



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

October 28, 2010

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 NUCLEAR GENERATING PLANT – NOTIFICATION  
OF INSPECTION AND REQUEST FOR INFORMATION 05000302/2010005**

Dear Mr. Franke:

During the period of December 6 - 10, 2010, the NRC will conduct baseline radiation safety inspection activities at the Crystal River 3 Nuclear Plant. The inspection will focus on both the Occupational and Public Radiation Safety Inspection cornerstones using NRC Inspection Procedure (IP) 71124.01, IP 71124.04, and IP 71124.06. IP 71124.07, IP 71124.08, and Temporary Instruction (TI) 2515/179. The inspection also will evaluate Occupational and Public Cornerstone Radiation Safety sections of IP 711551 associated with Performance Indicator (PI) verification.

Experience has shown that this inspection is resource intensive both for the NRC inspectors and your staff. In order to minimize the impact to your on-site resources and to conduct a productive inspection, we have enclosed a request for documents needed for this inspection. It is important that all of these documents are up to date and complete, in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection. The lead inspector has requested that the subject informational material be made available to the NRC staff by November 26, 2010, to allow preparation for the upcoming inspection.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory on-site contact for this inspection will be Mr. Dennis Herrin of your organization. If there are any questions about this inspection or the material requested, please contact the lead inspector, George B. Kuzo at (404) 997-4658.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document

Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Brian Bonser, Chief  
Plant Support Branch 1  
Division of Reactor Safety

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

Enclosure: Radiation Protection Inspection Document Request

cc w/encl.: (See page 3)

cc w/encl:

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Letter to Jon A. Franke from Brian Bonser dated October 28, 2010.

SUBJECT: CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT – NOTIFICATION OF INSPECTION AND REQUEST FOR INFORMATION 05000302/2010

Enclosure: Radiation Protection Inspection Document Request

cc: w/encl.: (See page 3)

Distribution w/encl:

C. Evans, RII EICS (Part 72 Only)  
L. Slack, RII EICS (Linda Slack)  
OE Mail (email address if applicable)  
RIDSNNRRDIRS  
PUBLIC  
RidsNrrPMCrystal River Resource

\*\*See previous page for concurrence

PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE  
ADAMS:  Yes      ACCESSION NUMBER: \_\_\_\_\_       SUNSI REVIEW COMPLETE

OFFICE	RII: DRS	RII:DRS					
SIGNATURE	<b>RA</b>	<b>RA</b>					
NAME	G. KUZO	B. BONSER					
DATE	10/28/2010	10/28/2010	10/ /2010	10/ /2010	10/ /2010	10/ /2010	10/ /2010
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY      DOCUMENT NAME: G:\DRS\I\PSB1\INFORMATION REQUEST LETTERS\CRYSTAL RIVER\201005\_CR3 NOI & REQ FOR INFO 10-26-10.DOCX

**PUBLIC RADIATION PROTECTION INSPECTION  
DOCUMENT REQUEST**

**SITE:** Crystal River Unit 3 (CR3) Report Number: 05000302/2010005

**INSPECTION DATES:** December 6 – 10, 2010

**NRC INSPECTORS:** George B. Kuzo, [George.Kuzo@NRC.GOV](mailto:George.Kuzo@NRC.GOV) (404) 997-4658  
Ruben Hamilton, [Ruben.Hamilton@NRC.GOV](mailto:Ruben.Hamilton@NRC.GOV) (404) 997-4672  
Wade Loo, [Wade.Loo@NRC.GOV](mailto:Wade.Loo@NRC.GOV) (404) 997-4727  
Carmen Dykes, [Carmen.Dykes@NRC.GOV](mailto:Carmen.Dykes@NRC.GOV) (404) 997-4401

**PRELIMINARY LICENSEE CONTACTS:** Radiation Controls – Bryan Akins, 352 464-7964[C]; ALARA – Kenny Young , 352 464-7462[C]; Transportation & Radioactive Waste Processing, Randy Macko, [352 795-6486 X3610]; Effluents/ Process Monitors/Groundwater Monitoring - Lee Hughes (352-563-4715/352-464-7421[C] and/or Rudy Pinner [352 795-6486 X3141]; and Licensing - D. Herrin, 352-563-4633

