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Log # TXX-00011
File # 10010
916 (5.0)
Ref. # 10CFR50.90

January 13, 2000

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) 99-008
REVISION TO DIESEL GENERATOR LUBE OIL INVENTORY
AND BATTERY SURVEILLANCE

Gentlemen:

Pursuant to 10CFR50.90, TXU Electric 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. This change request applies to both units.

The proposed change will: 1) Revise Technical Specification 3.8.3 (Condition B and SR 3.8.3.2) to conservatively increase the required emergency diesel generator lube oil inventory values; 2) Revise SR 3.8.3.2 to add a note stating that the surveillance is not required to be performed until the diesel has been in shutdown greater than 10 hours; and 3) Delete the footnote associated with SR 3.8.4.7.

Attachment 1 is the required Affidavit. Attachment 2 provides a detailed description of the proposed change, a safety analysis of the change, and TXU Electric's determination that the proposed change does not involve a significant hazard consideration. Attachment 3 provides the affected Technical Specification pages marked-up to reflect the proposed change. Attachment 4 provides proposed affected pages of Technical Specification Bases Section B 3.8.3 (for information only).

TXX-00011

Page 2 of 2

TXU Electric requests approval of the proposed License Amendment by January 31, 2001 and will be implemented within 30 days of the issuance of the license amendment.

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

This communication contains no new commitments or revised commitments.

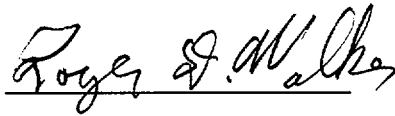
Should you have any questions, please contact Mr. Manu C. Patel at (254) 897-0139.

Sincerely,



C. L. Terry

By:



Roger D. Walker
Regulatory Affairs Manager

MCP/grj

Attachments

1. Affidavit
2. Description and Assessment
3. Affected Technical Specification page
(marked-up pages)

c - E. W. Merschoff, Region IV
J. I. Tapia, Region IV
D. H. Jaffe, NRR
Resident Inspectors, CPSES

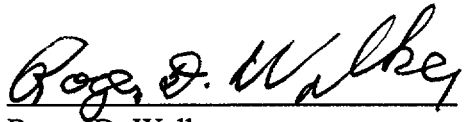
Mr. Authur C. Tate
Bureau of Radiation Control
Texas Department of Public Health
1100 West 49th Street
Austin, Texas 78704

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)		
)		
TXU Electric Company)	Docket Nos.	50-445
)		50-446
(Comanche Peak Steam Electric Station,)	License Nos.	NPF-87
Units 1 & 2))		NPF-89

AFFIDAVIT

Roger D. Walker being duly sworn, hereby deposes and says that he is Regulatory Affairs Manager of TXU Electric, the licensee herein; that he is duly authorized to sign and file with the Nuclear Regulatory Commission this License Amendment Request 99-008; 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.



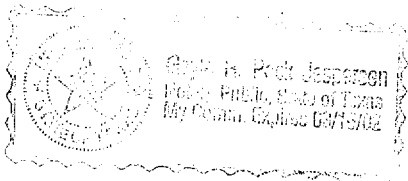
Roger D. Walker
Regulatory Affairs Manager

STATE OF TEXAS)
)
COUNTY OF)
 Somervell

Subscribed and sworn to before me, on this 13th day of January, 2000.



Notary Public



ATTACHMENT 2 to TXX- 00011

DESCRIPTION AND ASSESSMENT

SIGNIFICANCE HAZARDS CONSIDERATION

I. BACKGROUND

The Diesel Generator (DG) lube oil sump is designed to provide sufficient lubrication volume to permit proper DG operation under all loading conditions for a minimum of 7 days based on a conservative lube oil consumption rate.

