TXU Power
Comanche Peak Steam
Electric Station
P. O. Box 1002 (E01)
Glen Rose, TX 76043
Tel: 254 897 5209
Fax: 254 897 6652
mike.blevins@txu.com

Mike Blevins
Senior Vice President &
Chief Nuclear Officer

Ref: 10CFR50.90

CPSES-200400705
Log # TXX-04061
File # 00236

September 9, 2004

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
LICENSE AMENDMENT REQUEST (LAR) 04-003,
REVISION TO TECHNICAL SPECIFICATION (TS) 3.6.6.8
CONTAINMENT SPRAY SYSTEM

Gentlemen:

Pursuant to 10CFR50.90, TXU Generation Company LP (TXU Power) hereby requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached change into the CPSES Unit 1 and 2 Technical Specifications (TS). This change request applies to both units.

The proposed change will revise the interval for Surveillance Requirement (SR) 3.6.6.8 to require verification that spray nozzles are unobstructed following maintenance that could result in nozzle blockage (loss of Foreign Material Exclusion control) rather than every 10 years.

Attachment 1 provides a detailed description of the proposed changes, a safety analysis of the proposed changes, TXU Power's determination that the proposed changes do not involve a significant hazard consideration, a regulatory analysis of the proposed changes and an environmental evaluation. Attachment 2 provides the affected Technical Specification pages marked-up to reflect the proposed changes. Attachment 3 provides proposed changes to the Technical Specification Bases for information only. These changes will be processed per CPSES site procedures. Attachment 4 provides retyped Technical Specification pages which incorporate the requested changes. Attachment 5 provides retyped Technical Specification Bases pages which incorporate the proposed changes.

TXU Power requests approval of the proposed License Amendment by July 31, 2005 to be implemented within 60 days of the issuance of the license amendment. The approval date was administratively selected to allow for NRC review but the plant does not require this amendment to allow continued safe full power operations.

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

This communication contains no new or revised commitments.

Should you have any questions, please contact Mr. Robert A. Slough at (254) 897-5727.

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

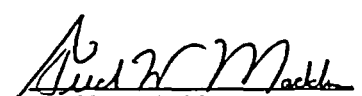
Executed on September 9, 2004.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC
Its General Partner

Mike Blevins

By: 
Fred W. Madden
Director, Regulatory Affairs

ras

Attachments
1. Description and Assessment
2. Markup of Technical Specifications pages
3. Markup of Technical Specifications Bases pages (for information)
4. Retyped Technical Specification Pages
5. Retyped Technical Specification Bases Pages (for information)

c - B. S. Mallett, Region IV
W. D. Johnson, Region IV
M. C. Thadani, NRR
Resident Inspectors, CPSES

Ms. Alice Rogers
Bureau of Radiation Control
Texas Department of Public Health
1100 West 49th Street
Austin, Texas 78756-3189

ATTACHMENT 1 to TXX-04061

DESCRIPTION AND ASSESSMENT

LICENSEE'S EVALUATION

1.0 DESCRIPTION

By this letter, TXU Power requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached change into the CPSES Unit 1 and 2 Technical Specifications (TS). Proposed change LAR 04-003 is a request to revise the frequency for Technical Specifications Surveillance Requirement (SR) 3.6.6.8 for Comanche Peak Steam Electric Station Units 1 and 2. The proposed change would revise the interval for Surveillance Requirement 3.6.6.8 to require verification that spray nozzles are unobstructed following maintenance that could result in nozzle blockage (loss of Foreign Material Exclusion control) rather than every 10 years.

No changes to the CPSES Final Safety Analysis Report are anticipated at this time as a result of this License Amendment Request.

2.0 PROPOSED CHANGE

The proposed change would revise the interval for Surveillance Requirement 3.6.6.8 to require verification that spray nozzles are unobstructed following maintenance that could result in nozzle blockage (loss of Foreign Material Exclusion control) rather than every 10 years.

For information only, this LAR includes proposed associated changes to the Technical Specification Bases.

3.0 BACKGROUND

The Containment Spray System is an Engineered Safety Feature used in response to a postulated Loss of Coolant Accident (LOCA). In response to a LOCA, the Containment Spray System is designed to:

- Maintain Reactor Containment Building pressure within design limits.
- Reduce the quantity of airborne iodine.
- Establish the sump pH to retain elemental iodine.

