Florida Power
CORPORATION
Crystal River Unit 3
Docket No. 50-302

May 1, 1991

3F0591-02

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

Subject: Special Report 91-01

Dear Sir:

Enclosed is Special Report 91-01 which is submitted in accordance with Techncial Specification 3.3.3.10.

Sincerely,

Rolf C. Widell
Director, Nuclear Operations Site Support

WLR:mag

Enclosure

xc: Regional Administrator, Region II
Project Manager, Region II
Senior Resident Inspector

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SPECIAL REPORT 91-01

Background

Crystal River Unit 3 Technical Specification 3.3.3.10, Waste Gas Decay Tank Explosive Gas Monitoring Instrumentation, requires that the Waste Gas Decay Tanks have one Hydrogen and one Oxygen Monitoring Channel operable. The specification allows plant operation to continue with these instruments inoperable, but stipulates that a Special Report be submitted if the period of inoperability exceeds 14 days. The Waste Gas Decay Tank Hydrogen Monitoring channel at Crystal River Unit 3 was removed from service on March 20, 1991 and was not returned to operational status within 14 days. This report is submitted to fulfill the Special Report requirement of Technical Specification 3.3.3.10.

Reason for Hydrogen Monitor Inoperability

On March 20, 1991, the Waste Gas Analyzer (WDGA-1) [WE,AI] was removed from service to allow isolation of the waste gas compressor for maintenance. Moisture was discovered in the sample tubing when the equipment was to be returned to service the next day, March 21, 1991. A work request was written to correct a moisture intrusion in the analyzer's sample lines. Instrument and Controls (I&C) Technicians set up a nitrogen purge on the sample lines to remove the moisture; however, the purge was not effective and was secured. After letting the water settle for an hour, the system low point and filter housing drain were opened to drain the moisture out. The drains were closed and the nitrogen purge was re-established. When the system was dried and attempts were made to return it to service, it was discovered that the moisture intrusion had damaged a pressure regulating valve [WE,PSV] in the system resulting in the hydrogen monitoring cell being overpressurized. No replacement hydrogen monitoring cell was available since the spare had been used in the previous 30 days and ordered spares had not yet been received. On April 3, 1991, the fourteen day time period specified in the plant Technical Specifications expired and a Special Report was required to be submitted. On April 12, 1991, the replacement hydrogen monitoring cell was obtained and installed. The performance test was completed satisfactorily on April 13, 1991 and the Waste Gas Analyzer was returned to service.

Cause

The cause of this event is the moisture intrusion into the system. The source of the moisture is unknown since the system was out of service and in an abnormal lineup for isolation of the waste gas compressor. This moisture failed the pressure regulating valve, which in turn failed the hydrogen monitoring cell. The lack of a spare part for the hydrogen cell resulted from a unique combination of events. Two spares are normally kept in stock; however, one of the spares was non-functional as received from the factory and the other had recently been installed. Before the ordered replacement spares were received, the recently installed in-service cell was damaged.

Corrective Action

Since an unusual set of circumstances existed, there is no systematic or programmatic problem noted. There are normally adequate spares available on site for this system. The corrective action taken was to acquire a replacement cell from another utility, install and test it, and return the unit to service. Grab samples from the Waste Gas Decay Tanks were periodically collected and analyzed for hydrogen and oxygen concentration, as required by Technical Specification 3.3.3.10, while the monitoring instrumentation was out of service.