SOUTHERN CALIFORNIA
EDISON
An *EDISON INTERNATIONAL*℠ Company

Dwight E. Nunn
Vice President

December 11, 2001

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D.C. 20555

Subject: **San Onofre Nuclear Generating Station Units 2 and 3**
Docket Nos. 50-361 and 50-362
Proposed Change Number (PCN)-531
Request to Revise Technical Specification 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air"

Dear Sir or Madam:

Pursuant to 10CFR50.90, Southern California Edison (SCE) hereby requests the following amendment: Revise Technical Specification (TS) 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air." This proposed change will revise TS 3.8.3 to change the required amount of stored diesel fuel to 1) support the use of California Diesel fuel rather than the existing EPA Clear diesel fuel, and 2) reflect a change in the diesel generator load profile in Modes 1 through 4. In addition, this proposed change will revise the units of required diesel fuel storage from tank level percentage to volume of stored fuel (gallons). Changes to the associated Bases are made for consistency and are included for information only. SCE has evaluated these requests under the standards set forth in 10CFR50.92(c) and determined that a finding of "no significant hazards consideration" is justified.

SCE requests approval of the proposed amendment by May 20, 2002. Once approved, the amendment shall be implemented within 30 days.

SCE is making no formal commitments that would derive from NRC approval of the proposed amendment.

If you have any questions or require additional information, please contact Mr. Jack Rainsberry at 949-368-7240.

Sincerely,

Enclosures and cc: (See next page)

P. O. Box 128
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Enclosures

1. Notarized Affidavits
2. Licensee's Evaluation
   Attachments
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cc: E. W. Merschoff, Regional Administrator, NRC Region IV
C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 & 3
J. N. Donohew, NRC Project Manager, San Onofre Units 2 and 3
S. Y. Hsu, Department of Health Services, Radiologic Health Branch

Enclosure 1

Notarized Affidavits

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit No. 2 of the San Onofre Nuclear Generating Station	))))))	Docket No. 50-361 Amendment Application No. 213

SOUTHERN CALIFORNIA EDISON COMPANY, et al. pursuant to 10CFR50.90, hereby submit Amendment Application No. 213. This amendment application consists of Proposed Change No. NPF-10-531 to Facility Operating License No. NPF-10. Proposed Change No. NPF-10-531 is a request to revise Technical Specification (TS) 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," to change the required amount of stored diesel fuel to 1) support the use of California Diesel fuel rather than the existing EPA Clear diesel fuel, and 2) reflect a change in the diesel generator load profile in Modes 1 through 4. In addition, this proposed change will revise the units of required diesel fuel storage from tank level percentage to volume of stored fuel (gallons).

State of California
County of San Diego

Subscribed and sworn to (or affirmed) before me this 11th day of December, 2001.

By: _____
Dwight E. Nunn
Vice President

_____
Notary Public

MARIANE SANCHEZ
Commission #1196482
Notary Public - California
San Diego County
My Comm. Expires Oct 14, 2002

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit No. 3 of the San Onofre Nuclear Generating Station	)))))	Docket No. 50-362 Amendment Application No. 198

SOUTHERN CALIFORNIA EDISON COMPANY, et al. pursuant to 10CFR50.90, hereby submit Amendment Application No. 198. This amendment application consists of Proposed Change No. NPF-15-531 to Facility Operating License No. NPF-15. Proposed Change No. NPF-15-531 is a request to revise Technical Specification (TS) 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," to change the required amount of stored diesel fuel to 1) support the use of California Diesel fuel rather than the existing EPA Clear diesel fuel, and 2) reflect a change in the diesel generator load profile in Modes 1 through 4. In addition, this proposed change will revise the units of required diesel fuel storage from tank level percentage to volume of stored fuel (gallons).

State of California
County of San Diego

Subscribed and sworn to (or affirmed) before me this 11th day of December, 2001.

By: Dwight E. Nunn
Vice President

Mariane Sanchez
Notary Public

MARIANE SANCHEZ
Commission #1196482
Notary Public - California
San Diego County
My Comm. Expires Oct 14, 2002

Enclosure 2

LICENSEE'S EVALUATION

PCN-531

DIESEL FUEL OIL STORAGE TANK LEVEL LIMITS

1.0 INTRODUCTION

This letter is a request to amend Operating Licenses NPF-10 and NPF-15 for San Onofre Nuclear Generating Station Units 2 and 3 (SONGS 2 and 3), respectively.

The proposed change would revise the Operating Licenses to amend Technical Specification (TS) 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," to change the required amount of stored diesel fuel to 1) support the use of California Diesel fuel rather than the existing EPA Clear diesel fuel, and 2) reflect a change in the diesel generator load profile in Modes 1 through 4. In addition, this proposed change will revise the units of required diesel fuel storage from tank level percentage to volume of stored fuel (gallons).

