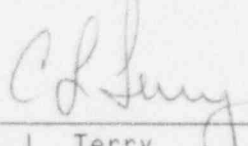


UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
Texas Utilities Electric Company) Docket Nos. 50-445
) 50-446
(Comanche Peak Steam Electric)
Station, Units 1 & 2))

AFFIDAVIT

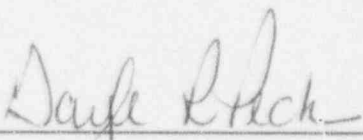
C. L. Terry being duly sworn, hereby deposes and says that he is Group Vice President, Nuclear Production of TU Electric, that he is duly authorized to sign and file with the Nuclear Regulatory Commission this License Amendment Request 94-015; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.



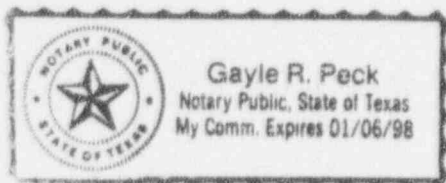
C. L. Terry
Group Vice President,
Nuclear Production

STATE OF TEXAS)
)
COUNTY OF DALLAS)

Subscribed and sworn to before me, a Notary Public, on this 19th day of September, 1994.



Notary Public



ATTACHMENT 2 TO TXX-94131
DESCRIPTION AND ASSESSMENT

DESCRIPTION AND ASSESSMENT

I. BACKGROUND

TU Electric completed a mid-cycle outage on Comanche Peak Steam Electric Station (CPSES) Unit 2 in June of 1994. This outage was used to preserve fuel, thus allowing continuous operation until the first refueling outage tentatively scheduled for September of 1994. During the mid-cycle outage, one train of the safety related subsystems and components (Train A) was taken out of service and available for testing. TU Electric took this opportunity to perform (1) the major inspections of Train A Emergency Diesel Generator (EDG) per the CPSES Design Review and Quality Revalidation (DR/QR) program as required by Technical Specification 4.8.1.1.2f.1) and (2) the major Train A Engineered Safety Feature (ESF) integrated testing also required by the CPSES Technical Specifications (TS). The ESF integrated testing is a test sequence which satisfies a group of Surveillance Requirements (SRs), including several of the 18 month EDG SR. In addition, several other Surveillance Tests with an 18 month test interval were performed during this outage either because they are logically performed as post work testing on the Emergency Diesel Generator or because they are best performed when all or most of an electrical train is out of service.

TU Electric is requesting a one-time six month extension of the test intervals for the 18 month Unit 2, Train A EDG and related Surveillance Requirements. By performing these Train A tests during the first cycle mid-cycle outage and obtaining an extension on the test interval, TU Electric will not have to take significant train outages on both electrical trains during the first refueling outage. Train B will be tested during the first refueling outage, where required by the TS, but the major Train A outage and testing will not be required again until the second refueling outage for Unit 2 (scheduled for the Spring of 1996).

Generic Letter (GL) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle" of April 2, 1991, provided guidance on extending cycle related surveillance requirements to a 24 month test interval. TU Electric is requesting a one-time extension to the Comanche Peak Steam Electric Station (CPSES) Technical Specifications (TS), based on the same conceptual reasoning used in GL 91-04, although CPSES is not going to the 24 month fuel cycle at present.

The one-time extension will eliminate significant testing and a major electrical bus outage from the first refueling outage for Unit 2. As a result, the shutdown risks for Train A associated with these activities will be reduced and, in addition, the required refuel outage time may also be reduced.

II. DESCRIPTION OF TECHNICAL SPECIFICATION CHANGE REQUEST

The following specific changes to the CPSES Technical Specifications are being requested:

Surveillance Requirements (SR) 4.8.1.1, 2f and 4.8.1.2
(18 month operability SR for EDGs)

Note: These are the primary surveillance requirements which were completed during Unit 2 mid-cycle outage.

Add footnotes to provide one-time extensions of the required 18 month surveillance test intervals to 24 months for these SRs for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2. The primary test activities affected by this footnote are listed below:

- EDG inspection per CPSES DR/QR program (including overspeed trip test)
- Simulate a loss of offsite power (LOOP)
- EDG starts on Safety Injection signal (SI) without LOOP
- EDG start on SI with LOOP
- EDG 24 hour load run
- EDG auto connect loads less than 7000kw
- SI signal overrides test mode
- Auto load sequence timers are operable
- EDG synchronize with offsite power, transfer load and restore to standby
- EDG load reject of single largest load
- EDG load reject of 7000 kw without trip
- EDG fuel transfer
- EDG lockout

Note: The remaining SR listed below were also performed during the mid-cycle outage. The testing required to satisfy these SR are either part of established procedures for the ESF integrated test sequence or are best performed during a train bus outage. There are no existing procedures to test the small parts of the ESF integrated tests separately. Rather than altering existing procedures or creating new ones for a one-time iteration, and thus creating the increased possibility of procedure or personnel error, TU Electric chose to request a one-time extension for these SR as well.