These functions are performed by chemically treated water sprayed into the Containment atmosphere through nozzles from spray headers located throughout the Containment. The large spray drop surface-to-Containment volume ratio enables the spray to effectively maintain containment building pressure and remove fission products from the Containment. Sodium Hydroxide entrained in the spray flow establishes the proper sump pH to ensure the retention of elemental iodine. A major benefit of the Containment Spray System is removal of iodine from the Containment atmosphere. (Radioiodine in its various forms is a fission product of primary concern in evaluating the consequences of a LOCA.)

The Containment Spray System consists of two independent trains. Four Containment Spray Pumps are provided for each unit (two per train) and are of the horizontal, double-suction, centrifugal type. These pumps are designed to provide sufficient flow into Containment during accident conditions to both cool the Containment atmosphere and remove radioactive iodine. Each of the two pumps per train are 50 percent pumps and have a capacity of approximately 3000 gpm at 260 psig discharge pressure. One of the two trains is capable of providing 100 percent of the required water and sodium hydroxide flow to the spray headers mounted throughout the Containment. Each train, by itself, will also provide 100% of the required containment sprayed volume coverage.

Spray Headers

The two trains of spray are each divided into four regions (A, B, C, and D). Region A is located in the dome area of the containment building (above elevation 905'). This region is further divided into eight ring headers which together have 545 nozzles divided between them in Unit 1 and 548 in Unit 2. Region B is located in the open volume between the secondary shield walls and the containment liner between 905'and 860' elevations. This region is divided into two spray headers which together contain 134 spray nozzles in Unit 1 and 131 in Unit 2. Region C has 28 nozzles divided between the two spray headers in Unit 1 and 27 in Unit 2. These headers spray an open volume between the secondary shield wall and the containment liner between 860' and 832' elevations. The two headers in region D contain 54 nozzles between them in Unit 1 and 47 in Unit 2. These headers also spray a space between the secondary shield wall and the containment liner between 832' and 808' elevations. All nozzles in the four regions are pointed at various angles and directions to ensure containment coverage assuming any single active failure.

Spray Nozzles

Containment spray nozzles are SPRACO Type-1713A. The spray nozzles are hollow-cone, with a 3/8-inch-diameter orifice, and are fabricated from stainless steel. These nozzles have a swirl chamber design (referred to as "ramp bottom" by SPRACO) with no internal parts, such as swirl vanes, that may be subject to clogging. The 3/8-inch nozzle discharge orifice is sufficiently large to preclude clogging by particles that pass through the 0.115-inch mesh of the fine containment sump screens.

Nozzle Testing

The Containment Spray System nozzles for both units were initially tested at five-year intervals. As approved by the Nuclear Regulatory Commission in License Amendment 64 dated February 26, 1999, the surveillance interval is currently ten years.

The Containment Spray System nozzles have been tested to confirm that there are no obstructions. Airflow tests were conducted as part of pre-operational testing and for the first five-year interval.

Test	Unit 1	Unit 2
Pre-Operational	02/10/83 & 07/11/89	08/19/92
TS Surveillance	03/09/95	11/06/97

The results of each test demonstrated unobstructed flow through each nozzle. These tests confirmed that the nozzles are free from construction debris, and also free from obstructions that could have occurred following startup and operation of the units. Also, the tests show that the spray nozzles did not become obstructed over a period of normal reactor operation.

4.0 TECHNICAL ANALYSIS

Corrosion

The CPSES Unit 1 and Unit 2 spray ring headers are maintained dry. Standing water is present in system piping up to the 924'-6" elevation. Formation of significant corrosion products is unlikely because the components are stainless steel.

The containment spray system header and nozzles are passive devices that are not normally exposed to fluids or debris. The system piping and nozzles are fabricated of stainless steel, which is highly resistant to corrosion, especially in a low-stress application such as at CPSES. Conditions for stainless steel corrosion, i.e., stress, temperature, and chlorides, are not present. Therefore, the nozzles are unlikely to become obstructed due to corrosion.

Maintenance

A review of the maintenance and modification history indicates that a number of work orders and modifications have been implemented on the Containment Spray System since the last air flow test including removal or replacement of various vent and drain valves and replacement of the pump impellers. However, there has been no maintenance or modification to the system that would have potentially impacted the nozzles or spray rings. Cleanliness control and foreign material exclusion practices, including post-work inspections, have ensured that system cleanliness requirements are continuing to be met.