2.0 DESCRIPTION OF PROPOSED AMENDMENT

TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," Condition A, currently states that during Modes 1 through 4, if one or more Diesel Generators (DG) has a fuel level in the storage tank less than 89% and greater than or equal to 76%, then fuel oil level must be restored to within limits within 48 hours. The 89% level requirement is based on the need to provide a 7-day supply of diesel fuel in Modes 1 through 4. The 76% level requirement is based on the need to provide at least a 6-day supply of diesel fuel in Modes 1 through 4.

Existing TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," Condition C, states that during Modes 5 and 6, if one Diesel Generator (DG) has a fuel level in the storage tank less than 72% and greater than 63%, then fuel oil level must be restored to within limits within 48 hours. The 72% level requirement is based on the need to provide a 7-day supply of diesel fuel in Modes 5 and 6. The 63% level requirement is based on the need to provide at least a 6-day supply of diesel fuel in Modes 5 and 6.

Existing Surveillance Requirement (SR) 3.8.3.1 requires that each diesel fuel oil storage tank level be verified every 31 days to be greater than or equal to 89% in Modes 1 through 4 and greater than or equal to 72% in Modes 5 and 6.

As described in the existing Bases to TS 3.8.3, these tank level requirements are based on fuel volume requirements. In Modes 1 through 4, the existing 7-day (89% tank level) and 6-day (76%) fuel supplies correspond to 49,724 gallons and 42,960 gallons, respectively, when the level transmitter Total Loop Uncertainty (TLU) is taken into account. In Modes 5 and 6, the 7-day (72% tank level) and 6-day (63%) fuel supplies correspond to 40,472 gallons and 34,690 gallons, respectively, when the level transmitter TLU is taken into account.

This proposed change revises the required amount of stored diesel fuel. The change is necessary to 1) support the use of California Diesel fuel rather than the existing EPA Clear diesel fuel, and 2) reflect a change in the diesel generator load profile in Modes 1 through 4. The new requirements will continue to ensure that sufficient fuel is available to supply loads for the necessary time periods (7-day supply and 6-day supply).

In addition, this proposed change revises the TS 3.8.3, Conditions A and C, and SR 3.8.3.1, to express the 7-day and 6-day fuel volume requirements in gallons rather than percent tank level to more closely reflect the actual system requirements and to allow alternate fuel volume measurement methods (e.g., tank soundings).

This proposed change will also revise the "greater than or equal to" sign in TS 3.8.3 Condition A to a "greater than" sign for consistency with the rest of the specification.

Therefore, following approval of this proposed change, TS 3.8.3, Condition A, will be invoked when the volume of fuel in a tank is less than 45,662 gallons and greater than 39,468 gallons in Modes 1 through 4. TS 3.8.3, Condition C, will be invoked when the volume of fuel in the tank is less than 41,691 gallons and greater than 35,735 gallons in Modes 5 and 6. SR 3.8.3.1 will require verification that the volume of fuel in each tank is greater than or equal to 45,662 gallons in Modes 1 through 4 and greater than or equal to 41,691 gallons in Modes 5 and 6.

Changes to the Bases of TS 3.8.3 are made for consistency with the proposed changes described above and to make two editorial corrections.

In summary, the proposed change would revise the Operating Licenses to amend Technical Specification (TS) 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," to change the required amount of stored diesel fuel to 1) support the use of California Diesel fuel rather than the existing EPA Clear diesel fuel, and 2) reflect a change in the diesel generator load profile in Modes 1 through 4. In addition, this proposed change will revise the units of required diesel fuel storage from tank level percentage to volume of stored fuel (gallons) and the "greater than or equal to" sign in TS 3.8.3, Condition A, is revised to be a "greater than" sign for consistency with other parts of TS 3.8.3. The Bases to TS 3.8.3 will be revised to reflect these changes and make two editorial corrections.

3.0 BACKGROUND

The standby power supply for SONGS 2 and 3 consists of one diesel generator for each safety-related load group (two per unit) complete with accessories, fuel storage, and transfer systems. Each DG is provided with sufficient stored diesel fuel oil to operate for a period of 7 days, while the DG is supplying maximum post Loss of Coolant Accident (LOCA) load demand. The existing fuel oil inventory requirements for the diesel fuel storage tanks are based on the fuel volume needed for 7 days of diesel generator operation.

Existing TS 3.8.3 Condition A requires that each diesel fuel storage tank level be greater than or equal to 89% during Modes 1, 2, 3, and 4. Existing TS 3.8.3 Condition C requires that one required diesel fuel storage tank level be greater than or equal to 72% during Modes 5 and 6. These tank level requirements are based on the required

volume of fuel with an allowance to account for Total Loop Uncertainty (TLU) for control room instrumentation and alarm.

SONGS is required by California state regulation as implemented by the San Diego Air Pollution Control District (APCD) to discontinue use of the current EPA Clear diesel fuel and replace it with California Diesel fuel for emissions purposes. The Lower Heating Value (LHV) of California Diesel fuel is slightly lower on a per gallon basis than that of the existing fuel. Therefore, the BTU content of the fuel on a per gallon basis may also be lower. Calculations have been performed to determine the amount of fuel required based on the lower LHV of California Diesel fuel.