SR 4.3.2.1, Table 4.3-2, Functional Unit 8.a through 8.f (18 month surveillance Engineered Safety Features Actuation System (ESFAS) Loss of Power channel calibration)

Add a footnote to provide a one-time extension of the required 18 month calibrations to 24 months for Train A, Unit 2 ESFAS undervoltage channels for loss of power on the 6.9kV and 480V Safeguards Electrical Power Systems.

SR 4.3.2.2 (18 month Engineered Safety Features Response Time SR)

Add a footnote to provide a one-time extension of the required 18 month surveillance test interval to 24 months for this SR for Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2. This SR is normally performed using alternate trains during alternate refueling outages. The SR was performed early in the first cycle of Unit 2, using Train B, to start the normal sequence. The SR, using Train A, which was scheduled for the first refueling outage, was completed during the Unit 2 mid-cycle outage. With the one-time extension, the SR will next be required during the second refueling outage using Train B. The primary test activities affected by this footnote are listed below:

The slave relay and pumps for the following:

Containment Spray,
Safety Injection,
Centrifugal Charging,
Residual Heat Removal, and
Motor Driven Auxiliary Feedwater;

EDG start response time from start signal to stable voltage and frequency;

EDG start response time from start signal to breaker closure;

Slave relays K610 and K603; and

Undervoltage for the 6.9kV Bus, degraded voltage (with and without SI) for 6.9kV and 480V Busses, and 480V low grid undervoltage loss of power signals.

SRs 4.5.2e and 4.5.3.1.1 (18 month Emergency Core Cooling System (ECCS) subsystem operability SRs)

Add footnotes to provide one-time extensions of the required 18 month surveillance test intervals to 24 months for these SRs for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2. The following testing activities are affected:

Start of the following pumps on SI without LOOP:

- Centrifugal Charging Pump
- SI Pump
- Residual Heat Removal Pump

Actuation of the following valves on SI:

- valve 2-LCV-112B closure
- valve 2-LCV-112D opening
- valve 2-8106 closure
- valve 2-8800A closure
- valve 2-8511A opening
- valve 2-8202A closure
- valve 2-8210A closure

SR 4.6.3.2a (18 month containment isolation valve operability SR)

Add a footnote to provide a one-time extension of the required 18 month surveillance test interval to 24 months for testing the closure of valve 2-8160 on a Phase "A" isolation test signal (Train A, Unit 2), to remain in effect until the completion of the second refueling outage for CPSES Unit 2.

SR 4.7.1.2b.2 (18 month Auxiliary Feedwater Pump operability SR)

Add a footnote to provide a one-time extension of the required 18 month surveillance test interval to 24 months for testing the start of the Unit 2, Train A Motor Driven Auxiliary Feedwater Pump upon receipt of an Auxiliary Feedwater Actuation Signal, to remain in effect until the completion of the second refueling outage for CPSES Unit 2.

SR 4.7.3b (18 month Component Cooling Water (CCW) operability SR)

Add a footnote to provide a one-time extension of the required 18 month surveillance test interval to 24 months for this SR for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2. The testing activities of concern are the start of the CCW pumps on SI and the automatic actuation of the following valves on their associated ESF actuation signal:

- 2-HV-4725
- 2-HV-4572
- 2-FV-4536
- 2-HV-4631A
- 2-HV-4631B

SRs 4.7.4.1.1b and 4.7.4.2.1 (18 month Station Service Water (SSW) pump operability SRs)

Add footnotes to provide one-time extensions of the required 18 month surveillance test intervals to 24 months for these SR (pump start on SI) for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2.

SR 4.7.7.1i (18 month Control Room Emergency Filtration/Pressurization System operability SR)

Add a footnote to provide a one-time extension of the required 18 month surveillance test interval to 24 months for testing the actuation of the Control Room HVAC system in the emergency recirculation mode on LOOP for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2.

SR 4.7.8d.2 (18 month Primary Plant Ventilation System ESF Filtration Unit automatic start SR)

Add a footnote to provide a one-time extension of the required 18 month surveillance test interval to 24 months for testing the automatic start of each ESF Filtration Unit on SI for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2.

