall air lock leakage test" will be removed from ACTION a.2. As a result of the proposed modifications to the action requirements for an inoperable air lock, it is not necessary to specify this constraint. With the proposed changes, if an inoperable air lock door prevents performance of the overall air lock leakage test, the air lock would be declared inoperable when the current test expires and a plant shutdown would be required. Therefore, the proposed modification will not change the current requirement.
3. A new ACTION b. will be added to address an inoperable containment air lock interlock mechanism. If this situation occurred with the current action requirements, a plant shutdown in accordance with current ACTION b. would be required if the interlock mechanism was not restored within 24 hours. The proposed action requirement would allow plant operation to continue indefinitely with an inoperable interlock mechanism provided an operable air lock door is locked closed and periodically verified. This less restrictive change is consistent with the current requirement for an inoperable air lock door (ACTION a.). In addition, a provision is included to allow use of the air lock for containment access if a dedicated individual is used to ensure only one door is opened at a time (i.e., replaces the inoperable interlock mechanism).
4. The current ACTION b. will become ACTION c. to accommodate the addition of the new ACTION b. Additional changes, described below, will be made.
  - a. The proposed action requirement will be clarified to ensure that this action requirement will only be utilized to address air lock inoperability conditions not specifically addressed by the proposed ACTION a. and ACTION b.
  - b. An additional requirement will be added to immediately initiate action to evaluate overall containment leakage rate per TS 3.6.1.2. This will ensure the impact of air lock inoperability on containment leakage will be promptly evaluated to detect degradation of the containment barrier. This is a more restrictive change.
  - c. A specific time (1 hour) to ensure an air lock door is closed will be added. The proposed modification will not change the requirement to ensure an air lock door is closed. Because the current requirement does not specify a time, an immediate response would be required. This is a less restrictive change.

### 3.0 TECHNICAL EVALUATION

A containment air lock forms part of the containment pressure boundary and provides a means for personnel access into and out of the containment. As discussed in Section 3.8.2.1.2 of the Updated Final Safety Analysis Report (UFSAR), the STP Unit 1 and Unit 2 air locks are equipped with double doors that are interlocked to prevent both from being opened simultaneously, and to ensure that one door is completely closed before the opposite door can be opened. A provision is made to bypass the interlock system and leave the doors open during cold shutdown.

The air lock doors are provided with double gaskets along the closure surfaces. Using the pressure taps furnished, the air space between the gaskets may be pressurized and checked to ensure leak-tightness in accordance with the TSs. The air locks are designed to resist the full design pressure of the containment.

Either air lock door is adequate to control any potential radioactive release from containment during an accident to within the limits assumed by the safety analysis. Air lock integrity and leak-tightness is essential in order to maintain the containment leakage rate within design limits in the event of a design-basis accident (DBA) consistent with the intent of General Design Criterion (GDC) 16 of Appendix A to Title 10 of the Code of Federal Regulations (10 CFR) Part 50.

The addition of the Note prior to ACTION a. would apply to all of the action requirements. The Note would allow entry and exit through the containment air lock doors, even if the applicable action requires the air lock door to be closed, only for the purpose of performing repairs on the affected air lock components. As a result, there may be a short interval during access through the operable door when the containment boundary will not be intact. After each entry and exit, the door must immediately be closed. This is acceptable because of the low likelihood of an event that could pressurize containment during the short period of time in which the door is expected to be open.

The addition of the word "only" to ACTION a. is for clarification purposes to ensure that the action requirement will only be utilized to address one inoperable air lock door. The proposed change is acceptable since it would not result in any technical change to the current requirements.