The revised fuel volume calculations also reflect a change to the diesel generator load profile in Modes 1 through 4 that was completed in accordance with the provisions of 10CFR50.59. The existing fuel volume calculations assumed operation of the third-of-a-kind High Pressure Safety Injection (HPSI) pump under post-accident conditions. Operation of the third-of-a-kind HPSI is no longer required under these conditions. Removal of this load from the post-accident load profile has decreased the overall required volumes of fuel in the tank for Modes 1 through 4, even when use of the new fuel is taken into account.

When use of California Diesel fuel and the revised load profile are taken into account, the amount of stored fuel required to ensure that a 7-day supply of fuel in Modes 1 through 4 is 45,662 gallons. For Modes 5 and 6, the required amount of stored fuel for a 7-day supply is 41,691 gallons.

Changing the units of required fuel from tank level to fuel volume more accurately reflects the design basis of the requirement and allows SCE flexibility in the type of measurement used to verify compliance with the TS. Currently, if SCE uses a sounding tape to measure the level of fuel in the diesel fuel storage tank, the sounding tape may show that there is sufficient fuel to meet the design basis while the control room indicator, because of conservatisms due to TLU, shows insufficient fuel volume.

The DGs are described in Updated Final Safety Analysis Report (UFSAR) section 8.3.1.1.4. The DG fuel oil storage and transfer system is described in UFSAR section 9.5.4.

4.0 REGULATORY REQUIREMENTS AND GUIDANCE

ANSI 195/ANS 59.51, "Fuel Oil Systems for Standby Diesel Generators," requires that the onsite fuel oil storage shall be sufficient to operate the minimum number of diesel generators following the limiting design basis accident for either seven (7) days, or the time required to replenish the oil from the sources outside the plant site following any limiting design basis event without interrupting the operation of the diesel, whichever is longer.

The ANSI standard also provides guidance for calculating storage requirements. ANSI195/ANS 59.51 was used in the preparation of calculations to support this change.

The requirement for a 7-day supply of diesel fuel for each diesel generator at San Onofre Units 2 and 3 is also stated in the Bases to TS 3.8.3.

5.0 TECHNICAL ANALYSIS

Each diesel generator is currently required to have sufficient fuel for 7 days of operation. This requirement is currently expressed as minimum storage tank level limits. The basis of these tank level limits is to provide sufficient fuel for operation with the most limiting time dependent load profile over a period of 7 days. The required amount of fuel is calculated in gallons, and an allowance for instrument TLU is added to determine the required tank level limit. (See Tables 1 and 2 below). When a 7-day fuel supply is not available, the required actions depend on whether or not at least a 6-day fuel supply is available.

Due to the planned fuel changeout and the change in diesel generator load profile in Modes 1 through 4, the required diesel fuel volumes have been re-calculated for California Diesel fuel in accordance with ANSI 195/ANS 59.51, "Fuel Oil Systems for Standby Diesel Generators." The results are displayed in Tables 1 and 2, below. There is no change to the requirement to maintain a 7-day supply of fuel as a result of this proposed change. When a 7-day fuel supply is not available, the required actions will continue to depend on whether or not at least a 6-day supply of fuel is available following this proposed change.

In addition, this proposed change will revise the units of TS 3.8.3 Conditions A and C, and SR 3.8.3.1 from tank level to fuel volume in gallons. The "greater than or equal to" sign in TS 3.8.3, Condition A, is revised to be a "greater than" sign for consistency with other parts of TS 3.8.3. These proposed changes are administrative changes only.

Table 1

Diesel Fuel Storage Requirements, Modes 1 through 4

	7 day fuel supply (gallons)	6 day fuel supply (gallons)	Tank level limit: 7-day fuel supply + TLU	Tank level limit: 6-day fuel supply + TLU
Current Requirement	49,724	42,960	89%	76%
Proposed Requirement	45,662	39,468	N/A	N/A

Table 2

Diesel Fuel Storage Requirements, Modes 5 and 6

	7 day fuel supply (gallons)	6 day fuel supply (gallons)	Tank level limit: 7-day fuel supply + TLU	Tank level limit: 6-day fuel supply + TLU
Current Requirement	40,472	34,690	72%	63%
Proposed Requirement	41,691	35,735	N/A	N/A

Fuel Tank Limits in Modes 1-4

Although the LHV for California Diesel is less than that for the existing fuel, the calculated amount of required fuel in Modes 1 through 4 decreases as a result of this change. This is due to changes in the load profile for the diesel generators that have been completed since the existing required fuel volumes were calculated. Previously, the third-of-a-kind High Pressure Safety Injection (HPSI) pump was assumed to be in operation during the 15-60 minute loading interval and thereafter. This resulted in an additional 405.1 kW load.