Inspection Methods

The Technical Specifications currently require that the spray nozzles be tested for obstruction using either air flow or smoke flow. The Technical Specification Bases will address the means by which the nozzles are confirmed to be unobstructed. Verification by visual inspection of the open portions of the system will be included as an option.

Previous Experience

NUREG-1366, "Improvements to Technical Specification Requirements" (Reference 8.1) is a review of industry operating history to determine the cause of problems discovered when performing this surveillance. In all cases, the problems discovered were related to construction, and not the result of normal operation.

NRC Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," dated September 27, 1993 (Reference 8.2), described a problem at San Onofre Unit 1 that was caused because sodium silicate, a coating material applied to the Containment Spray system carbon steel piping, clogged seven nozzles. The CPSES Containment Spray system piping and nozzles are stainless steel and are not coated. Therefore, that concern is not applicable to the CPSES.

The Containment Spray system nozzles for both CPSES units have been tested satisfactorily twice since completion of construction, demonstrating that the construction problems identified in NUREG-1366 do not exist at CPSES.

Foreign Material Exclusion

At CPSES, the Foreign Material Exclusion Program is implemented by procedure STA-625, "Foreign Material Exclusion". This procedure describes the measures to be taken to ensure foreign material is not introduced into a component or system and measures to be taken if material or tool accountability is lost. The procedure requires that when closing a system or component, an inspection be performed to ensure that all foreign material is removed. This requirement applies to work activities and inspection activities on safety-related systems and components performed by work groups at CPSES. If required foreign material exclusion is not maintained, the condition is entered in the CPSES Corrective Action Program, requiring assessment of the circumstances and implementation of appropriate corrective actions to ensure the spray nozzles continue to be operable and to prevent recurrence.

When maintenance requires a breach of a fluid system or associated component integrity, implementation of procedural guidelines for station housekeeping and foreign material exclusion will prevent inadvertent introduction of foreign material into the system/component. Any fluid system/component breach is to be covered when access for maintenance or inspection is not required.

Due to their locations in the containment, introduction of foreign material into the spray headers is highly unlikely. Foreign material introduced as a result of maintenance is the most likely cause for obstruction; therefore, verification during and following such maintenance would suffice to assure no material is introduced that could cause nozzle

blockage. Consequently, the potential for an unidentified nozzle obstruction is very low. In general, once tested after construction, containment spray systems have not been subject to blockage. Routine maintenance activities with effective application of foreign material exclusion controls should not require subsequent inspection or testing of the spray nozzles.

Risk Analysis

Accident analyses are based on one of the two Containment Spray trains operating. Two operable Containment Spray pumps assure that the pressure across the upper spray ring nozzles is adequate to provide the design flow rate. The calculated spray coverage inside the containment assures that after a design-basis accident the offsite dose is within Part 100 limits and the 30-day control room dose is within design guidelines. However, these criteria are not applicable to the Probabilistic Safety Assessment, and neither are the conservatisms applied to the design-basis analysis.

The Probabilistic Safety Assessment does not address reduction of containment spray capability as a result of nozzle blockage.

Assessment

Reduced testing is justified where operating experience has shown that routinely passing a surveillance test performed at a specified interval has no apparent connection to overall component reliability. In this case, routine surveillance testing at the specified frequency is not connected to any activity that may initiate reduced component reliability, and therefore is of limited value in ensuring component reliability. Therefore, the proposed change is not significant from a reliability standpoint.

The surveillance affects refueling activities in the reactor containment building, presents a personal safety risk for the individuals required to access the top of containment to check the nozzle air flow, and is expensive to implement. The cost associated with performing this test is not commensurate with the safety benefit unless there has been an activity that could result in nozzle blockage due to foreign material.

5.0 REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

TXU Generation Company LP has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10CFR50.92, Issuance of amendment, as discussed below:

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

   Response: No

   The Containment Spray System is not considered an initiator of any analyzed event. The proposed change does not have a detrimental impact on the integrity of any plant structure, system, or component that may initiate an analyzed event. The proposed change will not alter the operation or otherwise increase the failure probability of any plant equipment that can initiate an analyzed accident. This change does not affect the plant design. There is no increase in the likelihood of formation of significant corrosion products. Due to their location at the top of the containment, introduction of foreign material into the spray headers is unlikely. Foreign material introduced during maintenance activities would be the most likely source for obstruction, and verification following such maintenance would confirm the nozzles remain unobstructed.

