Safety Evaluation

Re: St. Lucie Unit 1
Docket No. 50-335
Proposed Amendment to
Operating License DPR-67

I. Introduction

This evaluation supports a proposal to allow flexibility in meeting Technical Specification 4.7.1.2.a.2(b), which applies a discharge pressure surveillance requirement to the steam turbine driven auxiliary feedwater pump (AFWP). As written, the Specification requires that the pump be demonstrated capable of developing a discharge pressure of $\geq$1342 psig on recirculation flow. The demonstration is required prior to entering Mode 3 (Tavg >325°F). The proposed amendment would allow us to enter Mode 3 in order to continue plant heatup to the point where the secondary system can develop sufficient steam flow to the turbine driven AFWP in order to satisfy the Specification.

II. Evaluation

The Specification acceptance criteria (1342 psig) is derived from the manufacturer's pump curve. The minimum design recirculation flow rate of 100 gpm corresponds to a discharge pressure of 1342 psig. This

Specification has been satisfied in the past by using steam flow from an auxiliary boiler located at the St. Lucie site. At the present time the auxiliary boiler's capability has declined to the point where it no longer represents a reliable steam source for the purpose of satisfying the Specification. We are now obliged to rely on the secondary system itself, which, at the low steam pressures associated with Mode 4 (<325°F), cannot be relied upon to supply sufficient steam flow to satisfy the Specification. In order to generate greater steam flow, we propose to continue plant heatup to approximately 400°F and then perform the surveillance. A grace period of 24 hours operation in Mode 3 will provide sufficient time in which to demonstrate compliance with the Specification. A 24 hour grace period is considered acceptable for the following reasons:

(1) The purpose of the Specification is to demonstrate operability of the turbine driven AFWP. The purpose of demonstrating operability is to ensure that the Reactor Coolant System (RCS) can be cooled down to less than 325°F from normal operating conditions in the event of a total loss of off-site power (Bases Section B 3/4.7.1.2). For the situation under consideration here, the RCS is well below normal operating conditions (the reactor is shutdown) and the turbine driven AFWP would be capable of providing cooldown flow against the much lower secondary pressure. The Specification value of 1342 psig discharge pressure applies to recirculation flow and not to steam generator flow. Therefore, "operability" in terms of cooldown capability would be available during the 24 hour period.

(5)

(2) From a probability standpoint, it is reasonable to assume the availability of off-site power during the relatively short 24 hour period. With power available, credit can be taken for the two motor driven auxiliary feedwater pumps. Two AFWP's have the required capacity to provide sufficient feedwater flow to remove reactor decay heat and reduce the RCS temperature to 325°F where the shutdown cooling system may be placed into operation for continued cooldown (Bases Section B 3/4.7.1.2), which far exceeds the cooldown capability needed for the situation in question.

During startup from the current refueling outage, the discharge pressure of the turbine driven AFWP will be measured prior to entry into Mode 3, and the data will be provided to the Nuclear Regulatory Commission.

III. Conclusion

We have concluded, based on the considerations discussed above, that: (1) the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

Robert E. Uhrig, being first duly sworn, deposes and says:

That he is a Vice President of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this said 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.

Robert E Uhrig

Robert E. Uhrig

Subscribed and sworn to before me this

5 day of May, 1980

Cheryl L. Fredrick

NOTARY PUBLIC, in and for the county of Dade, State of Florida

My commission expires: Notary Public, State of Florida at Large My Commission Expires October 30, 1983 Bonded thru Maynard Bonding Agency