



Florida Power

CORPORATION

Crystal River Unit 3

Docket No. 50-302

February 7, 1996
3F0296-04

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

Subject: Response to a Notice of Violation
FPC to NRC letter, 3F1195-14, dated November 9, 1995

Dear Sir:

In the subject letter, Florida Power Corporation (FPC) provided (in part) a response to a Notice of Deviation 50-302/95-16-05 concerning the Technical Support Center (TSC) ventilation system. The purpose of this letter is to revise that response.

In the "Corrective Steps That Will Be Taken To Avoid Further Deviations" section of the response, we stated that if modifications were required, the corrective action plan would be revised and new completion dates would be provided.

Our evaluation has determined the system cannot be balanced within current design limits without analytical or physical design changes. The corrective action plan has been revised and is included in the revised response. The system is considered operable but degraded as described in the revised corrective action plan.

Sincerely,

P. M. Beard, Jr.
Senior Vice President
Nuclear Operations

PMB/RLM

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

9602130204 960207
PDR ADOCK 05000302
Q PDR

FLORIDA POWER CORPORATION
NRC INSPECTION REPORT NO. 50-302/95-16
REPLY TO A NOTICE OF DEVIATION

DEVIATION 50-302/95-16-05

NUREG-0737, Clarification of TMI Action Plan Requirements, Supplement 1, item III.A.1.2, Upgrade Emergency Support Facilities, requires (in part) that each facility shall have a Technical Support Center (TSC) which will be habitable to the same degree as the control room for postulated accident conditions.

In response to item III.A.1.2. in a letter to the NRC dated January 11, 1980, the licensee committed to providing protection from radiological hazards, including direct radiation and airborne contaminants as per General Design Criterion (GDC) 19 and Standard Review Plan (SRP) 6.4 for the technical support center.

In response to Generic Letter 81-10, Post-TMI Requirements for the Emergency Operations Facility, the licensee's letter to the NRC, dated April 14, 1981, stated that the TSC would be functional per the guidance of NUREG-0696 and NUREG-0737 (Item III.A.1.2).

NUREG-0696, Functional Criteria for Emergency Response Facilities, Section 2.6, Habitability, states (in part) the following:

Since the TSC is to provide direct management and technical support to the control room during an accident, it shall have the same radiological habitability as the control room under accident conditions. TSC personnel shall be protected from radiological hazards, including direct radiation and airborne radioactivity from inplant sources under accident conditions, to the same degree as the control room personnel.

The TSC ventilation system shall function in a manner comparable to the control room ventilation system. The TSC ventilation system need not be seismic category I qualified, redundant, instrumented in the control room, or automatically activated to fulfill its role. A TSC ventilation system that includes high-efficiency particulate air (HEPA) and charcoal filters is needed, at a minimum.

Acceptance Criteria in SRP 6.4 includes meeting the requirements of GDC 19, as it relates to maintaining the control room in a safe, habitable condition under accident conditions by providing adequate protection against radiation. The "Licensee Enhanced Design Basis Document" states, in part, "The TSC air handling system emergency filter fan ASH-62 design flow requirement is 3000 cfm."

Contrary to the above, on August 18, 1995, the licensee determined that the TSC ventilation system had not been properly maintained per their commitments. Specifically, the proper flow balance was not maintained on the system, resulting in a high flow rate of 4600 cfm in the emergency (recirculation) mode of operation versus the design flow rate of 3000 cfm, degrading the performance of the ventilation filtration system. This caused the TSC ventilation system to be operating outside its design basis since July 1994.

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

FPC agrees with the deviation.

REASON FOR THE DEVIATION

Two mechanical factors have been identified which adversely affected the system flows:

1. Fan performance substantially exceeded design flow requirements. This required throttling of system dampers to a point where slight changes had significant affects on system flows. Fan speed has been reduced to correct this problem.
2. Motorized dampers were used to balance system flows. In conjunction with the excessive fan performance, repeatability of damper position when the system was cycled could have affected flows. This problem has been corrected by removing power from the dampers and setting them to a fixed position.

This problem has also been attributed to lack of proper identification of design requirements. Design Change Notice (DCN) 92-534 was issued to provide setpoints for damper flow balance. The design drawing incorrectly indicated an outside air requirement of 500 CFM (instead of the calculation range of 375 to 509 CFM) and recirculation flow of 2,500 CFM. Unless otherwise stated on the design drawing, the flow balancing procedure MP-217 provides a flow tolerance of +/- 10% of the design number. This tolerance was used to balance the system, causing the 509 CFM limit specified in the dose calculation to be exceeded. The minimum outside air requirement of 375 CFM specified in the design calculations was not affected since it fell within the 500 +/- 10% band.

The DCN failed to adequately specify the required flow range.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

1. As noted in items 1 and 2 above, work was initiated to properly balance TSC emergency air flow.
2. Procedure SP-188, Technical Support Center In-Place Filter Testing, has been revised to provide lineup and test points for the ventilation system emergency mode of operation. This revision was completed on December 15, 1995.
3. The minimum TSC staffing level required to support emergency operations has been evaluated by Emergency Planning. A reduction in TSC staff from 75 to 50 individuals has been found to be acceptable. However, even with this reduction in personnel loading, our overall evaluation has still determined the system cannot be balanced within current design limits without analytical or physical design changes.

The TSC Ventilation System is currently considered to be operable but in a degraded state. This could result in O₂, CO₂ and thyroid dose exceeding the allowable limits during an emergency event. To compensate for this, each of these items is monitored in the plant emergency procedure and compensatory action can be taken if adverse conditions are observed.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER DEVIATIONS

1. The TSC dose calculation will be revised. Several factors affecting the current calculation have changed and will be incorporated. These factors include NUREG-1465 source terms, a new methodology for calculating airborne material transport, ICRP-30 dose conversion factors, and new organ dose limits.

DUE DATE: 7/1/96

2. Assumptions used for required make-up air per TSC occupant will be verified.

DUE DATE: 7/1/96

3. Results from the dose calculation and make-up air requirements will be integrated with cooling load and humidity control calculations to determine TSC flow balancing and testing acceptance criteria.

DUE DATE: 9/1/96

4. Results of item 3 will be evaluated to determine what system design changes are required, if any.

DUE DATE: 10/1/96

5. If item 4 determines design changes are required, a further revision to the corrective action plan will be prepared and provided to the NRC.

DUE DATE: 12/1/96 (if required)

DATE WHEN CORRECTIVE ACTIONS WILL BE COMPLETE

Dates for completion of identified corrective actions are stated above. The NRC will be formally notified of any changes to the corrective action plan or completion dates.