



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

August 2, 2001  
NOC-AE-01001137  
File No.: G20.02.01  
G21.02.01  
10CFR50.90

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

South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
Proposed Amendment to Technical Specification 3/4.6.1.6,  
"Containment Structural Integrity"

Pursuant to 10CFR50.90, the South Texas Project requests approval of an amendment to the Unit 1 and Unit 2 Technical Specifications. This change applies to both units.

The proposed amendment will remove detailed information concerning containment post-tensioning system surveillances from Technical Specification 3/4.6.1.6, "Containment Structural Integrity," and replace it with a reference to the Containment Post-Tensioning System Surveillance Program. Section 6.8.3.I is to be added to describe the program. The proposed changes are consistent with the provisions of ASME Section XI, Subsection IWL (1992 Edition with 1992 Addenda) and the additional provisions found in 10CFR50.55a(b)(2)(viii).

This proposed Technical Specification amendment is similar to one submitted by South Carolina Electric & Gas on January 5, 2000, and approved by the Nuclear Regulatory Commission for the Virgil C. Summer Nuclear Station. The proposed amendment is consistent with NUREG-1431, "Standard Technical Specifications – Westinghouse Plants."

The South Texas Project has reviewed the attached proposed amendment pursuant to 10CFR50.92 and determined that it does not involve a significant hazards consideration. In addition, there will be no significant increase in the amount of any effluents that may be released offsite, and no significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment satisfies the criteria of 10CFR51.22(c)(9) for categorical exclusion from the requirement for an environmental assessment.

The South Texas Project Plant Operations Review Committee has reviewed the proposed amendment and recommended it for approval. The South Texas Project Nuclear Safety Review Board has reviewed and approved the proposed change.

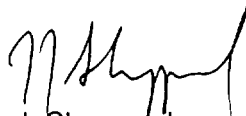
The required affidavit, the evaluation of the proposed change, the proposed and revised replacement pages of the Technical Specifications, and changes to the Technical Specification bases (provided for information only) are included as attachments to this letter.

In accordance with 10CFR50.91(b), the South Texas Project is providing the State of Texas with a copy of this proposed amendment.

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The South Texas Project requests that this proposed amendment be approved by the Nuclear Regulatory Commission by February 28, 2002. Once approved, the amendment shall be implemented within 30 days.

If there are any questions, please contact either Mr. P. L. Walker at (361) 972-8392 or me at (361) 972-8757.



J. J. Sheppard  
Vice President,  
Engineering & Technical Services

PLW

Attachments: 1) Affidavit  
2) Evaluation  
3) Proposed Technical Specification Changes  
4) Revised Technical Specification Pages  
5) Changes to Technical Specification Basis 3/4.6.1.6 (for information only)

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**ATTACHMENT 1**

**AFFIDAVIT**

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )

STP Nuclear Operating Company,  
et al., )

South Texas Project  
Units 1 and 2 )

Docket Nos. 50-498  
50-499

AFFIDAVIT

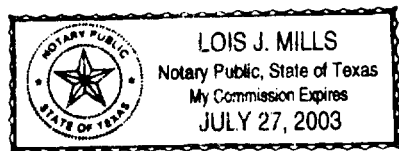
I, J. J. Sheppard, being duly sworn, hereby depose and say that I am Vice President, Engineering & Technical Services, of STP Nuclear Operating Company; that I am duly authorized to sign and file with the Nuclear Regulatory Commission the attached Technical Specification changes; that I am familiar with the content thereof; and that the matters set forth therein are true and correct to the best of my knowledge and belief.

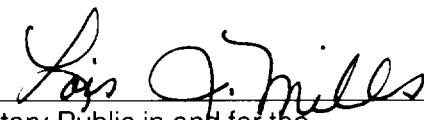
  
\_\_\_\_\_  
J. J. Sheppard  
Vice President,  
Engineering & Technical Services

STATE OF TEXAS )

COUNTY OF MATAGORDA )

Subscribed and sworn to before me, a Notary Public in and for the State of Texas, this 2nd day  
of August, 2001.