The phrase "Maintain at least the OPERABLE air lock door closed" in ACTION a.1 would be replaced by "Verify the OPERABLE air lock door is closed within 1 hour..." This proposed change is considered a relaxation of the current requirement as "maintain the door closed" can be interpreted to require the immediate closure of the air lock door while the new requirement could result in the air lock door remaining open for up to 1 hour. Either air lock door is adequate to control any potential radioactive release from containment during an accident within the limits assumed by the safety analysis. The 1-hour time period that is proposed to verify that the operable air lock door is closed, instead of the current wording to maintain the door closed, will provide specific guidance to the plant operators. The 1-hour time period is a reasonable time to verify the operable air lock door is closed. The proposed change is acceptable due to the low probability of an event that could pressurize the containment during the short time in which the operable door is expected to be open. In addition, it is consistent with the action requirements of TS 3.6.1.1, "Primary Containment - Containment Integrity," to restore containment integrity within 1 hour.

Currently, ACTION a.2 allows plant operation to continue with an inoperable air lock door until performance of the next required overall air lock leakage test. The phrase "...until performance of the next required overall air lock leakage test..." is eliminated from ACTION a.2. This phrase is not necessary due to the proposed addition of ACTION c. With the proposed changes, if an inoperable air lock door prevents performance of the overall air lock leakage test, the air lock would be declared inoperable when the current test expires, and a plant shutdown would be required. The proposed change is acceptable because it would not result in any technical change to the current requirements.

The existing ACTION b. is replaced with a new ACTION b. to address an inoperable containment air lock interlock mechanism. The existing ACTION b. would become ACTION c. with additional changes as described below. Under the current TS 3.6.1.3 action requirements, an inoperable air lock interlock mechanism would have to be restored within 24 hours or a plant shutdown would have to be initiated. The proposed action requirement is less restrictive because it would allow plant operation to continue indefinitely with an inoperable interlock mechanism, provided an operable air lock door is locked closed and periodically verified. Requiring a plant shutdown if the interlock mechanism is not operable is unnecessary as this situation does not potentially challenge containment integrity unless the air lock is used for access to the containment. In this condition, because the air lock and associated doors are operable, the potential for excessive leakage from containment would only occur if both air lock doors were opened simultaneously. The proposed action requirements would eliminate this situation by requiring an air lock door to be locked closed and periodically verified, and would require the use of a dedicated individual to ensure only one door is opened at a time when it is necessary to use the air lock for access to containment. The dedicated individual, in effect, would replace the inoperable interlock mechanism. As a result, continued plant operation in accordance with the proposed action requirement would not adversely affect containment integrity. Therefore, the proposed change is acceptable.

As discussed above, with the addition of the new ACTION b., the current ACTION b. would become ACTION c. An additional requirement is being added to ACTION c. to immediately initiate actions to evaluate overall containment leakage rate per TS 3.6.1.2 if the air lock is inoperable for reasons not specifically addressed by proposed ACTIONS a. and b. The addition of this new, more restrictive, requirement is acceptable as it provides assurance that any increase in containment leakage due to the inoperable air lock will be detected. The phrase "...maintain at least one air lock door closed;" is replaced with "...verify an air lock door is closed within 1 hour." This change is acceptable based on the same reasons as the proposed changes for ACTION a.1 discussed above.

#### **4.0 REGULATORY EVALUATION**

##### **4.1 Applicable Regulatory Requirements/Criteria**

The requirements of 10 CFR 50, Appendix A, General Design Criteria (GDC) 16, "Containment design," are summarized as follows: "Reactor containment and associated systems shall be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require."

Compliance with the regulatory requirements and criteria that are applicable to containment integrity is not affected by the proposed change. As described above, the operability requirements for the

containment air lock will remain the same. The technical requirements of the revised actions continue to be met and the STP Unit 1 and Unit 2 containment air locks will continue to meet their design-basis requirements.

#### 4.2 Precedent (Section 6.0, References 1, 2, & 3)

The Nuclear Regulatory Commission (NRC) has approved similar changes to the TS action requirements for the Beaver Valley Power Station (Amendment No. 190 to Facility Operating License No. DPR-66 and Amendment No. 72 to Facility Operating License No. NPF-73, dated July 26, 1995), and for the Millstone Nuclear Power Station (Amendment No. 267 to Facility Operating License No. DPR-65, dated June 7, 2002, and Amendment No. 205 to Facility Operating License No. NPF-49, dated May 15, 2002).

