

Farley Nuclear Plant
Radiation Safety Baseline Inspection
Initial Information Request
Inspection Report: 2018-002

During the weeks of April 9 – 13 and May 7 - 11, 2018, the NRC will perform a baseline Radiation Safety Inspection at Farley Nuclear Plant, Units 1 and 2 (NRC Inspection Procedures 71124.01, 71124.02, 71124.03, 71124.04, 71124.05, and 71151). Experience has shown that this inspection is resource-intensive for both the NRC inspectors and your staff. In order to minimize the impact to your onsite resources and to ensure a productive inspection, we are requesting in advance documents needed for this activity. It is important that all of these documents are up-to-date, and complete, thereby minimizing the number of additional documents requested during the preparation, and/or the onsite portions of the inspection. The NRC requests that these documents be provided to the inspectors no later than **March 29, 2018**.

If there are any questions about this inspection or the material requested, please contact the lead inspector, Jonathan Rivera at 404-997-4508, or the Plant Support Branch 1 Chief, Brian Bonser at 404-997-4653.

In accordance with Title 10 of the Code of Federal Regulations (10 CFR) 2.390, "Public inspections, exemptions, requests for withholding," a copy of this document will be available electronically for public inspection in the NRC Public Document Room, or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS); accessible from the NRC Web site at <http://www.nrc.gov/readingrm/adams.html>.

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PUBLIC PROTECTION NOTIFICATION

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Enclosure

Document Request List

Inspection Dates: April 9 – 13 and May 7 - 11, 2018

Documents Due to Region II by: March 29, 2018

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

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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. Pay particular attention to the date ranges for the items requested as they may change from item to item. 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.

General and Miscellaneous Information

- List of primary site contact(s) for each inspection area including name(s) and telephone numbers.
- Plant Management, Radiation Protection, and Chemistry organizational charts with contact numbers.

Enclosure

- Outage schedule, including work activities to be conducted during the week(s) of the inspection.
- Most recent DAW 10 CFR Part 61 analytical results.
- CAP procedure(s).
- Audits and self-assessments performed since October 1, 2016 that encompass each of the inspection areas below.

71124.01 - Radiological Hazard Assessment and Exposure Controls

(Last inspected October 2017)

1. List of active RWPs, including outage RWPs, with their administrative limits, electronic dosimeter dose rate limits, and dose limits.
2. List of locations, or plant maps indicating the location, of all LHRA and VHRA. Include areas with the potential to become a LHRA during routine operations or outages.
3. ISFSI information to include surveys, exposure data, ALARA planning and reviews conducted for the last two moves. Also, the last two routine surveys of the facility and any TLD area monitoring results of the facility.
4. Procedures related to HP controls (e.g. posting, labeling, surveys, RWPs, contamination control, HRA/LHRA/VHRA control, key control, control of divers, special controls during fuel offload, hot spots, etc.).
5. Procedures related to release of personnel and materials (e.g. release surveys, decontamination, guidance for alarm follow up, etc.).
6. List of Nationally Tracked Sources, change of ownership and copies of any NSTS transaction documentation (e.g., annual reconciliation).
7. Most recent sealed source inventory record.
8. List of all non-fuel items stored in the SFP(s).
9. List of CAP documents (e.g. NCRs, CRs, etc.) related to HP controls, including any human performance errors by radworkers and HP technicians, generated since October 1, 2017. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*
10. All CRs generated related to Nationally Tracked Sources since October 1, 2017.

71124.02 - ALARA Planning and Controls

(Last inspected October 2016)

1. Site and corporate procedures associated with maintaining site dose ALARA, including those involving ALARA work activities. These procedures should include:
 - ALARA program implementation, including ALARA committee activities and ALARA planning, briefing, and reviews.
 - RWP preparation and worker compliance.
 - Processes used to estimate and track exposures for specific work activity.
 - Making changes to dose estimates during task performance.
 - Work controls.
 - Engineering controls.
 - Exposure mitigation requirements.
2. List of top five dose jobs for the upcoming refueling outage and 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. ALARA Committee activity summaries (e.g. meeting minutes) discussing and approval of activities associated with the upcoming refueling outage.
5. Outline of the source term reduction strategy. Information should include:
 - Historic trends and current status of plant source term.
 - Factors that affect the source term.
 - Activities employed to reduce the source term.
 - Specific sources identified for reduction actions.
 - Source term reduction evaluation.
 - Results achieved since October 1, 2016.
6. List of CAP documents (e.g. NCRs, CRs, etc.) generated since October 1, 2016, related to the ALARA program, including the following *[This should be a list of corrective action documents containing a CR number and brief description, not full CRs]*:
 - ALARA planning.
 - Post-job review identified problems.
 - Radiation worker practices.
 - Occurrences where the collective exposure was greater than intended dose determined to be ALARA for the individual work activities.
7. Available for onsite review during the inspection:
 - ALARA planning packages for jobs to be performed during the outage.
 - Temporary shielding requests generated for the outage.
 - Completed ALARA packages (including post-job reviews) for the five work activities that were completed during the last outage that had the greatest collective dose, and/or presented significant radiological risk.

