

TU ELECTRIC

Log # TXX-95090
File # 916 (3/4.8)
Ref. # 10CFR50.90
10CFR50.36

C. Lance Terry
Group Vice President, Nuclear

May 1, 1995

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
SUBMITTAL OF LICENSE AMENDMENT REQUEST 95-002
DIESEL GENERATOR FUEL OIL STORAGE SYSTEM MINIMUM VOLUME

Gentlemen:

Pursuant to 10CFR50.90, TU Electric hereby requests an amendment to the CPSES Unit 1 facility operating license (NPF-117) and CPSES Unit 2 facility operating license (NPF-89) by incorporating the attached changes into the CPSES Units 1 and 2 Technical Specifications. The purpose of this request is to (1) reduce the minimum fuel oil volume requirement during MODES 5 and 6, for OPERABLE emergency diesel generators (EDG), and (2) allow continued OPERABLE status of diesel generators during all MODES, for 48 hours with greater than 6-day supply of diesel fuel for the associated diesel generator. These changes are equally applicable to CPSES Units 1 and 2.

Attachment 1 is the required affidavit. Attachment 2 provides a detailed description of the proposed changes, a safety analysis of the changes, and TU Electric's determination that the proposed changes do not involve a significant hazard consideration. Attachment 3 provides the proposed changes to the Technical Specifications.

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

TU Electric requests NRC approval of the proposed license amendment by January 1996 or earlier so as to allow the implementation of the revised technical specifications prior to the next refueling outage. Upon approval of the proposed changes, TU Electric requests a 30-day implementation period following the date of license amendment issuance.

9505080026 950501
PDR ADDCK 05000445
P PDR

DD29.1

Should you have any questions, please contact Mr. Jacob M. Kulangara at (214) 812-8818.

Sincerely,


C. L. Terry

JMK/jmk

Attachments:

1. Affidavit
2. Description and Assessment
3. Affected Technical Specification pages (NUREG 1468) as revised by all approved license amendments

Enclosures:

1. Applicable Pages of NRC Regulatory Guide 1.137, "Fuel-Oil Systems for Standby Diesel Generators", Rev. 1
2. Applicable Pages of ANSI N195-1976, "Fuel Oil Systems for Standby Diesel-Generators"
3. Applicable Pages of NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," September 1992

c - Mr. L. J. Callan, Region IV
Mr. D. F. Kirsch, Region IV
Resident Inspectors, CPSES
Mr. T. J. Polich, NRR

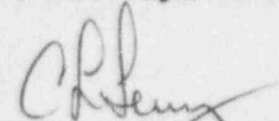
Mr. Arthur C. Tate
Bureau of Radiation Control
Texas Department of Public Health
1100 West 49th Street
Austin, Texas 78704

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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

AFFIDAVIT

C. L. Terry being duly sworn, hereby deposes and says that he is Group Vice President, Nuclear Production for TU Electric, the licensee herein; that he is duly authorized to sign and file with the Nuclear Regulatory Commission this License Amendment Request 95-002; 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.

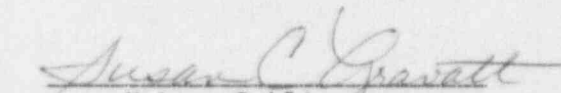


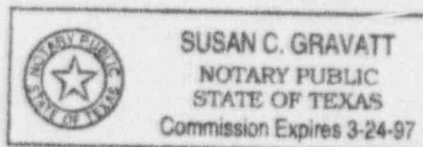
C. L. Terry
Group Vice President, Nuclear Production

STATE OF TEXAS)
)
COUNTY OF)

Fornerville

Subscribed and sworn to before me, a Notary Public, on this 1st day of May, 1995.


Notary Public



ATTACHMENT 2 TO TXX-95090

DESCRIPTION AND ASSESSMENT

DESCRIPTION AND ASSESSMENT

I. BACKGROUND

The Comanche Peak Steam Electric Station (CPSES) Units 1 and 2 Technical Specifications 3.8.1.1 and 3.8.1.2 in part, require declaring the diesel generator inoperable if the diesel generator fuel storage system fuel volume falls below the minimum value specified. This minimum volume is determined based upon the recommendations of United States Nuclear Regulatory Commission (USNRC) Regulatory Guide 1.137, Revision 1, regulatory position C.1(c) method 1 and ANSI N195-1976. This method assumes that the diesel generator operates continuously for seven days at its rated capacity of 7000 KW. The resultant fuel volume is provided by 878 gallons in the day tank plus the fuel oil storage tank inventory of 86,000 gallons and this combined fuel volume is conservative for all transient scenarios analyzed in the CPSES Final Safety Analysis Report (FSAR).

