



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
 REGION II  
 101 MARIETTA ST., N.W.  
 ATLANTA, GEORGIA 30323

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Report No.: 50-302/85-02

Licensee: Florida Power Corporation  
 3201 34th Street, South  
 St. Petersburg, FL 33733

Docket No.: 50-302

License No.: DPR-72

Facility Name: Crystal River 3

Inspection Conducted: January 28-31, 1985

Inspector: *A. L. Cunningham* 02/13/85  
 A. L. Cunningham Date Signed

*J. L. Kreh* 02-13-85  
 J. L. Kreh Date Signed

Accompanying Personnel: J. L. Kenoyer  
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Approved by: *W. E. Cline* 2/13/85  
 W. E. Cline, Section Chief Date Signed  
 Division of Radiation Safety and Safeguards

SUMMARY

Scope: This routine, announced inspection entailed 163 inspector-hours onsite in the area of an emergency preparedness exercise.

Results: Of the area inspected, no violation or deviations were identified.

## REPORT DETAILS

### 1. Licensee Employees Contacted

- \*E. M. Howard, Director, Site Nuclear Operations
- \*P. F. McKee, Plant Manager
- \*J. Alberdi, Manager, Site Nuclear Operations Technical Services
- \*L. A. Hill, Manager, Site Nuclear Services
- \*G. L. Boldt, Plant Operations Manager
- \*W. L. Rossfeld, Manager, Site Nuclear Compliance
- \*E. K. Neuschaefer, Supervisor, Radiological Emergency Planning
- \*R. Clarke, Radiation Protection Manager
- \*K. R. Wilson, Supervisor, Site Nuclear Licensing

NRC Resident Inspectors

- \*T. F. Stetka

\*Attended exit interview

### 2. Exit Interview (30703)

The inspection scope and findings were summarized on January 31, 1985, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

### 3. Exercise Scenario (82301)

The scenario for the emergency exercise was reviewed to assure that provisions were made to test the integrated capability and a major portion of the basic elements defined in the licensee's emergency plan and organization pursuant to 10 CFR 50.47(b)(14), paragraph IV.F of Appendix E to 10 CFR 50, and specific criteria defined in Section II.N of NUREG 0654, Revision 1.

The scenario was reviewed in advance of the scheduled exercise date and was discussed in detail with licensee representatives on January 29, 1985. While no major problems with the scenario were identified, several inconsistencies became apparent during the exercise. The inconsistencies, however, failed to detract from the overall performance of the licensee's emergency organization.

The scenario developed for this exercise was detailed, and fully exercised the onsite emergency organizations. The scenario provided sufficient information to the State and local government agencies consistent with the scope of their participation in the exercise.

The licensee made a large commitment to training and personnel through the use of controllers, evaluators, and required personnel participating in the

exercise. The controllers appeared to provide adequate guidance throughout the exercise; however, some minor prompting was noted by the inspector. This item was discussed during the exercise critique.

No violations or deviations were identified.

4. Assignment of Responsibility (83201)

This area was observed to assure that primary responsibilities for emergency response by the licensee were established, and that adequate staff was available to respond to an emergency pursuant to 10 CFR 50.47(b)(1), paragraph IV.A of Appendix E to 10 CFR 50, and specific criteria defined in Section II.A of NUREG-0654, Revision 1.

The inspector observed that specific emergency assignments were made for the licensee's emergency response organization, and that adequate staff was available to respond to the simulated emergency. The initial response organization was augmented by designated licensee representatives; however, because of the scenario scope and conditions, long term or continuous staffing of the emergency response organization was not required. Discussions with licensee representatives indicated that sufficient technical staff was available to provide for continuous staffing of the augmented emergency organization if needed.

The inspector also observed the activation, staffing, and operation of the emergency organization in the TSC, OSC, and EOF. At each response center, the required staffing and assignment of responsibility was consistent with the licensee's approved procedures.

No violations or deviations were identified.

