



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATING TO RELIEF FROM CERTAIN REQUIREMENTS OF SECTION XI
OF THE ASME CODE
FLORIDA POWER AND LIGHT (FPL) COMPANY
ST. LUCIE UNIT 2
DOCKET NO. 50-389

1.0 INTRODUCTION

The staff reviewed the St. Lucie Unit 2 inservice testing (IST) program for ASME Code Class 1, 2, and 3 pumps and valves submitted by the licensee, FPL, in a letter dated October 6, 1983. A Safety Evaluation addressing the IST program and the licensee's request for relief from impractical ASME Code requirements was sent to the licensee by a letter dated January 13, 1986. The Safety Evaluation contained a condition that flow measurement instrumentation be installed on certain pumps important to safety before the end of the next refueling outage.

In a letter dated March 11, 1986, the licensee requested interim relief from this requirement because St. Lucie Unit 2 was scheduled to begin a refueling outage on April 1, 1986. The licensee provided additional information in a letter dated April 14, 1986 that describes the specific hardships involved with these modifications during the current refueling outage.

This safety evaluation is related only to the schedular deferral of the installation of pump flow measurement instrumentation.

2.0 EVALUATION

2.1 Description of Components

The pumps addressed by this review are the following:

Boric Acid Makeup Pump No. 2A
Boric Acid Makeup Pump No. 2B

Containment Spray Pump No. 2A
Containment Spray Pump No. 2B

Auxiliary Feedwater Pump No. 2A
Auxiliary Feedwater Pump No. 2B
Auxiliary Feedwater Pump No. 2C

Low Pressure Safety Injection Pump No. 2A
Low Pressure Safety Injection Pump No. 2B

High Pressure Safety Injection Pump No. 2A
High Pressure Safety Injection Pump No. 2B

Diesel Oil Transfer Pump No. 2A
Diesel Oil Transfer Pump No. 2B

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2.2 ASME Code Requirement

The St. Lucie Unit 2 IST program is based on ASME Section XI, 1980 Edition including Addenda through Winter 1980 (the applicable Code). Subarticle IWP-3100 requires measurement of the differential pressure and flow rate.

For background information, it should be noted that ASME Section XI, 1974 edition, required the measurement of differential pressure or flow rate, not both, in a fixed resistance system. In a variable resistance system, both parameters shall be measured.

2.3 Licensee's Request

The licensee requested Commission approval to defer the requirement to install flow measurement devices until the end of the next refueling outage which is scheduled for late 1987 or early 1988.

2.4 Licensee's Basis For Relief

Imposing the requirement would result in a significant delay from start-up after the 1986 refueling outage. In the April 14, 1986 letter, the licensee states that lead time for the procurement and delivery of instrumentation is approximately 24-26 weeks. In addition, 13 to 51 man-days would be required for installation and testing of the components, depending on the system. The licensee determined that the measurement of differential pressure of the pumps is sufficient to verify operational readiness during the interim period.

3.0 STAFF EVALUATION AND CONCLUSION

The staff has completed the review of the licensee's letters dated March 11, 1986 and April 14, 1986 based on the provisions of 10 CFR 50.55a(g)(6)(i). ASME Section XI requires measurement of flow rate using a rate or quantity meter. The Code requirement can be met using standard industrial designs and commercially available components; therefore, the Code requirement is practical and these modifications should be completed.

Paragraph 10 CFR 50.55a(g)(6)(i) states that the Commission may grant such relief and may impose such alternative requirements as it determines is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. The staff's Safety Evaluation dated January 13, 1986 determined that the licensee would measure the differential pressure across the pumps during the quarterly pump test (IWP-4240) and then compare the measurement to the established reference value. This provides for an indirect measurement of flow rate and

verifies the operational readiness of the pump (IWP-1500). The pumps will also be monitored quarterly for vibration amplitude and inlet pressure. Based on these tests, staff granted interim relief from the installation of flow measurement instrumentation until the end of the next refueling outage. The staff concluded on January 13, 1986 that this interim relief will not endanger life or property or the common defense and security of the public.

Based on the licensee's letters of March 11, 1986 and April 14, 1986, the staff has given due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility during the 1986 refueling outage. The staff concludes that installation of the flow measurement instrumentation at this time would significantly delay startup after the Cycle 3 (1986) refueling. The staff further concludes that the pump tests being performed by the licensee to assure the operational readiness of the pumps, as described in the Safety Evaluation of January 13, 1986, are still sufficient to grant schedular relief for the installation of the required instrumentation until the end of the Cycle 4 (1987-1988) refueling outage.

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