The fuel oil volume may fall below the minimum level due to events such as full load operation required after an inadvertent diesel generator start while at minimum fuel level or feed and bleed operations required due to increasing particulate levels or other fuel quality degradations. Thus, these circumstances cause a diesel generator to become inoperable. Two changes are proposed to address diesel generator fuel supplies in a more detailed manner.

The diesel generator OPERABILITY requirement for MODES 5 and 6 (shutdown condition) requires one diesel generator to be OPERABLE at all times. During MODES 5 and 6, a significant amount of Engineered Safety Feature (ESF) and diesel generator testing is required. These tests may reduce the diesel oil storage tank level below the minimum value required for the associated diesel generator to be considered OPERABLE unless sufficient fuel oil is added to the storage tank during the testing. Thus, the required testing can cause one diesel generator to remain inoperable until its fuel oil storage tank is refueled. This, in turn, causes delays in performing surveillance testing of the second train diesel generator. As a result, outage co-ordination has been impacted during previous refueling outages at CPSES.

To address these matters, this technical specification change request proposes a reduced inventory requirement for diesel fuel oil during MODES 5 and 6. This reduced fuel oil inventory is justified based on the smaller electrical demand on the diesel generator/plant for a loss of offsite power during the shutdown condition. Also this provides schedule relief for a more efficient plant outage. The minimum volume for MODES 5

and 6 is determined based on Regulatory Guide 1.137, regulatory position C.1(c) method 2 and ANSI N195.

The technical specification change request also proposes (i) for allowing 48 hours to restore the 7-day fuel supply as long as the fuel supply is maintained greater than 6-day fuel supply and (ii) for requiring that the associated diesel generator be immediately declared INOPERABLE if condition (i) is not satisfied. This restriction allows sufficient time for obtaining the requisite replacement volume of fuel oil and for performing the required fuel oil analyses prior to addition of fuel to the tank. The proposed change is justified based on the remaining capacity (greater than a six-day fuel supply), the fact that procedures are initiated to obtain replenishment, and the low probability of an event during this brief period. Additionally, fuel oil is considered readily available from suppliers within the required time based on past experience and present agreements with the fuel supplier. Implementation of the requested change will avoid potentially unnecessary plant shutdowns due to fuel oil inventory problems which do not affect the ability of the diesel generator to perform its safety function. Since presently, technical specifications require the unaffected diesel generator to be started to perform surveillance 4.8.1.1.2a.4), even if the affected diesel generator is inoperable solely due to fuel volume less than 86,000 gallons, implementation of this requested change will reduce the performance of unnecessary surveillance testing.

The new minimum storage volume for MODES 5 and 6 is plant specific for CPSES based on the CPSES design. The allowance of 48 hours to restore the fuel volume when above the six day volume is a line item improvement which is consistent with the applicable sections of NUREG-1431, the improved Standard Technical Specifications for Westinghouse Plants, and is proposed for incorporation into the CPSES Technical Specification without changing the present format of the CPSES Specification.

II. DESCRIPTION OF TECHNICAL SPECIFICATION CHANGE REQUEST

The following changes are proposed for Technical Specification 3/4.8.1, "A.C. Sources":

REDUCTION IN MINIMUM DIESEL FUEL STORED VOLUME WHILE SHUTDOWN

- (1) The OPERABILITY requirements of Limiting Condition for Operation (LCO) 3.8.1.2 state that one diesel generator shall be OPERABLE with "A fuel storage system containing a minimum volume of 86,000 gallons of fuel".

The minimum volume of fuel for this specification, which is applicable in MODES 5 and 6, is changed from 86,000 gallons to 75,000 gallons.

The BASES for this specification are revised to reflect and provide the supporting logic for this new minimum volume while in MODES 5 and 6.

ADDITION OF REMEDIAL ACTION TO RESTORE THE STORED VOLUME OF DIESEL FUEL

- (2) In LCOs 3.8.1.1 and 3.8.1.2, a diesel generator or diesel generators are required to be OPERABLE with a specified volume of fuel storage. The specifications are changed to identify the volume of fuel storage as an OPERABILITY requirement which is separate from the requirements for OPERABLE diesel generators. A related ACTION requirement is added which identifies the remedial actions necessary if the Fuel Storage OPERABILITY requirement is not met including when the associated diesel generator should be considered inoperable due to insufficient fuel storage.

