

**Florida
Power**
CORPORATION

July 31, 1985
3F0785-33

Director of Nuclear Reactor Regulation
Attention: Mr. John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Generic Letter 82-33
Procedures Generation Package for
Emergency Operating Procedures

Dear Sir:

This submittal is in response to NRC letter dated October 1, 1984 in regards to your request for additional information concerning our Procedures Generation Package (PGP) for Emergency Operating Procedures (EOP's). Florida Power Corporation (FPC) has prepared the attached responses and includes a report of comparison between Oconee Nuclear Station Unit 3 (ONS-3) and Crystal River Unit 3 (CR-3).

The enclosed document was prepared by B&W and is titled "Abnormal Transient Operating Guidelines (ATOG) Comparison of Crystal River Unit 3 to Oconee Nuclear Station Unit 3". The purpose of this document is to facilitate NRC review of the specific CR-3 ATOG. The CR-3 ATOG is consistent with the ONS-3 ATOG in overall philosophy, use of symptoms and priority of major actions. The plant specific nature of ATOG does result in differences which are identified in this document.

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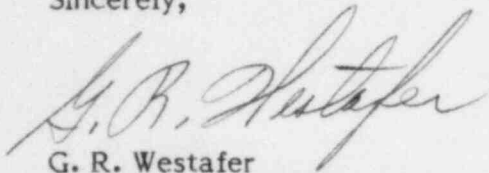
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The ATOG comparison document contains one item which needs to be clarified. Section II, "Vital Systems Status Verification", Item 2 described instructions to close Main Steam Isolation Valves (MSIV's) as a mistake. This item is not a mistake but is due to plant specific differences. ONS-3 does not have Main Steam Isolation Valves while CR-3 does.

Sincerely,



G. R. Westafer
Manager, Nuclear Operations
Licensing and Fuel Management

EMG/feb

Attachments: A through G

ATTACHMENT A

A. PLANT-SPECIFIC TECHNICAL GUIDELINES

1. Question

Justify the adequacy of the Crystal River plant-specific technical guidelines by referencing the NRC-approved B&W guideline, Oconee ATOG, as applicable, and identifying and justifying safety significant differences between the Crystal River plant-specific guidelines and the referenced guidelines. In addition, provide a description of the method used to determine if the differences are safety significant.

Response

The enclosed B&W document, "Abnormal Transient Operating Guidelines (ATOG) Comparison of Crystal River Unit 3 to Oconee Nuclear Station Unit 3" (Attachment B), contains a description of the safety significant differences between the ONS-3 ATOG and the CR-3 ATOG. Justification of these differences is included.

2. Question

Describe the process for using the generic guidelines and background documentation to identify the characteristics of needed instrumentation and controls. For the information of this type that is not available from the generic guidelines and background documentation, describe the process to be used to generate required instrumentation and control characteristics. This process can be described in either the PGP or Detailed Control Room Design Review (DCRDR) Program Plan with appropriate cross-referencing.

Response

The identification of instrument and control characteristics is being performed as part of the Detailed Control Room Design Review. Because it is not yet finalized, it was not used in the upgrade of the EOP's. Any discrepancies identified in this part of the DCRDR will be resolved as part of the DCRDR. The DCRDR Program Plan for CR-3 and subsequent responses to NRC questions contain descriptions of the relationship between these two programs.

B. WRITER'S GUIDE

The following items were identified during the review of the Plant-Specific Writer's Guide (P-SWG). These items should be addressed and the P-SWG revised as needed.

1. The following items are areas that were addressed in the PGP, but additional information is necessary to completely address each area.

a. Question

The use of enclosures is discussed in Subsections 2.4.12 (page 17 of 50) and Subsection 3.5.5 (page 25, of 50). There should be additional guidance for the writer on whether to include information in the body of the EP or as an enclosure.

Response

The Plant-Specific Writers' Guide has been revised to provide additional guidance in this area. Subsection 2.4.12 (page 17 of 50 is attached (Attachment C).

b. Question

Section 3.3.1 lists various column headings for sections of the procedure. The P-SWG should include a description of what would be used in the "conditions" column, or the sample EOP (EP-290) should include a clear example of what information should be put in that column. The sample EOP (EP-290), Appendix 2, does not demonstrate the use of the "conditions" column.

Response

Subsection 2.3.1 of the Plant-Specific Writers' Guide describes the contents of the "conditions" section.

c. Question

Subsection 3.5.3 "FIGURES" of the P-SWG refers to the Appendix 2; however, Appendix 2 contains only a blank space titled "Figure 1" on pages 10 and 14 of 15 and does not contain examples of either "figures" or "flow charts". The P-SWG should include a representative example of a "line figure", and a "flow chart", as a guide to the procedure writers.

