



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

September 13, 2016

Benjamin C. Waldrep
Site Vice President
Shearon Harris Nuclear Power Plant
5413 Shearon Harris Rd.
M/C HNP01
New Hill, NC 27562-0165

**SUBJECT: HARRIS NUCLEAR PLANT - NOTIFICATION OF INSPECTION AND REQUEST
FOR INFORMATION**

Dear Mr. Waldrep:

During the weeks of October 17 – 21, 2016, and October 31 – November 4, 2016, the U.S. Nuclear Regulatory Commission (NRC) will perform a baseline Radiation Safety Inspection at the Harris Nuclear Plant (NRC Inspection Procedures 71124.01, 71124.02, 71124.03, 71124.04, 71124.05, Radiation Safety sections of 71151, and portions of Temporary Instruction 2800/041).

In order to minimize the impact to your onsite resources and to ensure a productive inspection, we have enclosed a request for documents needed for this activity. 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 NRC requests that the subject informational material be provided in CD format on or before October 11, 2016.

We have discussed the schedule for these inspection activities with your staff, and understand that our regulatory contact for this inspection will be Chuck Yarley of your organization. If there are any questions about this inspection or the material requested, please contact the lead inspector, Jonathan Rivera at 404-997-4646, or the Chief of Plant Support Branch 1, Brian Bonser at 404-997-4653.

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget under control numbers 3150-0008, 3150-0011, 3150-0014, 3150-0044, and 3150-0135. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement, unless the requesting document displays a currently valid Office of Management and Budget control number.

In accordance with Title 10 of the *Code of Federal Regulations* (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 Agencywide Documents Access and Management System (ADAMS); 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

Dockets No. 50-400
License No. NPF-63

Enclosure:
Document Request List

cc: Distribution via Listserv

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ADAMS: Yes ACCESSION NUMBER: _____ SUNSI REVIEW COMPLETE FORM 665 ATTACHED

OFFICE	RII:DRS/PSB1	RIILDRS/PSB1					
SIGNATURE	JXR1	BRB1					
NAME	J. Rivera	B. Bonser					
DATE	9/13/2016	9/ 13/2016					
E-MAIL COPY	YES NO	YES NO					

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRSII\PSB1\RFI INFORMATION REQUEST
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Document Request List

Inspection Dates: October 17 – 21, 2016, and October 31 – November 4, 2016

Documents Due by: October 11, 2016

Inspection Procedures (IPs):

71124.01	Radiological Hazard Assessment and Exposure Controls
71124.02	Occupational ALARA Planning and Controls
71124.03	In-Plant Airborne Radioactivity Control and Mitigation
71124.04	Occupational Dose Assessment
71124.05	Radiation Monitoring Instrumentation
71151	Performance Indicator Verification (Radiation Safety cornerstones only)
TI 2800/041	Title 10 CFR Part 37 Materials Security Review - At Facilities with a Title 10 CFR Part 73 Physical Protection Program

Lead Inspector: Jonathan Rivera
Health Physicist
US NRC Region II
404-997-4646
jonathan.rivera@nrc.gov

Note: The current version of these documents is expected unless specified otherwise. Electronic media is preferred if readily available. *[Note that the inspectors cannot accept data provided on USB or “flash” drives due to NRC IT security policies.]* Please organize the information as it is arranged below to the extent possible. Experience has shown that a poorly organized CD leads to a less efficient inspection and places additional burden on licensee staff. Please pay particular attention to the date ranges for the items requested, as they may change from item to item. During the inspection, the inspectors may request additional documents. If there are questions regarding the documents requested, or if the documents cannot be provided by the due date, please do not hesitate to contact the lead inspector.

Documentation for these inspection procedures, are requested from April 2015 to present, unless otherwise specified. We would prefer as much of the information as possible in electronic form. An index of the CD contents is also helpful. For those items requesting a list of documents/areas, the inspector will select documents/areas from the list for onsite review.