SCE no longer requires the third-of-a-kind HPSI pump to be started following a Loss of Coolant Accident (LOCA) or Main Steam Line Break (MSLB). Removal of this load from the post-accident load profile has decreased the overall required volumes of fuel in the tank for Modes 1 through 4, even when use of the new fuel is taken into account.

Associated Bases Changes

Changes to the Bases of TS 3.8.3 are provided for information only. The Bases are revised to:

1) Reflect the changeout from EPA Clear diesel fuel to California Diesel fuel. This includes the change in units from tank level percentage to gallons and the change to the minimum required fuel volume in Conditions A and C and SR 3.8.3.1. This also includes a change to the range of acceptable API gravities for new fuel. Currently, the Bases to SR 3.8.3.3 require that a sample of new fuel is verified to have an API gravity at 60°F of $\geq 27°$ and $\leq 39°$. This range will be revised to $\geq 30°$ and $\leq 42°$ at 60°F.

   Specifications from the supplier for California Diesel list a minimum API gravity of 30°. There is no listed maximum API gravity. The calculations performed to determine the minimum volumes of fuel use a typical API gravity of 36°, which is representative of the diesel fuel produced by SCE's supplier. Variations in fuel consumption rates due to variations in

API gravity within the acceptable range will be bounded by the 10% margin included in the calculations of minimum fuel volumes, in accordance with ANSI 195/ANS 59.51.

2) Change "y" to "6" in the Bases for Condition C.1, and

3) Change "Reference 8" to "Reference 7" in the Bases to SR 3.8.3.6.

Change 1 is discussed above. Changes 2 and 3 are editorial corrections and are therefore acceptable.

6.0 REGULATORY ANALYSIS

Southern California Edison (SCE) is requesting a change to the operating licenses for San Onofre Nuclear Generating Station Units 2 and 3 (SONGS 2 and 3). This proposed change will revise the minimum required amount of stored diesel fuel. This change is requested to 1) support the use of California Diesel fuel rather than the existing EPA Clear diesel fuel, and 2) reflect a change in the diesel generator load profile in Modes 1 through 4.

ANSI 195/ANS 59.51, "Fuel Oil Systems for Standby Diesel Generators," requires that onsite fuel oil storage shall be sufficient to operate the minimum number of diesel generators following the limiting design basis accident for either seven (7) days, or the time required to replenish the oil from the sources outside the plant site following any limiting design basis event without interrupting the operation of the diesel, whichever is longer.

TS 3.8.3 requires that a 7-day supply of diesel fuel be available and provides required actions when less than a 7-day supply of fuel is available. These required actions depend upon whether or not at least a 6-day supply of fuel is available.

Using the methods described in ANSI 195/ANS 59.51, SCE has re-calculated the minimum required volume of fuel necessary to ensure a 7-day or 6-day supply of fuel is available for each diesel generator. This revised calculation reflects use of the new California Diesel fuel as well as changes to the diesel generator load profile for Modes 1 through 4.

In addition, this change will revise the units of minimum required diesel fuel in the diesel fuel storage tanks from tank level (%) to volume of fuel in the tanks (gallons). The "greater than or equal to" sign in TS 3.8.3 is revised to a "greater than" sign for consistency with other parts of TS 3.8.3. These are administrative changes only.

Following this change, the minimum amount of stored diesel fuel in Modes 1 through 4 will be decreased from 49,724 gallons to 45,662 gallons (7-day supply of fuel) and from 42,960 gallons to 39,468 gallons (6-day supply of fuel). The minimum amount of fuel in

Modes 5 and 6 will be increased from 40,472 gallons to 41,691 gallons (7-day supply of fuel) and from 34,690 gallons to 35,735 gallons (6-day supply of fuel). See Tables 1 and 2 above. Because the new values are expressed in gallons, these values no longer include allowances for instrument uncertainty. However, it should be noted that instrument uncertainty will be included in calculations to determine corresponding tank levels for use in control room alarm setpoints and surveillance procedures.

Following implementation of these proposed changes, there will be no change in the ability of the diesel fuel oil storage and transfer system to supply the diesel generators over the required 7-day and 6-day periods.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 NO SIGNIFICANT HAZARDS CONSIDERATION

SCE has evaluated whether or not a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in 10CFR50.92, "Issuance of Amendment," as discussed below:

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

   Response: No.

   This proposed change revises the minimum amount of stored diesel fuel. The change is required to 1) support the use of California Diesel fuel rather than the existing EPA Clear diesel fuel, and 2) reflect a change in the diesel generator load profile in Modes 1 through 4.

   In addition, this proposed change revises the units for the minimum diesel fuel storage requirements from tank level to a minimum required volume of fuel in gallons. A "greater than or equal to" sign is revised to a "greater than" sign for consistency. These are administrative changes only.