  
\_\_\_\_\_  
Notary Public in and for the  
State of Texas

## **ATTACHMENT 2**

**PROPOSED AMENDMENT TO TECHNICAL SPECIFICATION 3/4.6.1.6,  
“CONTAINMENT STRUCTURAL INTEGRITY”**

## **LICENSEE'S EVALUATION**

### Subject:

Proposed Amendment To Technical Specification 3/4.6.1.6, "Containment Structural Integrity"

- 1.0 DESCRIPTION
- 2.0 PROPOSED CHANGE
- 3.0 BACKGROUND
- 4.0 TECHNICAL ANALYSIS
- 5.0 REGULATORY SAFETY ANALYSIS
  - 5.1 No Significant Hazards Consideration (NSHC) Determination
  - 5.2 Applicable Regulatory Requirements/Criteria
- 6.0 ENVIRONMENTAL CONSIDERATION
- 7.0 REFERENCES

**SOUTH TEXAS PROJECT  
UNITS 1 AND 2  
PROPOSED AMENDMENT TO TECHNICAL SPECIFICATION 3/4.6.1.6,  
“CONTAINMENT STRUCTURAL INTEGRITY”**

**1.0 DESCRIPTION**

The proposed amendment would revise South Texas Project Technical Specification 3/4.6.1.6, “Containment Structural Integrity,” consistent with the NRC-approved Improved Technical Specification format of NUREG-1431. The proposed changes support the requirements of 10CFR50.55a(b)(2)(vi) and 10CFR50.55a(b)(2)(viii) which require licensees to update their containment inservice inspection requirements in accordance with ASME Section XI, Subsections IWE and IWL.

**2.0 PROPOSED CHANGE**

The proposed changes will revise:

- Limiting Condition for Operation 3.6.1.6

The specific requirements for containment structural integrity will be replaced with a statement that the structural integrity of the containment is required to be maintained in accordance with the Containment Post-Tensioning System Surveillance Program.

Action statements for responding to the limiting condition for operation will be revised to permit one hour to restore containment operability or require a plant shutdown.

- Surveillance Requirement 4.6.1.6, “Containment Prestressing System”

The South Texas Project proposes to remove the current detailed surveillance requirements specified under 4.6.1.6 and instead incorporate the Containment Post-Tensioning System Surveillance Program by reference. This program is to be maintained as a separate licensee-controlled program.

- Technical Specification 6.8.3

A subsection is to be added to Technical Specification Section 6.8.3 as assurance the Containment Post-Tensioning System Surveillance Program is provided to continue demonstration of containment structural integrity. Reference to the requirements of 10CFR50.55a(b)(2)(vi) and 10CFR50.55a(b)(2)(viii) will be included.

Following approval of the requested amendment, supporting changes will also be made to the Technical Specification Bases Section 3/4.6.1.6, “Containment Structural Integrity,” for consistency with the revised Code requirements superceding Regulatory Guide 1.35 “Inservice Inspection of Ungrouted Tendons in Prestressed Containment Concrete Structures.”



### **3.0 BACKGROUND**

#### **3.1 Containment Structural Design**

The South Texas Project containment structure is a post-tensioned concrete cylinder with steel liner plates, hemispherical top, and flat bottom. The cylindrical portion and the hemispherical dome of the Containment are pre-stressed by a post-tensioning system consisting of horizontal and vertical tendons. Three buttresses equally spaced around the Containment provide anchor points for the horizontal tendons. The cylinder and the lower half of the dome are pre-stressed by horizontal tendons anchored 360 degrees apart, bypassing the intermediate buttresses. Each successive hoop is progressively offset 120 degrees from the one beneath it. The vertical U-shaped tendons are continuous over the dome, forming a two-way post-tensioning system for the dome. These tendons are anchored in a continuous gallery beneath the base slab which provides for installation and inspection of the vertical tendons. The reinforced concrete containment structure is designed to resist loads imposed by external events such as wind, seismic activity, or tornado. The purpose of the containment post-tensioning system is to provide strength to resist internal pressure during postulated design basis accidents.

#### **3.2 Regulatory Requirements**

10CFR50.55a requires that the containment structural integrity be determined in accordance with the requirements of ASME Code Section XI, Subsection IWL, "Requirements for Class CC Concrete Components of Light Water Cooled Power Plants," 1992 Edition including 1992 Addenda, as modified and supplemented by the requirements and limitations specified in 10CFR50.55a(b)(2)(viii), "Examination of Concrete Containments." The next set of inservice inspection of the containment prestressing system will be performed in accordance with 10CFR50.55a(b)(2)(viii) as modified by approved exemptions.

