



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

October 12, 2011

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 - NOTIFICATION OF INSPECTION AND REQUEST
FOR INFORMATION**

Dear Mr. Franke:

During the period of November 14 – 18, 2011, 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 71124.02, 71124.03, IP 71124.04, and IP 71124.05. The inspection also will evaluate Occupational and Public Cornerstone Radiation Safety sections of IP 71151 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 4, 2011, 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, Ruben Hamilton at (404) 997-4672.

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

FPC

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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 R. Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

Docket Nos. 50-302
License Nos. DPR-72

Enclosure:
Radiation Protection Inspection Document Request

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

FPC

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Sincerely,

/RA/

Brian R. Bonser, Chief
Plant Support Branch 1
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Docket Nos. 50-302
License Nos. DPR-72

Enclosure:
Radiation Protection Inspection Document Request

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

Distribution w/encl:

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

☒ PUBLICLY AVAILABLE

☐ NON-PUBLICLY AVAILABLE

☐ SENSITIVE

☒ NON-SENSITIVE

ADAMS: X Yes

ACCESSION NUMBER: **ML112860294**

X SUNSI REVIEW COMPLETE X FORM 665 ATTACHED

OFFICE	DRS/PSB1	DRS/PSB1					
SIGNATURE	RA	RA					
NAME	G. KUZO	B. BONSER					
DATE	10/12/2011	10/12/2011					
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRSI\PSB1\INFORMATION REQUEST LETTERS\CRYSTAL RIVER\2011005_CR3_INFORQST(REV1).DOCX

cc w/encl:

Kelvin Henderson
General Manager
Nuclear Fleet Operations
Progress Energy
Electronic Mail Distribution

Brian C. McCabe
Manager, Nuclear Oversight
Shearon Harris Nuclear Power Plant
Progress Energy
Electronic Mail Distribution

Terry D. Hobbs
(Acting) Plant General Manager
Crystal River Nuclear Plant (NA2C)
Electronic Mail Distribution

Stephen J. Cahill
Director - Engineering Nuclear
Crystal River Nuclear Plant (NA2C)
Electronic Mail Distribution

R. Alexander Glenn
General Counsel
Progress Energy
Electronic Mail Distribution

Jeffrey R. Swartz
Director Site Operations
Crystal River Nuclear Plant
Electronic Mail Distribution

Donna B. Alexander
Manager, Nuclear Regulatory Affairs
(interim)
Progress Energy
Electronic Mail Distribution

Thomas Saporito
Consulting Associate
(Public Correspondence Only)
Post Office Box 8413
Jupiter, FL 33468

William A. Passetti
Chief
Florida Bureau of Radiation Control
Department of Health
Electronic Mail Distribution

Daniel R. Westcott
Supervisor
Licensing & Regulatory Programs
Crystal River Nuclear Plant (NA1B)
Electronic Mail Distribution

Joseph W. Donahue
Vice President
Nuclear Oversight
Progress Energy
Electronic Mail Distribution

Jack E. Huegel
Manager, Nuclear Oversight
Crystal River Nuclear Plant
Electronic Mail Distribution

David T. Conley
Senior Counsel
Legal Department
Progress Energy
Electronic Mail Distribution

Mark Rigsby
Manager, Support Services - Nuclear
Crystal River Nuclear Plant (NA2C)
Electronic Mail Distribution

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Crystal River Nuclear Generating Plant
U.S. NRC
6745 N Tallahassee Rd
Crystal River, FL 34428

Attorney General
Department of Legal Affairs
The Capitol PL-01
Tallahassee, FL 32399-1050

Bryan Koon, Director
Florida Division of Emergency Management
Electronic Mail Distribution

Chairman
Board of County Commissioners
Citrus County
110 N. Apopka Avenue
Inverness, FL 36250

**PUBLIC RADIATION PROTECTION INSPECTION
DOCUMENT REQUEST**

SITE: Crystal River Unit 3 (CR3) Report Number: 05000302/2011005

INSPECTION DATES: November 14 – 18, 2011

NRC INSPECTORS: Ruben Hamilton, Ruben.Hamilton@NRC.GOV (404) 997-4672
George B. Kuzo, George.Kuzo@NRC.GOV (404) 997-4658
Robert Kellner, Robert.Kellner@NRC.GOV (404) 997-4508
William Pursley, William.Pursley@NRC.GOV (404) 997-4517

PRELIMINARY LICENSEE CONTACTS: Radiation Controls – Bryan Akins, (352) 464-4964[C]/ Kevin Hirsch, (352) 464-7261[C]; ALARA – Kenny Young, (352) 464-7462[C]; Transportation & Radioactive Waste Processing, Randy Macko, (352) 795-6486 ext. 3610; Instrumentation – Keith Shelton – (352) 464-7972 [C]; Counting Room Rudy Pinner (352) 795-6486 ext. 3141; and Licensing - D. Herrin, (352) 563-4633.