Specifically, LCO subsection 3.8.1.1b.2) is moved to a new LCO subsection 3.8.1.1c to require "A Fuel Storage System for each diesel generator containing a minimum volume of 86,000 gallons of fuel." LCO subsection 3.8.1.2b.2) is moved to a new LCO subsection 3.8.1.2c to require "A Fuel Storage System for the OPERABLE diesel generator containing a minimum volume of 75,000 gallons of fuel."

The new related ACTION requirements for each of the LCOs allow 48 hours to restore fuel storage volume if the level remains above the "6-day" level. If the level is not restored within 48 hours or if the level falls below the "6-day" level, the associated diesel generator is immediately declared inoperable. The specific words for the new ACTION requirements are provided below.

Addition of actions under LCO action section 3.8.1.1

"g. With the Fuel Storage System volume less than 86,000 gallons but greater than 74,600 gallons of fuel for a diesel generator, restore the storage system fuel oil level to a minimum volume of 86,000 gallons within 48 hours or immediately declare the associated diesel generator inoperable and perform the applicable ACTION for an inoperable diesel generator[s].

"h. With the Fuel Storage System volume equal to 74,600 gallons or less for a diesel generator, immediately declare the diesel generator inoperable and perform the applicable ACTION for an inoperable diesel generator[s]."

Addition of actions under LCO action section 3.8.1.2

"b. With the Fuel Storage System volume less than 75,000 gallons but greater than 65,600 gallons of fuel for the diesel generator, restore the storage system fuel oil level to a minimum volume of 75,000 gallons within 48 hours or immediately declare the diesel generator inoperable and perform ACTION a.

"c. With the Fuel Storage System volume equal to 65,600 gallons or less, immediately declare the diesel generator inoperable and perform ACTION a."

The BASES for Specifications 3/4.8.1 are revised to reflect and support the rearrangement of the LCO and the new ACTION requirements.

In summary, Technical Specification 3.8.1.2, "A.C. SOURCES, SHUTDOWN," is revised to reduce the minimum fuel storage volume for each diesel generator while in MODES 5 and 6 from 86,000 gallons (a value previously calculated to support seven days of diesel generator operation at 7000 KW) to 75,000 gallons (a value calculated to support diesel generator operation for seven days during MODES 5 and 6). In addition LCOs 3.8.1.1 and 3.8.1.2 (A.C. SOURCES) are revised, from requiring that a diesel generator be considered inoperable when its fuel supply falls below the seven day level, to requiring that the diesel generator be considered inoperable when its fuel supply falls below the six-day level or when the fuel supply falls below the seven-day level (but is above the six-day level) and is not restored to the seven day level within 48 hours.

III. ANALYSIS

The two basic changes in this license amendment request are discussed separately below.

REDUCTION IN MINIMUM DIESEL FUEL STORED VOLUME WHILE SHUTDOWN

Two events are assessed in the CPSES FSAR (Chapter 8) regarding diesel generator loading and fuel oil storage requirements. These events are (a)

Loss of Coolant Accident concurrent with a Loss of Offsite Power (LOCA/LOOP) and (b) Loss of Offsite Power (LOOP). The FSAR demonstrated that a conservative diesel fuel oil inventory is available for all plant conditions for the above events when determined based upon the recommendations of USNRC Regulatory Guide 1.137, Revision 1, regulatory position C.1(c) method 1.

When the plant is in the shutdown condition (MODES 5 and 6), the LOCA/LOOP scenario from the FSAR is not appropriate for calculating diesel generator loading, because the plant is in a cold, de-pressurized condition and LOCA/LOOP is a less significant and probable event; however, the LOOP scenario applies to all plant operating conditions (MODES 1 through 6). The diesel generator loading requirements for LOOP as provided in the FSAR bounds the postulated scenarios for MODES 1 through 6. In MODES 5 and 6, the analysis has additional conservatism because many of the loads included in the analysis for MODES 1 through 4 are either not required or are operated at a significantly reduced electrical demand (e.g. auxiliary feedwater pumps and pressurizer heaters) during shutdown. A LOCA/LOOP in the shutdown condition has a lower electrical demand than the FSAR LOCA/LOOP and the transient is also bounded by the LOOP scenario.