This proposed amendment is consistent with NUREG-1431, the Improved Standard Technical Specifications for Westinghouse plants.

As a consequence of this change, the South Texas Project will gain the right to make future changes to the Containment Post-Tensioning System Surveillance Program without seeking prior Nuclear Regulatory Commission approval. However, the South Texas Project will remain bound by the requirements of 10CFR50.55a(b)(2)(vi) and 10CFR50.55a(b)(2)(viii), which invoke the requirements of ASME Section XI. Any future changes to the Containment Post-Tensioning System Surveillance Program that depart from code requirements will continue to require prior NRC approval, pursuant to the provisions of 10CFR50.55a. Therefore, adequate regulatory oversight will be maintained following implementation of this change.

### **4.0 TECHNICAL ANALYSIS**

There would be no change in the design basis of the South Texas Project as a result of this amendment. There is no change in the level of compliance with the General Design Criteria. Consequently, incorporating the surveillance requirements by reference into the Containment Post-Tensioning System Surveillance Program does not have a significant impact on safe operation of the South Texas Project.

## **5.0 REGULATORY SAFETY ANALYSIS**

### **5.1 No Significant Hazards Consideration (NSHC) Determination**

Pursuant to 10CFR50.91, this analysis provides a determination that the proposed changes to the Technical Specifications do not involve any significant hazards consideration as defined in 10CFR50.92.

#### **Criterion 1: Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?**

Response: No.

The proposed changes revise the surveillance requirements for the containment post-tensioning inservice inspection program as required by 10CFR50.55a(b)(2)(vi) and 10CFR50.55a(b)(2)(viii). The revised requirements do not affect the function of the containment post-tensioning system components. The post-tensioning systems are passive components whose failure modes could not act as accident initiators or precursors.

The proposed changes do not impact any accident initiators or analyzed events or assumed mitigation of accident or transient events. They do not involve the addition or removal of any equipment, or any design changes to the facility. Therefore, this proposed change does not represent a significant increase in the probability or consequences of an accident previously evaluated.

#### **Criterion 2: Does the proposed change create the possibility of a new or different kind of accident from any previously evaluated?**

Response: No.

The proposed changes do not involve a modification to the physical configuration of the plant (i.e., no new equipment will be installed) or change in the methods governing normal plant operation. The proposed change will not impose any new or different requirements or introduce a new accident initiator, accident precursor, or malfunction mechanism. The function of the containment post-tensioning system components are not altered by this change. Additionally, there is no change in the types or increases in the amounts of any effluent that may be released off-site and there is no increase in individual or cumulative occupational exposure. Therefore, this proposed change does not create the possibility of an accident of a different kind than previously evaluated.

#### **Criterion 3: Does the proposed change involve a significant reduction in the margin of safety?**

Response: No.

The proposed change does not impact the margin of safety included in the design pressure compared to the peak calculated pressure because the proposed activity does not alter, in any way, the available force provided by the tendons. Therefore, this proposed change does not involve a significant reduction in a margin of safety.

### **Summary**

Based on the evaluation provided above, the proposed changes do not involve a significant hazards consideration under 10CFR50.92(c), and will not have a significant

effect on the safe operation of the plant. Therefore, there is reasonable assurance that operation of the South Texas Project in accordance with the proposed revised Technical Specifications will not endanger the public health and safety.

## **5.2 Applicable Regulatory Requirements/Criteria**

The regulatory basis for Technical Specification 3/4.6.1.6, "Containment Structural Integrity," is to ensure that the primary containment is capable of remaining leak-tight following a loss of coolant accident. This ensures that offsite radiation exposures are maintained well within the limits of 10CFR100.

10CFR50, Appendix A, General Design Criterion 16, "Design," requires that 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 the postulated accident conditions require.

This Technical Specification change will not reduce the leak-tightness of the containment. Therefore, 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) Issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

## **6.0 ENVIRONMENTAL CONSIDERATION**

The South Texas Project has reviewed the attached proposed license amendment pursuant to 10CFR50.92 and determined that it does not involve:

- (i) a significant hazards consideration,
- (ii) a significant change in the types of 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.

As discussed above, the proposed changes do not involve a significant hazards consideration. Consequently, the proposed amendment meets the eligibility criteria of 10CFR51.22(c)(9) for categorical exclusion from the requirement for an environmental assessment. Therefore, pursuant to 10CFR51.22(b), an environmental assessment of the proposed change is not required.