   Technical Specification (TS) 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," requires that each diesel generator have sufficient fuel to operate for a period of 7 days, while the Diesel Generator (DG) is supplying maximum post Loss of Coolant Accident (LOCA) load demand. This requirement is currently expressed as a minimum tank level limit. In Modes 1 through 4, the existing tank level limit is 89%, which ensures that a 7-day supply of fuel is available. TS 3.8.3, Condition A, states that during Modes 1

through 4, if one or more Diesel Generators (DG) has a fuel level in the storage tank less than 89% and greater than or equal to 76%, then fuel oil level must be restored to within limits within 48 hours. The 76% level requirement is based on maintaining a 6-day supply of diesel fuel in Modes 1 through 4. If the tank level is at or below 76% (6-day supply), the associated DG must be declared inoperable immediately.

Similarly, for Modes 5 and 6, the existing tank level limit is 72%, which ensures that a 7-day supply of fuel is available. TS 3.8.3, Condition C, states that during Modes 5 and 6, if one required DG has a fuel level in the storage tank less than 72% and greater than 63%, then fuel oil level must be restored to within limits within 48 hours. The 63% level requirement is based on maintaining a 6-day supply of diesel fuel in Modes 5 and 6. If the tank level is at or below 63% (6-day supply), the associated diesel generator must be declared inoperable immediately.

As described in the Bases to TS 3.8.3, these tank level requirements are based on fuel volume requirements. In Modes 1 through 4, 89% and 76% level limits are based on a 7-day (49,724 gallons) and 6-day (42,960 gallons) fuel supply, respectively [plus an allowance for instrument Total Loop Uncertainty (TLU)]. In Modes 5 and 6, the 72% and 63% tank level limits are based on a 7-day (40,472 gallons) and 6-day (34,690) fuel supply, respectively (plus an allowance for instrument TLU).

Because the Lower Heating Value (LHV) per gallon of California Diesel fuel is less than that of EPA Clear diesel fuel, it was necessary to re-calculate the amount of fuel required to supply necessary loads for the required time periods. For Modes 1 through 4, the resulting minimum volumes of California Diesel fuel are 45,662 gallons and 39,468 gallons for the 7-day and 6-day fuel supply, respectively. For Modes 5 and 6, the required volumes of California Diesel fuel are 41,691 gallons and 35,735 gallons for a 7-day supply and a 6-day supply, respectively.

It should be noted that the minimum volumes in Modes 1 through 4 are decreased due to a change in the calculated load profile. SONGS no longer requires the third-of-a-kind High Pressure Safety Injection (HPSI) pump to be started following a Loss of Coolant Accident (LOCA) or Main Steam Line Break (MSLB). Operation of the third-of-a-kind HPSI pump is no longer assumed as part of the DG load profile in Modes 1 through 4. This resulted in a net decrease in the amount of required stored diesel fuel in Modes 1 through 4, even when use of the new California Diesel fuel is taken into account.

The diesel generators and the associated support systems such as the fuel oil storage and transfer systems are designed to mitigate accidents and are not accident initiators. Revising the minimum volumes of stored

fuel in the storage tanks will not result in a significant increase in the probability of any accident previously evaluated.

Following implementation of this proposed change, there will be no change in the ability of the diesel generators to supply maximum post-LOCA load demand for 7 days. The proposed minimum volumes of fuel, 45,662 gallons and 39,468 gallons, ensure that a 7-day and 6-day supply of fuel, respectively, are available in Modes 1 through 4. The proposed minimum volumes of fuel, 41,691 gallons and 35,735 gallons, ensure that a 7-day and a 6-day supply, respectively, of fuel is available in Modes 5 and 6. This is identical to the current requirements. Therefore, this change will not result in a significant increase in the consequences of any accident previously evaluated.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No.

Following this change, the diesel generators will still be able to supply maximum post-LOCA load demand. The current 7-day and 6-day fuel supply requirements will be maintained following this change.

The change in units from tank level percentage to fuel volume in gallons is an administrative change only. The change from a "greater than or equal to" sign to a "greater than" sign in TS 3.8.3, Condition A, is for consistency with other parts of TS 3.8.3 and is also an administrative change.

Therefore, this proposed change will not create the possibility of a new or different kind of accident from any accident that has been previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The Bases to TS 3.8.3 state that "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." When the fuel oil tank level is less than

required to support 7-day of operation, the required action depends on whether or not a 6-day supply of fuel is available.

The proposed tank level limits for Modes 5 and 6 will maintain these 7-day and 6-day fuel supply requirements following changeout to California Diesel fuel.

The change in units from tank level percentage to fuel volume in gallons is an administrative change only. The change from a "greater than or equal to" sign to a "greater than" sign in TS 3.8.3, Condition A, is for consistency with other parts of TS 3.8.3 and is also an administrative change.

