Florida Power & Light Company, 6501 S. Ocean Drive, Jensen Beach, FL 34957

July 10, 2008

L-2008-120
10 CFR 50.90

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

RE: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Proposed License Amendments
Diesel Fuel Oil Test Program TSTF-374

In accordance with the provisions of Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), Florida Power and Light (FPL) is submitting a request for an amendment to the renewed facility operating license for DPR-67 for St. Lucie Unit 1 and NPF-16 for St. Lucie Unit 2. The proposed amendment would modify technical specification (TS) requirements related diesel fuel oil testing consistent with NRC approved Industry/Technical Specification Task Force (TSTF) TSTF-374, "Revision to TS 5.5.13 and Associated TS Bases for Diesel Fuel Oil," Revision 0.

Attachment 1 provides a description of the proposed changes, the requested confirmation of applicability, and plant specific verifications. Attachment 2 provides the existing TS pages marked up to show the proposed changes. Attachment 3 provides revised and word-processed TS pages. Attachment 4 provides existing TS Bases pages marked up to show the proposed changes.

This amendment request was reviewed by the St. Lucie Onsite Review Group in accordance with the FPL Quality Assurance Topical Report. In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Florida State Official.

FPL requests that this amendment be processed as normal, effective upon approval, with implementation within the next 60 days.

A001
NRR

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

Executed on the 10th day of July 2007.

If you should have any questions regarding this submittal, please contact Ken Frehafer at (772) 467-7748.

Sincerely,

Gordon L. Johnston
Site Vice President
St. Lucie Plant

GLJ/KWF

Attachments

cc: Mr. William A. Passetti, Florida Department of Health

1.0 DESCRIPTION

The proposed amendment would modify technical specifications by relocating references to specific American Society for Testing and Materials (ASTM) standards for fuel oil testing to licensee-controlled documents and adding alternate criteria to the "clear and bright" acceptance test for new fuel oil.

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) TSTF-374 Revision 0. The availability of this TS improvement was published in the Federal Register on February 22, 2006 as part of the consolidated line item improvement process (CLIIP).

2.0 ASSESSMENT

2.1 Applicability of TSTF-374, and Published Safety Evaluation

Florida Power and Light (FPL) has reviewed TSTF-374 (Reference 1), and the NRC model safety evaluation (SE) (Reference 2) as part of the CLIIP. FPL has concluded that the information in TSTF-374, as well as the SE prepared by the NRC staff are applicable to St. Lucie, Units 1 and 2, justify these amendments for the incorporation of the changes to the St. Lucie TS. FPL confirms that the changes proposed for Combustion Engineering are applicable to the St. Lucie TSs.

2.2 Optional Changes and Variations

The St. Lucie TSs are custom TSs, therefore, FPL is proposing conforming changes to ensure that the amendment request meets the intent of the TS changes described in the TSTF-374 (Reference 1).

- The St. Lucie TSs do not currently contain a diesel fuel oil testing program in the administrative TS section. This amendment will make conforming changes to the administrative section of the St. Lucie TS to incorporate the ISTS (Reference 3) Diesel Fuel Oil Testing Program.

- The St. Lucie administrative TS are located in Section 6.0 of the TSs, and the diesel fuel oil testing program will be incorporated in Section 6.0 of the St. Lucie TSs.

- Because the current St. Lucie TSs do not contain administrative TSs for governing the Diesel Fuel Oil Testing Program, the diesel fuel oil test requirements are contained as surveillance requirements in the Electrical Power System A.C. Sources TSs. This amendment will essentially relocate the existing surveillance requirements from the Electrical Power System A.C. Sources TS to the administrative diesel fuel oil testing program TS and TS Bases consistent with TSTF-374.

- This amendment request does not alter the current licensing bases for the referenced ASTM code years.

Although the nature of the St. Lucie custom TSs do not allow wholesale adoption of the TSTF format, this amendment request ensures that the proposed deviations are administrative in nature and that the intent of the changes are consistent with TSTF-374 (Reference 1) and the NRC staff's model safety evaluation (Reference 2).

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

FPL has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the Federal Register as part of the CLIIP. FPL has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to St. Lucie and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

3.2 Verification and Commitments

As discussed in the notice of availability published in the Federal Register on February 22, 2006 for this TS improvement, plant-specific verifications were performed as follows:

FPL has proposed TS Bases consistent with TSTF-374, which provide guidance and details on how to implement the new requirements. In addition, FPL has a Bases Control Program consistent with Section 5.5 of the Standard Technical Specifications (STS).