   Consequently, there is no significant increase in the probability of an accident previously evaluated.

   The Containment Spray System is designed to address the consequences of a LOCA. The Containment Spray System is capable of performing its function effectively with the single failure of any active component in the system, any of its subsystems, or any of its support systems. A plugged nozzle would have negligible impact on the capability of the Containment Spray System to respond to a Loss of Coolant Accident.

   Therefore, the consequences of an accident previously evaluated are not significantly affected by the proposed change.

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

   Response: No

   The proposed change will not physically alter the plant (no new or different type of equipment will be installed) or change the methods governing normal plant operation.

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

3. Do the proposed changes involve a significant reduction in a margin of safety?

   Response: No

   The system is not susceptible to corrosion-induced obstruction or obstruction from sources external to the system. Maintenance activities that could introduce foreign material into the system would require subsequent verification to ensure there is no nozzle blockage. The spray header nozzles are expected to remain unblocked and available in the event that the safety function is required. Therefore, the capacity of the system would remain unaffected.

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

   Based on the above evaluations, TXU Power concludes that the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10CFR50.92(c) and, accordingly, a finding of no significant hazards consideration is justified.

5.2 Applicable Regulatory Requirements/Criteria

The regulatory bases and guidance documents associated with the systems discussed in this amendment application include:

10CFR50 Appendix A, Criterion 39, "Inspection of Containment Heat Removal Systems" requires that the containment heat removal system be designed to permit appropriate periodic inspection of important components, such as the torus, sumps, spray nozzles, and piping to assure the integrity and capability of the system.

Evaluation

Provisions have been made to facilitate periodic inspections of active components and

other important equipment in the Containment Heat Removal System.

10CFR50 Appendix A, Criterion 40, "Testing of Containment Heat Removal Systems" requires that the containment heat removal system be designed to permit appropriate periodic pressure and functional testing to assure:

(1) The structural and leaktight integrity of its components,
(2) The operability and performance of the active components of the system, and
(3) The operability of the system as a whole, and under conditions as close to the design as practical performance of the full operational sequence that brings the system into operation, including operation of applicable portions of the protection system, the transfer between normal and emergency power sources, and the operation of the associated cooling water system.

Evaluation

The Containment Heat Removal System is provided with sufficient test connections and isolation valves to permit periodic pressure testing. System piping, valves, pumps, heat exchangers, and other components of the Containment Heat Removal System are arranged so that each component can be tested periodically for operability, including transfer to the standby power system. The delivery capability of the Containment Spray System has been tested to the extent practicable and Section XI testing is periodically performed to verify pump capacity. The delivery capability of the spray nozzles has been tested periodically by blowing low-pressure air through the nozzles and verifying the flow.

The ASME Code of Record for CPSES Unit 1 and 2 when this change would be implemented will include Sub-section IWA-5000 of the 1998 Edition, including 1999 and 2000 Addenda, of ASME Section XI which provides for the demonstration of an open flow path in lieu of the system hydrostatic test.

Evaluation

This requirement will be reflected in the Technical Specification Bases.

6.0 ENVIRONMENTAL CONSIDERATION

TXU Power has determined that the proposed amendment would change requirements with respect to the installation or use of a facility component located within the restricted area, as defined in 10CFR20, or would change an inspection or surveillance requirement. TXU Power has evaluated the proposed changes and has determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amount of effluent that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure.

Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), an environmental assessment of the proposed change is not required.

7.0. PRECEDENT

By letter dated May 14, 2003 (Reference 8.3), the South Texas Project Nuclear Operating Company (STPNOC) submitted similar proposed Technical Specification changes for the South Texas Project Electric Generating Station Unit 1 (Operating License No. NPF-76) and Unit 2 (Operating License NPF-80). The NRC staff's safety evaluation report (SER) approving the plant specific license amendment requests and issuing License Amendments No. 156 to Operating License NPF-76 and No. 144 to Operating License NPF-80 was transmitted by letter (Reference 8.4) to Mr. James J. Sheppard (STP Nuclear Operating Company) by Mohan Thadani (USNRC), dated August 20, 2003.

