



Florida Power

CORPORATION

Crystal River Unit 3

Docket No. 50-392

October 10, 1994
3F1094-07

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

Subject: Special Report - Reactor Vessel

Dear Sir:

In accordance with Technical Specification 5.7.2.(a), attached please find a Special Report addressing the Reactor Vessel Level Indication System Out-of-Service.

Sincerely,

G. L. Boldt
Vice President
Nuclear Production

GLB/JAF:ff

Attachment

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

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SPECIAL REPORT

REACTOR VESSEL LEVEL INDICATION OUT-OF-SERVICE

INTRODUCTION

During an analysis of data collected from the Rosemount Transmitter Drift Trending Program, on September 19, 1994 Florida Power Corporation (FPC) engineering personnel at Crystal River Unit 3 (CR-3) determined that two transmitters were not functioning normally. These transmitters, RC-164A-LT1 and RC-164B-LT1, comprise the Reactor Vessel Level Indication System (RVLIS) portion of the Reactor Coolant Inventory Tracking System (RCITS).

Data analyzed from the Rosemount Transmitter Drift Trending Program indicated that the Vessel Level Transmitters exhibited an abnormally stable indication. This condition appears to have been present since the restart from CR-3's most recent refueling outage in June 1994.

Improved Technical Specification (TS) 3.3.17 addressing Post Accident Monitoring Instrumentation requires that these 2 RCITS channels be operable. With the two required channels inoperable, one channel must be restored to operable status within seven days. Given a failure to restore at least one channel to operable status, TS Section 5.7.2.(a) requires submission of a Special Report within the next 14 days. At 1400 on September 26, 1994, the seven day restoration period expired. This report satisfies the requirement of TS 5.7.2.(a).

PRE-PLANNED ALTERNATE METHOD OF MONITORING

This instrumentation is not a Type "A" variable (Regulatory Guide 1.97) since it is not relied upon to mitigate any design basis accident. The Emergency Operating Procedures (EOP) are written to support this position (e.g., they take no action based solely on its output). The probability of it being needed between now and the time permanent corrective action is taken is minimal. A B&W Owner's Group study [Technical Basis for Reactor Vessel Level Indication System (RVLIS) Action Statement] (BWOG 32-1177256-00) has shown that, from a Probabilistic Risk Assessment (PRA) perspective, the contribution of RVLIS to the prevention of an inadequate core cooling event is minimal. The primary means of monitoring reactor vessel level and assuring that the core remains covered under accident conditions is through the use of the subcooling margin and core exit temperature monitoring instrumentation. The use of this instrumentation will continue and will be used as the alternate pre-planned method of monitoring, given the loss of the RVLIS instrumentation.

CAUSE

An analysis of the observed symptoms of the current problem indicates that the most probable cause is a line blockage in the common tubing feeding both level transmitters. A reactor building entry and walk down was conducted to verify the line-up of accessible valves. Additionally, the operations procedure used for system line-up during start-up from the refueling outage was reviewed for valve position for inaccessible valves. This review indicated that the valve line-up was in its proper configuration. Further trouble shooting and verification of the suspected cause has been planned by Engineering personnel. Figure 1 shows the configuration of the tubing and valves associated with the transmitters. Removal of one of the tubing caps in the A_L or the B_L drain lines, attachment of

a pressure gauge, and subsequent pressure measurement would verify the suspected cause of the current problem. Removal of either cap on the A_L or B_L drain line while at power would create a situation in which a single valve would be relied upon as the sole pressure boundary isolation for full 2155 psi Reactor Coolant System (RCS) pressure. The plant and personnel safety risk involved in attaching the pressure gauge to the RCS under these conditions overrides any benefits.

CORRECTIVE ACTION PLAN AND SCHEDULE

The current schedule for restoration of the system is outage-dependent. In the event of an unscheduled, short duration, Mode 5 outage a reactor building entry will be conducted and a pressure gauge attached to the system as previously described. Further repairs will then be effected as time permits. If an unscheduled Mode 5 outage of sufficient duration occurs or during the next scheduled Mode 5 outage, system repair and restoration will be expeditiously completed. The next scheduled Mode 5 outage is Refuel 10, currently scheduled to begin in March 1996.

