



Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 2.201

April 12, 2012
3F0412-11

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

Subject: Supplement - Crystal River Unit 3 – Reply to a Notice of Violation: EA-11-208

Reference: CR-3 to NRC letter, dated January 19, 2012, "Crystal River Unit 3 – Reply to a Notice of Violation: EA-11-208"

Dear Sir:

By letter dated January 19, 2012, Florida Power Corporation, doing business as Progress Energy Florida, Inc., submitted the Crystal River Unit 3 (CR-3) required 30-day reply to a Notice of Violation; Enforcement Action EA-11-208 (Reference). Subsequent to that submittal, a more rigorous extent of condition evaluation was performed that revealed additional information of interest.

The Enclosure to this submittal contains supplemental information of interest associated with the original extent of condition statements contained in the above reference.

No new regulatory commitments are contained in this submittal.

No personal privacy, proprietary, or safeguards information is contained in this submittal.

If you have any questions regarding this submittal, please contact Mr. Dan Westcott, Superintendent, Licensing and Regulatory Programs, at (352) 563-4796.

Sincerely,

Jon A. Franke
Vice President
Crystal River Unit 3

JAF/dwh

Enclosure Extent of Condition Supplemental Information of Interest

xc: NRC CR-3 Project Manager
 NRC Regional Administrator, Region II
 Senior Resident Inspector

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PROGRESS ENERGY FLORIDA, INC.

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72

ENCLOSURE

**EXTENT OF CONDITION SUPPLEMENTAL INFORMATION OF
INTEREST**

EXTENT OF CONDITION SUPPLEMENTAL INFORMATION OF INTEREST

By letter dated December 20, 2011, the NRC issued NRC Inspection Report No. 05000302/2011504, "Crystal River Unit 3 – Final Significance Determination of a White Finding, Notice of Violation, and Assessment Follow-up Letter." This letter documented a notice of violation that involved the failure to maintain in effect a standard emergency classification scheme which included facility effluent parameters.

In accordance with 10 CFR 2.201, Florida Power Corporation, doing business as Progress Energy Florida, Inc., submitted the Crystal River Unit 3 (CR-3) required 30-day Reply to a Notice of Violation; Enforcement Action EA-11-208, on January 19, 2012. The following statements were contained in this submittal under the heading of "The corrective steps that have been taken and the results achieved."

- *A NGG Fleet EAL [Emergency Action Level] review was performed to determine if similar vulnerabilities existed. A preliminary review did not reveal similar vulnerabilities. A more rigorous review subsequently performed at one of the NGG Fleet sites did reveal a similar vulnerability.*
- *An extent of condition review included a verification that EP [Emergency Preparedness] related instruments/equipment were capable of performing their intended function. Emergency Plan Implementing Procedures were also reviewed. No similar issues were identified. However, an improvement opportunity was identified to the liquid release permit process for EAL 1.6, "Liquid Effluents," in declaring an Alert classification. That finding was captured in CR [Condition Report] 482014.*
- *An independent (outside Progress Energy) consultant performed a review of the CR-3 radiological EALs, Fission Product Barrier EALs and Spent Fuel Pool EALs.*

Supplemental Information of Interest

In March 2012, a multi-disciplined team conducted an assessment of the root cause evaluation performed for the White Finding identified in NRC Inspection Report 05000302/2011504. That assessment included a rigorous extent of condition evaluation.

The extent of condition evaluation was performed on each EAL and focused on the design capabilities of the instrumentation, calibration data, and implementing procedures to ensure the instrumentation was adequate for achieving the EAL threshold requirements. Additionally, an EAL Review Panel was established to review the results of the evaluations. During the evaluation/review processes, several concerns were identified. One concern was associated with instrumentation and two other concerns were associated with the EAL threshold limit. The two concerns associated with the EAL threshold limit were beyond the original scope of the instrumentation evaluation. The following provides a brief summary of the three concerns. Individual CRs have been generated to evaluate and track closure for each of the concerns.

The first concern identified that radiation monitor RM-A1's low range detector's high alarm/actuation setpoint exceeded the radiation monitor's (Geiger Meuller tube) published capability. This high alarm setpoint is a threshold criteria for declaration of an Unusual Event associated with EAL 1.1 "Gaseous Effluents." Field testing and an Engineering Evaluation of the detector and circuitry confirmed that although the detector saturated below the high alarm setpoint, the circuitry accounts for this and results in the low range monitor full scale high indication. Both the high alarm and actuation setpoints for the automatic isolation signals were achieved. Therefore, the Engineering Evaluation dispositioned the concern, and concluded that the detector would have provided a high alarm and actuation of components. Thus, declaration of the Unusual Event is achievable. The evaluation of RM-A1 is being addressed through CR 519392.

The second concern involves the radiological condition within the containment which would result in the declaration of a potential loss of containment (EAL 7.2). The methodology used to determine the radiation monitor setpoint did not match the NEI 97-03 (NUMARC/NESP-007), "Methodology for Development of Emergency Action Levels," recommended criteria associated with the amount of fission product gases released into the containment building due to fuel clad damage during a Loss of Coolant Accident. The EAL threshold was based on a 2001 calculation which yielded a calculated dose rate commensurate with 100% cladding failure. The NEI 97-03 guidance recommends limiting the cladding failure to 20% for this threshold unless a site-specific analysis justifies a higher value. Since no site-specific analysis was developed, the review panel concluded that it was appropriate to revise the EAL such that the declaration of a General Emergency would occur sooner. CR 525483 has been generated to track the corrective actions.

The final concern involves a condition where internal flooding affects safe shutdown equipment (EAL 2.23). The concern arose when comparing the EAL threshold flood level (1.5 feet) within the Auxiliary or Intermediate Building with the design basis flooding event. Although the 1.5 feet threshold value is consistent with the approved EAL criteria guidance established from NEI 97-03 (NUMARC/NESP-007), the EAL Review Panel concluded the flood level threshold value should be more appropriately aligned to the design basis flood event, where action is taken to de-energize motor control centers in accordance with the mitigation strategies provided in CR-3's abnormal procedures (5 inches). CR 525486 has been generated to track the corrective actions for the revising the EAL threshold internal flood level.