The DG lube oil volume requirements associated with the TS 3.8.3 were initially incorporated into the CPSES TS during the conversion to the NUREG-1431 format (Amendment 64). Prior to that time there were no TS requirements associated with required DG lube oil volume. Prior to implementation of License Amendment 64, during the engineering validation of the TS 3.8.3 requirements, it was determined that the Condition B lube oil level values (upper and lower) were non-conservative with respect to the minimum 7 day requirement. In accordance with NRC Administrative Letter 98-10, appropriately conservative values were incorporated into the affected plant procedures. This License Amendment Request revises the technical specifications to include these conservative values.

The requested change also includes a change in the lube oil dipstick reference levels. The previously referenced "low run" level is being changed to reference the "low static" level which is the preferred reference point for static measurements. Accurate measurement of run levels are not possible. Run levels vary significantly from engine to engine and are not suitable references for static requirements. The low run level mark on the dipstick is nominally 4" below the low static mark. The TS reference to the "end of the lube oil dipstick" is also being replaced with a reference to the "low static" level because the dipstick length may vary somewhat between DGs. The end of the dipstick is nominally 10.75" below the low static level.

Based on the above, the new upper level (i.e., 1.75" below the low static level) is nominally 3.25" above the previous upper level (i.e., 1" below the low run level). The new lower level value (i.e., 5.5" below the low static level) is nominally 4.25" above the previous lower level value (i.e., 1" above the end of the lube oil dipstick).

This change also includes an administrative change to delete the footnote associated with SR 3.8.4.7, which provided a one time exception for the battery surveillance because this exception has now expired.

II. DESCRIPTION OF TECHNICAL SPECIFICATION CHANGE REQUEST

The proposed revision to Technical Specification Section 3.8.3 consists of the following:

- a) Revises the levels referenced in TS 3.8.3 Condition B from "...less than a level 1" below the run level but greater than a level 1" above the end of the lube oil dipstick," to, "... is less than a level 1.75" below the low static level but greater than a level 5.5" below the low static level of the lube oil dipstick."
- b) Revises the levels referenced in SR 3.8.3.2 to be consistent with the revised upper value for Condition B and adds a note stating that the surveillance is not required to be performed until the engine has been shutdown for greater than 10 hours, and
- c) Deletes the footnote associated with SR 3.8.4.7, which provided a one time exception for the battery surveillance, because this exception has now expired.

III. ANALYSIS

The new DG lube oil sump levels established for TS 3.8.3 Condition B and SR 3.8.3.2, are based on providing sufficient lube oil volume to permit proper DG operation under all loading conditions for a minimum of 7 days assuming a conservative lube oil consumption rate. The lube oil consumption rate chosen is significantly greater than current actual and the vendor supplied nominal consumption rates for the DGs when operating at design loads.

The new note which does not require surveillance of the lube oil level until the engine has been shutdown for greater than 10 hours is based on providing time for lube oil to drain back to the sump after a run. Accurate measurement during and shortly after an engine run is not possible. Current site procedures restrict this measurement for 10 hours after a run to ensure an accurate measurement and to ensure the lube oil is not inadvertently overfilled. Overfill could be detrimental to the engine.

The deletion of the footnote associated with SR 3.8.4.7, which provided a one time exception for the battery surveillance is an administrative change. This exception has now expired.

IV. SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

TXU Electric has evaluated whether or not a significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10CFR50.92(c) as discussed below:

