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

January 25, 2002

L-2002-001
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
Surveillance Requirements for Pressure Testing the Diesel Fuel Oil System

Pursuant to 10 CFR 50.90, Florida Power & Light Company (FPL) requests to amend Facility Operating Licenses DPR-67 and NPF-16 for St. Lucie Units 1 and 2. The proposed amendments revise Technical Specification (TS) Section 4.8.1.1.2.g.2. TS 4.8.1.1.2.g.2 currently requires a test of the diesel fuel oil system piping at elevated pressure once every 10 years. ASME has recognized that elevated pressure testing is not a suitable means of determining system integrity, and has removed the requirement to perform interval hydrostatic testing from later additions of the ASME Code. In lieu of hydrostatic testing, the diesel fuel oil systems will be included in the population of systems subjected to periodic VT-2 system pressure test at normal operating conditions required by the ASME Code for Class 3 systems in accordance with the inservice inspection program.

Attachment 1 is a Safety Analysis in support of the proposed amendments. Attachment 2 is the Determination of No Significant Hazards Consideration. Attachments 3 and 4 are marked up copies of the proposed Technical Specification changes.

The St. Lucie Facility Review Group and the FPL Company Nuclear Review Board have reviewed the proposed amendments. In accordance with 10 CFR 50.91 (b)(1), copies of the proposed amendments are being forwarded to the State Designee for the State of Florida.

A047

Please issue the amendments to be effective on the date of issuance and to be implemented within 60 days of receipt by FPL. Please contact George Madden at 561-467-7155 if there are any questions about this submittal.

Very truly yours,

Donald E. Jernigan
Vice President
St. Lucie Plant

DEJ/GRM

Attachments

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

STATE OF FLORIDA)
) ss.
COUNTY OF ST. LUCIE)

Donald E. Jernigan being first duly sworn, deposes and says:

That he is Vice President, St. Lucie Plant, for the Nuclear Division of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee.

Donald E. Jernigan

STATE OF FLORIDA

COUNTY OF ST LUCIE

Sworn to and subscribed before me

this 25 day of Jan., 2002
by Donald E. Jernigan, who is personally known to me.

Leslie J. Whitwell
Name of Notary Public - State of Florida

Leslie J. Whitwell
MY COMMISSION # DD020212 EXPIRES
May 12, 2005
BONDED THRU TROY FAIN INSURANCE, INC.

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

ATTACHMENT 1

SAFETY ANALYSIS

Introduction

Changes are proposed to revise the St. Lucie Units 1 and 2 Technical Specification (TS) Sections 4.8.1.1.2.g.2. TS 4.8.1.1.2.g.2 currently requires a test of the diesel fuel oil system piping at elevated pressure once every 10 years. ASME has recognized that elevated pressure testing is not a suitable means of determining system integrity and has removed the requirement to perform interval hydrostatic testing from later additions of the ASME Code. In lieu of hydrostatic testing, the diesel fuel oil systems will be included in the population of systems subjected to periodic VT-2 system pressure test at normal operating conditions required by the ASME Code for Class 3 systems in accordance with the inservice inspection program.

Discussion

The proposed changes to the St. Lucie Units 1 and 2 Technical Specification revise Sections 4.8.1.1.2.g.2.

Description of Amendment Requests

Florida Power & Light Company (FPL) proposes to revise the St. Lucie Plant Unit 1 and Unit 2 Technical Specifications (TS) Surveillance Requirement 4.8.1.1.2.g.2. as follows:

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

g. At least once per 10 years by:

2. (Unit 1) Performing a pressure test of those portions of the diesel fuel oil system designed to USAS B31.7 Class 3 requirements ~~at a test pressure equal to 110% of the system design pressure~~ in accordance with the Inservice Inspection Program.

2. (Unit 2) Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code ~~at a test pressure equal to 110% of the system design pressure~~ in accordance with the Inservice Inspection Program.

The proposed license amendment (PLA) requests seek to remove the prescriptive testing requirements of TS 4.8.1.1.2.g.2 to allow the Class 3 portions of the diesel fuel oil systems to be pressure tested in accordance with the Unit 1 and Unit 2 inservice inspection programs. The Unit 1 and Unit 2 inservice inspection programs meet the requirements of

10CFR50.55a(g)(4) and 10CFR50.55a(g)(5)(i). Applying the requirements of the inservice inspection programs will permit the use of ASME Code Case N-498-1 as accepted by Regulatory Guide 1.147, Revision 12, for assessment of the diesel fuel oil system pressure boundary integrity.