SR 4.7.11.1 (18 month UPS (Uninterruptable Power Supply) HVAC System operability SR)

Add a footnote to provide a one-time extension of the required 18 month surveillance test interval to 24 months for this SR for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2. The testing affected by this extension are the automatic starts of the train on SI and Blackout.

SR 4.7.12b (18 month Safety Chilled Water System operability SR)

Add a footnote to provide a one-time extension of the required 18 month surveillance test interval to 24 months for this SR (start of train equipment on SI) for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2.

SR 4.8.4a (18 month containment penetration conductor overcurrent protective switchgear circuit breaker operability SR)

Add a footnote to provide a one-time extension of this SR for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for CPSES Unit 2. The testing activities affected by this footnote include the Channel Calibration and integrated system functional test of a representative sample of the circuit breakers.

In summary, this license amendment request proposes one-time extensions to the surveillance test intervals for selected Surveillance Requirements (SR) for CPSES Unit 2. These SR were completed during the mid-cycle outage which was completed in June of 1994. In general these SR relate to the performance of significant inspections on the Train A Emergency Diesel Generator (EDG), testing performed subsequent to such inspections, and testing best performed during an outage on the Train A electrical busses. These extensions will allow CPSES to complete the first refueling outage without a major Train A electrical outage.

III. ANALYSIS

This analysis addresses the current testing performed, how they are affected by or affect the proposed TS change, and other aspects that could or could not affect the Surveillance tests covered by the TS change.

Emergency Diesel Generators (EDGs) are required to provide electric power for safe shutdown and accident mitigation in the event of loss of offsite power. In order to reliably provide this requirement, the EDG's are currently subjected to a comprehensive maintenance and testing program which is performed on a regular (typically monthly, etc.) basis as required by Technical Specifications. This comprehensive maintenance and testing program (DR/QR) is in the process of being replaced with a 10CFR50.65 (Maintenance Rule) program. The EDG's are presently required to be inspected (TS 4.8.1.1.2f.1)) and tested on an 18 month basis to verify EDG operation for certain scenarios such as loss of offsite power (TS 4.8.1.1.2f.4)), Safety Injection Without Loss of Offsite Power (TS 4.8.1.1.2f.5)), Safety Injection With Loss of Offsite Power (TS 4.8.1.1.2f.6)), and 24 Hour Load Run (TS 4.8.1.1.2f.7)). Some of these tests are part of test procedures which are referred to as the ESF integrated test sequence. For several surveillance requirements, the slave relays are actuated by the sequencer which is tested during ESF integrated testing; therefore, the slave relays associated with these surveillances are not readily testable by themselves. These integrated tests and the other EDG tests are normally performed for each EDG train (A and B) during plant refueling outages. These tests were performed on Train A during the first cycle mid-cycle outage. Train B will be tested, as required, at the first refueling outage.

All portions of the applicable 18 month tests are being included in the extension request. Train B will be maintained in it's current test interval. Many of the surveillance requirements performed by the 18 month testing procedures are also satisfied during other surveillance tests. For example, the Diesel Generator Operability Test (per TS 4.8.1.1.2a, 4.8.1.1.2b) includes engine starting, accelerating, timing and loading. The TS requires a minimum of 1 hour at full load, however, in practice, the actual test takes approximately 4 hours under loaded conditions. This test also demonstrates the response time of the diesel generator, except for the time of the output breaker closure. For the solid state safeguards sequencer, monthly testing demonstrates the operability of the sequencer

circuitry and would give a fault indication if the system was not able to perform as required. The sequencer provides digital indication of the load sequence times. This gives added assurance that the sequencer actuated components would receive the required signal during an actual event. Quarterly Inservice Testing (IST) also would indicate problems with pumps or valves that are started or stroked which would add assurance that any inherent problems would be discovered before the 18 month testing was performed.

Except for the changes to Table 4.3-2, the requested surveillance extensions do not involve instrument drift as addressed in GL 91-04. For the calibrations which are being extended in Table 4.3-2 for the Loss of Power Functional Unit, TU Electric has concluded that the instrumentation will not drift beyond the specified limits due to an increase in the surveillance period because:

- a) Solid state relays are used which are much less prone to drift.
- b) The NPRDS does not have any history of drift problems for these types of solid state relays, and
- c) CPSES experience has shown that these relays have not exceeded their specified limits with a one time exception for a few relays which was due to problems with the instrumentation used to calibrate the relays. In addition, the relay setting tolerances are being revised to provide more margin between minimum relay setting and the limit specified in the technical specifications to ensure that the drift, if any, due to the increase of the surveillance period will remain well within the technical specification limit.