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

- a) The proposed changes establish more conservative DG lube oil inventory levels to support required DG operations. Conservatively revising the required lube oil levels does not involve a significant increase in the probability or consequences of an accident previously evaluated.
 - b) The proposed change to add a surveillance note cannot affect the probability or consequences of any accident. When surveillances are done it cannot initiate an accident or affect the course of mitigation. Lube oil levels are checked after each run. If the lube oil level was at the minimum required "1.75 inches below the low static level" at the start of a normal 24 hour surveillance run, 5 days of lube oil inventory is provided above the Condition B level of "5.5 inches below the low static level". Allowing 10 hours after the surveillance run to check the static level, is not significant because relative lube oil level is maintained during engine run through the use of an indicator on the panel ensuring adequate oil level during and just after the run. The Condition B lube oil inventory ensures a minimum of two days of operation before any addition of lube oil would be needed. In the event of an accident which requires extended run of the emergency diesel generators, lube oil can be added with the engines running.
 - c) Deletion of the footnote associated with SR 3.8.4.7, which provided a one time exception for the battery surveillance, is an administrative change and does not involve a significant increase in the probability or consequences of an accident previously evaluated.
- 2) Do the proposed changes create the possibility of a new or different kind of accident from any previously evaluated?
- a) Plant procedures are only altered to the extent that the revised specification will enhance the monitoring of the DG lube oil inventory level to support required DG operation at full load conditions. These changes ensure continued support of the safety related DG, do not involve any physical alteration to the plant and do not affect their failure or failure modes.
 - b) The proposed change to add a surveillance note do not involve any physical alteration to the plant and do not affect their failure or failure modes.
 - c) Deletion of the footnote associated with SR 3.8.4.7, which provided a one time exception for the battery surveillance is an administrative change and will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

- 3) Do the proposed changes involve a significant reduction in a margin of safety?
- a) The proposed changes will not alter any accident analysis assumptions, initial conditions, or results. Conservatively revising the required DG lube oil levels will ensure proper DG operations as assumed in the safety analyses.
 - b) The proposed change to add a note will not alter any accident analysis assumptions, initial conditions, or results. Conservatively revising the required conditions for DG lube oil level surveillance will ensure proper DG operations as assumed in the safety analyses.
 - c) Deletion of the footnote associated with SR 3.8.4.7, which provided a one time exception for the battery surveillance is an administrative change and does not involve a significant reduction in a margin of safety.

Therefore, these changes does not involve a significant reduction in a margin of safety.

Based on the above evaluations, TXU Electric determined that the requested Technical Specification changes do not involve a significant increase in the probability or consequences of an accident previously evaluated. It does not create the possibility of a new or different kind of accident from any accident previously evaluated. It does not involve a reduction in the margin of safety. Therefore, the requested license amendment request does not involve a significant hazards consideration

V. ENVIRONMENTAL EVALUATION

TXU Electric has evaluated the proposed changes and has determined that the changes meet the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9) as specified below:

- (i) The amendment involves no significant hazards consideration:

As demonstrated in Section IV above, the proposed change does not involve a significant hazards consideration.

- (ii) There are no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed changes do not involve a change to the facility or operating procedures which could create new types or additional quantities of effluents. The change in the DG lube oil level monitoring will improve the system performance or operation and ensures that the DG is available following LOCA. Therefore, this change will not impact the amounts of any effluents that may be releases offsite.

- (iii) There is no significant increase in the individual or cumulative occupational radiation exposure.

The change in the DG lube oil monitoring will not effect individual or cumulative occupational radiation exposure. Thus this change will not result in a significant increase in individual or cumulative occupational radiation exposure.

Based on the above, it is concluded that there will be no impact on the environment resulting from the proposed changes and that the proposed changes meet 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 changes is not required.

VI. REFERENCES

- 1) NUREG-1431, Revision 1, "Standard Technical Specifications Westinghouse Plants", April 1995.

ATTACHMENT 3 to TXX-00011

MARKUP OF AFFECTED TECHNICAL SPECIFICATION PAGE

(Pages 3.8-21, 3.8-23 and 3.8-26)

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

LCO 3.8.3 The stored diesel fuel oil, lube oil, and starting air subsystem shall be within limits for each required diesel generator (DG).