Response

Example procedure EP-290, in Appendix 2, has been revised to include Figure 1. Subsection 3.5.3 of the Plant-Specific Writers' Guide has been revised to delete the reference to "flow charts". Pages 10 and 14 of 15 of example procedure EP-290 showing Figure 1 are attached (Attachment D).

d. Question

Provisions for operator placekeeping aids are identified in Section 3.6 on page 26 of 50. However, it is not clear how unmarked blank space can facilitate an operator in keeping his place in the procedures. Additional information should be included to clarify how the open space provided in each step, list and tables will be used for placekeeping. This may be addressed by an administrative procedure on the use of the procedures, but it is not clear in the PGP.

Response

The Plant-Specific Writers' Guide has been revised to include additional guidance on the subject of placekeeping. Subsection 3.6 (page 26 of 50) is attached (Attachment E).

e. Question

The Writers' Guide contains a "Constrained Language List" in Appendix 4. The list should be expanded to include the terms depressurize, align, reduce, cycle, defeat and shut, which are used in EP-290, the sample EOP. The "Constrained Language List" should be reviewed, possibly by operations personnel, to ensure completeness.

Response

Appendix 4 of the Writers' Guide has been revised to include the words: depressurize, align, reduce, cycle, and defeat. The example procedure, EP-290, in Appendix 2, has been revised to replace the word "shut" with the word "close". Constrained Language List pages 1, 2, and 3 of 3 are attached (Attachment F).

f. Question

The review of the abbreviations and acronyms in EP-290 identified numerous examples that were not on the "Accepted Abbreviations and Acronyms" list, such as MFD, DNB, RCDT, OOS, TBUS, CLAD, REL, PZR, LCO, EFP, and ADUS. The "Accepted Abbreviations and Acronyms" list should be reviewed and expanded as needed to include all the abbreviations and acronyms that will be used in the EOP's.

Response

The "Accepted Abbreviations and Acronyms List" has been revised to include the following abbreviations: MFP, DNB, RCDT, OOS, TBV, REL, PZR, LCO, EFP, and ADV. The abbreviations ADUS, TBUS, and MFD could not be found in EP-290. We suspect that these are typographical errors and should be ADV or ADVS, TBV or TBVS, and MFP. Clad is a word, not an abbreviation. Pages 3 and 9 of 12 are attached (Attachment G).

2. Question

The following item is an area that was addressed, but the Writers' Guide needs some corrections.

Subsection 4.3.2 (page 33 of 50) of the Writers' Guide specifies that instructions should be written as positive statements; yet, the example EOP (EP-290) in Appendix 2 contains some violations of this rule. For example:

"If RCPS are operating THEN DO NOT trip RCPS." (EP-290, page 3 of 15)

"Start one RCP per loop. Do NOT bypass interlocks." (EP-290, page 8 of 15)

The examples in Appendix 2 should be made consistent with the instructions in the P-SWG or the P-SWG should be revised to describe when negative statements should be used.

Response

The word "should" denotes a recommendation or a non-mandatory requirement. While positive statements are generally preferable, there are cases where negative statements are desirable, because they avoid confusion. Negative statements may be used to emphasize or clarify an instruction. The examples are cases where negative statements are appropriate.

3. The following items are areas that should be addressed in the Writers' Guide.

- a. The use of EOP's in the control room make the following concerns important enough so that they should be addressed in the P-SWG:

(1) Question

EOP's should be structured so that they can be executed by the minimum control room crew as specified in the technical specifications.

Response

As indicated by P-SWG Subsection 4.3.5, EOP's are written to be performed by one Control Room Operator. The minimum crew requirement is one Control Room Operator.

(2) Question

EOP's should be structured so that they are consistent with pre-established leadership roles and divisions of responsibilities.

Response

Leadership roles and division of responsibility are clearly defined by other administrative controls. These controls are well known by anyone who would be writing EOP's. Therefore, there is no reason to reiterate them in the Writers' Guide.

(3) Question

Action steps should be structured to minimize physical interference between personnel.

Response

Because the procedures are written for performance by a single operator, personnel interference cannot be addressed.

(4) Question

The EOP's must be distinctly identifiable from other documents.

Response

Because of their unique format and their location within the Control Room, the EOP's are distinctly identifiable from other procedures.

(5) Question

Once obtained, it should be easy for operators to access any procedure or part of a procedure (e.g., labels, tabbing, color coding, etc.).

Response

Because of the organization of the procedures, as described in the Plant-Specific Writers' Guide, it is easy for the operators to access various parts of the procedures.

(6) Question

To ensure readability, all reproductions of EOP's should be of comparable quality to the originals.

Response

The Writers' Guide contains standards for reproduction in Appendix 3, Section 10.

b. Question

When changes occur in plant design, Technical Specifications, Technical Guidelines or plant policy that affect the EOP's, the EOP's should be revised in accordance with the PGP. Instructions to accomplish this objective should be included in the Writers' Guide or another administrative procedure, as appropriate.

Response

Approval, control and revision of EOP's is contained in Plant Administrative Instructions.