Inspection Procedures:	IP 71124.01	Radiological Hazard Assessment and Exposure Controls
	IP 71124.04	Occupational Dose Assessment
	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment
	IP 71124.07	Radiological Environmental Monitoring Program
	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation
	IP 71151	Performance Indicator Verification
	TI 2515/179	Verification of Licensee Responses to NRC Requirement for Inventories of Materials Tracked in the National Source Tracking System Pursuant to Title 10, Code of Federal Regulations, Part 20.2207 (10 CFR 20.2207)

**Note:** This is a broad list of the documents the lead NRC inspector will be interested in reviewing and obtaining during the pre-inspection visit. The current version of these documents is expected unless specified otherwise. Electronic media is preferred, if readily available. (The preferred file format is Word, WordPerfect, or searchable “pdf” files on electronic media, e.g. CD-ROM. Please provide 3 copies of each electronic device that is submitted.) Information in the “document lists” should contain enough information to be easily understood by someone who has knowledge of the subject. During the inspection, the inspectors may request additional documents.

Enclosure

## **GENERAL INFORMATION NEEDED**

- Organization Charts and Contact Phone Numbers for:
  - Radiation Protection
  - Chemistry
- Procedure for issuing Condition Report (CR) documents and assessing issues for risk significance and follow-up actions.
- Updated Final Safety Analysis Report Chapter 11, Effluents/Radwaste; and Chapter 12 Radiation Protection
- Current version/revision of the Offsite Dose Calculation Manual (ODCM)
- Annual Radiological Environmental Operating Report (AREOR) for Calendar Year (CY) 08 and CY 09
- Annual Radiological Effluent Release Report (ARERR) documents for CY 2008 and CY 2009
- Current Part 61 Analysis Results for Dry Active Waste (DAW)
- Schedule of major maintenance / operational activities during onsite inspection (Gantt chart if available).

## **RADIOLOGICAL HAZARD ASSESSMENT AND EXPOSURE CONTROL [71124.01]**

- Provide Procedures/Guidance Documents for:
  - external dose monitoring, i.e., dosimetry issuance and use. The documents should include: guidance for multi-badging; monitoring in steep/highly variable dose rate gradients; high radiation area (HRA), locked-HRA (LHRA) and very high radiation area (VHRA) controls for select operational / outage activities; personnel contamination events; storage/care of personal dosimeters; use of electronic dosimeters including evaluation of set-point determination; biases identified relative to TLD monitoring; remote monitoring procedures; post shutdown, fuel movement, and/or diving operations
  - internal dose assessment, i.e., both *in vivo* and *in vitro* bioassay and air sampling capabilities. The documents should include guidance for calibration/QC and use of whole body counter (WBC); release of contaminated individuals, use of passive monitoring as screening method for evaluations, and special *in vitro* sample collection and analysis, and suspect alpha particle exposures.
  - contamination control, i.e., procedures for release of contaminated individuals or potentially contaminated materials from the radiologically controlled area (RCA)
  - Posting of areas, labeling of containers, and inventories of non-SNM materials maintained within the spent fuel pools
- List five highest cumulative exposures or exposure rate tasks for current outage activities. Provide associated radiation work permit documents, if available
- List current outage tasks with significant potential for significant release of airborne radioactive particulates
- List of all positive whole body count (WBC), *in vitro*, or air sampling analyses since October 1, 2009, which resulted in an assigned CEDE equal to or exceeding 10 millirem [*Note, a listing should be provided for use by the inspectors to select a sample of issues for in-depth review during the on-site inspection*]
- List of all personnel contamination events, dispersed contamination/discrete particles, identified since October 1, 2009. [*Note: only a listing should be provided for use by the inspectors to select a sample of issues for in- depth review during the onsite inspection*]
- Copies of all audits, self-assessments, and/or reviews related to internal or external dosimetry issues generated since October 1, 2009. The documents provided should to include any reviews/evaluations conducted of vendor facilities, e.g., corporate or outside vendor/ or corporate calibration facilities.