APPLICABILITY: When associated DG is required to be OPERABLE

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more DGs with fuel level between 74,600 and 86,000 gal in MODES 1-4 or between 65,600 and 75,000 in MODES 5 & 6 in storage tank.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory less than a level 1.75" below the low run static level but greater than a level 5.5" above the end below the low static level of the lube oil dipstick.	B.1 Restore lube oil inventory to within limits.	48 hours

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains \geq 86,000 gal (MODES 1-4) or 75,000 gal (MODES 5 & 6) of fuel.	31 days
SR 3.8.3.2	<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Not required to be performed until the engine has been shutdown for > 10 hours.</p> <p style="text-align: center;">Verify lubricating oil inventory is \geq a level 1 1.75" below the low-run static level on the lube oil dipstick.</p>	31 days
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify each required DG air start receiver pressure is \geq 180 psig.	31 days
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	31 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.6 Verify each battery charger supplies ≥ 300 amps at ≥ 130 V for ≥ 8 hours.	18 months
SR 3.8.4.7 -----NOTES----- 1. The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7.* 2. Verify requirement during MODES 3, 4, 5, 6 or with core off-loaded. ----- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	18 months

(continued)

~~* On a one time basis, for battery BT1ED2, a performance discharge test may be performed in lieu of the battery service test required by Specification 3.8.4.7, twice within a 60-month interval. This one time exception expires prior to entry into MODE 4 following the next Unit 1 outage of sufficient duration to perform a service test.~~

ATTACHMENT 4 to TXX-00011
AFFECTED PAGES OF TECHNICAL SPECIFICATION BASES
(Pages B 3.8-38 through B 3.8-46)

FOR INFORMATION ONLY

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

BASES

BACKGROUND

Each diesel generator (DG) is provided with a storage tank having a fuel oil capacity sufficient to operate that diesel for a period of 7 days while the DG is supplying maximum post loss of coolant accident load demand discussed in the FSAR, Section 9.5.4.1 (Ref. 1). The maximum load demand is calculated using the assumption that a minimum of any two DGs is available. This onsite fuel oil capacity is sufficient to operate the DGs for longer than the time to replenish the onsite supply from outside sources.

Fuel oil is transferred from storage tank to day tank by either of two transfer pumps associated with each storage tank. Redundancy of pumps and piping precludes the failure of one pump, or the rupture of any pipe, valve or tank to result in the loss of more than one DG. All outside tanks, pumps, and piping are located underground.

For proper operation of the standby DGs, it is necessary to ensure the proper quality of the fuel oil. Regulatory Guide 1.137 (Ref. 2) addresses the recommended fuel oil practices as supplemented by ANSI N195 (Ref. 3). The fuel oil properties governed by these SR are the water and sediment content, the kinematic viscosity, specific gravity (or API gravity), and impurity level.

The DG lubrication system is designed to provide sufficient lubrication to permit proper operation of its associated DG under all loading conditions. The system is required to circulate the lube oil to the diesel engine working surfaces and to remove excess heat generated by friction during operation. Each engine oil sump contains an inventory capable of supporting a minimum of 7 days of operation based on a worst case lube oil sump design consumption rate of 2 gallons per hour. This inventory is denoted by the low static level mark on the dipsticks for the standby condition. Engine design consumption rates are approximately 1 gallon per hour. A maximum engine usage rate of 1.5 gallons per hour is selected for this LCO which corresponds to a level approximately 1.75" below the low static level on the dipstick for a seven day supply.

Each DG has an air start system which is sized with adequate capacity for five successive start attempts on the DG without recharging the air start receiver(s).

(continued)

BASES (continued)

**APPLICABLE
SAFETY
ANALYSES**

The initial conditions of Design Basis Accident (DBA) and transient analyses in the FSAR, Chapter 6 (Ref. 4), and in the FSAR, Chapter 15 (Ref. 5), assume Engineered Safety Feature (ESF) systems are OPERABLE. The DGs are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that fuel, Reactor Coolant System and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2, Power Distribution Limits; Section 3.4, Reactor Coolant System (RCS); and Section 3.6, Containment Systems.

Since diesel fuel oil, lube oil, and the air start subsystem support the operation of the standby AC power sources, they satisfy Criterion 3 of 10CFR50.36(c)(2)(ii).

