

# Florida Power

CORPORATION  
Crystal River Unit 3  
Docket No. 50-302

August 20, 1996  
3F0896-10

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: Graded Approach to Instrumentation Setpoints

Dear Sir:

In October 1994, Florida Power Corporation (FPC) undertook an extensive setpoint re-evaluation program for Crystal River - Unit 3 (CR-3). Under this program, instrument string error calculations were performed in accordance with the guidance of Instrument Society of America standard ISA 67.04, Parts 1 and 2, for many of the limits in Technical Specifications. Use of this standard produces very conservative setpoint values that result in a high degree of confidence that the analytical limit will be protected. This standard was also used to calculate some action points for Emergency Operating Procedures (EOPs). As the program continued, it became evident that not all limits needed to be protected with this high degree of conservatism. In several instances, the calculated values contained such a high degree of conservatism that operating margins would be eroded significantly and certain post-accident mitigation strategies would have been lost. We realized that a graded approach was needed to assure an appropriate degree of conservatism was applied to the setpoint values while ensuring adequate operational flexibility was maintained and unnecessary plant transients were avoided.

Guidance for the FPC graded approach to setpoints was taken from a technical paper entitled "A Graded Approach to Setpoint and Loop Accuracy Calculations", presented at the American Power Conference in Chicago in April 1994 by William A. Barasa and John J. O'Hara of Sargent and Lundy Corporation. We also visited several other nuclear plants to determine what graded approach programs others in the industry had implemented and reviewed draft technical report ISA 67.04.09, "Graded Approaches to Setpoint Determination."

A draft graded approach document was then prepared by a CR-3 project team consisting of representatives from Engineering, Operations, and Licensing. The

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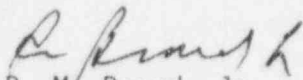
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FPC graded approach program includes four categories of rigor, with the most rigorous being that defined by ISA 67.04, Parts 1 and 2, and the least rigorous being simple engineering judgement. FPC took advantage of the expertise on the subject at Sargent and Lundy by enlisting the services of the authors of the paper to review our draft program and provide independent comments and suggestions. That effort resulted in the "Graded Approach Methodology for Instrument Uncertainty" which is attached to this letter. This document has been approved by FPC's design engineering management and is currently being utilized in our instrument uncertainty calculations. Implementation of the results of these calculations is being deferred until after discussions are held with the NRC staff.

We believe application of this methodology will produce setpoint values that have the appropriate conservatism for their application while preserving the margins needed to safely operate the plant. FPC has requested a meeting with the NRC to ensure a common understanding of this approach is achieved prior to implementation of the calculations' results. We are in the process of setting a date for this meeting at this time.

Sincerely,



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

Attachment

PMB:AEF

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

ATTACHMENT TO 3F0896-10

Florida Power Corporation

Crystal River Unit 3

Graded Approach Methodology for Instrument Uncertainty

(12 Pages Plus Cover Sheet)