- Provide a list of CR documents generated since October 1, 2009, for internal or external dosimetry issues/events. *[Note: only titles/summary statement should be provide for use by the inspectors to select a sample of issues for in-depth review]*

#### **OCCUPATIONAL DOSE ASSESSMENT [71124.04]**

- Provide Procedures/Guidance Documents for:
  - external dose monitoring, i.e., dosimetry issuance and use. The documents should include: guidance for multi-badging; monitoring in steep/highly variable dose rate gradients; personnel contamination events; storage/care of personal dosimeters; use of electronic dosimeters including evaluation of any biases identified relative to TLD monitoring
  - internal dose assessment, i.e., both *in vivo* and *in vitro* bioassay and air sampling capabilities. The documents should include guidance for calibration/QC and use of whole body counter (WBC); release of contaminated individuals, use of passive monitoring as screening method for evaluations, and special *in vitro* sample collection and analysis, and actions for declared pregnant workers.
- NVLAP accreditation documentation for current dosimetry used by site
- List of all positive whole body count (WBC), *in vitro*, or air sampling analyses which resulted in an assigned CEDE equal to or exceeding 10 millirem since October 1, 2009. *[Note: only a listing should be provided for use by the inspectors to select a sample of issues for in-depth review during the onsite inspection]*
- List of all personnel contamination events, dispersed contamination/discrete particles, identified since October 1, 2009. *[Note: only a listing should be provided for use by the inspectors to select a sample of issues for in- depth review during the onsite inspection]*
- List of declared pregnant workers *[Note: do not provide this data – the documents will be reviewed on-site, only have the data readily available during the onsite inspection]*
- Copies of all audits, self-assessments, and/or reviews related to internal or external dosimetry issues generated since October 1, 2009. The documents provided should to include any reviews/evaluations conducted of vendor facilities, e.g., corporate or outside vendor/ or corporate calibration facilities.
- Provide a list of Condition Report (CR) documents generated since October 1, 2009, for Internal or external dosimetry issues/events. *[Note: only titles/summary statement should be provide for use by the inspectors to select a sample of issues for in-depth review]*

#### **RADIOACTIVE GASEOUS AND LIQUID TREATMENT [IP 71124.06]**

- Provide site and/or corporate procedures associated with implementing the effluents and the groundwater monitoring program. Procedures should include those that address:
  - Effluent sampling
  - Effluent monitor set-point determinations
  - Dose calculations
  - Groundwater monitoring and reporting of spills/leaks
  - Methodology for determining effluent stack/vent flow rates
- ARERRs for CYs 2008 and 2009. *[Note: provided as part of the General Information Request and do not need to be duplicated]*
- List of all unmonitored spills, leaks, or unexpected liquid/gaseous discharges since October 1, 2008. If applicable, provide the LER, event report, and/or special report.
- List of non-radioactive systems that have become contaminated and any 10 CFR 50.59 evaluations performed. *[Data since October 1, 2008]*
- List of any changes to the effluent release points or effluent treatment systems and

associated 50.59 documentation. [Data since October 1, 2008]

- Material condition surveillance records for effluent system components not readily accessible, including those inaccessible due to radiological conditions
- Effluent release permits for continuous gaseous, batch gaseous, continuous liquid, and/or batch liquid releases. Only provide permits for last releases for September 2010 within each category.
- Results of inter-laboratory comparison program for count lab for CY 2009 to 2010 YTD
- The last two surveillance results for ESF ventilation systems (e.g. system flow, HEPA, and charcoal filter tests)
- Groundwater monitoring results since October 1, 2008.
- List of changes to written ground water monitoring program for identifying/controlling contaminated spills/leaks since October 1, 2008.
- List of onsite surface water bodies (e.g. ponds, retention basins, lakes) that contain or potentially contain radioactivity
- List of CAP condition report (CR) and audit documents generated since October 2009 related to liquid and gaseous effluent treatment and monitoring, unmonitored spills, leaks, or effluent discharges, or the groundwater monitoring program.