LCO

Stored diesel fuel oil is required to have sufficient supply for 7 days of full load operation. It is also required to meet specific standards for quality. Additionally, sufficient lubricating oil supply must be available to ensure the capability to operate at full load for 7 days. This requirement, in conjunction with an ability to obtain replacement supplies within 7 days, supports the availability of DGs required to shut down the reactor and to maintain it in a safe condition for an anticipated operational occurrence (AOO) or a postulated DBA with loss of offsite power. DG day tank fuel requirements, as well as transfer capability from the storage tank to the day tank, are addressed in LCO 3.8.1, "AC Sources— Operating," and LCO 3.8.2, "AC Sources— Shutdown."

The starting air system is required to have a minimum capacity for one DG start attempts without recharging the air start receivers.

APPLICABILITY

The AC sources (LCO 3.8.1 and LCO 3.8.2) are required to ensure the availability of the required power to shut down the reactor and maintain it in a safe shutdown condition after an AOO or a postulated DBA. Since stored diesel fuel oil, lube oil, and the starting air subsystem supports LCO 3.8.1 and LCO 3.8.2, stored diesel fuel oil, lube oil, and starting air are required to be within limits when the associated DG is required to be OPERABLE.

(continued)

BASES (continued)

ACTIONS

The ACTIONS Table is modified by a Note indicating that separate Condition entry is allowed for each DG. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable DG subsystem. Complying with the Required Actions for one inoperable DG subsystem may allow for continued operation, and subsequent inoperable DG subsystem(s) are governed by separate Condition entry and application of associated Required Actions.

A.1

In this Condition, the 7 day fuel oil supply for a DG is not available. However, the Condition is restricted to fuel oil level reductions that maintain at least a 6 day supply. These circumstances may be caused by events, such as full load operation required after an inadvertent start while at minimum required level, or feed and bleed operations, which may be necessitated by increasing particulate levels or any number of other oil quality degradations. This restriction allows sufficient time for obtaining the requisite replacement volume and performing the analyses required prior to addition of fuel oil to the tank. A period of 48 hours is considered sufficient to complete restoration of the required level prior to declaring the DG inoperable. This period is acceptable based on the remaining capacity (> 6 days), the fact that procedures will be initiated to obtain replenishment, and the low probability of an event during this brief period. The amount of fuel oil required during Modes 5 & 6 is less because fewer loads are required to maintain the plant during shutdown conditions.

B.1

With lube oil inventory less than a level ~~one inch~~ 1.75 inches below the ~~applicable low run level~~ on the lube oil dipstick, sufficient lubricating oil to support 7 days of continuous DG operation at full load conditions may not be available. However, the Condition is restricted to lube oil volume reductions that maintain at least a level ~~one inch above the bottom of~~ 5.5 inches below the applicable low level mark on the lube oil dipstick. ~~(These levels are for a static condition, i.e., the DG in standby for at least 10 hours – equivalent levels for running conditions may be used and, if used, must be specified in the surveillance procedure for SR 3.8.3.2).~~

(continued)

BASES

ACTIONSB.1 (continued)NOTE

Subsequent assessments by TXU Electric have concluded that "one inch below the low run level on the lube oil dipstick" and "one inch above the bottom of the lube oil dipstick" are inadequate TS values and the directions provided in NRC Administrative letter 98-10 have been followed. SMF-1999-001803-00 has been initiated to document these nonconforming conditions. Administrative controls have been established to replace "one inch below the low run level on the lube oil dipstick" with "1.75 inches below the low static level" and to replace "one inch above the bottom of the lube oil dipstick" with "5.5 inches below the low static level." A License Amendment Request (LAR) to amend the TS will be submitted to the NRC in a timely fashion.

This level ensures that if the engine starts, the run level is above where vortexing occurs and at least 48 hours of run time is available before lube oil addition is required. This restriction allows sufficient time to obtain the requisite replacement volume. A period of 48 hours is considered sufficient to complete restoration of the required volume prior to declaring the DG inoperable. This period is acceptable based on the remaining capacity, the low rate of usage, the fact that procedures will be initiated to obtain replenishment, and the low probability of an event during this brief period.