General Information

- List of primary site contact(s) for each inspection area below, including name(s) and telephone numbers.
- List of radiation protection procedures, including title and number.
- Most recent DAW 10 CFR Part 61 analytical results.
- Corrective Action Program (CAP) procedures.
- Outage schedule of major activities (Gantt chart if available), including work activities to be conducted during the weeks of the inspection.

Enclosure

- Audits and self-assessments performed since April 2015 that encompass each inspection area below.

71124.01 - Radiological Hazard Assessment and Exposure Controls

(Last inspected April 2015)

1. List of outage Radiation Work Permits (RWPs).
2. List of locations, or plant maps indicating the location, of all locked high radiation areas (LHRAs) and very high radiation areas (VHRAs). Include areas with the potential to become a LHRA during routine operations or outages.
3. Independent Spent Fuel Storage Installation (ISFSI) information to include surveys, exposure data, and as low as reasonably achievable (ALARA) planning and reviews conducted for the last two moves, as well as last two routine surveys of the facility and Thermoluminescent Dosimeter (TLD) area monitoring results of the facility.
4. Site and corporate procedures related to health physics (HP) controls (e.g., posting, labeling, surveys, RWPs, contamination control, high radiation area (HRA)/LHRA/VHRA control, key control, control of divers, special controls during fuel offload, hot spots).
5. List of the 10 most exposure significant work areas within radiation areas (RAs), HRAs, or airborne radioactivity areas in the plant. This may include areas with low dose rates, but high collective dose. Identify any HRAs with significant dose gradients (factor of five or more), including underwater diving activities.
6. Procedures related to release of personnel and materials (e.g., release surveys, decontamination, guidance for alarm followup).
7. List of Nationally Tracked Sources, and copies of any National Source Tracking System (NSTS) transaction documentation (e.g., annual reconciliation).
8. Most recent sealed source inventory record.
9. List of all non-fuel items stored in spent fuel pool (SFP).
10. List of CAP nonconformance reports (NCRs), action requests (ARs), condition reports (CRs), etc. related to HP controls (e.g., radworker error, HP technician error, posting issues, Nationally Tracked Sources, HRA/LHRA/VHRA issues, survey problems) issued since April 2015. This should be a list of corrective action documents containing NCR, AR, CR, etc. numbers and brief descriptions, not full documents.

71124.02 - ALARA Planning and Controls

(Last inspected April 2015)

1. Site and corporate procedures associated with maintaining exposure ALARA, including those involving ALARA work activities. These procedures should include ALARA program implementation, RWP preparation and worker compliance, estimating and tracking specific exposures for work activities, making changes to dose estimates during task performance, work controls, engineering controls, exposure mitigation requirements, and source term reduction.
2. List of top five dose jobs for the upcoming refueling outage and associated ALARA planning packages (including dose estimates, work-hour estimates, special HP controls, and dose reduction initiatives).
3. Most recent annual ALARA report and most recent refueling outage report.
4. Annual ALARA goals for 2016 and 2017, and the methodology utilized to make the projections.

5. Current status/characterization of plant source term, as well as any relevant plans or actions to reduce it.
6. Summaries of the last four ALARA Committee Meetings (e.g., meeting minutes).
7. Completed ALARA packages (including post-job reviews) for the five work activities that had the greatest collective dose and were completed during the previous outage.
8. ALARA packages for the five work activities expected to have the greatest collective dose, and are scheduled for completion during the upcoming outage.
9. List of shielding packages for the upcoming outage.
10. Shutdown survey results for the last two outages.
11. List of NCRs, ARs, CRs, etc. related to the ALARA program issued since April 2015. This should be a list of corrective action documents containing NCR, AR, CR, etc. numbers and brief descriptions, not full documents.