71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

(Last inspected October 2016)

1. Site and corporate procedures associated with airborne radiation monitoring instrumentation and respiratory protection. Procedures/manuals should include:
 - Operation, calibration, and maintenance of air sampling instrumentation, including set-point determination (e.g., low-vols, high vols, goosenecks, AMS 4s, etc.).
 - Actions to be taken when air sampling instrumentation is found to be significantly out of tolerance/calibration.
 - Issuance and use of respiratory protective equipment (emphasis on SCBA and air-supplied equipment).
 - Total Effective Dose Equivalent-ALARA evaluation guidance.
 - Training, including fit-testing, for use of SCBA and supplied-air systems.
 - SCBA maintenance activities, including vital components (i.e. regulators).
 - Determination/verification of Grade D air for SCBAs.
2. Two most recent HEPA filter DOP and charcoal test results of the following ventilation systems:
 - Control Room Emergency Filtration System (CREFS)
 - Penetration Room Filtration System (PRF)
3. Records of certification of air quality for equipment used to provide breathing air for air-supplied respirators and SCBA bottles (air compressors and bottled breathing air) since October 1, 2016.
4. Documentation for last two surveillances performed on SCBAs stored for emergency use.
5. List of CAP documents (e.g. NCRs, CRs, etc.) generated since October 1, 2016

involving airborne radioactivity monitoring and respiratory protective equipment deficiencies. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*

6. Available for onsite review during the inspection:
 - Inventory, inspection, and maintenance records for SCBA equipment.
 - Training records, including fit-testing, for SCBA-qualified individuals, including:
 - i. List of all licensed operators qualified to use SCBAs.
 - ii. List of all instrumentation and control personnel qualified to use SCBAs.
 - iii. List of all HP personnel qualified to use SCBAs.
 - Training records/certification for individuals qualified to perform maintenance on vital components (e.g. regulators) on SCBAs.

71124.04: Occupational Dose Assessment

(Last inspected October 2016)

1. Site and corporate procedures associated with occupational dose monitoring, including multi-badging and monitoring in highly variable dose rate gradients, PCEs, storage and 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, and calibration/QC and use of the WBC), release of contaminated individuals, use of passive monitoring, and actions for DPWs.
2. NVLAP accreditation documentation for current dosimetry used by the site.
3. List of all positive whole body counts, and in vitro or air sampling analyses which resulted in an assigned CEDE equal to, or exceeding, 10 millirem since October 1, 2016. *[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 PCEs identified since October 1, 2016. *[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. List of CAP documents (e.g. NCRs, CRs, etc.) generated since October 1, 2016 associated with internal and external dosimetry. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*

71124.05 - Radiation Monitoring Instrumentation

(Last inspected October 2016)

1. Site and corporate procedures associated with:
 - 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 SAMs, PCMs, PMs, WBCs, and CAMS.
 - determination of set-points for ARMs, CAMs, PCMs, PMs and SAMs.
 - QA program for count room instruments (e.g. laboratory inter-comparison data).
2. The last two calibration records for the following monitors:
 - U1 Containment Area Radiation Monitor (R-2)
 - U2 Fuel Handling Area Radiation Monitor (R5)
 - U1 Control Room Area Radiation Monitor (R1)
 - U2 Charging Pump Room Area Radiation Monitor (R4)

3. Documentation for the radioactive sources used to calibrate the instruments in item 2 above, including paperwork showing traceability to a NIST standard and/or traceability to the primary calibration, as applicable.
4. The last two surveillances performed on the Post-accident Sampling System, as applicable if it is still required in the plant technical specifications
5. The last two test records of the instrument calibrator (Shepherd validation testing/dose rate curves).
6. The last two calibration records of the WBC.
7. List of the following radiation monitors currently in service. Several will be selected for on-site review of the calibration records:
 - PMs used in Dosimetry for Passive Monitoring.
 - SAMs, PCMs, and PMs at the RCA exit point.
 - Count room High-purity Germanium and liquid scintillation systems.
8. Documentation for the radioactive sources used to calibrate the monitors requested for item 8 above showing NIST standard.
9. Chart or procedure listing any EAL values associated with installed or portable radiation monitoring instrument indication(s).
10. List of CAP documents (e.g. NCRs, CRs, etc.) generated since October 1, 2016, related to portable and fixed instrumentation, including PMs, PCMs, SAMs, WBC, ARMs, CAMS, and count room instruments. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*

71151 – Performance Indicator (PI) Verification

(Last inspected August 2017)

1. Site and corporate procedures for gathering and reporting PI data.
2. List of all CAP documents since August 1, 2017, using keywords such as: HRA, LHRA, VHRA, unintended dose, unlocked door, etc.
3. List of all ED dose rate alarms and ED dose alarms since August 1, 2017, that includes dose or dose rate alarm received, and the alarm setpoint(s).
4. List of all CAP documents (e.g. NCRs, CRs, etc.) generated since August 1, 2017, using keywords such as: abnormal/ unmonitored effluent release, etc.

LIST OF ACRONYMS

ALARA	As Low As Reasonably Achievable
ARM	Area Radiation Monitor
CAM	Continuous Air Monitor
CAP	Corrective Action Program
CR	Condition Report
DAW	Dry Active Waste
ED	Electronic Dosimeter
HEPA	High Efficiency Particulate
HP	Health Physics
HRA	High Radiation Area
ISFSI	Independent Spent Fuel Storage Installation
LHRA	Locked High Radiation Area
NCR	Nuclear Condition Report
NIST	National Institute of Standards and Technology

NSTS	National Source Tracking System
NVLAP	National Voluntary Laboratory Accreditation Program
ODCM	Offsite Dose Calculation Manual
OOS	Out-of-Service
PCE	Personnel Contamination Event
PCM	Personnel Contamination Monitor
PM	Personnel Monitor
radworker	Radiation Worker
RAM	Radioactive Material
RCA	Radiological Controlled Area
RWP	Radiation Work Permit
SAM	Small Article Monitor
SCBA	Self-Contained Breathing Apparatus
SFP	Spent Fuel Pool
SSCs	Systems, Structures, and Components
TLD	Thermoluminescent Dosimeter
U1 / U2	Unit 1 / Unit 2
VHRA	Very High Radiation Area
WBC	Whole Body Counter