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

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

8.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10CFR20, or would change an inspection or surveillance requirement. However, the proposed amendment does 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 proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

Attachment A

(Existing Pages)

SONGS Unit 2

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 < 89% and ≥ 76% in storage tank during MODE 1,2,3 or 4.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory < TS min and ≥ TS inop.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One required DG with fuel level in the storage tank < 72% and > 63% during MODE 5 or 6.	C.1 Restore fuel oil level to within limits.	48 hours
D. One or more DGs with stored fuel oil total particulates not within limits.	D.1 Restore fuel oil total particulates to within limits.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more DGs with new fuel oil properties not within limits.	E.1 Restore stored fuel oil properties to within limits.	30 days
F. One or more DGs with starting air receiver pressure < 175 psig and ≥ 136 psig.	F.1 Restore starting air receiver pressure to ≥ 175 psig.	48 hours
G. Required Action and associated Completion Time of Condition A, B, C, D, E or F not met. OR One or more DGs with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, E, or F.	G.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ 89% level in MODE 1,2,3 or 4 and ≥ 72% level in MODE 5 or 6.	31 days

(continued)

Attachment B

(Existing Pages)

SONGS Unit 3

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 < 89% and ≥ 76% in storage tank during MODE 1,2,3 or 4.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory < TS min and ≥ TS inop.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One required DG with fuel level in the storage tank < 72% and > 63% during MODE 5 or 6.	C.1 Restore fuel oil level to within limits.	48 hours
D. One or more DGs with stored fuel oil total particulates not within limits.	D.1 Restore fuel oil total particulates to within limits.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more DGs with new fuel oil properties not within limits.	E.1 Restore stored fuel oil properties to within limits.	30 days
F. One or more DGs with starting air receiver pressure < 175 psig and ≥ 136 psig.	F.1 Restore starting air receiver pressure to ≥ 175 psig.	48 hours
G. Required Action and associated Completion Time of Condition A, B, C, D, E or F not met. OR One or more DGs with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, E, or F.	G.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ 89% level in MODE 1,2,3 or 4 and ≥ 72% level in MODE 5 or 6.	31 days

(continued)

Attachment C

(Proposed Pages)

(Redline and Strikeout)

SONGS Unit 2

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~~ volume < ~~89%~~45,662 gallons and ≥> ~~76%~~39,468 gallons in storage tank during MODE 1,2,3 or 4.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory < TS min and ≥ TS inop.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One required DG with fuel ~~level~~ volume in the storage tank < ~~72%~~41,691 gallons and > ~~63%~~35,735 gallons during MODE 5 or 6.	C.1 Restore fuel oil level to within limits.	48 hours
D. One or more DGs with stored fuel oil total particulates not within limits.	D.1 Restore fuel oil total particulates to within limits.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more DGs with new fuel oil properties not within limits.	E.1 Restore stored fuel oil properties to within limits.	30 days
F. One or more DGs with starting air receiver pressure < 175 psig and ≥ 136 psig.	F.1 Restore starting air receiver pressure to ≥ 175 psig.	48 hours
G. Required Action and associated Completion Time of Condition A, B, C, D, E or F not met. OR One or more DGs with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, E, or F.	G.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ ~~89% level~~ 45,662 gallons in MODE 1,2,3 or 4 and ≥ ~~72% level~~ 41,691 gallons in MODE 5 or 6.	31 days

(continued)

Attachment D

(Proposed Pages)

(Redline and Strikeout)

SONGS Unit 3

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~~volume < ~~89%~~ 45,662 gallons and ≥> ~~76%~~39,468 gallons in storage tank during MODE 1,2,3 or 4.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory < TS min and ≥ TS inop.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One required DG with fuel ~~level~~volume in the storage tank < ~~72%~~41,691 gallons and > ~~63%~~35,735 gallons during MODE 5 or 6.	C.1 Restore fuel oil level to within limits.	48 hours
D. One or more DGs with stored fuel oil total particulates not within limits.	D.1 Restore fuel oil total particulates to within limits.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more DGs with new fuel oil properties not within limits.	E.1 Restore stored fuel oil properties to within limits.	30 days
F. One or more DGs with starting air receiver pressure < 175 psig and ≥ 136 psig.	F.1 Restore starting air receiver pressure to ≥ 175 psig.	48 hours
G. Required Action and associated Completion Time of Condition A, B, C, D, E or F not met. OR One or more DGs with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, E, or F.	G.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ ~~89% level~~45,662 gallons in MODE 1,2,3 or 4 and ≥ ~~72% level~~41,691 gallons in MODE 5 or 6.	31 days

(continued)

Attachment E

(Proposed Pages)

SONGS Unit 2

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 volume < 45,662 gallons and > 39,468 gallons in storage tank during MODE 1,2,3 or 4.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory < TS min and ≥ TS inop.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One required DG with fuel volume in the storage tank < 41,691 gallons and > 35,735 gallons during MODE 5 or 6.	C.1 Restore fuel oil level to within limits.	48 hours
D. One or more DGs with stored fuel oil total particulates not within limits.	D.1 Restore fuel oil total particulates to within limits.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more DGs with new fuel oil properties not within limits.	E.1 Restore stored fuel oil properties to within limits.	30 days
F. One or more DGs with starting air receiver pressure < 175 psig and ≥ 136 psig.	F.1 Restore starting air receiver pressure to ≥ 175 psig.	48 hours
G. Required Action and associated Completion Time of Condition A, B, C, D, E or F not met. OR One or more DGs with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, E, or F.	G.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ 45,662 gallons in MODE 1,2,3 or 4 and ≥ 41,691 gallons in MODE 5 or 6.	31 days