Inspection Procedures:	IP 71124.01	Radiological Hazard Assessment and Exposure Controls
	IP 71124.02	Occupational ALARA Planning and Controls
	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation
	IP 71124.04	Occupational Dose Assessment
	IP 71124.05	Radiation Monitoring Instrumentation
	IP 71151	Performance Indicator Verification

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.

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 Radiation Protection.
- Current Part 61 Analysis Results for Dry Active Waste (DAW).
- Schedule of major maintenance / operational activities during onsite inspection (Gantt chart if available).

Enclosure

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 exposure or exposure rate tasks for on-going outage activities since October 1, 2010.
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 include any reviews/evaluations conducted of vendor facilities, e.g., corporate or outside vendor and/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].

71124.02: OCCUPATIONAL ALARA PLANNING AND CONTROLS

- Provide site and corporate procedures associated with maintaining occupational exposures. ALARA. Include procedural guidance for processes used to estimate and track exposures from specific work activities, method(s) of adjusting exposure estimates or re-planning work when unexpected changes in scope or emergent work are encountered, and performance of post-job reviews.
- Documentation of plant collective exposure history, current exposure trends, and ongoing or planned outage activities that present exposure challenges.
- List of work activities ranked by actual or estimated exposure that (1) are in progress and/ or (2) were completed during the current extended outage since October 1, 2010. The

inspectors will select activities from the list for review of ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements.

- Historical trends and current status of plant source changes resulting from plant fuel performance issues or chemical lay-up during the extended outage.
- Audits and self-assessments performed of the ALARA program, including the previous outage's ALARA reviews/summaries.
- List of CAP condition reports generated since October 1, 2009, related to ALARA planning and controls.

71124.03: IN-PLANT AIRBORNE RADIOACTIVITY CONTROL AND MITIGATION

- Provide site and corporate procedures associated with airborne radioactivity control and mitigation. Procedures should include guidance for the following:
 - Maintenance, inspection, and use of respiratory protection equipment including self-contained breathing apparatus (SCBA).
 - Use of installed plant systems including containment purge, spent fuel pool ventilation, and auxiliary building ventilation.
 - Use of temporary ventilation systems (e.g. HEPA/charcoal NPUs, tents, etc.).
- List recent activities in which respiratory protection equipment was used.
- Provide air testing data (i.e. Grade D certification) for supplied-air devices and SCBA bottles since October 1, 2009.
- List of CAP condition reports generated since October 1, 2009, related to (1) the control and mitigation of in-plant airborne radioactivity and (2) respiratory protection. Site and corporate procedures associated with maintaining occupational exposures ALARA. Include procedural guidance for processes used to estimate and track exposures from specific work activities, method(s) of adjusting exposure estimates or re-planning work when unexpected changes in scope or emergent work are encountered, and performance of post-job reviews.

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].*

RADIATION MONITORING INSTRUMENTATION [71124.05]

- Procedures/Guidance Documents for:
 - use of portable instrument calibrators (e.g. Shepherd calibrator).
 - calibration and functional test/source checks of portable radiation detection.
 - instrumentation calibration and functional tests of small article monitor (SAM), personnel contamination monitor (PCM), portal monitor (PM), whole body counting (WBC) equipment; and in-plant air monitoring equipment.
 - determination of set-points for Area Radiation Monitor (ARM), Air Monitoring, PCM, PM and SAM equipment.
 - collection and analysis of high-range, post accident effluent samples.
 - QA program for count room instruments.
- The last 2 calibration records for the following monitors:
 - RM-G14 Fuel Storage Building
 - RM-G30 Containment High Range Area Radiation Monitor
 - RM-A8 Auxiliary Building Exhaust
 - RM-A11..... Waste Gas Decay Tank Monitor
 - RM-L2..... Plant Liquid Discharge Line
 - Personnel contamination and tool monitors at RCA exit point; and PM at Protected Area exit *(One to two monitors of each type will be selected and the records reviewed during the onsite inspection)*
 - Count room high-purity Germanium Detector and Liquid Scintillation Counter *(Specific equipment and/or geometries will be selected during the onsite inspection).*
- Certificates for the sources used to calibrate the above requested monitors showing traceability to a national standard (NIST), as applicable.
- The last 2 test records of the portable instrument calibrator (Shepherd validation testing), if applicable.
- Copies of all audits, self-assessments, and/or reviews of area and personnel monitoring equipment and portable radiation survey instruments generated since October 1, 2009. The records should include any reviews conducted of vendor facilities, e.g., outside calibration laboratories, as applicable.
- List of CRs generated since October 2009, related to portable instruments, effluent and area monitors, CAMs, RCA release point monitors, WBCs, and count room instruments. *This should be a summary list of corrective action documents containing a CR number and brief description, not full CRs.*

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, 2010.
 - Monthly/Quarterly Occupation and Public Radiation Safety PI reports since October 1, 2010.
 - List of Out of Service (OOS) Effluent Monitors and Length of Inoperability since October 1, 2010. [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).