## **7.0 REFERENCES**

NUREG-1431, Standard Technical Specifications – Westinghouse Plants

**ATTACHMENT 3**

**PROPOSED TECHNICAL SPECIFICATION CHANGES**

## CONTAINMENT SYSTEMS

### CONTAINMENT STRUCTURAL INTEGRITY

#### LIMITING CONDITION FOR OPERATION

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3.6.1.6 The structural integrity of the containment(s) shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6, as required by the Containment Post-Tensioning System Surveillance Program.

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

ACTION:

- a. With the abnormal degradation indicated by the conditions in Specification 4.6.1.6.1a.4, restore the containment(s) to the required level of integrity or verify that containment integrity is maintained within 72 hours and perform an engineering evaluation of the containment(s) and provide a Special Report to the Commission within 15 days in accordance with Specification 6.9.2 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the indicated abnormal degradation of the structural integrity other than ACTION a. at a level below the acceptance criteria of Specification 4.6.1.6, restore the containment(s) to the required level of integrity or verify that containment integrity is maintained within 15 days, perform an engineering evaluation of the containment(s) and provide a Special Report to the Commission within 30 days in accordance with Specification 6.9.2 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. The provisions of Specification 3.0.4 are not applicable.

If the containment is not OPERABLE, restore containment to OPERABLE status in 1 hour, or be in at least HOT STANDBY in the next 6 hours and be in COLD SHUTDOWN in the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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##### 4.6.1.6 CONTAINMENT PRESTRESSING SYSTEM

Verify containment structural integrity in accordance with the Containment Post-Tensioning System Surveillance Program.

The structural integrity of the prestressing tendons of the containment shall be demonstrated at the end of 1, 3, and 5 years following the initial containment structural integrity test and at 5 year intervals thereafter. The inspection schedule for lift-off testing shall be as shown in Figure 4.6-1.

4.6.1.6.1 The adequacy of prestressing forces in tendons shall be demonstrated by:

- a. Determining that a random but representative sample of at least 10 tendons (6 hoop, 4 interverted U) each have an observed lift-off force within predicted limits established for each tendon. For each subsequent inspection, one tendon from each group shall be kept unchanged to develop a history and to correlate the observed data. The procedure of inspection and the tendon acceptance criteria shall be as follows:

## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- 1) ~~If the measured prestressing force of the selected tendon in a group lies above the prescribed lower limit, the lift-off test is considered to be a positive indication of the sample tendon's acceptability.~~
- 2) ~~If the measured prestressing force of the selected tendon in a group lies between the prescribed lower limit and 90% of the prescribed lower limit, two tendons, one on each side of this tendon shall be checked for their prestressing forces. If the prestressing forces of these two tendons are above 95% of the prescribed lower limits for the tendons, all three tendons shall be restored to the required level of integrity, and the tendon group shall be considered as acceptable. If the measured prestressing force of any two tendons falls below 95% of the prescribed lower limits of the tendons, additional lift-off testing shall be done to detect the cause and extent of such occurrence. The conditions shall be considered as an indication of abnormal degradation of the containment structures.~~
- 3) ~~If the measured prestressing force of any tendon lies below 90% of the prescribed lower limit, an engineering investigation will be performed to determine the cause and extent of the occurrence. The condition shall be considered as an indication of abnormal degradation of the containment structure.~~
- 4) ~~If the average of all measured prestressing forces for each group (corrected for average condition) is found to be less than the minimum required prestress level at the anchorage location for that group, the condition shall be considered as abnormal degradation of the containment structure.~~
- 5) ~~If from consecutive surveillances, the measured prestressing forces for the same tendon or tendons in a group indicate a trend of prestress loss larger than expected and the resulting prestressing forces will be less than the minimum required for the group before the next scheduled surveillance, additional lift-off testing shall be done so as to determine the cause and extent of such occurrence. The condition shall be considered as an indication of abnormal degradation of the containment structure.~~
- 6) ~~Unless there is abnormal degradation of the containment during the first three inspections, the sample population for subsequent inspections shall include at least 6 tendons (3 hoop, 3 inverted U).~~