Similar license amendments have been issued for the Perry Nuclear Power Plant (Reference 8.5), the North Anna Power Station (Reference 8.6), the Calvert Cliffs Nuclear Power Plant (Reference 8.7), the Beaver Valley Power Station (Reference 8.8), the Braidwood Station (Reference 8.9), the H. B. Robinson Steam Electric Plant (Reference 8.10), the Palisades Plant (Reference 8.11), the Salem Nuclear Generating Station (Reference 8.12), and the Surry Power Station (Reference 8.13).

8.0. REFERENCES

8.1 NUREG-1366, "Improvements to Technical Specification Requirements," December 1992.

8.2 Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," September 27, 1993.

8.3 Letter to USNRC from James J. Sheppard dated May 14, 2003, "Proposed Amendment to Technical Specification 3/4.6.2, "Depressurization and Cooling Systems"".

8.4 Letter from Mohan Thadani (NRC) to James J. Sheppard (STP Nuclear Operating Company) dated August 20, 2003, "Issuance of Amendments Re: Revision to Surveillance Requirement 3/4.6.2, "Depressurization and Cooling Systems"" (TAC Nos. MB9100 And MB9101).

8.5 Letter from Douglas V. Pickett (NRC) to John K. Wood (FirstEnergy Nuclear Operating Company) dated June 29, 2000, Perry Nuclear Power Plant, Unit 1 – Issuance of Amendment (TAC No. MA7136).

8.6 Letter from Stephen Monarque (NRC) to David A. Christian (Virginia Electric and Power Company) dated October 1, 2002, North Anna Power Station, Units 1 and 2 – Issuance of Amendments Re: Quench Spray and Recirculation Nozzles Surveillance Frequency (TAC Nos. MB4270 and MB4271).

8.7 Letter from Guy S. Vissing (NRC) to George Vanderheyden (Calvert Cliffs Nuclear Power Plant, Inc.) dated April 8, 2004, Calvert Cliffs Nuclear Power Plant Unit Nos. 1 and 2 – Amendment Re: Changes to the Testing Requirements for Containment Spray Nozzles (TAC Nos. MC0030 and MC0031)

8.8 Letter from Timothy G. Colburn (NRC) to Mark B. Bezilla (FirstEnergy Nuclear Operating Company) dated February 24, 2003, Beaver Valley Power Station, Unit Nos. 1 and 2 – Issuance of Amendments Re: Containment Spray Nozzle Surveillance Requirements (TAC Nos. MB5850 and MB5851)

8.9 Letter from Mahesh Chawla (NRC) to John L. Skolds (Exelon Nuclear, Exelon Generating Company, LLC) dated February 20, 2003, Braidwood Station, Units 1 and 2 – Issuance of Amendments (TAC Nos. MB4851 and MB4852)

8.10 Letter from Ram Subbaratnam (NRC) to J. W. Moyer (Carolina Power & Light Company) dated September 19, 2002, H. B. Robinson Steam Electric Plant Unit 2 – Issuance of Amendment – Technical Specification Change on Surveillance Requirement of Containment Vessel Spray Nozzle Testing Frequency (TAC No. 4248)

8.11 Letter from Johnny H. Eads (NRC) to Douglas E. Cooper (Palisades Nuclear Plant) dated February 24, 2003, Palisades Plant – Issuance of Amendment Re: Containment Spray Nozzles (TAC No. MB4282)

8.12 Letter from Robert J. Fretz (NRC) to Harold W. Keiser (PSEG Nuclear LLC) dated October 10, 2002, Salem Nuclear Generating Station, Unit Nos. 1 and 2, Issuance of Amendment Re: Containment Spray Nozzles (TAC Nos. MB5629 and MB5630)

8.13 Letter from Chris Gratton (NRC) to David A. Christian (Virginia Electric Power Company) dated December 10, 2002, Surry Units 1 and 2 – Surveillance Frequency for the Containment Spray and Recirculation Spray Nozzles (TAC Nos. MB5114 and MB5115)

ATTACHMENT 2 to TXX-04061

PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)