4.0 ENVIRONMENTAL EVALUATION

The amendment changes requirements with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment adopting TSTF-374, Rev 0, involves no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that TSTF-374, Rev 0, involves no significant hazards considerations, and there has been no public comment on the finding in Federal Register Notice 70 FRN 9179, February 22, 2006 (Reference 2). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 REFERENCES

1. TSTF-374, Revision 0, "Revision to TS 5.5.13 and Associated TS Bases for Diesel Fuel Oil."

2. NRC Model Safety Evaluation, Federal Register Notice 70 FRN 9179, dated February 22, 2006.

3. NUREG 1432, "Standard Technical Specifications, Combustion Engineering Plants," Revision 3.

Technical Specification Change
Mark Ups

Unit 1

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ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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.

c. ~~By sampling new fuel in accordance with ASTM-D4057-81 prior to addition to the storage tanks and:~~

~~1. By verifying in accordance with the tests specified in ASTM-D975-81 prior to addition to the storage tanks that the sample has:~~

~~a) API Gravity within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89 or an API gravity of 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees.~~

~~b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification.~~

~~c) A flash point equal to or greater than 125°F, and~~

~~d) A clear and bright appearance with proper color when tested in accordance with ASTM-D4176-82.~~

~~2. By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM-D975-81 are met when tested in accordance with ASTM-D975-81 except that the analysis for sulfur may be performed in accordance with ASTM-D1552-79 or ASTM-D2622-82.~~

d. ~~At least once every 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM-D2276-83 and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM-D2276-83, Method A, or Annex A-2.~~ DELETED

e. ~~At least once per 18 months during shutdown by:~~

1. DELETED

2. Verifying generator capability to reject a load of greater than or equal to 600 hp while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 1.2 Hz.

3. Simulating a loss of offsite power by itself, and:

   a) Verifying deenergization of the emergency busses and load shedding from the emergency busses.

ADMINISTRATIVE CONTROLS (continued)

l. Steam Generator (SG) Program (continued)

d. (continued)

2. Inspect 100% of the tubes at sequential periods of 144, 108, 72, and, thereafter, 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. In addition, inspect 50% of the tubes by the refueling outage nearest the midpoint of the period and the remaining 50% by the refueling outages nearest the end of the period. No SG shall operate for more than 72 effective full power months or three refueling outages (whichever is less) without being inspected.

3. If crack indications are found in any SG tube, then the next inspection for each SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever is less). If definitive information, such as from examination of a pulled tube, diagnostic non-destructive testing, or engineering evaluation indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.

e. Provisions for monitoring operational primary-to-secondary leakage.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the NRC.

STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment of the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal or hydraulic performance of the plant.

m. Diesel Fuel Oil Testing Program

INSERT A

INSERT A

A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil shall be established. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

(i) Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:

1. An API gravity or an absolute specific gravity within limits,

2. A flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and

3. A clear and bright appearance with proper color or a water and sediment content within limits;

(ii) Other properties for ASTM 2D fuel oil are within limits within 31 days following sampling and addition to storage tanks; and

(iii) Total particulate concentration of the fuel oil is ≤ 10 mg/l when tested every 31 days.

The provisions of SR 4.0.2 and SR 4.0.3 are applicable to the Diesel Fuel Oil Testing Program test frequencies.

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.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

c. ~~By sampling new fuel oil in accordance with ASTM D4057-81 prior to addition to the storage tanks and:~~

   1. ~~By verifying in accordance with the tests specified in ASTM D975-81 prior to addition to the storage tanks that the sample has:~~

      a) ~~An API Gravity of within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89 or an API gravity of 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees.~~

      b) ~~A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification.~~

      c) ~~A flash point equal to or greater than 125°F, and~~

      d) ~~A clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.~~

   2. ~~By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are met when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D1552-79 or ASTM D2622-82.~~

d. ~~At least once every 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-83 and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM D2276-83, Method A, or Annex A-2.~~ DELETED

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

   1. DELETED

   2. Verifying generator capability to reject a load of greater than or equal to 453 kW while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 1.2 Hz.