Consistent with the guidance of GL 91-04 the CPSES licensing basis was reviewed for any impact caused by the change to a 24 month test cycle. The CPSES Final Safety Analysis Report (FSAR) section 1A(B) adopts the guidance of Regulatory Guide 1.108, which defines an 18 month test period, however, there is no explicit reliance on any specific time period for this testing. These one-time extensions to these surveillances do not invalidate any assumptions in the plant licensing basis.

Based on the present schedule, the actual time period between consecutive performances of the surveillances (mid-cycle outage to second refueling) may only slightly exceeds the nominal 18 months with a 25% extension as allowed by Technical Specification 4.0.2. Train B EDG will remain on an 18 month interval.

In summary, these changes will not affect the ability of the plant equipment to provide an adequate level of safety. The extension is small, many features are confirmed by other more frequent tests, instrument accuracy is not adversely affected, and operational history does not show reliability problems related to this testing. In addition, extending the interval for these tests is conceptually consistent with regulatory guidance to allow for a 24 month fuel cycle as described in GL 91-04. The extension of these test intervals to 24 months will have no adverse affects on the operability or reliability of the EDG or the related surveillance components.

IV. SIGNIFICANT HAZARDS CONSIDERATIONS DETERMINATION

As required by 10CFR50.91(a)(1), an analysis is provided below to demonstrate that the requested license amendment involves no significant hazards considerations.

- 1) Does operation of the Comanche Peak Steam Electric Station in accordance with the requested license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

These are a one-time extensions. The proposed changes only extend the surveillance test intervals and do not alter the function or operation of the equipment and are consistent with the philosophy of Generic Letter (GL) 91-04. The surveillances relate to mitigation features and have no impact on probability of an accident. The only impact on consequences would result from the component or system reliability. The reliability of the affected systems and components is not being affected since the same testing will be performed but with a one-time extended test interval.

Many features are tested more frequently by other surveillances and the ESF actuation surveillances (response time tests) have historically been successful, therefore, any increase in probability or consequences of a previously evaluated accident would be insignificant.

- 2) Does the requested license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

These are one-time extensions. No new accident scenarios are being introduced because neither the testing nor the methodology itself are being affected. Only the interval between testing is being changed consistent with the intent of GL 91-04.

- 3) Does the requested license amendment involve a significant reduction in a margin of safety?

These are one-time extensions. Margin of safety is not significantly affected because no test functions are being omitted and many attributes of the systems will continue to be verified in other surveillance tests. The increased time between surveillances, which could result in a slight decrease in assumed equipment reliability, is mitigated by the facts that many features are tested more frequently by other surveillances and by the relatively short duration of the extension. In addition, minimizing train outages during refueling outages and using demonstrated test procedures reduces the risk of events occurring during the outage and improves safety. Overall, because the potential impact on equipment reliability is small and because of the reduced shutdown risks, this license amendment request does not involve a significant reduction in margin of safety but potentially increases the margin of safety.

On the basis of the above evaluations, TU Electric concludes that the activities associated with the requested changes satisfy the no significant hazards consideration standards of 10CFR50.92(c) and, accordingly, a no significant hazards consideration finding is justified.

V. ENVIRONMENTAL EVALUATION

TU Electric has evaluated the requested 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 amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the requested changes meet the eligibility criterion for categorical exclusion set forth in 10CFR51.22(b), an environmental assessment of the requested changes is not required.

VI. REFERENCES

Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," April 1991.

ATTACHMENT 3 TO TXX-94131
AFFECTED TECHNICAL SPECIFICATION PAGES
(NUREG-1468)

Pages 3/4 3-14, 3/4 3-36, 3/4 5-5, 3/4 5-8, 3/4 6-14,
3/4 7-4, 3/4 7-13, 3/4 7-14, 3/4 7-15, 3/4 7-20,
3/4 7-23, 3/4 7-27, 3/4 7-28, 3/4 8-5, 3/4 8-10,
3/4 8-18 and 3/4 8-19.

INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel and interlock and the automatic actuation logic and relays shall be demonstrated OPERABLE by performance of the ESFAS Instrumentation Surveillance Requirements specified in Table 4.3-2.

4.3.2.2 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months.* Each test shall include at least one train such that both trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" column of Table 3.3-2.