5. Onsite Emergency Organization (82301)

The licensee's onsite emergency organization was observed to assure that the following requirements were implemented pursuant to 10 CFR 50.47(b)(2), paragraph IV.A of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.B of NUREG 0654, Revision 1: (1) responsibilities for emergency response were unambiguously defined; (2) adequacy of staffing to assure initial facility accident response in key functional areas at all times; (3) specification of onsite and offsite support organizational interactions.

The inspector observed that the initial onsite emergency organization was adequately defined and that staff was available to fill key functional positions within the emergency organization. Augmentation of the initial emergency response organization was accomplished through mobilization of off-shift personnel. The on-duty Shift Supervisor assumed the duties of Emergency Coordinator promptly upon initiation of the simulated emergency and directed the response until relieved by the Station Manager.

Required interactions between the licensee's emergency response organization and State and offsite support agencies were adequate and consistent with the scope of the exercise.

No violations or deviations were identified.

6. Emergency Response Support and Resources (82301)

This area was observed to assure that the following arrangements for requesting and effectively using assistance resources were made pursuant to 10 CFR 50.47(b)(3), paragraph IV.A of Appendix E to 10 CFR 50, and Section II.C of NUREG 0654, Revision 1, namely: (1) accommodation of State and local staff at the licensee's near-site Emergency Operations Facility; (2) identification of organizations capable of augmenting the planned response.

State of Florida representatives were accommodated at the licensee's EOF. Region II NRC site team members were accommodated at the TSC and EOF. Licensee contact with offsite organizations was prompt, effective and consistent with the scope of the exercise. Assistance resources from State and local agencies were available to the licensee and consistent with the scope of the exercise.

No violations or deviations were identified.

7. Emergency Classification System (83201)

This area was observed to assure that a standard emergency classification and action level scheme was in use by the nuclear facility licensee pursuant to 10 CFR 50.47(b)(4), paragraph IV.C of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.D of NUREG 0654, Revision 1.

An emergency action level matrix was used to promptly identify and properly classify the emergency and escalate to more severe emergency classifications as the simulated emergency progressed. Licensee actions in this area were considered adequate.

No violations or deviations were identified.

8. Notification Methods and Procedures (83201)

This area was observed to assure that procedures were established for notification of State and local response organizations and emergency personnel by the licensee, and that the content of initial and followup messages to response organizations was established. This area was further observed to assure that means to provide early notification to the populace within the plume exposure pathway were established pursuant to 10 CFR 50.47(b)(5), paragraph IV.D of Appendix E to 10 CFR 50, and specific criteria defined in Section II.E of NUREG 0654.

An inspector observed that notification equipment (including the emergency notification system - ENS), instructions, and procedures were established and available for use in the control room, TSC, and EOF for providing information concerning the simulated emergency conditions to Federal, State and local response organizations, and to alert the licensee's augmented emergency response organizations. Telephone notification of State and local response organizations was promptly followed by transmission of hard copies of the notification to these organizations and the licensee's emergency news center.

The prompt notification system (PNS) for alerting the public within the plume exposure pathway was in place and operational. The system was activated during the exercise to simulate warning the public of significant events occurring at the plant site.

No violations or deviations were identified.

9. Emergency Communications (83201)

This area was observed to assure that provision for prompt communications among principal response organizations and emergency personnel was established and maintained pursuant to 10 CFR 50.47(b)(6), paragraph IV.E of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.F of NUREG 0654, Revision 1.

Communications among the licensee's emergency response facilities and emergency organization, and between the licensee's emergency response organization and local offsite authorities were adequate and consistent with the scope of the exercise.

No violations or deviations were identified.

10. Emergency Facilities and Equipment (83201)

This area was observed to assure that adequate emergency facilities and equipment to support an emergency response were provided and maintained pursuant to 10 CFR 50.47(b)(8), paragraph IV.E of Appendix E to 10 CFR 50, and specific criteria defined in Section II.H of NUREG 0654, Revision 1.

The inspectors observed the activation, staffing, and operation of the emergency response facilities and evaluated the equipment provided for emergency use during the exercise.