   3. Verifying the generator capability to reject a load of 3685 kW without tripping. The generator voltage shall not exceed 4784 volts during and following the load rejection.

ADMINISTRATIVE CONTROLS (continued)

l. Steam Generator (SG) Program (continued)

2. (continued)

e. Provisions for monitoring operational primary-to-secondary leakage.

f. Provisions for SG tube repair methods. Steam generator tube repair methods shall provide the means to reestablish the RCS pressure boundary integrity of SG tubes without removing the tube from service. For the purposes of these Specifications, tube plugging is not a repair. All acceptable tube repair methods are listed below.

1. Westinghouse Leak Limiting Alloy 800 sleeves as described in WCAP-15918-P Revision 2 (with range of conditions as revised in Appendix A of WCAP-16489-NP, Revision 0). Leak Limiting Alloy 800 Sleeves are applicable only to the original steam generators. Prior to installation of each sleeve, the location where the sleeve joints are to be established shall be inspected.

m. Diesel Fuel Oil Testing Program

INSERT B

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A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil shall be established. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

(i) Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:

4. An API gravity or an absolute specific gravity within limits,

5. A flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and

6. A clear and bright appearance with proper color or a water and sediment content within limits;

(ii) Other properties for ASTM 2D fuel oil are within limits within 31 days following sampling and addition to storage tanks; and

(iii) Total particulate concentration of the fuel oil is ≤ 10 mg/l when tested every 31 days.

The provisions of SR 4.0.2 and SR 4.0.3 are applicable to the Diesel Fuel Oil Testing Program test frequencies.

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Technical Specification
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ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

c. 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.

d. DELETED

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2. Verifying generator capability to reject a load of greater than or equal to 600 hp while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 1.2 Hz.

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ADMINISTRATIVE CONTROLS (continued)

l. Steam Generator (SG) Program (continued)

d. (continued)

2. Inspect 100% of the tubes at sequential periods of 144, 108, 72, and, thereafter, 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. In addition, inspect 50% of the tubes by the refueling outage nearest the midpoint of the period and the remaining 50% by the refueling outages nearest the end of the period. No SG shall operate for more than 72 effective full power months or three refueling outages (whichever is less) without being inspected.

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3. A clear and bright appearance with proper color or a water and sediment content within limits;

(ii) Other properties for ASTM 2D fuel oil are within limits within 31 days following sampling and addition to storage tanks; and

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6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the NRC.

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ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

c. 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.

d. DELETED

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

1. DELETED

2. Verifying generator capability to reject a load of greater than or equal to 453 kW while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 1.2 Hz.

3. Verifying the generator capability to reject a load of 3685 kW without tripping. The generator voltage shall not exceed 4784 volts during and following the load rejection.

ADMINISTRATIVE CONTROLS (continued)

l. Steam Generator (SG) Program (continued)

2. (continued)

e. Provisions for monitoring operational primary-to-secondary leakage.

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(i) Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:

1. An API gravity or an absolute specific gravity within limits,

2. A flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and

3. A clear and bright appearance with proper color or a water and sediment content within limits;

(ii) Other properties for ASTM 2D fuel oil are within limits within 31 days following sampling and addition to storage tanks; and

(iii) Total particulate concentration of the fuel oil is ≤ 10 mg/l when tested every 31 days.

The provisions of SR 4.0.2 and SR 4.0.3 are applicable to the Diesel Fuel Oil Testing Program test frequencies.

Information Only

TS Bases Markups

SECTION NO.: 3/4.8	TITLE: TECHNICAL SPECIFICATIONS BASES ATTACHMENT 10 OF ADM-25.04 ELECTRICAL POWER SYSTEMS ST. LUCIE UNIT 1	PAGE: 4 of 5
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3/4.8 ELECTRICAL POWER SYSTEMS (continued)

BASES (continued)

TS 3.8.1.1, ACTION "b" provides an allowed outage/action completion time (AOT) of up to 14 days toto restore a single inoperable diesel generator to operable status. This AOT is based on the findings of a deterministic and probabilistic safety analysis and is referred to as a "risk-informed" AOT. Entry into this action requires that a risk assessment be performed in accordance with the Configuration Risk Management Program (CRMP), which is described in the Administrative Procedure that implements the Maintenance Rule pursuant to 10 CFR 50.65.