C.1

This Condition is entered as a result of a failure to meet the acceptance criterion of SR 3.8.3.3. Normally, trending of particulate levels allows sufficient time to correct high particulate levels prior to reaching the limit of acceptability. Poor sample procedures (bottom sampling), contaminated sampling equipment, and errors in laboratory analysis can produce failures that do not follow a trend. Since the presence of particulates does not mean failure of the fuel oil to burn properly in the diesel engine, and particulate concentration is unlikely to change significantly between Surveillance Frequency intervals, and proper engine performance has been recently demonstrated (within 31 days), it is prudent to allow a brief period prior to declaring the associated DG inoperable. The 7 day Completion Time allows for further evaluation, resampling and re-analysis of the DG fuel oil.

D.1

With the new fuel oil properties defined in the Bases for SR 3.8.3.3 not within the required limits, a period of 30 days is allowed for restoring the

(continued)

BASES

ACTIONS

D.1 (continued)

stored fuel oil properties. This period provides sufficient time to test the stored fuel oil to determine that the new fuel oil, when mixed with previously stored fuel oil, remains acceptable, or to restore the stored fuel oil properties. This restoration may involve feed and bleed procedures, filtering, or combinations of these procedures. Even if a DG start and load was required during this time interval and the fuel oil properties were outside limits, there is a high likelihood that the DG would still be capable of performing its intended function.

E.1

With a Required Action and associated Completion Time not met, or one or more DG's fuel oil, lube oil, or starting air subsystem not within limits for reasons other than addressed by Conditions A through D, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable.

SURVEILLANCE
REQUIREMENTSSR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil in the storage tanks to support each DG's operation for approximately 7 days at full load. A small volume in the day tank in excess of the day tank requirements is credited to ensure a full 7 day supply. The 7 day period is sufficient time to place the unit in a safe shutdown condition and to bring in replenishment fuel from an offsite location.

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are provided and unit operators would be aware of any large uses of fuel oil during this period.

SR 3.8.3.2

This Surveillance contains a note that states that it is required only when the engine has been in shutdown for > 10 hours. This allowance is required because the lube oil level drops when the engine is running and does not immediately return to static conditions.

This Surveillance ensures that sufficient lube oil inventory is available to support at least 7 days of full load operation for each DG based on an engine lube oil consumption rate of 1.5 gallon per hour. The -1.75" below the low run static level requirement is based on the DG manufacturer

(continued)

BASES

**SURVEILLANCE
REQUIREMENTS**SR 3.8.3.1 (continued)

consumption values for the run time of the DG. ~~(This level is for a static condition, i.e., the DG in standby for at least 10 hours -- an equivalent level for running conditions may be used and, if used, must be specified in the surveillance procedure for this Surveillance Requirement).~~

NOTE

~~Subsequent assessments by TXU Electric have concluded that "one inch below the low run level on the lube oil dipstick" is an inadequate TS value and the directions provided in NRC Administrative letter 98-10 have been followed. SMF-1999-001803-00 has been initiated to document this nonconforming condition. Administrative controls have been established to replace "one inch below the low run level on the lube oil dipstick" with "1.75 inches below the low static level." A License Amendment Request (LAR) to amend the TS will be submitted to the NRC in a timely fashion.~~

~~Implicit in this SR is the requirement to verify the capability to transfer the lube oil from its storage location to the DG, when the DG lube oil sump does not hold adequate inventory for 7 days of full load operation without the level reaching the manufacturer recommended minimum level.~~

A 31 day Frequency is adequate to ensure that a sufficient lube oil supply is onsite, since DG starts and run time are closely monitored by the unit staff.