* This surveillance test interval is extended to 24 months for Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2, for the following functions and initiation signals:

- Safety Injection (ECCS), Phase "A" Isolation, Auxiliary Feedwater and Emergency Diesel Generator Operation on Containment Pressure--High--1, Pressurizer Pressure--Low, and Steam Line Pressure--Low;
- Containment Spray Pump on Containment Pressure High--1; and
- Those functions with response times which are initiated by Loss of Power (6.9kV and 480V Safeguards System Undervoltage).

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
7. Automatic Initiation of ECCS Switchover to Containment Sump (Continued)								
b. RWST Level--Low-Low Coincident With Safety Injection	S	SR	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
	See Item 1. above for all Safety Injection Surveillance Requirements.							
8. Loss of Power (6.9 kV & 480 V Safeguards System Undervoltage)								
a. 6.9 kV Preferred Offsite Source Undervoltage	N.A.	R*	N.A.	(3, 2)	N.A.	N.A.	N.A.	1, 2, 3, 4
b. 6.9 kV Alternate Offsite Source Undervoltage	N.A.	R*	N.A.	(3, 2)	N.A.	N.A.	N.A.	1, 2, 3, 4
c. 6.9 kV Bus Under- voltage	N.A.	R*	N.A.	(3, 2)	N.A.	N.A.	N.A.	1, 2, 3, 4
d. 6.9 kV Degraded Voltage	N.A.	R*	N.A.	(3, 2)	N.A.	N.A.	N.A.	1, 2, 3, 4
e. 480 V Degraded Voltage	N.A.	R*	N.A.	(3, 2)	N.A.	N.A.	N.A.	1, 2, 3, 4
f. 480 V Low Grid Undervoltage	N.A.	R*	N.A.	(3, 2)	N.A.	N.A.	N.A.	1, 2, 3, 4

* This surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 2) A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.
- e. At least once per 18 months*, during shutdown, by:
 - 1) Verifying that each automatic valve in the flow path actuates to its correct position on Safety Injection actuation test signals, and
 - 2) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection actuation test signal:
 - a) Centrifugal charging pumps,
 - b) Safety injection pumps, and
 - c) RHR pumps.
- f. By verifying that each of the following pumps develops the indicated differential pressure on recirculation flow when tested pursuant to Specification 4.0.5:
 - 1) Centrifugal charging pump ≥ 2370 psid,
 - 2) Safety injection pump ≥ 1440 psid, and
 - 3) RHR pump > 170 psid.
- g. By verifying the correct position of each mechanical position stop for the following ECCS throttle valves:
 - 1) Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE, and
 - 2) At least once per 18 months:

CCP/SI System Valve Number

SI-8810A
SI-8810B
SI-8810C
SI-8810D

SI System Valve Number

SI-8822A SI-8816A
SI-8822B SI-8816B
SI-8822C SI-8816C
SI-8822D SI-8816D

* The surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

COMANCHE PEAK - UNITS 1 AND 2

3/4 5-5

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.3.1.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable requirements of Specification 4.5.2.**

4.5.3.1.2 A maximum of two charging pumps shall be OPERABLE except when Specification 3.4.8.3 is not applicable. When required, one charging pump shall be demonstrated inoperable* by verifying that the motor circuit breaker is secured in the open position within 4 hours after entering MODE 4 from MODE 3 or prior to the temperature of one or more of the RCS cold legs decreasing below 325°F, whichever occurs first and at least once per 31 days thereafter.

** The 18 month surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

*An inoperable pump may be energized for testing provided the discharge of the pump has been isolated from the RCS by a closed isolation valve(s) with power removed from the valve operator(s) or by a manual isolation valve(s) secured in the closed position.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each containment isolation valve shall be demonstrated OPERABLE during the REFUELING MODE or COLD SHUTDOWN at least once per 18 months by:

- a. Verifying that on a Phase "A" Isolation test signal, each Phase "A" isolation valve actuates to its isolation position; *
- b. Verifying that on a Phase "B" Isolation test signal, each Phase "B" isolation valve actuates to its isolation position; and
- c. Verifying that on a Containment Ventilation Isolation test signal, each pressure relief discharge valve actuates to its isolation position.

4.6.3.3 The isolation time of each power-operated or automatic valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

* The surveillance test interval is extended to 24 months for testing the closure of valve 2-8160 on a Phase "A" isolation test signal (Train A, Unit 2), to remain in effect until the completion of the second refueling outage for Unit 2.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 2) Verifying that the steam turbine-driven pump develops a differential pressure of greater than or equal to 1450 psid at a test flow of greater than or equal to 860 gpm when the secondary steam supply pressure is greater than 532 psig. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3;
- 3) Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position; and
- 4) Verifying that each auxiliary feedwater flow control and isolation valve in the flow path is in the fully open position whenever the Auxiliary Feedwater System is in standby for auxiliary feedwater automatic initiation or when above 10% RATED THERMAL POWER.

b. At least once per 18 months during shutdown by:

- 1) Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an Auxiliary Feedwater Actuation test signal, and
- 2) Verifying that each auxiliary feedwater pump starts as designed automatically upon receipt of an Auxiliary Feedwater Actuation test signal.* The provisions of Specification 4.0.4 are not applicable to the turbine driven auxiliary feedwater pump for entry into MODE 3.