All EDG inoperabilities must be investigated for common-cause failures regardless of how long the EDG inoperability persists. When one diesel generator is inoperable, required ACTIONS 3.8.1.1.b and 3.8.1.1.c provide an allowance to avoid unnecessary testing of EDGs. If it can be determined that the cause of the inoperable EDG does not exist on the remaining OPERABLE EDG, then SR 4.8.1.1.2.a.4 does not have to be performed. Eight (8) hours is reasonable to confirm that the OPERABLE EDG is not affected by the same problem as the inoperable EDG. If it cannot otherwise be determined that the cause of the initial inoperable EDG does not exist on the remaining EDG, then satisfactory performance of SR 4.8.1.1.2.a.4 suffices to provide assurance of continued OPERABILITY of that EDG. If the cause of the initial inoperability exists on the remaining OPERABLE EDG, that EDG would also be declared inoperable upon discovery, and ACTION 3.8.1.1.e would be entered. Once the failure is repaired (on either EDG), the common-cause failure no longer exists.

Ambient conditions are the normal standby conditions for the diesel engines. Any normally running warmup systems should be in service and operating, and manufacturer's recommendations for engine oil and water temperatures and other parameters should be followed.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the facility status.

INSERT A

INSERT A

4.8.1.1.2.c requires verification that the fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of the Diesel Fuel Oil Program.

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,

b. Verify in accordance with the tests specified in ASTM D975 that the sample has an absolute specific gravity at 60/60°F of ≥ 0.83 and ≤ 0.89, or an API gravity at 60°F of ≥ 27° and ≤ 39° when tested in accordance with ASTM D1298, a kinematic viscosity at 40°C of ≥ 1.9 centistokes and ≤ 4.1 centistokes, and a flash point ≥ 125°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 or a water and sediment content within limits when tested in accordance with ASTM D2709.

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 are met for new fuel oil when tested in accordance with ASTM D975, except that the analysis for sulfur may be performed in accordance with ASTM D1552, ASTM D2622, or ASTM D4294. 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 D5452. 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.

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.

ASTM Standards: D4057-81; D975-81 and D975-81 Table 1; D1298-99; D4176-82; D2709-96; D1552-79; D2622-82; D4294-03; D5462-06;

This concludes the TS Bases discussion for SR 4.8.1.1.2.c.

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3/4.8 ELECTRICAL POWER SYSTEMS (continued)

BASES (continued)

3/4.8.1, 3/4.8.2 and 3/4.8.3 A.C. SOURCES, D.C. SOURCES and ONSITE POWER DISTRIBUTION SYSTEMS (continued)

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status.

INSERT B

The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guide 1.9 "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971, and 1.108 "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977, and 1.137, "Fuel Oil Systems for Standby Diesel Generators," Revision 1, October 1979, Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," dated July 2, 1984, and NRC staff positions reflected in Amendment No. 48 to Facility Operating License NPF-7 for North Anna Unit 2, dated April 25, 1985; as modified by Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," dated September 27, 1993, and Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators," dated May 31, 1994.

The Surveillance Requirement for demonstrating the OPERABILITY of the Station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage on float charge, connection resistance values and the performance of battery service and discharge tests ensures the effectiveness of the charging system, the ability to handle high discharge rates and compares the battery capacity at that time with the rated capacity.

INSERT B

4.8.1.1.2.c requires verification that the fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of the Diesel Fuel Oil Program.

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,

b. Verify in accordance with the tests specified in ASTM D975 that the sample has an absolute specific gravity at 60/60°F of ≥ 0.83 and ≤ 0.89, or an API gravity at 60°F of ≥ 27° and ≤ 39° when tested in accordance with ASTM D1298, a kinematic viscosity at 40°C of ≥ 1.9 centistokes and ≤ 4.1 centistokes, and a flash point ≥ 125°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 or a water and sediment content within limits when tested in accordance with ASTM D2709.

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 are met for new fuel oil when tested in accordance with ASTM D975, except that the analysis for sulfur may be performed in accordance with ASTM D1552, ASTM D2622, or ASTM D4294. 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 D5452. 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.

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.

ASTM Standards: D4057-81; D975-81 and D975-81 Table 1; D1298-99; D4176-82; D2709-96; D1552-79; D2622-82; D4294-03; D5452-06;

This concludes the TS Bases discussion for SR 4.8.1.1.2.c.