SR 3.8.3.3

The tests listed below are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate, detrimental impact on diesel engine combustion. If results from these tests are within acceptable limits, the fuel oil may be added to the storage tanks without concern for contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tank(s), but in no case is the time between receipt of new fuel and conducting the tests to exceed 31 days. The tests, limits, and applicable ASTM Standards are as follows:

- a. Sample the new fuel oil in accordance with ASTM D4057-1981 (Ref. 6);

(continued)

BASES

**SURVEILLANCE
REQUIREMENTS****SR 3.8.3.3** (continued)

- b. Verify in accordance with the tests specified in ASTM D975-1981 (Ref. 6) that the sample has an absolute specific gravity at 60/60°F of ≥ 0.8348 and ≤ 0.8984 , or an API gravity $\geq 26^\circ$ and $\leq 38^\circ$, a kinematic viscosity at 40°C of ≥ 1.9 centistokes and ≤ 4.1 centistokes (alternately, Saybolt viscosity, SUS at 100°F of ≥ 32.6 , but ≤ 40.1), and a flash point of $\geq 125^\circ\text{F}$; and
- c. Verify that the new fuel oil has a clear and bright appearance with proper color when tested in accordance with ASTM D4176-1982 (Ref. 6).

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the LCO concern since the fuel oil is not added to the storage tanks.

Within 31 days following the initial new fuel oil sample, the fuel oil is analyzed to establish that the other properties specified in Table 1 of ASTM D975-1981 (Ref. 7) are met for new fuel oil when tested in accordance with ASTM D975-1981 (Ref. 6), except that the analysis for sulfur may be performed in accordance with ASTM D1552-1979 (Ref. 6) or ASTM D2622-1982 (Ref. 6). The 31 day period is acceptable because the fuel oil properties of interest, even if they were not within stated limits, would not have an immediate effect on DG operation. This Surveillance ensures the availability of high quality fuel oil for the DGs.

Fuel oil degradation during long term storage shows up as an increase in particulate, due mostly to oxidation. The presence of particulate does not mean the fuel oil will not burn properly in a diesel engine. The particulate can cause fouling of filters and fuel oil injection equipment, however, which can cause engine failure.

Particulate concentrations should be determined in accordance with ASTM D2276-1978, Method A (Ref. 6). This method involves a gravimetric determination of total particulate concentration in the fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing. For those designs in which the total stored fuel oil volume is contained in two or more interconnected tanks, each tank must be considered and tested separately.

(continued)

BASES

**SURVEILLANCE
REQUIREMENTS**SR 3.8.3.3 (continued)

The Frequency of this test takes into consideration fuel oil degradation trends that indicate that particulate concentration is unlikely to change significantly between Frequency intervals.

SR 3.8.3.4

This Surveillance ensures that, without the aid of the refill compressor, sufficient air start capacity for each DG is available. The receiver design requirements provide for a minimum of five engine start cycles without recharging. A start cycle is defined by the DG vendor, but usually is measured in terms of time (seconds of cranking) or engine cranking speed. The pressure specified in this SR is intended to reflect the lowest value at which one start can be accomplished.

The 31 day Frequency takes into account the capacity, capability, redundancy, and diversity of the AC sources and other indications available in the control room, including alarms, to alert the operator to below normal air start pressure.

SR 3.8.3.5

Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. Removal of water from the fuel storage tanks once every 31 days eliminates the necessary environment for bacterial survival. This is the most effective means of controlling microbiological fouling. In addition, it eliminates the potential for water entrainment in the fuel oil during DG operation. Water may come from any of several sources, including condensation, ground water, rain water, and contaminated fuel oil, and from breakdown of the fuel oil by bacteria. Frequent checking for and removal of accumulated water minimizes fouling and provides data regarding the watertight integrity of the fuel oil system. The Surveillance Frequencies are established by Regulatory Guide 1.137 (Ref. 2). This SR is for preventive maintenance. The presence of water does not necessarily represent failure of this SR, provided the accumulated water is removed during performance of the Surveillance.

(continued)

BASES (continued)

- REFERENCES
1. FSAR, Section 9.5.4.1.
 2. Regulatory Guide 1.137.
 3. ANSI N195-1976, Appendix B.
 4. FSAR, Chapter 6.
 5. FSAR, Chapter 15.
 6. ASTM Standards: D4057-1981; D975-1981; D4176-1982; D1552-1979; D2622-1982; D2276, Method A.
 7. ASTM Standards, D975, Table 1.
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