* The surveillance test interval is extended to 24 months for testing the start of the Unit 2, Train A Motor Driven Auxiliary Feedwater Pump upon receipt of an Auxiliary Feedwater Actuation test signal, to remain in effect until the completion of the second refueling outage for Unit 2.

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3 At least two independent component cooling water loops shall be OPERABLE.

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

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 Each component cooling water loop shall be demonstrated OPERABLE: .

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and
- b. At least once per 18 months* during shutdown, by verifying that:
 - 1) Each automatic valve servicing safety-related equipment actuates to its correct position on its associated engineered safety feature actuation signal, and
 - 2) Each Component Cooling Water System pump starts automatically on a safety injection test signal.

* The surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

PLANT SYSTEMS

3/4.7.4 STATION SERVICE WATER SYSTEM

OPERATING

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two independent station service water loops per unit and the cross-connect between the Station Service Water Systems of each unit shall be OPERABLE.

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

ACTION:

- a. With only one station service water loop in a unit OPERABLE, restore at least two loops per unit to OPERABLE status within 72 hours or for the unit(s) with the inoperable station service water loop be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one or more of the cross-connects inoperable, within 7 days restore the cross-connect(s) to OPERABLE status. Otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.1.1 Each station service water loop shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and
- b. At least once per 18 months^{*} during shutdown, by verifying that each station service water pump starts automatically on a Safety Injection test signal.

4.7.4.1.2 At least once per 92 days the cross-connects shall be demonstrated OPERABLE by cycling the cross-connect valves in the flow path or verifying that these valves are locked open.

* The surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

PLANT SYSTEMS

STATION SERVICE WATER SYSTEM

ONE UNIT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.7.4.2 At least two independent station service water loops in the operating unit*, at least one station service water pump in the shutdown unit** and the cross-connects from the OPERABLE station service water pump(s) in the shutdown unit to the station service water loops of the operating unit shall be OPERABLE.

APPLICABILITY: Unit 1 (Unit 2) in MODES 1, 2, 3 and 4
Unit 2 (Unit 1) in MODES 5, 6 and Defueled

ACTION:

- a. With one station service water loop in the operating unit inoperable, restore two loops in the operating unit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one or more of the cross-connects between the OPERABLE station service water pump(s) in the shutdown unit and the station service water loops in the operating unit inoperable, within 7 days restore the cross-connect(s) to OPERABLE status. Otherwise, place the operating unit in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. If neither station service water pump in the shutdown unit is OPERABLE, restore at least one pump to OPERABLE status within 7 days or place the operating unit in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.2.1 Each station service water loop in the operating unit shall be demonstrated OPERABLE per the requirements of Specification 4.7.4.1.1. ***

4.7.4.2.2 At least once per 92 days the cross-connect(s) between the OPERABLE station service water pump(s) in the shutdown unit and the station service water loops in the operating unit shall be demonstrated OPERABLE by cycling the cross-connect valves in the flow path or verifying that these valves are locked open.

The surveillance test interval for the 18 month requirement is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

*A unit in MODE 1, 2, 3 or 4 is designated as the "operating unit".

**A unit in MODE 5, 6 or Defueled is designated as the "shutdown unit".

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PLANT SYSTEMS

3/4.7.7 CONTROL ROOM HVAC SYSTEM

CONTROL ROOM EMERGENCY FILTRATION/PRESSURIZATION SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- e. After each complete or partial replacement of a HEPA filter bank in the emergency filtration unit(s), by verifying that the unit satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the unit at a flow rate of 8000 cfm \pm 10%;
- f. After each complete or partial replacement of a charcoal adsorber bank in the emergency filtration unit(s), by verifying that the unit satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the unit at a flow rate of 8000 cfm \pm 10%;
- g. After each complete or partial replacement of a HEPA filter bank in the emergency pressurization unit(s), by verifying that the unit satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the unit at a flow rate of 800 cfm \pm 10%.
- h. After each complete or partial replacement of a charcoal adsorber bank in the emergency pressurization unit(s), by verifying that the unit satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the unit at a flow rate of 800 cfm \pm 10%;
- i. At least once per 18 months* by verifying that each Control Room Emergency Filtration/Pressurization System train actuates on an actual or simulated Safety Injection, Loss-of-Offsite Power, or Intake Vent-High Radiation Signal; and
- j. At least once per 18 months by verifying that each Control Room Emergency Filtration/Pressurization System train can maintain a positive pressure of \geq 0.125 inches water gauge, relative to the adjacent areas during the pressurization mode of operation at a makeup flow rate of \leq 800 cfm.

