



Crystal River Nuclear Plant  
Docket No. 50-302  
Operating License No. DPR-72

Ref: 10 CFR 50.90

October 25, 2007  
3F1007-01

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

Subject: Crystal River Unit 3 – License Amendment Request No. 275, Revision 0, Application for Technical Specification Change TSTF-374, Revision to ITS 5.6.2.14 and Associated Bases for Diesel Fuel Oil Using the Consolidated Line Item Improvement Process

Gentlemen:

In accordance with the provisions of 10 CFR 50.90, Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc., is submitting a request for an amendment to the Improved Technical Specifications (ITS) for Crystal River Unit 3 (CR-3).

The proposed amendment would modify ITS by relocating references to specific American Society for Testing and Materials (ASTM) standards for fuel oil testing to licensee-controlled documents.

Attachment 1 provides a description of the proposed change, the requested confirmation of applicability, and plant-specific verifications. Attachment 2 provides the existing ITS pages marked up to show the proposed change. Attachment 3 provides revised ITS pages with revision lines. Attachment 4 shows the current CR-3 ITS Bases pages (for information only).

FPC requests approval of the proposed License Amendment by April 30, 2008, with the amendment being implemented within ninety days of issuance.

The CR-3 Plant Nuclear Safety Committee has reviewed this request and recommended it for approval.


This letter establishes no new regulatory commitments.

Progress Energy Florida, Inc.  
Crystal River Nuclear Plant  
15760 W. Powerline Street  
Crystal River, FL 34428

ADD  
NRR

If you should have any questions regarding this submittal, please contact Mr. Dennis Herrin, Acting Supervisor, Licensing & Regulatory Programs, at (352) 563-4633.

Sincerely,



Dale E. Young  
Vice President  
Crystal River Nuclear Plant


- Attachments:
1. Description and Assessment
  2. Proposed Revised Improved Technical Specification Pages – Strikeout/Shadowed Format
  3. Proposed Revised Improved Technical Specification Pages – Revision Bar Format
  4. Current Improved Technical Specification Bases Pages – For Information Only

xc: NRC Project Manager  
NRC Regional Office  
NRC Resident Inspector  
State Contact


**STATE OF FLORIDA**

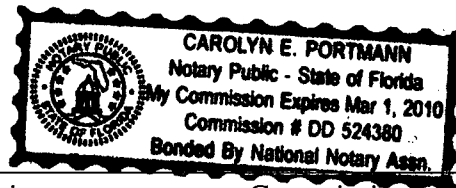
**COUNTY OF CITRUS**

Dale E. Young states that he is the Vice President, Crystal River Nuclear Plant for Florida Power Corporation, doing business as Progress Energy Florida, Inc.; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

  
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Dale E. Young  
Vice President  
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 25<sup>th</sup> day of October,  
2007, by Dale E. Young

  
\_\_\_\_\_  
Signature of Notary Public  
State of Florida



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(Print, type, or stamp Commissioned  
Name of Notary Public)

Personally Produced  
Known  -OR- Identification

## DESCRIPTION AND ASSESSMENT

### 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.

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) TSTF-374 Revision 0. The availability of this technical specification improvement was published in the *Federal Register* on April 21, 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 Corporation (FPC), has reviewed TSTF-374 (Reference 1), and the NRC model safety evaluation (SE) (Reference 2) as part of the CLIIP. FPC has concluded that the information in TSTF-374, as well as the SE prepared by the NRC staff are applicable to Crystal River Unit 3 (CR-3) and justify this amendment for the incorporation of the changes to the CR-3 Improved Technical Specifications (ITS).

#### 2.2 Optional Changes and Variations

CR-3 ITS currently list water and sediment content as a condition of acceptability of new fuel oil for use prior to addition to the storage tanks in ITS Section 5.6.2.14.a.2. The water and sediment content test is a quantitative test using centrifugal methods. As discussed in the TSTF, by reference to ASTM D975, "Standard Specification for Diesel Fuel Oils," ASTM D2709, "Test Method for Water and Sediment Distillate Fuels by Centrifuge," or ASTM D1796, "Standard Method for Water and Sediment in Fuel Oils by the Centrifuge Method (Laboratory Procedure)" are acceptable standards for the water and sediment content test. These standards are currently referenced in CR-3 ITS Bases Section SR 3.8.3 as the means to verify the water and sediment content for incoming fuel samples is within limits. Therefore, FPC does not require the addition of Insert 1 of the TSTF in this license amendment request to comply with the format of the TSTF. The deletion of the specific reference to ASTM D2276-91, "Standard Test Method for Particulate Contaminant in Aviation Fuel by Line Sampling," in CR-3 ITS Section 5.6.2.14, Diesel Fuel Oil Testing Program, is all that is required for the CR-3 ITS proposal to conform to the format of TSTF-374.