71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

(Last inspected April 2015)

1. Site and corporate procedures related to airborne monitoring and control. These procedures should include operation, calibration, maintenance, and set-point determination of air sampling equipment; issuance, use, training, fit-testing, storage, maintenance, and quality assurance (QA) of respiratory protective equipment, including Self-Contained Breathing Apparatus (SCBA) and air-supplied respirators; SCBA maintenance of vital components (i.e., regulators); determination and verification of Grade D air for SCBAs; use of containment purge; use of portable High Efficiency Particulate Air (HEPA) / charcoal units; Total Effective Dose Equivalent (TEDE)-ALARA determinations; and alpha air sampling.
2. Two most recent HEPA filter Dioctyl phthalate (DOP) and charcoal test results for the following ventilation systems:
 - Control Room Ventilation
 - Radwaste Processing Building Ventilation
 - Auxiliary Building Ventilation
 - Containment Ventilation
3. All records of grade D air quality certification for breathing air supply systems for SCBAs and air-supplied respirators filling equipment since April 2015.
4. Last two surveillances performed on SCBAs stored for emergency use.
5. Available for onsite review during inspection:
 - a. Vendor training certificates for all individuals qualified to repair SCBA vital components.
 - b. List of all licensed operators, maintenance personnel, and HP personnel qualified to use SCBAs.
 - c. Inventory, inspection, and maintenance records for SCBA equipment.
6. Most recent audit or self-assessment covering airborne controls and respiratory protection.
7. List of NCRs, ARs, CRs, etc. related to airborne controls and respiratory protection since April 2015. This should be a list of corrective action documents containing NCR, AR, CR, etc. numbers and brief descriptions, not full documents.

71124.04 Occupational Dose Assessment

(Last inspected April 2015)

1. Site and corporate procedures related to internal and external dose monitoring (i.e., dosimetry issuance and use). These procedures 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 (EDs) 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); guidance for calibration, QC, and use of whole body counter (WBC); release of contaminated individuals; use of passive monitoring as screening method for evaluations; special *in-vitro* sample collection and analysis; and actions for declared pregnant workers (DPW).
2. National Voluntary Laboratory Accreditation Program (NVLAP) accreditation documentation for current dosimetry used by the site.
3. List of all positive WBCs results, *in-vitro* or air sampling analyses that resulted in an assigned committed effective dose equivalent (CEDE) equal to or exceeding 10 millirem since April 2015. *[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].*
4. List of all personnel contamination events identified since April 2015. *[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].*
5. A list of personnel who have received approved dose extensions since April 2015.
6. List of NCRs, ARs, CRs, etc. related to internal and external dosimetry since April 2015. This should be a list of corrective action documents containing NCR, AR, CR, etc. numbers and brief descriptions, not full documents.

71124.05 Radiation Monitoring Instrumentation

(Last inspected April 2015)

1. Site and corporate procedures related to radiation monitoring instrumentation. These procedures should include 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 monitors (SAMs), personnel contamination monitors (PCMs), portal monitor (PMs), WBC equipment, and continuous air monitors (CAMs); determination of set-points for Area Radiation Monitors (ARMs), CAMs, PCMs, PMs and SAMs; and QA program for count room instruments (e.g., laboratory inter-comparison data).
2. Last two calibration records for the containment high-range post-LOCA radiation monitors.
3. List of the following monitors currently in service (including serial number, location, and model information): *(Specific calibration records will be selected for review during the onsite inspection)*
 - All SAMs at radiological controlled area (RCA) exit points
 - All PCMs at RCA exit points
 - All PMs at RCA exit points and the protected area (PA) exit
 - All count room High-Purity Germanium and Liquid Scintillation counters
 - All in service portable radiation survey instruments available for use (including air samplers, friskers, telepoles/teletectors, and dose rate measuring instruments)