(continued)

Attachment F

(Proposed Pages)

SONGS Unit 3

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 volume < 45,662 gallons and > 39,468 gallons in storage tank during MODE 1,2,3 or 4.	A.1 Restore fuel oil level to within limits.	48 hours
B. One or more DGs with lube oil inventory < TS min and ≥ TS inop.	B.1 Restore lube oil inventory to within limits.	48 hours
C. One required DG with fuel volume in the storage tank < 41,691 gallons and > 35,735 gallons during MODE 5 or 6.	C.1 Restore fuel oil level to within limits.	48 hours
D. One or more DGs with stored fuel oil total particulates not within limits.	D.1 Restore fuel oil total particulates to within limits.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more DGs with new fuel oil properties not within limits.	E.1 Restore stored fuel oil properties to within limits.	30 days
F. One or more DGs with starting air receiver pressure < 175 psig and ≥ 136 psig.	F.1 Restore starting air receiver pressure to ≥ 175 psig.	48 hours
G. Required Action and associated Completion Time of Condition A, B, C, D, E or F not met. OR One or more DGs with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than Condition A, B, C, D, E, or F.	G.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ 45,662 gallons in MODE 1,2,3 or 4 and ≥ 41,691 gallons level in MODE 5 or 6.	31 days

(continued)

Attachment G

(Proposed Bases Pages)

(Redline and Strikeout)

(For Information Only)

SONGS Unit 2

BASES (continued)

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 starting air subsystems support 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.

ACTIONS A.1

In this Condition, the 7 day fuel oil supply (~~89% level~~45,662 gallons) for a DG is not available. However, the Condition is restricted to fuel oil level reductions that maintain at least a 6 day supply (~~76% level~~39,468 gallons). ~~A fuel oil level of 89% and 76% corresponds to 49,724 gal and 42,960 gal, respectively.~~ 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 analyses for the fuel oil are based upon the requirements in gallons. The percentage figures are provided because the fuel oil level indicators in the control room are marked in percentages not in gallons.~~

B.1

With lube oil inventory less than the TSmin marking in the 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 6 day supply

(continued)

BASES (continued)

ACTIONS

B.1 (continued)

greater than or equal to the TSinop marking in the dipstick). This restriction allows sufficient time to obtain the requisite replacement volume. The TSmin mark corresponds to 369.4 gals for the 16 cylinder DG and 412.1 gals for the 20 cylinder DG. The TSinop mark corresponds to 347.5 gals for the 16 cylinder DG and 386.2 gals for the 20 cylinder DG. 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 (> 6 days), 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

In this Condition the 7 day fuel oil supply (~~72% level~~41,691 gallons) for a DG during Mode 5 or 6 is not available. However, the Condition is restricted to fuel oil level reductions that maintain at least a ~~y~~6 day supply (~~63% level~~35,735 gallons). ~~A 72% level corresponds to 40,472 gals and a 63% level corresponds to 34,690 gals.~~ These circumstances may be caused by events such as full load operations 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.

D.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

(continued)

BASES (continued)

ACTIONS

F.1 (continued)

are accomplished on the first attempt, and the low probability of an event during this brief period.

G.1

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

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil (≥ ~~89%~~45,662 gallons in Mode 1, 2, 3, or 4 and ≥ ~~72%~~41,691 gallons in Mode 5 or 6) in the storage tanks to support each DG's operation for 7 days at full load. ~~An 89% level and 72% level corresponds to 49,724 gals and 40,472 gals, respectively.~~ 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 ensures that sufficient lube oil inventory is available to support at least 7 days of full load operation for each DG. The TS min (412.1 gal for the 20 cylinder engine and 369.4 gal for the 16 cylinder engine) requirements are based on the DG manufacturer consumption values for the run time of the DG.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.3.2 (continued)

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 D4057-81 (Ref. 6);

b. Verify in accordance with the tests specified in ASTM D975-81 (Ref. 6) that the sample has a kinematic viscosity at 40°C of $\geq$ 1.9 centistokes and $\leq$ 4.1 centistokes, a water and sediment content of $\leq$ 0.05% by volume, and a flash point of $\geq$ 125°F; and

c. Verify in accordance with ASTM D287-82 that the sample has an API gravity at 60°F of $\geq$ ~~27~~30° and $\leq$ ~~39~~42°.

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 delivery, the fuel oil is analyzed to establish that the other properties specified in table 1 of ASTM D975-81 (Ref. 6) are met when tested in accordance with ASTM D975-81, except that

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.3.4 (continued)

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 microorganisms 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 microbial survival in the storage tanks. 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 microorganisms. 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 preventative maintenance. The presence of water does not necessarily represent failure of this SR provided the accumulated water is removed during performance of the Surveillance.