#### **RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM [IP 71124.07]**

- Site and corporate procedures associated with radiological environmental monitoring, including:
  - Collection, preparation, and analysis of environmental samples including air samples, TLD stations, ground and surface water, sediment, vegetation, milk, fish, etc.
  - Calibration and maintenance of air/water sampling equipment
  - Calibration and QC activities for sample counting instruments
  - Sampling and monitoring program to detect leaks from contaminated or potentially contaminated systems, structures, or components
  - Meteorological instrument calibration, operation, and routine surveillances
- AREOR CYs 2008 and 2009. [Note: provided as part of the General Information Request and do not need to be duplicated].
- List of structures, systems, or components that contain or could contain licensed material for which there is a credible mechanism for the radioactive material to reach ground water
- Summary of leaks and/or spills since October 1, 2008, i.e. additions to the 50.75(g) file
- Calibration and maintenance records for REMP air and composite water samplers since October 1, 2008.
- Inter-laboratory comparison program results for the past two years (in-house or vendor laboratory).
- Last two calibration /surveillance/maintenance records for the meteorological monitoring instruments since October 1, 2008.
- List of CAP CR and audit documents generated since October 1, 2008, related to environmental monitoring activities.

#### **RADIOACTIVE SOLID WASTE PROCESSING AND RADIOACTIVE MATERIAL HANDLING STORAGE AND TRANSPORTATION [IP 71124.08]**

- Provide Copy of Current Process Control Program (PCP)
- Radioactive waste (Radwaste) Information Input into the ARERRs for CYs 08 & 09
- Procedures/Guidance/Data Related to:
  - transportation of radioactive material/radwaste
  - radwaste processing analysis, resin sluicing, and HIC dewatering



- Part 61 Sampling and Analysis
- Development/Evaluation of Scaling Factors and Application to Hard to Detect Radionuclides
- Procedures for evaluation of Reactor Coolant System (RCS)/radioactive waste chemistry to verify stability of waste stream radionuclide composition
- Provide the following:
  - List of shipments made since October 1, 2009. Highlight 5 “hottest” shipments and any Type A Shipments made since October 1, 2009, using Type A containers
  - List of changes made to solid radwaste processing systems since October 1, 2009
  - List all permanently abandoned radwaste processing equipment or systems
  - The two most recent 10 CFR Part 61 analyses for each waste stream. **Note:** only need to provide appropriate onsite contact or location where Part 61 waste stream analysis data are maintained
  - Any data on indication of failed-fuel since October 1, 2009
  - List of CAP CR and audit documents related to shipping or radwaste since October 1, 2009. **Note:** only provide titles/ summaries
  - Any self-assessments/audits of shipping/radwaste processing program since 2009
- Transport Cask CoC’s and associated documents for frequently used transport casks
  - **Note:** Copies not required prior to onsite inspection but listing of responsible staff/onsite document location and availability requested
- Licensee procedures for cask loading and/or closure

#### **PERFORMANCE INDICATOR VERIFICATION [71151]**

- Procedure/Guidance for collection and reporting of PI data.
- Provide the following records:
  - CRs related to occupational and public radiation safety PI occurrences issued since October 1, 2009
  - Monthly/Quarterly Occupation and Public Radiation Safety PI reports since October 1, 2009
  - List of Out of Service (OOS) Effluent Monitors and Length of Inoperability since October 1, 2009. [Note these data are part of the data requested under Inspection Procedure 7112405 above and do not have to be duplicated]
- Procedure for issuing CRs and assessing issues for significance and action.
- Updated Final Safety Analysis Report Chapters 11 (Effluents/Radwaste) and 12 (Radiation Protection)

#### **VERIFICATION OF LICENSEE RESPONSES TO NRC REQUIREMENT FOR INVENTORIES OF MATERIALS TRACKED IN THE NATIONAL SOURCE TRACKING SYSTEM PURSUANT TO TITLE 10, CODE OF FEDERAL REGULATIONS, PART 20.2207 (10 CFR 20.2207) [TI 2515/179]**

- Provide inventory NSTS records of nationally tracked sources, including radionuclide quantities, make, model number and serial number for each
- Provide records of leak tests and required maintenance, as applicable, for the NSTS listed devices. Records should go back to January 1, 2008, or receipt of subject source(s).
- Provide records of any transfer of NSTS devices.