4. Documentation for the sources used to calibrate the above requested monitors showing traceability to the National Institute of Standards & Technology/National Bureau of Standards (NIST/NBS), and to the primary calibration, as applicable.
5. Last two calibration records of the portable instrument calibrator (e.g., Shepherd validation testing/dose rate curves).
6. Last two calibration records for the WBC (and PM if passive monitoring used)
7. List of any Emergency Action Level (EAL) value(s) associated with installed or portable radiation monitoring instrument indication(s).
8. Last two system health reports for the Radiation Monitoring system(s).
9. Last two surveillances performed on the post-accident sampling system, as applicable.
10. Discussion of any modification(s), upgrade(s), or replacement(s) performed on installed radiation monitoring instrumentation (e.g., area radiation monitors, CAMs, RCA release point monitors, WBCs, and count room instruments) since April 2015.
11. List of NCRs, ARs, CRs, etc. related to radiation monitoring instrumentation since April 2015. This should be a list of corrective action documents containing NCR, AR, CR, etc. numbers and brief descriptions, not full documents.

71151 - Performance Indicator Verification

(Last inspected April 2015)

1. Site and corporate procedures for gathering and reporting performance indicator (PI) data.
2. Monthly/Quarterly PI reports since April 2015, and copies of associated corrective action reports for any Occupational Exposure or Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual (RETS/ODCM) Radiological Effluent PI events occurrences.
3. Most recent gaseous and liquid effluent release permits showing year-to-date curies released by isotope and associated public dose assessments, and the last calendar year (CY) 2015 gaseous and liquid effluent release permits showing year-to-date curies released by isotope and associated public dose assessments
4. List of all corrective action documents since April 2015, using keywords such as: HRA, LHRA, VHRA, unintended dose, unlocked LHRA door, etc.
5. List of all corrective action documents since April 2015, using keywords such as: abnormal/unmonitored effluent release, etc.
6. List of all ED dose rate alarms, and all ED dose alarms since April 2015.

Technical Instruction 2800/041 - Title 10 CFR Part 37 materials Security Review - At Facilities with a Title 10 CFR Part 73 Physical Protection Program

(Radiation Protection portions only)

1. All site specific and corporate procedures related to 10 CFR Part 37 compliance (storage of RAM, 10 CFR Part 37 Security Plan, etc.). *[Note: Please do not include Safeguards or Official Use Only information in the submittal. That information can be reviewed onsite].*
2. List of all known locations of Category 1 and 2 material.
3. All supporting calculations for determination of whether an aggregation of RAM meets the definition of Category 1 or Category 2 (e.g., warehouse calculation).
4. Any additional radiation protection procedures that identify radiation protection interaction with security, or requirements related to 10 CFR Part 37 compliance.

Inspector Information:

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LIST OF ACRONYMS

ALARA	As Low As Reasonably Achievable
AR	Action Requests
ARM	Area Radiation Monitor
CAM	Continuous Air Monitor
CAP	Corrective Action Program
CEDE	Committed Effective Dose Equivalent
CR	Condition Report
CY	Calendar Year
DAW	Dry Active Waste
DOP	Diocetylthalate
DPW	Declared Pregnant Worker
EAL	Emergency Action Level
ED	Electronic Dosimeter
HEPA	High Efficiency Particulate Air
HP	Health Physics
HRA	High Radiation Area
ISFSI	Independent Spent Fuel Storage Installation
LHRA	Locked High Radiation Area
NCR	Nonconformance Report
NIST/NBS	National Institute of Standards and Technology/National Bureau of Standards
NVLAP	National Voluntary Laboratory Accreditation Program
PA	Protected Area
PAPR	Powered Air Purifying Respirators
PCE	Personnel Containment Event
PCM	Personnel Contamination Monitor
PI	Performance Indicator
PM	Portal Monitor
QA	Quality Assurance
QC	Quality Control
RA	Radiation Area
RAM	Radioactive Material
RCA	Radiological Controlled Area
RETS/ODCM	Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual
RWP	Radiation Work Permit
SAM	Small Article Monitor
SCBA	Self-contained Breathing Apparatus
SFP	Spent Fuel Pool
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminescent Dosimeter
VHRA	Very High Radiation Area
WBC	Whole Body Counter