C. VALIDATION/VERIFICATION PROGRAM

Question

The validation program and the Conformance Checklist as described in the PGP contain some of the essential items that should be included in a complete validation/verification program. However, significantly more information is needed to enable the staff to complete its reviews.

Response

Questions regarding the verification, validation, and training programs are all phrased in the future tense. The staff should be aware that the upgraded EOP's based on the Writers' Guide were implemented in the Summer of 1983, after the PGP was submitted in March of 1983.

1. Question

A description of how the combination of desk-top reviews, simulator exercises, and control room walk-throughs will be used to check the technical content and useability of the EOP's. Include a commitment that the full complement of EOP's will be checked including multiple failure (simultaneous and sequential).

Response

All EOP's have been checked using one of the following techniques. Desk-top reviews were used to ensure that procedures conformed to the Plant-Specific Writers' Guide and did not contain obvious technical errors. Desk-top reviews were also used to identify interprocedural and intraprocedural routing problems. Simulator exercises were used for a detailed check of the technical content, sequencing of steps, and routing. Control Room walk-throughs utilizing multiple and sequential failures were used to check technical content, sequencing of steps, routing, and correspondence between procedures and Control Room instrumentation and controls.

2. Question

The validation/verification program should include a description of the criteria that will be used to select the scenarios to be run on a simulator during the process. The criteria should be developed on the basis of what is needed to test the procedures. For the parts of the EOP's that cannot be tested on the simulator, describe the criteria for selecting any additional testing that needs to be conducted by a control room walk-through or a mock-up walk-through.

Response

Scenario selection was based in general on ability to exercise procedures appropriately, and on correlation between Babcock and Wilcox Simulator and Crystal River Unit 3. The initial procedure validation occurred in August and September of 1983. Detailed records of criteria for scenario selection were not kept. Identification of additional testing following simulator validation were based on the limitations of the B&W simulator and the need to validate all

procedures. Scenarios for walk-through conducted as part of the Detailed Control Room Design Review were based on the requirements of NUREG-0700.

3. Question

For the validation/verification program, there needs to be an indication of who is involved in each part of the program (e.g., operators, procedure writers, subject matter experts, etc.) and what roles these participants will play in the processes.

Response

Verification/validation were performed by Licensed Reactor Operators and Senior Reactor Operators. They were assisted by training instructors and/or contract human factors specialists for simulator and mockup exercises. The procedures were performed by the operators. The instructors and human factors specialists assisted by asking questions about operator actions and recording operator feedback.

4. Question

There needs to be a description of the plan by which correspondence between EOP's and control room instrumentation and controls will be determined. This may be included as part of the Conformance Checklist. (This item is related to item 2 under the plant-specific technical guidelines which addresses the process for determining the needed instrumentation and controls characteristics.)

Response

See Item 2 response.

D. TRAINING PROGRAM

The training program, as it relates to the EOP implementation should be expanded to include sufficient detail to determine that the trainees will be capable of executing the EOP's as individuals and as teams under operational conditions. The response should include the following items:

1. Question

Program goals in addition to those presented on page 1 of the training program should be to (a) give trainees an understanding of the technical bases of the EOP's, and (b) provide trainees with the ability to execute EOP's under operational conditions.

Response

The technical content of the procedure is almost completely unchanged. All that has changed is the organization and structure of the procedures. Therefore, the operators already had an understanding of the technical basis of the procedures. Instead of technical basis, the initial training program concentrated on the new structure and organization. The intent of the goal to "Enable Operators to Have a Working Knowledge of the Emergency Procedures" is equivalent to the

statement "Provide trainees with the ability to execute EOP's under operational conditions" when referring to the initial training on upgraded EOP's.

2. Question

A description of the methods for training in areas not covered by simulator exercises. Simulator exercises do not appear to be included as part of the planned training program for the EOP's although mentioned in the Validation Program, and classroom exercise cannot fully replace simulation. Therefore, provisions for simulation in the training program should be included, and an alternative method(s) of training should be described that provide(s) a high level of assurance that the operator can mitigate transients and accidents using the procedures.

Response

Each licensed operator received eight hours of classroom training on the upgraded procedures prior to startup from the 1983 Refueling Outage. Subsequently, each operator had one week of time on the B&W simulator, in which they were required to use the procedures to mitigate accidents and transients. This combination of classroom and simulator training was adequate to assure that operators could mitigate transients and accidents using the upgraded procedures.

3. Question

A commitment that ALL EOP's will be exercised by ALL operators.

Response

The initial training on all the upgraded procedures has been complete for over a year and all upgraded EOP's are included in each annual Licensed Operator Requalification Program. New operators receive classroom and simulator training on all the upgraded EOP's. All EOP's are covered on a regular basis in both Licensed Operator Requalification Training and in Replacement Operator Training.

4. Question

An indication of the use in training of a wide variety of scenarios, including multiple failures (simultaneous and sequential).

Response

The operator training described in the PGP was for initial introduction of new procedures. This training includes a wide variety of scenarios.