Two ITS Bases changes presented in the TSTF were previously incorporated in the CR-3 ITS Bases. TSTF 374, Insert 2, the addition of testing in accordance with ASTM D1298, "Standard Test Method for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method," is present

in CR-3 ITS Bases Section SR 3.8.3.3.c which describes API specific gravity testing limits. TSTF 374, Insert 3 refers to the testing standard for water and sediment content. This testing standard is currently included in CR-3 ITS Bases Section SR 3.8.3.3.b.1.

The CR-3 ITS and ITS Bases are an earlier edition than those presented with TSTF 374. The exception for sulfur testing standards in Bases Section SR 3.8.3.3 of the TSTF, is not included as a part of the CR-3 ITS Bases. Sulfur testing standards are controlled by station procurement specifications. TSTF 374, Insert 4 is therefore not included in the proposed CR-3 ITS Bases revision as it is not applicable.

The reference updates presented as TSTF 374, Insert 5 are currently included in the CR-3 ITS Bases Reference Section 3.8.3 except the following. Testing for sulfur content is controlled by the CR-3 diesel fuel procurement specification, therefore, the addition of D1552 and D2622 has not been included in this submittal. Water and sediment content is currently listed as a condition of acceptability of new fuel oil for use prior to addition to the storage tanks. This testing is performed using ASTM Standard D2709. This standard is currently listed in the CR-3 ITS Bases Reference Section 3.8.3. ASTM D5452, "Standard Test Method for Particulate Contamination in Aviation Fuels by Laboratory Filtration," is not referenced in the ITS Bases and therefore is not included in the Reference Section.

Attachment 4 to this submittal contains current CR-3 ITS Bases pages for information. An ITS Bases revision is not required to implement this LAR since the TSTF Inserts have been previously incorporated.

### **3.0 REGULATORY ANALYSIS**

#### **3.1 No Significant Hazards Consideration Determination**

Florida Power Corporation (FPC) has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the *Federal Register* as part of the CLIP. FPC has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to CR-3 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 April 21, 2006, for this Improved Technical Specification (ITS) improvement, plant specific verifications were performed as follows:

FPC has ITS Bases consistent with TSTF-374 which are currently in use at CR-3. FPC has a Bases Control Program consistent with Section 5.5 of the Standard Technical Specifications (STS). This letter establishes no new regulatory commitments.

#### **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 71 FRN 9179, February 22, 2006. 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. 7590-01-P, Notice for Opportunity to Comment on Model Safety Evaluation on the Diesel Fuel Oil Testing Program, dated February 22, 2006.

**PROGRESS ENERGY FLORIDA, INC.**

**CRYSTAL RIVER - UNIT 3**

**DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72**

**License Amendment Request No. 275, Revision 0, Application for Technical Specification Change TSTF-374, Revision to ITS 5.6.2.14 and Associated Bases for Diesel Fuel Oil Using the Consolidated Line Item Improvement Process**

**Attachment 2**

**PROPOSED REVISED IMPROVED TECHNICAL SPECIFICATION PAGES**

**STRIKEOUT/SHADOWED FORMAT**

~~Strikeout Text~~ Indicates Deleted Text

Shadowed Text Indicates Added Text

5.6 Procedures, Programs and Manuals

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5.6.2.14 Diesel Fuel Oil Testing Program

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, in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

- a. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has the following properties within limits of ASTM D 975 for Grade No. 2-D fuel oil:
  1. Kinematic Viscosity,
  2. Water and Sediment,
  3. Flash Point,
  4. Specific Gravity API;
- b. Other properties of ASTM D 975 for Grade No. 2-D fuel oil are within limits within 92 days following sampling and addition of new fuel to storage tanks.
- c. Total particulate contamination of stored fuel oil is < 10 mg/L when tested once per 92 days in accordance with ASTM D-2276-91 (gravimetric method).

5.6.2.15 Not Used

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(continued)



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**Attachment 3**

**PROPOSED REVISED IMPROVED TECHNICAL SPECIFICATION PAGES**

**REVISION BAR FORMAT**

## 5.6 Procedures, Programs and Manuals

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**PROGRESS ENERGY FLORIDA, INC.**

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**Attachment 4**

**CURRENT IMPROVED TECHNICAL SPECIFICATION BASES PAGES**

**FOR INFORMATION ONLY**

BASES

SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.8.3.2

This Surveillance ensures that sufficient lube oil inventory is available to support at least 7 days of operation of a single EDG at the upper limit of its 200-hour rating. The 280 gallon requirement is based on the EDG manufacturer consumption values for the run time of the EDG. The specified volume includes the lube oil contained in the sump as well as the onsite stored stock. As such, implicit in this SR is the requirement to verify the capability to transfer the lube oil from its storage location to the EDG. When determining compliance with this requirement, both EDGs may take credit for the same volume of onsite stored lube oil.