## SURVEILLANCE REQUIREMENTS (Continued)

- b. Performing tendon detensioning, inspections, and material tests on a previously stressed tendon. Two tendons, one from each group shall be detensioned each time lift-offs are performed per Figure 4.6-1. A randomly selected tendon shall be completely detensioned in order to identify broken or damaged wires and determining that over the entire length of the removed wire sample (which should include the broken wire if so identified) that:
- 1) The tendon wires are free of corrosion, cracks, and damage, and
  - 2) A minimum tensile strength of 240,000 psi (guaranteed ultimate strength of the tendon material) exists for at least three wire samples (one from each end and one at mid-length) cut from each removed wire.
- Failure to meet the requirements of 4.6.1.6.1.b shall be considered as an indication of abnormal degradation of the containment structure.
- c. Performing tendon retensioning of those tendons detensioned for inspection to at least the force level recorded prior to detensioning or the predicted value, whichever is greater, with the tolerance within minus zero to plus six percent (6%), but not to exceed 70% of the guaranteed ultimate tensile strength of the tendons. During retensioning of these tendons, the changes in load and elongation should be measured simultaneously at a minimum of three approximately equally spaced levels of force. If the elongation corresponding to a specific load differs by more than 10% from that recorded during the installation, an investigation should be made to ensure that the difference is not related to wire failures. This condition shall be considered as an indication of abnormal degradation of the containment structure.
- d. Verifying the OPERABILITY of the sheathing filler grease by assuring:
- 1) There are no changes in the presence or physical appearance of the sheathing filler grease including the presence of free water.
  - 2) Amount of grease replaced in excess of the grease removed does not exceed 5% of the net duct volume, when injected at a pressure not to exceed the designer's specifications.
  - 3) Minimum grease coverage exists for the different parts of the anchorage system.
  - 4) General visual examination of the containment exterior surface does not exhibit the grease leakage that could affect containment integrity, and

## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

- 5) ~~The chemical properties of the filler material are within the tolerance limits specified as follows:~~

Water Content	0 — 10% (by dry wt.)
Chlorides	0 — 10 ppm
Nitrates	0 — 10 ppm
Sulfides	0 — 10 ppm
Reserved Alkalinity	50% of the installed value;
(Base Number)	0 (for older grease)

~~Failure to meet requirement of 4.6.1.6.1.d shall be considered as an indication of abnormal degradation of the containment structure.~~