USNRC Regulatory Guide 1.137, Revision 1, regulatory position C.1(c) method 2 which endorses the requirements of ANSI N195-1976, "Fuel Oil Systems for Standby Diesel Generators," provides the guidance to calculate diesel fuel oil inventory based on the time-dependent loads of the diesel generator for the plant condition. According to ANSI N195-1976: (a) if the design allows provision for operator to power additional equipment outside the minimum required for the plant condition, such additional loads shall be included in the calculation for fuel storage capacity; and (b) a minimum margin of ten percent shall be added to the calculated fuel storage requirement if this method is adopted.

A calculation was performed for CPSES Units 1 and 2 using this methodology. The calculation is based on the diesel generator loading for the LOOP scenario while operating (i.e., MODES 1 through 4) as described in the CPSES FSAR. The calculation includes provisions for the manual start of loads above the minimum required for the plant condition and is therefore conservative for the purposes of determining the minimum diesel fuel oil inventory needed during MODES 5 and 6. The calculation uses the time-dependent loads from the LOOP and adds a ten percent margin to the calculated required 7-day fuel oil volume. Additionally, the calculation takes into account the unusable volume in the diesel fuel oil storage tank and uses the most conservative value for fuel oil specific gravity. Based on this calculation, the required diesel oil inventory for CPSES Units 1 and 2 during shutdown, is 75,000 gallons for each unit.

The proposed technical specification change is to require 75,000 gallons as the minimum diesel fuel oil inventory for MODES 5 and 6. This value is conservative for the shutdown condition. No change is proposed for the fuel oil inventory requirements for MODES 1, 2, 3 and 4.

ADDITION OF REMEDIAL ACTION TO RESTORE THE STORED VOLUME OF DIESEL FUEL

The proposed change allows 48 hours to restore the 7-day fuel oil supply while maintaining the fuel oil level above the 6-day supply. If these conditions are not satisfied, the affected diesel generator is immediately declared inoperable.

The 6-day fuel oil supply for the diesel generators is conservatively calculated by the same method used for calculation of the 7-day fuel oil supply. For MODES 1, 2, 3 and 4, the 6-day storage system volume is determined to be 74,600 gallons based on the continuous rating of the diesel generator. For MODES 5 and 6, the 6-day storage system volume is determined to be 65,600 gallons based on a conservative time-dependent λ curve for MODES 5 and 6.

The remedial action proposed by this change allows sufficient time for obtaining the requisite replacement volume of the fuel oil and for performing the required analysis prior to addition of fuel to the tank. The proposed change is justified based on the remaining capacity (> 6-day fuel supply), the fact that procedures are initiated to obtain replenishment, and the low probability of an event during this brief period. Implementation of the requested change will avoid potentially unnecessary plant shutdowns due to fuel oil inventory problems which do not affect the ability of the diesel generator to perform its safety function. Since presently, technical specifications require the unaffected diesel generator to be started to perform surveillance 4.8.1.1.2a.4), even if the affected diesel generator is inoperable solely due to fuel volume less than 86,000 gallons, implementation of this requested change will reduce the performance of unnecessary surveillance testing.

This change is consistent with NUREG-1431, "Standard Technical Specifications for Westinghouse Plants."

IV. SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The following is an evaluation whether or not a significant hazards consideration is involved with the proposed change by focusing on the three standards set forth in 10 CFR 50.92(c) as discussed below:

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

REDUCTION IN MINIMUM DIESEL FUEL STORED VOLUME WHILE SHUTDOWN

The first proposed change reduces the diesel fuel oil inventory required during plant shutdown conditions (MODES 5 and 6). The current fuel oil inventory requirement is the same for plant operation (MODES 1, 2, 3 and 4) and for plant shutdown. This current inventory requirement is based upon the seven days continuous operation of a diesel generator at its rated capacity which encompasses all load demands for the Loss of Coolant Accident concurrent with a Loss of Offsite Power (LOCA/LOOP) scenario. Because of reduced temperature and pressure, LOCA/LOOP is a less significant and probable event in MODES 5 and 6. The bounding scenario is considered to be a Loss of Offsite Power (LOOP) while the plant is shutdown (in MODES 5 and 6). The new diesel fuel oil inventory required during plant shutdown conditions is based on LOOP. Because this change only affects diesel fuel inventory, there is no impact on the probability of an accident. The consequences of LOOP event are unchanged since sufficient fuel remains available to allow the diesel generators to support mitigation of the event. Because seven days of fuel are required, there is no change in the consequences of any event which requires the diesel generators. Therefore, there is no significant increase in the probability or consequences of an accident previously evaluated as a result of this proposed change.