These amendment requests are based on experience gained from previous inservice inspections and the acknowledgement of the NRC, the industry, and ASME that hydrostatic testing of Code Class 1, 2, and 3 systems in accordance with the rules of ASME Section XI is not intended to be a test of structural integrity, but rather, an enhanced leakage test. Hence, Code Case N-498-1 was developed and approved by the ASME. The code case was accepted by the NRC through publication of Regulatory Guide 1.147, Revision 12. The is acceptable for the Code portions of the diesel fuel oil system and therefore, provides an acceptable level of quality and safety.

Additionally, NUREG-1432, *Standard Technical Specifications, Combustion Engineering Plants,* Revision 2 does not prescribe a hydrostatic test as part of the 10-year surveillance requirements for the diesel fuel oil system.

Safety Evaluation

The existing TS 4.8.1.1.2.g.2 was developed from Regulatory Guide 1.137, Revision 1, 1979, and was included in the original issue of the Unit 2 Technical Specifications. Unit 1 Technical Specifications added the surveillance requirement in Amendment 103 with the intent of making the Unit 1 testing consistent with Unit 2. The regulatory guide endorses ANSI N195-1976 as an acceptable method of complying with General Design Criterion 17. The regulatory guide notes that Section 7.3 of the ANSI standard requires that the fuel-oil system "shall provide for inservice inspection and testing in accordance with ASME Boiler and Pressure Vessel Code, Section XI." Paragraph C.1.e.(1) endorses this surveillance as an acceptable method of meeting the ANSI standard.

Currently, the 1989 edition of the ASME Code is applicable to both the Unit 1 and Unit 2 Inservice Inspection Programs at St. Lucie Plant. This edition requires that a hydrostatic test be performed on all Class 1, 2, and 3 systems once each 10-year interval of the inservice inspection plans. Even at the higher hydrostatic test pressures, the contribution of the pressure component to the overall design loads is relatively small. Based on this, the ASME, the industry, and the NRC have concluded that the hydrostatic test as defined in ASME Section XI is not intended to be a test of structural integrity, but rather, an enhanced leakage test. A paper by S. H. Bush and R. R. Maccary, *"Development of In Service Inspection Safety Philosophy for U.S.A. Nuclear Power Plants," ASME,* 1971, indicated that this was the original intent. Thus, the value of hydrostatic testing in determining structural integrity is negligible.

Industry experience has not shown that conducting a hydrostatic test at pressures of 1.10 times the system pressure P_{sv} for Class 3 systems with design temperature of 200 degrees F or less

would cause a preexisting flaw to propagate throughwall resulting in leakage. Instead, the industry experience shows that the majority of all leaks discovered were leaks that originated at normal operating pressures. Therefore, compared to a hydrostatic test as prescribed by ASME Section XI, a normal pressure leakage test is equally effective for discovering through-wall flaws.

In general, licensees incur the cost of considerable time, potential radiation exposure, and dollar resources carrying out hydrostatic test requirements. A significant effort may be necessary to perform such tests, depending on the system or plant configuration, system code class, and other factors. It is often necessary to temporarily remove or disable code safety and/or relief valves, placing the system in off normal configurations, to meet test pressure requirements. Therefore, the safety assurance sought by a slight increase in system pressure during a hydrostatic test is offset by the potential hazards of having to gag or remove code safety and/or relief valves, placing the system in an off-normal state, erecting temporary supports near certain systems (e.g., steam lines), possible extension of refueling outages, and resource requirements to set up testing equipment and gauges.

The operating pressure for the St. Lucie Plant diesel generator fuel oil systems is well below the system design pressure. To perform the hydrostatic test prescribed by the existing TS requirements at 110 percent of system design pressure, the system is subjected to improbable conditions that do not provide meaningful data pertaining to the system integrity.

Also, the NRC has accepted Code Case N-498-1 through publication of Regulatory Guide 1.147, Revision 12. This code case relieves licensees, committed to earlier editions of the Code, from the burden of performing hydrostatic testing of code class systems. The system pressure testing requirements of the diesel fuel oil system would be performed in accordance with ASME Code, Section XI, in accordance with the Unit 1 and Unit 2 inservice inspection programs.

ATTACHMENT 2

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Changes are proposed to revise the St. Lucie Units 1 and 2 Technical Specification (TS) Sections 4.8.1.1.2.g.2. TS 4.8.1.1.2.g.2 currently requires a test of the diesel fuel oil system piping at elevated pressure once every 10 years. ASME has recognized that elevated pressure testing is not a suitable means of determining system integrity, and has removed the requirement to perform interval hydrostatic testing from later additions of the ASME Code. In lieu of hydrostatic testing, the diesel fuel oil systems will be included in the population of systems subjected to periodic VT-2 system pressure test at normal operating conditions required by the ASME Code for Class 3 systems in accordance with the inservice inspection program.