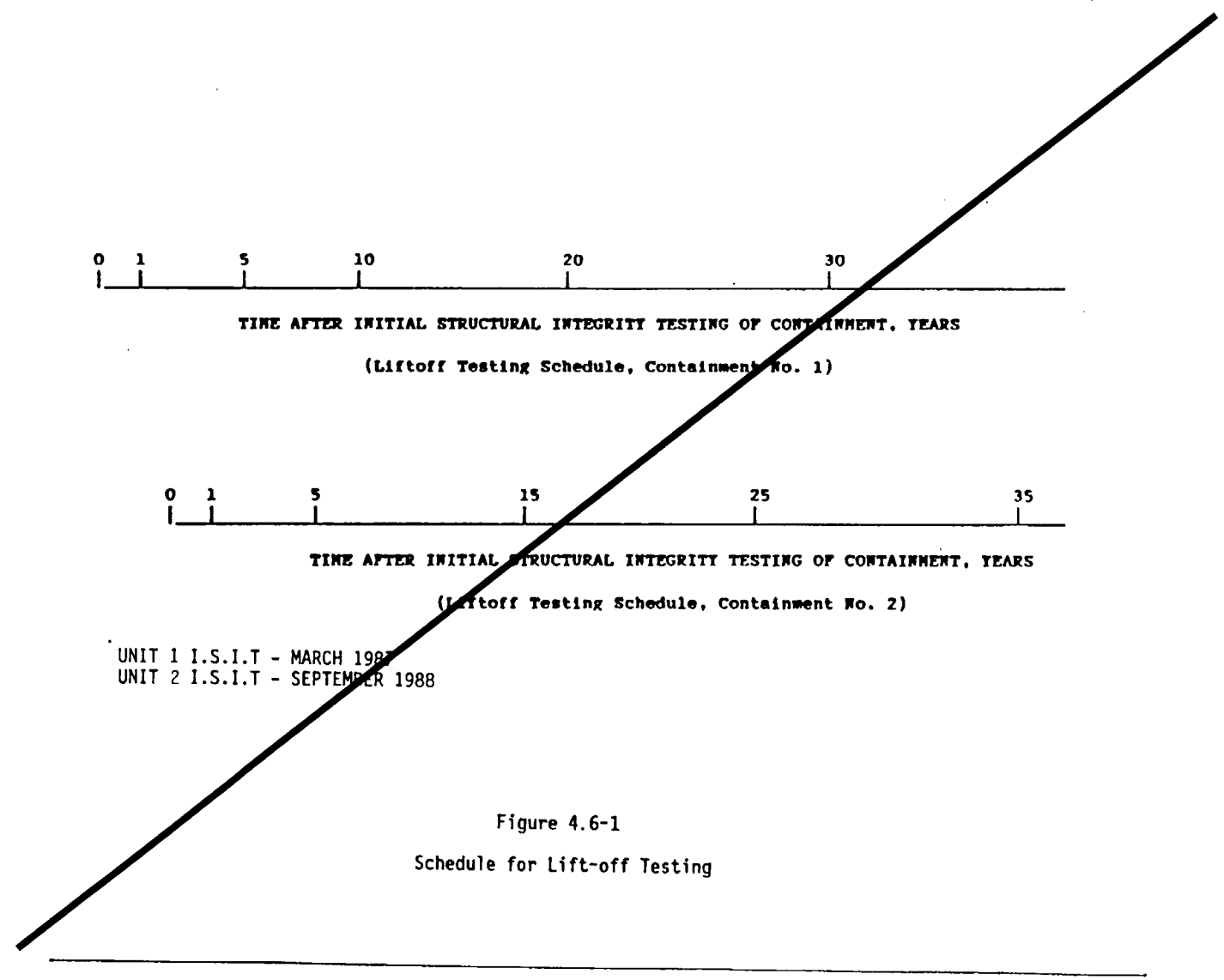
~~4.6.1.6.2 —End Anchorages and Adjacent Concrete Surfaces. As an assurance of the structural integrity of the containment(s), tendon anchorage assembly hardware (such as bearing plates, stressing washers, wedges, and buttonheads) of all tendons selected for inspection shall be visually examined. During combined inspection (See Figure 4.6-1), for the containment not having full inspection, only visual inspection need to be performed. The sample size for visual only inspection is the same as for full inspection (see 4.6.1.6.1.a). Tendon anchorages selected for inspection shall be visually examined to the extent practical without dismantling the load bearing components of the anchorages. Bottom grease caps of all vertical tendons shall be visually inspected to detect grease leakage or grease cap deformations. The surrounding concrete should also be checked visually for indication of any abnormal condition.~~

~~Significant grease leakage, grease cap deformation or abnormal concrete condition shall be considered as an indication of abnormal degradation of containment structure.~~

~~4.6.1.6.3 —Containment Surfaces. The exterior surface of the containment(s) should be visually examined to detect areas of large spall, severe scaling, D-cracking in an area of 25 sq. ft. or more, other surface deterioration or disintegration, or significant grease leakage, each of which can be considered as evidence of abnormal degradation of structural integrity of the containment(s).~~



DELETED



## ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)j) Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR Part 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Testing Program", dated September 1995.

Peak calculated primary containment internal pressure for the design basis loss of coolant accident (LOCA),  $P_a$ , is 41.2 psig.

The maximum allowable primary containment leakage rate,  $L_a$ , is 0.3% of primary containment air weight per day.

Leakage rate acceptance criteria are:

- a. Primary containment overall leakage rate acceptance criterion is  $\leq 1.0 L_a$ . During the first unit start-up following testing in accordance with this program, the leakage rate acceptance criteria are  $\leq 0.60 L_a$  for the combined Type B and Type C tests, and  $\leq 0.75 L_a$  as-left and  $\leq 1.0 L_a$  as-found for Type A tests.
- b. Air lock testing acceptance criteria for the overall air lock leakage rate is  $\leq 0.05 L_a$  when tested at  $\geq P_a$ .

The provisions of Surveillance Requirement 4.0.2 do not apply to the test intervals specified in the Containment Leakage Rate Testing Program.