- a. Control Room - The inspector observed that reactor control room operations personnel acted promptly to initiate required responses to simulated emergencies. Emergency procedures were readily available and routinely followed, and the responses to simulated emergencies were prompt and effective.

Control Room personnel involvement was essentially limited to those persons assigned routine and special operational duties. Effective

management of personnel gaining access to the control room precluded overcrowding and maintained an ambient noise level required for the orderly conduct of operations under emergency conditions.

The shift supervisor and the control room operators were cognizant of their duties, responsibilities, and authority. These personnel demonstrated an understanding of the emergency classification system and the proficient use of specific procedures to determine and declare the proper classification.

- b. Technical Support Center (TSC) - The TSC was activated and promptly staffed following notification by the Emergency Coordinator of the simulated emergency conditions leading to the Alert classification. The TSC staff appeared to be knowledgeable concerning their emergency responsibilities, and required operations proceeded smoothly. The TSC was provided with adequate equipment for the support of the assigned staff. TSC security was promptly established.

The independent ventilation system was actuated during the exercise. During operation of this facility, radiological habitability was routinely monitored and documented. Dedicated communicators were assigned to the facility and all required notifications were promptly implemented.

Status boards were strategically located to facilitate viewing by the TSC staff. Status boards were frequently updated as required to chronicle changes in plant status, and accident assessment and mitigation throughout the exercise. The inspectors noted, however, that a status board dedicated to trending of plant systems and engineering data, and related radiation changes, and dose projections attending the simulated accident sequence was not provided. This item was discussed at the licensee's critique.

Inspection disclosed the following additional findings, namely: (1) engineering, radiological, maintenance, and other technical support functions were readily accommodated and factored into problem solving exercises; (2) assumption of duties by the Emergency Director was definite and firm; (3) transfer of certain emergency responsibilities from TSC to EOF was firmly declared and announced to the TSC staff; (4) briefings of the TSC staff were frequent and consistent with changes in plant status and related emergency conditions; (5) communications with the offsite radiation monitoring team and correlation of radiological parameters requisite to offsite dose projections were conducted by the TSC dose assessment group. The subject group maintained its operation throughout the exercise, and provided the EOF dose assessment group with offsite radiation data reported by the radiation monitoring team. Dose projections calculated by the two groups were frequently compared to assess accuracy.

Review of offsite dose projections disclosed significant disparities between values recorded by both of the above groups and the

radiological releases and simulated accident parameters cited in the scenario. Review disclosed the following: (1) an error was identified in defining the containment dome radiation monitor reading (the subject reading was reported as 600 R instead of 60,000 R); (2) default values provided during the early phase of the simulated accident did not reflect fuel damage. Dose assessment was discussed in detail by the licensee during their critique. This item was further discussed during the formal licensee/NRC critique. The licensee will conduct a detailed review of dose assessment including the RADDPOSE II computer program to assure accuracy of dose projections. This item will be reviewed during subsequent inspections (50-302/85-02-01).

- c. Operations Support Center (OSC) - The OSC was staffed promptly upon activation of the emergency plan by the Emergency Coordinator. An inspector observed that teams were promptly assembled, briefed, and prepared for deployment. The OSC supervisor appeared to be cognizant of his duties and responsibilities. During operation of the facility, radiological habitability was routinely monitored and documented.

The OSC was under construction during the exercise; therefore, the majority of the facility's activities were conducted from a designated area of the control room. The major inplant activity, including collection and analysis of post accident samples, was simulated.

- d. Emergency Operations Facility (EOF) - The EOF is located in the offsite Training Building. The facility was adequately equipped and staffed to support an emergency response.

EOF security was promptly established, and the independent ventilation system was actuated. During operation of the facility, radiological habitability was routinely monitored and documented. Status boards and other related visual aids were strategically located and were readily accessible for viewing by the EOF staff. The inspectors noted the absence of a status board dedicated to trending of plant status and radiological changes as discussed in Section 10.b, above. Dedicated communicators were assigned to the facility, and all required notifications were promptly implemented.