Page 3.6-19

SURVEILLANCE		FREQUENCY
SR 3.6.6.1	Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days
SR 3.6.6.2	Not used.	
SR 3.6.6.3	Not used.	
SR 3.6.6.4	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.6.6.5	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.6.6.6	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.7	Not used.	
SR 3.6.6.8	Verify each spray nozzle is unobstructed.	~~10 years~~ Following maintenance which could result in nozzle blockage

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6.5 and SR 3.6.6.6

These SRs require verification that each automatic containment spray valve actuates to its correct position on an actual or simulated actuation of a containment "P" (High-3) signal and that each containment spray pump starts upon receipt of an actual or simulated actuation of a containment "S" (High-1) and "P" (High-3) pressure signals. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. Operating experience has shown that these components usually pass the Surveillances when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.6.6.7

Not Used

SR 3.6.6.8

With the containment spray inlet valves closed and the spray header drained of any solution, low pressure air or smoke can be blown through test connections. This SR ensures that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. Due to the passive design of the nozzle, ~~a test at 10 year intervals~~ is considered adequate to detect obstruction of the nozzles.

(continued)

Confirmation that the spray nozzles are unobstructed may be obtained by utilizing foreign materials exclusion (FME) controls during maintenance, a visual inspection of the affected portions of the system, or by an air or smoke flow test following maintenance involving opening portions of the system downstream of the containment isolation valves or draining of the filled portions of the system inside containment. Maintenance that could result in nozzle blockage is generally a result of a loss of foreign material control or a flow of borated water through a nozzle. Should either of these events occur, a supervisory evaluation will be required to determine whether nozzle blockage is a possible result of the event. For the loss of FME event, an inspection or flush of the affected portions of the system should be adequate to confirm that the spray nozzles are unobstructed since water flow would be required to transport any debris to the spray nozzles. An air flow or smoke test may not be appropriate for a loss of FME event but may be appropriate for the case where borated water inadvertently flows through the nozzles.

confirmation of operability following maintenance activities that can result in obstruction of spray

ATTACHMENT 3 to TXX-04061

PROPOSED TECHNICAL SPECIFICATION BASES CHANGES (MARK-UP)
(For Information Only)

Page B 3.6-44

ATTACHMENT 4 to TXX-04061

RETYPED TECHNICAL SPECIFICATION CHANGES

Page 3.6-19

SURVEILLANCE		FREQUENCY
SR 3.6.6.1	Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days
SR 3.6.6.2	Not used.	
SR 3.6.6.3	Not used.	
SR 3.6.6.4	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.6.6.5	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.6.6.6	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.7	Not used.	
SR 3.6.6.8	Verify each spray nozzle is unobstructed.	Following maintenance which could result in nozzle blockage

ATTACHMENT 5 to TXX-04061

RETYPED TECHNICAL SPECIFICATION BASES
(For Information Only)

Page B 3.6-44

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6.5 and SR 3.6.6.6

These SRs require verification that each automatic containment spray valve actuates to its correct position on an actual or simulated actuation of a containment "P" (High-3) signal and that each containment spray pump starts upon receipt of an actual or simulated actuation of a containment "S" (High-1) and "P" (High-3) pressure signals. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. Operating experience has shown that these components usually pass the Surveillances when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.6.6.7

Not Used

SR 3.6.6.8

With the containment spray inlet valves closed and the spray header drained of any solution, low pressure air or smoke can be blown through test connections. This SR ensures that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. Due to the passive design of the nozzle, confirmation of operability following maintenance activities that can result in obstruction of spray nozzle flow is considered adequate to detect obstruction of the nozzles. Confirmation that the spray nozzles are unobstructed may be obtained by utilizing foreign materials exclusion (FME) controls during maintenance, a visual inspection of the affected portions of the system, or by an air or smoke flow test following maintenance involving opening portions of the system downstream of the containment isolation valves or draining of the filled portions of the system inside containment. Maintenance that could result in nozzle blockage is generally a result of a loss of foreign material control or a flow of borated water through a nozzle. Should either of these events occur, a supervisory evaluation will be required to determine whether nozzle blockage is a possible result of the event. For the loss of FME event, an inspection or flush of the affected portions of the system should be adequate to confirm that the spray nozzles are unobstructed since water flow would be required to transport any debris to the spray nozzles. An air flow or smoke test may not be appropriate for a loss of FME event but may be appropriate for the case where borated water inadvertently flows through the nozzles.

(continued)