

**Florida
Power**
CORPORATION

September 30, 1988
3F0988-22

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: S. A. Varga

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DFR-72
Emergency Diesel Generator Capacity Upgrade

Dear Sir:

In a letter dated July 22, 1988 (3F0788-18), Florida Power Corporation (FPC) outlined three options under consideration to upgrade the reliability and capacity of the emergency diesel generators at Crystal River 3 (CR-3). This upgrade was discussed with the NRC at a meeting held on August 16, at which time FPC committed to inform the NRC of our choice of options by September 30, 1988. This letter fulfills that commitment.

The options under consideration were described in detail in the July 22 letter. As a result of our review of those options, and their advantages and disadvantages, FPC has chosen to pursue Option 1. This could ultimately result in the following ratings:

<u>RATING (kw)</u>	<u>TIME LIMIT</u>
0 - 2850	Continuous
2851 - 3100	2000 Hours
3101 - 3250	200 Hours
3251 - 3500*	30 Minutes

* Contingent on a successful testing program.

The capacity upgrade is being pursued by FPC to gain additional margin between the accident loads and the capacities of the machines. The capacity upgrade is not needed to assure compliance with General Design Criteria 17 (GDC-17), since the modification to the Engineered Safeguards Actuation System (ESAS) to prevent simultaneous actuation of the Emergency Feedwater and the Low Pressure Injection pumps, also described in our July 22 letter, will provide that assurance. This ESAS modification will be installed in the upcoming refueling outage during the Fall of 1989.

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The emergency diesel generator Option 3 upgrade consists of three distinct parts: reliability upgrade, installation of larger lube oil coolers, and qualification testing.

The reliability upgrade consists of the installation of the following:

1. Upgraded design cylinder liners
2. Upgraded design blowers
3. Upgraded design pistons
4. Larger turbochargers

This upgrade will be made on both diesel generators in the upcoming Fall of 1989 refueling outage. It is relied upon to gain the increase in output ratings provided by the following.

The second part of the upgrade will be the addition of two lube oil coolers per diesel generator. These lube oil coolers will decrease the oil temperature and increase the bearing oil film thickness allowing the machine to withstand the higher bearing load associated with the increase in output. This modification will allow the increases in the continuous, 2000 hour and 200 hour ratings described earlier. FPC is presently planning on performing this modification on both diesel generators during the upcoming refueling outage. However, completion of this project is contingent on the following items:

- o Design of piping including foundation requirements
- o Lube oil cooler lead time
- o Tie-in of new lube oil coolers to existing systems and impact to engine conversion schedule
- o Determination of how functional testing of lube oil coolers would impact the engine conversion and/or other related systems and activities
- o Obtaining any needed NRC relief to facilitate pre-outage activities (eg. missile shield reconfiguration)

The technical issues associated with achieving these ratings have been resolved. FPC will provide a more precise commitment regarding the schedule for this activity by April 30, 1989.

The third part of the upgrade will consist of a qualification testing program to be performed by the diesel manufacturer at their facility. The proposed test would utilize a modified six cylinder machine to duplicate the machine at CR-3 as closely as practical, operate the machine at a proportionally comparable load, and perform a post-test inspection to demonstrate the machines at CR-3 can be safely operated at a capacity above 3300 kw. These tests should be completed prior to the end of 1989 and if successful will allow operation up to the revised 30 minute rating of 3500 kw.

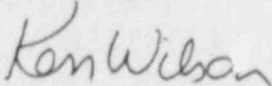
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Should you have any questions please contact this office.

Sincerely,



K. R. Wilson, Manager
Nuclear Licensing

AEF:

xc: Dr. J. Nelson Grace
Regional Administrator, Region II

Mr. P. Holmes-Ray
Senior Resident Inspector