The standards used to arrive at a determination that requests for an amendment involve a no significant hazards consideration are included in the Commission's regulation, 10 CFR 50.92, which states that no significant hazards considerations are involved if the operation of the facility in accordance with the proposed amendments would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. Each standard is discussed as follows:

(1) Operation of the facility in accordance with the proposed amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated because industry experience has shown that an inservice leak test conducted at normal operating temperature and pressure is just as effective at finding leakage as a hydrostatic test conducted at 110 percent of the design pressure. Therefore, there is no increase in the probability or consequences of previously evaluated accidents.

Also, note that the diesel generator fuel oil system is not specifically modeled in the St. Lucie probability safety assessment (PSA). Based on the St. Lucie PSA, the diesel generator failure probability is dominated by failure modes other than fuel oil pipe rupture. The total diesel generator failure probability is on the order of 1E-2, with the contribution from fuel oil pipe rupture on the order of 1E-5 (i.e., three orders of magnitude below the EDG failure probability).

(2) Operation of the facility in accordance with the proposed amendments would not create the possibility of a new or different kind of accident from any previously evaluated.

The use of the modified specifications can not create the possibility of a new or different kind of accident from any previously evaluated since the proposed amendments provide an alternative method of leak detection for the required 10-year inservice inspection. They do not result in an operational condition different from that which has already been considered by TS. Therefore, the changes do not create the possibility of a new or different kind of accident or malfunction.

(3) Operation of the facility in accordance with the proposed amendments would not involve a significant reduction in a margin of safety.

The alternative method of leak detection has no impact on the consequences of any analyzed accident and does not significantly change the failure probability of equipment that provides protection for the health and safety of the public. Therefore, there is no significant decrease in the margin of safety.

Based on the above, we have determined that the proposed amendments do not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the probability of a new or different kind of accident from any previously evaluated; or (3) involve a significant reduction in a margin of safety; and therefore, does not involve a significant hazards consideration.

Environmental Impact Consideration Determination

The proposed license amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The proposed amendments involve no significant increase in the amounts, no significant change in the types of any effluents that may be released off-site, and no significant increase in individual or cumulative occupational radiation exposure. FPL has concluded that the proposed amendments involve no significant hazard consideration, and therefore, meet the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment need not be prepared in connection with issuance of the amendments.

ATTACHMENT 3

St. Lucie Unit 1 Marked-Up Technical Specification Page

3/4 8-6b

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

g. At least once per ten years by:

1. Draining each fuel storage tank, removing the accumulated sediment and cleaning the tank using an appropriate cleaning compound, and

2. Performing a pressure test of those portions of the diesel fuel oil system designed to USAS B31.7 Class 3 requirements ~~at a test pressure equal to 110% of the system design pressure~~. IN ACCORDANCE WITH THE INSERVICE INSPECTION PROGRAM.

4.8.1.1.3 Reports - (Not Used)

4.8.1.1.4 The Class 1E underground cable system shall be demonstrated OPERABLE within 30 days after the movement of any loads in excess of 80% of the ground surface design basis load over the cable ducts by pulling a mandrel with a diameter of at least 80% of the duct's inside diameter through a duct exposed to the maximum loading (duct nearest the ground's surface) and verifying that the duct has not been damaged.

ATTACHMENT 4

St. Lucie Unit 2 Marked-Up Technical Specification Page

3/4 8-7a

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

12. Verifying that the automatic load sequence timers are operable with the interval between each load block within ± 1 second of its design interval.

13. Performing Surveillance Requirement 4.8.1.1.2a.4 within 5 minutes of shutting down the diesel generator after it has operated within a load band of 3450 kW to 3685 kW# for at least 2 hours or until operating temperatures have stabilized.

f. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting**** the diesel generators simultaneously, during shutdown, and verifying that the diesel generators accelerate to approximately 900 rpm in less than or equal to 10 seconds.

g. At least once per 10 years by:

1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, and

2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code ~~at a test pressure equal to 110% of the system design pressure~~. IN ACCORDANCE WITH THE INSERVICE INSPECTION PROGRAM.

4.8.1.1.3 Reports - (Not Used).

4.8.1.1.4 The Class 1E underground cable system shall be demonstrated OPERABLE within 30 days after the movement of any loads in excess of 80% of the ground surface design basis load over the cable ducts by pulling a mandrel with a diameter of at least 80% of the duct's inside diameter through a duct exposed to the maximum loading (duct nearest the ground's surface) and verifying that the duct has not been damaged.

This band is meant as guidance to avoid routine overloading of the engine. Variations in load in excess of this band due to changing bus loads shall not invalidate this test.

**** This test may be conducted in accordance with the manufacturer's recommendations concerning engine prelube period.