



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

December 20, 2011

EA-11-208

Mr. Jon A. Franke  
Vice President, Crystal River Nuclear Plant  
Crystal River Nuclear Plant (NA2C)  
15760 W. Power Line Street  
Crystal River, FL 34428-6708

**SUBJECT: CRYSTAL RIVER UNIT 3 - FINAL SIGNIFICANCE DETERMINATION OF A  
WHITE FINDING, NOTICE OF VIOLATION, AND ASSESSMENT FOLLOW-UP  
LETTER (NRC INSPECTION REPORT NO. 05000302/2011501)**

Dear Mr. Franke:

This letter provides you the final significance determination of the preliminary White finding discussed in NRC Inspection Report No. 05000302/2011501, dated September 23, 2011. The finding involved a failure to comply with 10 CFR 50.54(q). Specifically on June 27, 2011, you identified that Crystal River Unit 3 emergency plan emergency action level (EAL) 1.4 (General Emergency – Gaseous Effluents) contained instrument classification threshold values that were beyond the specified effluent radiation monitors capability to accurately indicate.

At your request, a Regulatory Conference was held on November 7, 2011, to discuss your views on this issue. During the meeting your staff described your assessment of the significance of the finding, and the corrective actions taken to resolve it, including the root cause evaluation of the finding. Your root cause analysis found that establishment of the inappropriate radiation monitor threshold value was due to insufficient procedural guidance for the EAL change process. Contributing causes were found to be failures to validate assumptions and to conduct adequate reviews. Finally, you presented your assessment of the risk associated with this finding and determined it to be Green based on the availability of other means to evaluate gaseous effluent releases and fission-product barrier EALs to declare a timely and accurate General Emergency. You stated that the Inspection Manual Chapter (IMC) 0609, Appendix B, Emergency Preparedness Significance Determination Process result should be Green since even with the improper radiation monitor threshold value, the risk-significant planning standard function was not degraded.

You presented corrective actions related to the effluent radiation monitor threshold value for declaring a General Emergency and the emergency plan change process. The improper EAL threshold value was corrected promptly and you reviewed emergency plan related instruments and equipment to verify they were capable of performing their intended functions, and implemented changes to the emergency plan change review and implementation processes.

A summary of the Regulatory Conference (Accession no. ML11314A255) is available electronically for public inspection from the NRC's document system (ADAMS), and is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

After considering the information developed during the inspection, the information you provided at the regulatory conference, and the additional information you provided following the regulatory conference, the NRC has concluded that the finding is appropriately characterized as White.

The NRC acknowledges your evaluation of root and contributing causes and agrees that it is likely the fission product barrier degradation EALs would be used to declare a General Emergency prior to meeting the entry conditions for the Abnormal Radiation Levels/Radiological Effluent EALs. The radiological effluent EALs provide classification thresholds for unplanned and/or uncontrolled releases of radioactivity to the environment. The basis for the radiological effluent EALs, as described in NUMARC/NESP-007, Methodology for Development of Emergency Action Levels, and endorsed in Regulatory Guide 1.101, Emergency Response Planning And Preparedness For Nuclear Power Reactors, identifies that they were included to provide diversity and to provide a basis for classifying events that cannot be readily classified on plant conditions alone.

NUMARC/NESP-007 emphasizes the need for accurate assessment and classification of events. While primary emphasis is intended to be placed on plant conditions in classifying emergency events the inclusion of both categories of EALs in the overall emergency classification scheme more fully addresses the potential event spectrum and compensates for potential deficiencies in either category. This is important in characterizing the significance of this issue and identifying that the fission product barrier degradation EALs are not a substitute for the radiological effluent EALs and were never intended to perform that function. As such, credit for using a plant condition EAL to declare a General Emergency, in the absence of a radiological effluent EAL, cannot be given when making a significance determination for the violation. Only those EALs in the Abnormal Radiation Levels/Radiological Effluent category may be considered. In this case, the radiological effluent General Emergency EAL is considered degraded because EAL 1.4 (General Emergency – Gaseous Effluents) contained instrument classification threshold values that were beyond the specified effluent radiation monitors capability to accurately indicate. While the dose assessment and field monitoring in EAL 1.4 provide redundancy, evaluation using either of these two methods would delay the event declaration. As such, this finding is assessed as a White Finding because there was a degraded risk-significant planning standard function.

You have 30 calendar days from the date of this letter to appeal the staff's determination of significance for the identified White finding. Such appeals will be considered to have merit only if they meet the criteria given in the IMC 0609, Attachment 2. An appeal must be sent in writing to the Regional Administrator, Region II, 245 Peachtree Center Avenue, NE, Suite 1200, Atlanta, GA 30303-1257.