ADDITION OF REMEDIAL ACTION TO RESTORE THE STORED VOLUME OF DIESEL FUEL

The second proposed change applies to all MODES of operation. This change allows the diesel generator to remain OPERABLE if the fuel oil inventory falls below the minimum required in the storage system (i.e., fuel volume for 7-day operation of the diesel generator) but remains above a fuel volume for 6 days operation of the diesel generator. The minimum required fuel oil volume must be restored within 48 hours of falling below the limit. This relaxation by 48 hours allows sufficient time to replenish the required fuel oil volume and complete any required analysis prior to fuel oil addition to the storage tank. Because this change only affects diesel generator fuel inventory, there is no impact on the probability of an accident. Since the fuel oil replenishment can be obtained in less than six days after an event, there is no significant increase in the probability of a loss of all AC power (i.e., Station

Blackout). Because the remaining fuel oil volume is larger than 6-day fuel supply and actions are initiated to obtain replenishment within this brief period, the proposed change does not involve a significant increase in the consequences of an accident previously evaluated.

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

REDUCTION IN MINIMUM DIESEL FUEL STORED VOLUME WHILE SHUTDOWN

The first proposed change reduces the diesel fuel oil inventory required for plant shutdown conditions. As described above, LOOP is the limiting condition for diesel fuel oil inventory requirements for a plant in the shutdown condition. As the proposed fuel inventory is adequate for a shutdown LOOP and no hardware changes or system operation changes are involved, no new failure modes are introduced and hence, no new or different accidents from any previously evaluated are created.

ADDITION OF REMEDIAL ACTION TO RESTORE THE STORED VOLUME OF DIESEL FUEL

The second proposed change only affects diesel generator fuel inventory as well. There are no hardware changes and no changes in system operations involved; therefore, no new or different accidents from any accident previously evaluated are created.

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

The intent of the Technical Specification is to conservatively assure sufficient fuel to assure diesel generator operation to support mitigation of postulated events. This intent is accomplished by conservatively assuring a seven day supply of fuel. Seven days fuel supply is considered sufficient to support the initial mitigation activities, identify the need for additional fuel, arrange for delivery, test and then add fuel to the storage tanks, if needed. The current diesel fuel oil inventory for operating conditions (MODES 1, 2, 3 and 4), is sufficient to conservatively support seven days of diesel generator operation for a LOCA with LOOP condition.

REDUCTION IN MINIMUM DIESEL FUEL STORED VOLUME WHILE SHUTDOWN

The proposed diesel fuel oil inventory for shutdown conditions (MODES 5 and 6), is adequate to conservatively support seven days of diesel generator operation for LOOP conditions. The proposed reduction in inventory between operating and shutdown conditions continues to support the different transient conditions which are applicable to the different modes of operation. Even though the minimum storage requirement during shutdown is being reduced, the basis of this specification continues to be conservatively satisfied and therefore this license amendment request does not involve a significant reduction in a margin of safety.

ADDITION OF REMEDIAL ACTION TO RESTORE THE STORED VOLUME OF DIESEL FUEL

The second proposed change which is applicable to all MODES of operation, allows 48 hours to restore diesel generator fuel oil inventory to the seven-day level as long as the inventory does not fall below the six-day level. The probability of a LOOP during this period is low. The 6-day fuel oil supply is calculated with adequate margin similar to the calculation of 7-day fuel oil inventory. In spite of the potential that there may be slightly less fuel available in inventory at the time of an event, actions would have been initiated to obtain replenishment within this brief period. Based on this and the low probability of an event during this brief period, it is considered that this change request does not involve a significant reduction in a margin of safety.

On the basis of the above evaluations, TU Electric concludes that the proposed change satisfies the no significant hazards consideration standards and does not involve a significant hazards consideration.

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 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the requested change is not required.

VI. REFERENCES

- 1) USNRC Regulatory Guide 1.137, Revision 1, "Fuel-Oil Systems for Standby Diesel Generators"
- 2) ANSI N195-1976, "Fuel Oil Systems for Standby Diesel-Generators"
- 3) NUREG-1431, "Standard Technical Specifications - Westinghouse Plants", September 1992