* The surveillance test interval is extended to 24 months for testing the actuation of the Control Room HVAC system in the emergency recirculation mode on Loss-Of-Offsite Power for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

PLANT SYSTEMS

The surveillance test interval is extended to 24 months for testing the automatic start of the ESF Filtration Unit on Safety Injection test signal for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

SURVEILLANCE REQUIREMENTS (Continued)

- Revision 2, March 1978*, and verifying the flow rate is 15,000 cfm \pm 10% per ESF Filtration Unit when tested in accordance with ANSI N510-1980; and
- 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978*, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978*, for a methyl iodide penetration of less than 1.0%;
 - c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978*, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978*, for a methyl iodide penetration of less than 1.0%;
 - d. At least once per 18 months by:
 - 1) Verifying that the total pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 8.5 inches water gauge while operating each ESF Filtration Unit at a flow rate of 15,000 cfm \pm 10%;
 - 2) Verifying that each ESF Filtration Unit starts on a Safety Injection test signal, **
 - 3) Verifying that the heaters dissipate 100 ± 5 kW when tested in accordance with ANSI N510-1980, and
 - 4) Verifying that the train maintains the negative pressure envelope of the Auxiliary, Safeguards, and Fuel Buildings at a negative pressure of greater than or equal to 0.05 inch water gauge relative to the outside atmosphere;
 - e. After each complete or partial replacement of a HEPA filter bank, by verifying that the associated ESF Filtration Unit satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1.0% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the associated ESF Filtration Unit at a flow rate of 15,000 cfm \pm 10%; and
 - f. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the associated ESF Filtration Unit satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1.0% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the associated ESF Filtration Unit system at a flow rate of 15,000 cfm \pm 10%.

*ANSI N510-1980 and ANSI N509-1980 shall be used in place of ANSI N510-1975 and ANSI N509-1976, respectively.

PLANT SYSTEMS

3/4.7.11 UPS HVAC SYSTEM

OPERATING

LIMITING CONDITION FOR OPERATION

3.7.11 Two independent UPS HVAC trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION: (Units 1 and 2)

With only one UPS HVAC train OPERABLE, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.11.1 Each UPS HVAC train shall be demonstrated OPERABLE at least once per 18 months* by:

- a. Verifying that each UPS HVAC train starts automatically on a Safety Injection test signal.
- b. Verifying that each UPS HVAC train starts automatically on a Blackout test signal.

4.7.11.2 Each UPS HVAC train shall be demonstrated OPERABLE at least once per 31 days by starting the non-operating UPS HVAC train and verifying that the train operates for at least 1 hour.

* The surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

PLANT SYSTEMS

3/4.7.12 SAFETY CHILLED WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.12 At least two independent safety chilled water trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one safety chilled water train OPERABLE, restore at least two trains to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.12 The safety chilled water trains shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, - power operated or automatic) servicing safety-related equipment that is not locked, sealed or otherwise secured in position, is in its correct position.
- b. At least once per 18 months* by demonstrating that each safety chilled water train pump, chiller and electrical switchgear area emergency fan coil units start on a Safety Injection test signal.