A 31 day Frequency is adequate to ensure that a sufficient lube oil supply is onsite, since EDG starts and run time are closely monitored by the plant 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). Receipt of fuel oil without testing results may be authorized by the Emergency Coordinator, provided the vendor's certificate of conformance is in accordance with procurement specifications. In this case, fuel oil samples should be taken from the delivery, with test results to be documented within 31 days. The tests, limits, and applicable ASTM Standards are as follows:

- a. Sample the new fuel in accordance with ASTM D4057-88 (Ref. 6);
- b. Verify in accordance with the tests specified in ASTM D975-00 (Ref. 7) that the new fuel oil sample has:
  1. A maximum of 0.05% by volume water and sediment per ASTM D2709-96(2001) (Ref. 10);

OR

  - A maximum of 0.05% by volume water and sediment per ASTM D1796-97(2002) (Ref. 11);
  2. A Saybolt viscosity at 100°F of  $\geq 32.6$  SUS and  $\leq 40.1$  SUS. Conversion from kinematic units can be made per ASTM D2161-93(1999) (Ref. 14);

(continued)

BASES

SURVEILLANCE  
REQUIREMENTS

SR 3.8.3.3 (continued)

OR

A Kinematic viscosity at 40°C (104°F) of  $\geq 1.9$  mm<sup>2</sup>/s and  $\leq 4.1$  mm<sup>2</sup>/s per ASTM D445-03 (Ref. 13). Conversion to SUS units can be made using ASTM D2161-93(1999) (Ref. 14);

3. A flash point of  $\geq 125^\circ\text{F}$  per ASTM D93-02a Procedure "A", Manual or Automated Method (Ref. 15);
4. A maximum Cloud Point of  $-6.7^\circ\text{C}$  ( $20^\circ\text{F}$ ) per ASTM D2500-02 (Ref. 21).

- c. Verify in accordance with the test specified in ASTM D287-92(2000) (Ref. 16) that the new fuel has an API specific gravity of  $\geq 30$  and  $\leq 38$ ;

OR

Verify in accordance with the test specified in ASTM D1298-99 (Ref. 17) that the new fuel has an API specific gravity of  $\geq 30$  and  $\leq 38$ ;

- d. Verify in accordance with the test specified in ASTM D4176-02 (Ref. 18) and ASTM D1500-02 (Ref. 19) that the new fuel oil has a clear and bright appearance with proper color at  $21^\circ\text{C}$  ( $70^\circ\text{F}$ ).

Failure to meet any of the above limits, except for clear and bright, 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. If the fuel oil fails on clear and bright, it may be accepted provided the water and sediment is within limits. The specification for water and sediment recognizes that a small amount of water and sediment is acceptable.

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 D975-00, (Ref. 7) are met for new fuel oil when tested in accordance with ASTM D975-00, (Ref. 7), except that a calculated Cetane Index, per ASTM D4737-96a (Ref. 22), is determined to estimate the actual Cetane Number. If the Cetane Index is not met, then a sample of fuel is tested in accordance with ASTM D613-03a (Ref. 23) to determine Cetane Number. 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 EDG operation. This Surveillance ensures the availability of high quality fuel oil for the EDGs.

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BASES

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SURVEILLANCE  
REQUIREMENTS

SR 3.8.3.3 (continued)

Fuel oil degradation during long-term storage is typically detected 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. However, the particulate can cause fouling of filters and fuel oil injection equipment which can cause engine failure.

Particulate concentrations should be determined in accordance with ASTM D2276-91, Method A (Ref. 20). This method involves a gravimetric determination of total particulate concentration in the fuel oil. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing. Because the total stored fuel oil volume is contained in two isolated tanks, each tank must be considered and tested separately.

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

SR 3.8.3.4

This Surveillance ensures that, without the aid of the re-fill compressor, sufficient air start capacity for each EDG is available. The design requirements provide for a minimum of six engine start cycles without recharging. The pressure specified in this SR reflects the lowest value at which the six starts can be accomplished, with substantial margin.

The 31 day Frequency takes into account the capacity, capability, redundancy, and diversity of the AC sources and other indications available in the control room, including alarms, to alert the operator to below normal air start pressure. In addition, the system design includes a feature to automatically start the air compressors on low air pressure.

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BASES

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REFERENCES

1. FSAR, Section 8.2.3.1.
  2. Regulatory Guide 1.137.
  3. ANSI N195-1976, Appendix B.
  4. FSAR, Chapter 6.
  5. FSAR, Chapter 14.
  6. ASTM Standard, D4057-88.
  7. ASTM Standard, D975-00.
  8. ASME, Boiler and Pressure Vessel Code, Section XI.
  9. Correspondence, G/CI to FPC, FCS-6541, dated May 25, 1985.
  10. ASTM Standard, D2709-96(2001).
  11. ASTM Standard, D1796-97(2002).
  12. Deleted.
  13. ASTM Standard, D445-03.
  14. ASTM Standard, D2161-(1999).
  15. ASTM Standard, D93-02a.
  16. ASTM Standard, D287-92(2000).
  17. ASTM Standard, D1298-99.
  18. ASTM Standard, D4176-02.
  19. ASTM Standard, D1500-02.
  20. ASTM Standard, D2276-91, Method A.
  21. ASTM Standard, D2500-02.
  22. ASTM Standard, D4737-96a.
  23. ASTM Standard, D613-03a.
  24. Deleted.
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