#### 4.3 Significant Hazards Consideration

STP has evaluated whether a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10CFR50.92, "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 Technical Specification changes to revise the action requirements associated with the containment air lock will not cause an accident to occur and will not result in any change in the operation of the associated accident mitigation equipment. The containment air lock is not an accident initiator. The proposed changes will not revise the operability requirements (e.g., leakage limits) for the containment air lock. Proper operation of the containment air lock will still be verified. As a result, the design basis accidents will remain the same postulated events described in the South Texas Project Unit 1 and Unit 2 Updated Final Safety Analysis Report, and the consequences of the design basis accidents will remain the same. Therefore, the proposed changes will not increase 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 Technical Specifications do not impact any system or component that could cause an accident. The proposed changes will not alter the plant configuration (no new or different type of equipment will be installed) or require any unusual operator actions. The proposed changes will not alter the way any structure, system, or component functions, and will not significantly alter the manner in which the plant is operated. The response of the plant and the operators following an accident will not be different. In addition, the proposed changes do not introduce any new failure modes.

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

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

Response:

No. The proposed Technical Specification changes to revise the action requirements associated with the containment air lock will not cause an accident to occur and will not result in any change in the operation of the associated accident mitigation equipment. The operability requirements for the containment air lock have not been changed. The containment air lock will continue to function as assumed in the safety analysis. In addition, the proposed changes will not adversely affect equipment design or operation, and there are no changes being made to the Technical Specification required safety limits or safety system settings that would adversely affect plant safety. Therefore, the proposed changes will not result in a reduction in a margin of safety.

Based on the above, STP concludes that the proposed amendment presents no 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.

#### 4.4 Conclusions

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 CONSIDERATIONS

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 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

1. Letter from NRC to Mr. J. A. Price, "Millstone Nuclear Power Station, Unit No. 2 - Issuance of Amendment RE: Containment Air Lock (TAC NO. MB2858)," June 7, 2002 (Accession No. ML021210592).
2. Letter from NRC to Mr. J. A. Price, "Millstone Nuclear Power Station, Unit No. 3 - Issuance of Amendment RE: Containment Airlock (TAC NO. MB2930)," May 15, 2002 (Accession No. ML021050398).
3. Letter from NRC to Mr. J. E. Cross, "Beaver Valley Power Station, Unit Nos. 1 and 2 (TAC Nos. M84223 and M84224)," July 26, 1995 (Accession No. ML003767968).

**ENCLOSURE, ATTACHMENT 1**

**TS Page Markups**

## CONTAINMENT SYSTEMS

### CONTAINMENT AIR LOCKS

#### LIMITING CONDITION FOR OPERATION

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3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

NOTE

Entry and exit through the containment air lock doors is permitted to perform repairs on the affected air lock components.

- a. With only one containment air lock door inoperable:
  1. Maintain at least Verify the OPERABLE air lock door is closed within 1 hour and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed;
  2. Operation may then continue until performance of the next required overall air lock leakage test provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days;
  3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and

b. With only the containment air lock interlock mechanism inoperable:

1. Verify an OPERABLE air lock door is closed within 1 hour and lock an OPERABLE air lock door closed within 24 hours;

2. Operation may then continue provided that an OPERABLE air lock door is verified to be locked closed at least once per 31 days;

3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours (Entry into and exit from containment is permissible under the control of a dedicated individual); and

- bc. With the containment air lock inoperable, except as the result of an inoperable air lock door specified in ACTION a. or ACTION b. above, immediately initiate action to evaluate overall containment leakage rate per Specification 3.6.1.2 and maintain at least one verify an air lock door is closed within 1 hour restore Restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