The NRC also determined that a violation occurred involving the requirements of 10 CFR 50.54(q), in that for several years prior to June 2011, you failed to maintain in effect, a standard emergency classification scheme which included facility effluent parameters, as cited in the attached Notice of Violation (Notice). The circumstances surrounding the violation were

described in detail in the subject inspection report. In accordance with the NRC Enforcement Policy, the Notice is considered an escalated enforcement action because it is associated with a White finding.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC's review of your response to the Notice will also determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

For administrative purposes, this letter is issued as NRC Inspection Report No. 05000302/2011501. Accordingly, AV 05000302/2011501-01 is updated consistent with the regulatory positions described in this letter. Therefore, AV 05000302/2011501-01, Failure to Maintain a Standard Emergency Action Level Scheme, is updated as VIO 05000302/2011501-01 with a safety significance of White, and a human performance cross-cutting element of Decision-making (H.1(a)) for ensuring that risk-significant decisions are made using a systematic process and obtaining interdisciplinary input and reviews.

The NRC determined the performance at Crystal River Nuclear Plant Unit 3 to be in the Regulatory Response Column of the Reactor Oversight Process Action Matrix beginning the third quarter of 2011. Therefore, the NRC plans to conduct a supplemental inspection in accordance with Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," to provide assurance that the root causes and contributing causes of risk-significant performance issues are understood, that the extent of cause is identified and that your corrective action for risk-significant performance issues are sufficient to address the root and contributing causes and prevent recurrence. The NRC requests that your staff provide notification of your readiness for the NRC to conduct a supplemental inspection to review the actions taken to address the White inspection finding.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected, and a redacted copy of your response that deletes such information. If you request withholding of such information, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). The NRC also includes significant enforcement actions on its Web site at <http://www.nrc.gov/reading-rm/doccollections/enforcement/actions>.

PROGRESS ENERGY

4

Should you have any questions concerning this letter, please contact Mr. Brian Bonser at (404) 997-4653.

Sincerely,

***/RA/***

Victor M. McCree  
Regional Administrator

Docket No.: 50-302  
License No.: DPR-72

Enclosure:  
Notice of Violation

cc w/encl.: (See page 5)

Should you have any questions concerning this letter, please contact Mr. Brian Bonser at (404) 997-4653.

Sincerely,

*/RA/*

Victor M. McCree  
Regional Administrator

Docket No.: 50-302  
License No.: DPR-72

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Notice of Violation

cc w/encl.: (See page 5)

**Distribution w/encl**  
(See page 6)

**(\*) See previous concurrence page**

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ADAMS: X Yes    ACCESSION NUMBER: **ML113540744**    X SUNSI REVIEW COMPLETE X FORM 665 ATTACHED

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Letter to Jon A. Franke from Victor M. McCree dated December 20, 2011.

SUBJECT: CRYSTAL RIVER UNIT 3 - FINAL SIGNIFICANCE DETERMINATION OF A  
WHITE FINDING, NOTICE OF VIOLATION, AND ASSESSMENT FOLLOW-UP  
LETTER (NRC INSPECTION REPORT NO. 05000302/2011504)

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RIDSNRRDIRS  
RidsNrrPMCrystal River Resource  
PUBLIC

## NOTICE OF VIOLATION

Progress Energy  
Crystal River Nuclear Plant  
Unit 3

Docket Nos.: 50-302  
License Nos.: DPR-72  
EA-11-208

During an inspection completed by the NRC on August 4, 2011, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is set forth below:

10 CFR 50.54(q) requires licensees to maintain in effect emergency plans which meet standards in 10 CFR 50.47(b)(4) and requirements in 10 CFR 50 App. E

10 CFR 50.47(b)(4), requires a standard emergency classification and action level scheme, the bases of which include facility and system effluent parameters is in use by the nuclear facility licensee, and State and local response calls for reliance on information by facility licensees for determinations of minimum initial offsite response measures.

10 CFR Part 50, Appendix E, Section IV.B., Assessment Actions, requires the means to be used for determining the magnitude of, and for continuously assessing the impact of, the release of radioactive materials shall be described, including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and State agencies and the Commission. The emergency action levels shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring.

Contrary to the above, for several years prior to June 2011, the licensee failed to maintain in effect a standard emergency classification scheme which included facility effluent parameters. Specifically, the General Emergency classification 1.4 contained effluent radiation monitors (RM-A1 and RM-A2) threshold values greater than that which the instruments could accurately measure. These monitors were being relied upon to determine the magnitude and for continuously assessing the impact of the release of radioactive materials as well as providing criteria for determining the need for notification and participation of local and State agencies.

This violation is associated with a White Significance Determination Process finding.

Pursuant to the provisions of 10 CFR 2.201, Progress Energy is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation; EA-11-208" and should include for each violation: (1) the reason for the violation, or if contested, the basis for disputing the violation or severity level; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the

Enclosure



time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 20th, day of December, 2011.