During activation of the facility, it was noted that the Emergency Notification System (ENS) was inoperative. Investigation disclosed that the problem was confined to the EOF, and maintenance was immediately requested. Required backup commercial telephone systems and radio equipment were operational and activation of the facility was continued.

Inspection disclosed the following additional findings, viz: (1) assumption of duties by the EOF Director was definite and firm; (2) staff briefings were frequent and consistent with changes in plant status and progress in accident assessment and mitigation; (3) communications between the EOF and the remaining emergency response facilities were effective; (4) engineering and other technical support functions

including the State of Florida Representatives and the NRC Site Team were accommodated and factored into problem-solving exercises.

The disparities involving offsite dose projections and radiological release data were disclosed as discussed in the above referenced Section 10.b. It was also noted that the State of Florida (DHRS) dose assessment group lost communications with their offsite radiation monitoring teams. Backup communications, however, were established using radio equipment in State vehicles parked near the EOF.

No violations or deviations were identified regarding emergency response facilities and equipment.

11. Accident Assessment (82301)

This area was observed to assure that adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition were in use as required by 10 CFR 50.47(b)(9), paragraph IV.B of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.I of NUREG 0654, Revision 1.

The accident assessment program included an engineering assessment of plant status, and an assessment of radiological hazards to onsite and offsite personnel resulting from the accident. During the exercise, the engineering accident assessment team functioned effectively in analyzing plant status to provide recommendations to the Site Emergency Manager regarding mitigating actions required to reduce damage to plant equipment, prevent releases of radioactive materials, and terminate the emergency condition.

Radiological assessment activities were confined to offsite monitoring involving licensee and State of Florida radiation monitoring teams. Inplant radiological monitoring data was simulated. The licensee's offsite radiological monitoring team was dispatched to determine the level of radioactivity in those areas within the path of the plume. Radiological effluent data was received in the TSC. The EOF calculations were computed and compared on a timely basis with results received from the TSC based on data transmitted by the offsite monitoring group.

Members of the offsite monitoring team were cognizant of their duties and responsibilities. They were familiar with survey procedures and instrumentation, and the predesignated sampling sites and routes consistent with the scope of the exercise.

Inspection disclosed the following additional findings: (1) offsite radiation monitoring team members did not return samples to the TSC for more thorough analysis; (2) failure of team members to check for personal contamination, and contamination of instrumentation, equipment, and the vehicle following completion of offsite survey tasks; (3) the primary vehicle designated for transport of the team and required radiation survey instrumentation and equipment was found to be inoperative during attempted deployment of the radiation monitoring team; however, the designated backup



vehicle was used. The cited findings were listed among the exercise improvement items identified during the licensee's critique and listed for corrective actions. It should be noted that procedure EM-210 (Duties of the Environmental Survey Team) may be expanded to include required contamination checks defined above prior to the survey team's return to the site.

The dose assessment procedure used in the TSC and EOF incorporated detailed meteorological data available from existing onsite meteorological facilities or dedicated offsite alternate sources. Default values were also available for use if there were any questions concerning the reliability of the meteorological data obtainable from the above sources. Section 10.b above, discusses dose projections calculated in the TSC and EOF.

No violations or deviations were identified.

12. Public Education and Information (82301)

This area was observed to assure that information concerning the simulated emergency was made available for dissemination to the public as required by 10 CFR 50.47(b)(7), paragraph IV.D of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.G of NUREG-0654, Revision 1.

Information was provided to the media and the public in advance of the exercise. The information included details on how the public would be notified and the initial actions which should be taken in the event of a radiological emergency. A rumor control program was also in place.

The licensee activated and staffed a near site Emergency News Center (ENC). The facility was used by the licensee for preparation, coordination and dissemination of emergency news information. Written press releases were prepared and issued from the ENC. Releases issued were timely, and adequately reflected plant emergency conditions. A corporate spokesman was designated to conduct periodic press briefings. The briefings were technically accurate and presented in a manner readily understood by laymen. Visual aids were provided; however, they were not effectively used to define the simulated accident nor the local areas within the 10 mile EPZ impacted by radiological releases. This item will be reviewed during subsequent inspections (50-302/85-02-02). Question and answer sessions were held after each briefing.