* The surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- a) An API Gravity of within 0.3 degrees at 60°F, or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate, or an absolute specific gravity at 60/60°F of greater than or equal to 0.8348 but less than or equal to 0.8984, or an API gravity of greater than or equal to 26 degrees but less than or equal to 38 degrees;
 - b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes (alternatively, Saybolt viscosity, SUS at 100°F of greater than or equal to 32.6, but less than or equal to 40.1), if gravity was not determined by comparison with the supplier's certification;
 - c) A flash point equal to or greater than 125°F;
 - d) Either a clear and bright appearance with proper color when tested in accordance with ASTM-D4176-1982 or a water and sediment content of less than or equal to 0.05% volume when tested in accordance with ASTM-D1796-1968;
 - 2) By verifying within 30 days of obtaining the sample that the other properties specified in Table 1 of ASTM-D975-1981 are met when tested in accordance with ASTM-D975-1981 except that the analysis for sulfur may be performed in accordance with ASTM-D1552-1979 or ASTM-D2622-1982.
 - e. At least once every 31 days by obtaining a sample of fuel oil in accordance with ASTM-D2276-1978, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM-D2276-1978, Method A;
 - f. At least once per 18 months*, during shutdown, by: **
 - 1) Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service;
 - 2) Verifying the generator capability to reject a load of greater than or equal to 783 kW while maintaining voltage at 6900 ± 690 volts and frequency at 60 ± 6.75 Hz;
 - 3) Verifying the generator capability to reject a load of 7000 kW without tripping. The generator voltage shall not exceed 8280 volts during and following the load rejection;
- * The surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.
- ** For any start of a diesel, the diesel must be operated with a load in accordance with the manufacturer's recommendations. All planned diesel engine starts for the purpose of this surveillance may be preceded by a prelube period in accordance with vendor recommendations.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and
- b. One diesel generator with:
 - 1) Day fuel tank containing a minimum volume of 1440 gallons of fuel,
 - 2) A fuel storage system containing a minimum volume of 86,000 gallons of fuel, and
 - 3) A fuel transfer pump.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel, or crane operation with loads over the fuel storage pool, and within 3 hours, depressurize and vent the Reactor Coolant System through a greater than or equal to 2.98 square inch vent. In addition, when in MODE 5 with the reactor coolant loops not filled, or in MODE 6 with the water level less than 23 feet above the reactor vessel flange, immediately initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1, 4.8.1.1.2* (except for Specification 4.8.1.1.2a.5)), and 4.8.1.1.3.

* The 18 month surveillance test interval is extended to 24 months for Train A, Unit 2, to remain in effect until the completion of the second refueling outage for Unit 2.

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4. All containment penetration conductor overcurrent protective devices shall be OPERABLE.

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

ACTION:

With one or more of the containment penetration conductor overcurrent protective device(s) inoperable:

- a. Restore the protective device to OPERABLE status or:
 1. Deenergize the circuit(s) by racking out, locking open, or removing the inoperable protective device and tripping/removing the associated protective device within 72 hours, declare the affected system or component inoperable, and verify the inoperable protective device racked out, locked open, or removed at least once per 31 days thereafter; the provisions of Specification 3.0.4 are not applicable to overcurrent protective devices in circuits which have their associated protective device tripped/removed and their inoperable protective device racked out, locked open, or removed; or
 2. Deenergize the circuit(s) by tripping/removing the associated protective device or racking out, locking open, or removing the inoperable protective device within 72 hours, declare the affected system or component inoperable, and verify the associated protective device to be tripped/removed or the inoperable protective device racked out, locked open, or removed at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to overcurrent devices in circuits which have their associated protective device tripped/removed or their inoperable protective device racked out, locked open, or removed; or
- b. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.4. The containment penetration conductor overcurrent protective devices shall be demonstrated OPERABLE:

- a. At least once per 18 months:
 - 1) By verifying that the medium voltage 6.9 kV and low voltage 480V switchgear circuit breakers are OPERABLE by selecting, on a

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* The surveillance test interval is extended to 24 months for the Train A, Unit 2 switchgear circuit breakers, to remain in effect until the completion of the second refueling outage for Unit 2.

ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

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page.

SURVEILLANCE REQUIREMENTS (Continued)

rotating basis, at least 10% of the circuit breakers of each current rating and performing the following:

- a) A CHANNEL CALIBRATION of the associated protective relays,
 - b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and control circuits function as designed, and
 - c) For each circuit breaker found inoperable during these functional tests, one or an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested;
- 2) By selecting and functionally testing a representative sample of at least 10% of each type 480 V molded case circuit breakers and of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. Testing of these circuit breakers shall consist of injecting a current with a value equal to 300% of the pickup of the long-time delay trip element and 150% of the pickup of the short-time delay trip element, and verifying that the circuit breaker operates within the time delay band width for that current specified by the manufacturer. The instantaneous element shall be tested by injecting a current equal to $\pm 20\%$ of the pickup value of the element and verifying that the circuit breaker trips instantaneously with no intentional time delay. Molded case circuit breaker testing shall also follow this procedure except that generally no more than two trip elements, time delay and instantaneous, will be involved. The instantaneous element for molded case circuit breakers shall be tested by injecting a current for a frame size of 250 amps or less with tolerances of $+40\%$, -25% and a frame size of 400 amps or greater with tolerances of $\pm 25\%$ and verifying that the circuit breaker trips instantaneously with no apparent time delay. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested; and
- b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.