## CONTAINMENT SYSTEMS

For Information: No changes this page

### SURVEILLANCE REQUIREMENTS

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4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. By verifying leakage rates in accordance with the Containment Leakage Rate Testing Program.
- b. At least once per 6 months by verifying that only one door in each air lock can be opened at a time.
- c. By verifying at least once per 7 days that the instrument air pressure in the header to the personnel airlock seals  $\geq 90$  psig.
- d. By verifying the door seal pneumatic system OPERABLE at least once per 18 months by conducting a seal pneumatic system leak test and verifying one of the following:
  - 1) That system pressure does not decay more than 1.5 psi from 90 psig minimum within 24 hours, or
  - 2) That system pressure does not decay more than .50 psi from 90 psig minimum within 8 hours.

**ENCLOSURE, ATTACHMENT 2**

**TS Bases Page Markups**

### Information Only

Following approval of the proposed amendment, the TS Bases for TS 3.6.1.3 will be revised to include the following:

"The ACTION requirements are modified by a Note that allows entry and exit to perform repairs on the affected air lock components. This means there may be a short time during which the containment boundary is not intact (e.g., during access through the OPERABLE door). The ability to open the OPERABLE door, even if it means the containment boundary is temporarily not intact, is acceptable due to the low probability of an event that could pressurize the containment during the short time in which the OPERABLE door is expected to be open. After each entry and exit, the OPERABLE door must be immediately closed.

ACTION a. is only applicable when one air lock door is inoperable. With only one air lock door inoperable, the remaining OPERABLE air lock door must be verified closed within 1 hour. This ensures a leak tight containment barrier is maintained by use of the remaining OPERABLE air lock door. The 1 hour requirement is consistent with the requirements of Technical Specification 3.6.1.1 to restore CONTAINMENT INTEGRITY. In addition, the remaining OPERABLE air lock door must be locked closed within 24 hours and then verified periodically to ensure an acceptable containment leakage boundary is maintained. Otherwise, a plant shutdown is required.

ACTION b. is only applicable when the air lock door interlock mechanism is inoperable. With only the air lock interlock mechanism inoperable, an OPERABLE air lock door must be verified closed within 1 hour. This ensures a leak tight containment barrier is maintained by use of an OPERABLE air lock door. The 1 hour requirement is consistent with the requirements of Technical Specification 3.6.1.1 to restore CONTAINMENT INTEGRITY. In addition, an OPERABLE air lock door must be locked closed within 24 hours and then verified periodically to ensure an acceptable containment leakage boundary is maintained. Otherwise, a plant shutdown is required. In addition, entry into and exit from containment under the control of a dedicated individual stationed at the air lock to ensure that only one door is opened at a time (i.e., the individual performs the function of the interlock) is permitted.

ACTION c. is applicable when both air lock doors are inoperable, or the air lock is inoperable for any other reason except for the door interlock mechanism. With both air lock doors inoperable or the air lock otherwise inoperable, an evaluation of the overall containment leakage rate per Specification 3.6.1.2 shall be initiated immediately, and an air lock door must be verified closed within 1 hour. An evaluation is acceptable since it is overly conservative to immediately declare the containment inoperable if both doors in the air lock have failed a seal test or if overall air lock leakage is not within limits. In many instances (e.g., only one seal per door has failed), containment remains OPERABLE, yet only 1 hour (per Specification 3.6.1.1) would be provided to restore the air lock to OPERABLE status prior to requiring a plant shutdown. In addition, even with both doors failing the seal test, the overall containment leakage rate can still be within limits. The 1 hour requirement is consistent with the requirements of Technical Specification 3.6.1.1 to restore CONTAINMENT INTEGRITY. In addition, the air lock and/or at least one air lock door must be restored to OPERABLE status within 24 hours or a plant shutdown is required. The specified time period is considered reasonable for restoring an inoperable air lock to OPERABLE status, assuming that at least one door is maintained closed in each affected air lock."