SR 3.8.3.6

Draining of the fuel oil stored in the supply tanks, removal of accumulated sediment, and tank cleaning are required at 10 year intervals by Regulatory Guide 1.137 (Ref. 2), paragraph 2.f. This also requires the performance of the ASME Code, Section XI (Ref. ~~8~~7), examinations of the tanks. To preclude the introduction of surfactants in the fuel oil system, the cleaning should be accomplished using sodium hypochlorite solutions, or their equivalent, rather than soap or detergents. This SR is for preventative maintenance. The presence of sediment does not necessarily represent a failure of this SR, provided that accumulated sediment is removed during performance of the Surveillance.

(continued)

Attachment H

(Proposed Bases Pages)

(Redline and Strikeout)

(For Information Only)

SONGS Unit 3

BASES (continued)

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 starting air subsystems support 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.

ACTIONS A.1

In this Condition, the 7 day fuel oil supply (~~89% level~~45,662 gallons) for a DG is not available. However, the Condition is restricted to fuel oil level reductions that maintain at least a 6 day supply (~~76% level~~39,468 gallons). ~~A fuel oil level of 89% and 76% corresponds to 49,724 gal and 42,960 gal, respectively.~~ 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 analyses for the fuel oil are based upon the requirements in gallons. The percentage figures are provided because the fuel oil level indicators in the control room are marked in percentages not in gallons.~~

B.1

With lube oil inventory less than the TSmin marking in the 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 6 day supply

(continued)

BASES (continued)

ACTIONS

B.1 (continued)

greater than or equal to the TSinop marking in the dipstick). This restriction allows sufficient time to obtain the requisite replacement volume. The TSmin mark corresponds to 369.4 gals for the 16 cylinder DG and 412.1 gals for the 20 cylinder DG. The TSinop mark corresponds to 347.5 gals for the 16 cylinder DG and 386.2 gals for the 20 cylinder DG. 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 (> 6 days), 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

In this Condition the 7 day fuel oil supply (~~72% level~~41,691 gallons) for a DG during Mode 5 or 6 is not available. However, the Condition is restricted to fuel oil level reductions that maintain at least a ~~y~~6 day supply (~~63% level~~35,735 gallons). ~~A 72% level corresponds to 40,472 gals and a 63% level corresponds to 34,690 gals.~~ These circumstances may be caused by events such as full load operations 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.

D.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

(continued)

BASES (continued)

ACTIONS

F.1 (continued)

are accomplished on the first attempt, and the low probability of an event during this brief period.

G.1

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

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil (≥ ~~89%~~45,662 gallons in Mode 1, 2, 3, or 4 and ≥ ~~72%~~41,691 gallons in Mode 5 or 6) in the storage tanks to support each DG's operation for 7 days at full load. ~~An 89% level and 72% level corresponds to 49,724 gals and 40,472 gals, respectively.~~ 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 ensures that sufficient lube oil inventory is available to support at least 7 days of full load operation for each DG. The TS min (412.1 gal for the 20 cylinder engine and 369.4 gal for the 16 cylinder engine) requirements are based on the DG manufacturer consumption values for the run time of the DG.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.3.2 (continued)

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 D4057-81 (Ref. 6);

b. Verify in accordance with the tests specified in ASTM D975-81 (Ref. 6) that the sample has a kinematic viscosity at 40°C of $\geq$ 1.9 centistokes and $\leq$ 4.1 centistokes, a water and sediment content of $\leq$ 0.05% by volume, and a flash point of $\geq$ 125°F; and

c. Verify in accordance with ASTM D287-82 that the sample has an API gravity at 60°F of $\geq$ ~~27~~30° and $\leq$ ~~39~~42°.

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 delivery, the fuel oil is analyzed to establish that the other properties specified in table 1 of ASTM D975-81 (Ref. 6) are met when tested in accordance with ASTM D975-81, except that

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.3.4 (continued)

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 microorganisms 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 microbial survival in the storage tanks. 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 microorganisms. 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 preventative maintenance. The presence of water does not necessarily represent failure of this SR provided the accumulated water is removed during performance of the Surveillance.

SR 3.8.3.6

Draining of the fuel oil stored in the supply tanks, removal of accumulated sediment, and tank cleaning are required at 10 year intervals by Regulatory Guide 1.137 (Ref. 2), paragraph 2.f. This also requires the performance of the ASME Code, Section XI (Ref. ~~87~~), examinations of the tanks. To preclude the introduction of surfactants in the fuel oil system, the cleaning should be accomplished using sodium hypochlorite solutions, or their equivalent, rather than soap or detergents. This SR is for preventative maintenance. The presence of sediment does not necessarily represent a failure of this SR, provided that accumulated sediment is removed during performance of the Surveillance.

(continued)