The provisions of Surveillance Requirement 4.0.3 apply to the Containment Leakage Rate Testing Program.

k) Configuration Risk Management Program (CRMP)

A program to assess changes in core damage frequency and cumulative core damage probability resulting from applicable plant configurations. The program should include the following:

- 1) training of personnel,
- 2) procedures for identifying plant configurations, the generation of risk profiles and the evaluation of risk against established thresholds; and
- 3) provisions for evaluating changes in risk resulting from unplanned maintenance activities.

## ADMINISTRATIVE CONTROLS

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### PROCEDURES AND PROGRAMS (Continued)

I) Containment Post-Tensioning System Surveillance Program

This program provides controls for monitoring any tendon degradation in prestressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measures prior to initial operations. The Containment Post-Tensioning System Surveillance Program shall be in accordance with ASME Code Section XI, Subsection IWL, 1992 Edition with 1992 Addenda, as supplemented by 10CFR50.55a(b)(2)(viii).

**ATTACHMENT 4**

**REVISED TECHNICAL SPECIFICATION PAGES**

## CONTAINMENT SYSTEMS

### CONTAINMENT STRUCTURAL INTEGRITY

#### LIMITING CONDITION FOR OPERATION

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3.6.1.6 The structural integrity of the containment(s) shall be maintained as required by the Containment Post-Tensioning System Surveillance Program.

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

ACTION:

If the containment is not OPERABLE, restore containment to OPERABLE status in 1 hour, or be in at least HOT STANDBY in the next 6 hours and be in COLD SHUTDOWN in the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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##### 4.6.1.6 CONTAINMENT PRESTRESSING SYSTEM

Verify containment structural integrity in accordance with the Containment Post-Tensioning System Surveillance Program.

PAGES 3/4 6-10, 6-11, 6-11A, AND 6-11B HAVE BEEN DELETED.

## ADMINISTRATIVE CONTROLS

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### PROCEDURES AND PROGRAMS (Continued)

#### I) Containment Post-Tensioning System Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measures prior to initial operations. The Containment Post-Tensioning System Surveillance Program shall be in accordance with ASME Code Section XI, Subsection IWL, 1992 Edition with 1992 Addenda, as supplemented by 10CFR50.55a(b)(2)(viii).

**ATTACHMENT 5**

**CHANGES TO TECHNICAL SPECIFICATION BASIS 3/4.6.1.6**

**(for information only)**



**BASES - CURRENT VERSION**

**3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY**

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 41.2 psig ( $P_a$ ) in the event of a LOCA or steam line break accident. The measurement of containment tendon lift-off force, the tensile tests of the tendon wires, the visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the Type A leakage test are sufficient to demonstrate this capability.

The Surveillance Requirements for demonstrating the containment's structural integrity are in compliance with the recommendations of Regulatory Guide 1.35, "Inservice Inspection of UngROUTED Tendons in Prestressed Concrete Containment Structures," and proposed Regulatory Guide 1.35.1, "Determining Prestressing Forces for Inspection of Prestressed Concrete Containments," April 1979.

The required Special Reports from any engineering evaluation of containment abnormalities shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, the results of the engineering evaluation, and the corrective actions taken.

**BASES - REVISED VERSION**

**3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY**

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 41.2 psig ( $P_a$ ) in the event of a LOCA or steam line break accident. The measurement of containment tendon lift-off force, the tensile tests of the tendon wires, the visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the Type A leakage test are sufficient to demonstrate this capability.

The Surveillance Requirements for demonstrating the containment's structural integrity are in compliance with 10CFR50.55a(b)(2)(vi) and 10CFR50.55a(b)(2)(viii), and the recommendations of proposed Regulatory Guide 1.35.1, "Determining Prestressing Forces for Inspection of Prestressed Concrete Containments," April 1979.

- (1) STPNOC pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the designated location in Matagorda County, Texas, in accordance with the procedures and limitations set forth in this license;
  - (2) Houston Lighting & Power Company (HL&P), the City Public Service Board of San Antonio (CPS), Central Power and Light Company (CPL), and the City of Austin, Texas (COA), pursuant to the Act and 10 CFR Part 50, to possess the facility at the designated location in Matagorda County, Texas, in accordance with the procedures and limitations set forth in this license;
  - (3) STPNOC, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
  - (4) STPNOC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
  - (5) STPNOC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
  - (6) STPNOC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility authorized herein.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

STPNOC is authorized to operate the facility at reactor core power levels not in excess of 3,853 megawatts thermal (100% power) in accordance with the conditions specified herein.