No violations or deviations were identified.

13. Radiological Exposure Control (82301)

This area was observed to determine that methods for controlling radiological exposures during an emergency were established and implemented for emergency workers, and that such methods included exposure guidelines consistent with EPA recommendations as required by 10 CFR 50.47(b)(11) and specific criteria promulgated in Section II.K of NUREG 0654.

An inspector noted that radiological exposures were controlled throughout the exercise by issuing supplemental dosimeters to emergency workers and by conducting periodic radiological surveys in the emergency response facilities. Exposure guidelines were in place for various categories of emergency actions, and adequate protective clothing and respiratory protection were available if needed.

No violations or deviations were identified.

14. Recovery and Reentry Planning (82301)

This area was observed to assure that general plans were made for recovery and reentry as required by 10 CFR 50.47(b)(13), paragraph IV.H of Appendix E to 10 CFR 50, and specific criteria in Section II.M of NUREG 0654.

The licensee developed general plans and procedures for reentry and recovery which addressed both existing and potential conditions. The plans contained the position/title, authority, and responsibilities of each key individual in the recovery organization. The plans and criteria addressing deescalation of the emergency were consistent with the scope of the exercise and the scenario developed therefor.

No violations or deviations were identified.

15. Exercise Critique (82301)

The licensee's critique of the emergency exercise and weaknesses noted in their emergency response organization were formally presented to licensee management for corrective actions as required by 10 CFR 50.47(b)(14), paragraph IV.E of Appendix E to 10 CFR 50 and specific criteria promulgated in Section II.N of NUREG 0654.

The exercise critique was conducted on January 31, 1985. Licensee management, key exercise participants, and NRC representatives were present. The licensee discussed areas of the exercise which required improvement. The inspectors determined that the critique was comprehensive, and adequately addressed the weaknesses identified in their emergency responses during the exercise. The inspectors attended the critique conducted by the licensee prior to the formal licensee/NRC critique. Inspection confirmed that the licensee conducted a detailed assessment of their conduct and operation of the emergency facilities during the exercise. Identified weaknesses and required improvements were recorded to assure required corrections.

No violations or deviations were identified.

## 16. Inspector Followup (92701)

- a. (Closed) Inspector Followup Item (IFI) 50-302/84-13-01:  
Required use of the term Site Area Emergency in lieu of Site Emergency in all procedures and training. Emergency Management Procedures and the Emergency Plan were revised to comply with the cited finding.
- b. (Closed) Inspector Followup Item (IFI) 50-302/84-18-02:  
Revision of procedures to include instructions on meteorological data averaging time and compensation for sea-breeze phenomenon. Procedure EM-204 was revised to require fifteen minute averaging of meteorological parameters and compensation for the cited phenomenon.
- c. (Closed) Inspector Followup Item (IFI) 50-302/84-18-05:  
Specify in EM-204C heights on the meteorological tower from which data should be obtained. Revision 3 of the subject procedure defines the cited requirements.
- d. (Closed) Inspector Followup Item (IFI) 50-302/84-18-08:  
Review EM-203 and RERP to verify that protective action guidelines based on projected doses are consistent with NUREG-0654. EM-203 was deleted and replaced by EM-202 (Duties of the Emergency Coordinator). PAGs in EM-202 (Rev. 24) and the RERP (Rev. 4, 10/31/84) were revised to comply with NUREG-0654.
- e. (Closed) Inspector Followup Item (IFI) 50-302/84-28-03:  
Required remedial training for one Shift Supervisor. Licensee records show that on 10/18/84 the supervisor in question was administered a comprehensive examination on duties, responsibilities, and authority of the Emergency Coordinator. The examination was reviewed. The inspector determined that the supervisor's training was adequate and was successfully completed as required.