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

January 26, 2011

Mr. R. M. Krich
Vice President, Nuclear Licensing
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: BROWNS FERRY NUCLEAR PLANT – NOTIFICATION OF INSPECTION AND REQUEST FOR INFORMATION

Dear Mr. Krich:

From February 28 - March 4, 2011, and March 14-18, 2011, the NRC will perform a baseline Occupational and Public Radiation Safety inspection at the Browns Ferry Nuclear Plant, (NRC Inspection Procedure 71124.01, Radiological Hazard Assessment and Exposure Controls, 71124.02, Occupational ALARA Planning and Controls, 71124.03, In-Plant Airborne Radioactivity Control and Mitigation and 71124.04 Occupational Dose Assessment).

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 ensure 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.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Steve Austin at (256) 729-2070 of your organization. Our inspection dates are subject to change based on your updated schedule of outage activities. If there are any questions about this inspection or the material requested, please contact the lead inspector Ruben Hamilton at (404) 997-4672 (ruben.hamilton@nrc.gov).

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 Nos.: 50-259, 50-260 and 50-296
License Nos.: DPR-33, DPR-52 and DPR-68

Enclosure:
Pre-Inspection Document Request

cc w/encl.: (See page 3)

cc w/encl:
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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).

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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)
RIDSNRRDIRS
PUBLIC
RidsNrrPMBrownsFerry Resource

X PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE X NON-SENSITIVE

ADAMS: X Yes ACCESSION NUMBER: **ML 110280447** X SUNSI REVIEW COMPLETE

OFFICE	RII: DRS/PSB1	RII: DRS/PSB1					
SIGNATURE	**RA**	**RA/BB**					
NAME	Hamilton	Bonser					
DATE	**1/26/2011**	**1/26/2011**					
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRSII\PSB1\INFORMATION REQUEST LETTERS\BROWNS FERRY\BROWNSFERRY DOCUMENT REQUEST LTR-2011.DOCX

Pre-Inspection Document Request

Occupational and Public Radiation Safety Cornerstones

Licensee: Browns Ferry Nuclear Plant
Docket Numbers: 50-259, 50-260, and 50-296

Inspection Dates: February 28 - March 4, 2011, and March 14-18, 2011.

Procedure: February 28 -March 4, 2011, and March 14-18, 2011.
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, Occupation Dose Assessment
TI 2515/179

Documentation is requested from January 1, 2010, to the present. We would prefer as much of the information as possible in electronic form. An index to 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 on-site review.

If you have any questions, please call Ruben Hamilton at (404) 997-4672. Thank you in advance for your efforts in putting together this material.

Assistance Requested During On-Site Inspection

1. Identification of work activities during the inspection for inspector observations, including notification of pre-job briefings.

2. Health physics assistance in plant walk-downs assessing radiological hazards and exposure controls, e.g. verifying the posting and locking of entrances to locked-high radiation areas and very high radiation areas, spent fuel pool controls, and radioactive material storage areas.

General Information Request

1. Telephone numbers of contacts.

2. Plant, Radiation Protection, and Chemistry organizational charts.

3. List of radiation protection procedures.

4 Most recent DAW 10 CFR Part 61 analytical results.

5. Corrective Action Program procedures.

6. Audits and self-assessments performed since January 1, 2009, that encompass the areas of (1) radiation protection; (2) control of radiologically significant areas; and (3) radioactive material control.

Enclosure

7. Procedure(s) for identifying, notification, tracking, and correcting PI occurrences.

8. List of all Performance Indicators (PIs) and copies of associated corrective action reports for Occupational Exposure Control Effectiveness and RETS/ODCM Radiological Effluent Occurrences.

9. Audits and self-assessments performed since the last inspection that encompass the areas of (1) access controls, (2) the ALARA program and implementation, (3) liquid and solid radwaste processing, and (4) transportation of radioactive material/radwaste.

10. Procedures associated with the ISFSI facility. Procedures should include:

    - Radiological surveys, postings, and radiation control barricades.
    - Environmental monitoring (including TLDs).
    - Loading of casks.
    - Routine activities.

11. Radiation surveys of the ISFSI since the last inspection.

12. ALARA reviews and planning and associated RWPs for cask loading activities.

13. Environmental monitoring results (e.g. TLDs).

14. Radiological records for the loading of casks since the last inspection.

15. Records of contamination incidents since the last inspection.

16. List of corrective action reports related to the ISFSI with respect to radiation protection (i.e. access controls, ALARA, contamination, radiation levels, etc.) since the last inspection.

Radiological Hazard Assessment and Exposure Controls [71124.01] and [TI2515/179]

1. Site and corporate procedures associated with assessing and controlling radiological hazards. Procedures should include:

    - Radiological surveys, postings, and radiation control barricades.
    - Security and control of high radiation sources/objects, including those stored in pools.
    - Radiation Work Permits.
    - Radiological Job-Coverage.
    - Controlling access to High Radiation Areas (HRAs), High Dose Rate High Radiation Areas (HDR-HRAs), and Very High Radiation Areas (VHRAs), including key controls.
    - Radioactive material control, including contamination, hot particles, and survey/release of material for unrestricted use.
    - Dosimetry monitoring (electronic dosimeters, multi-badging, whole body counting/internal dose assessment, etc.).

2. Description of any changes to plant operations that may result in a new radiological hazard for workers or members of the public.

3. List of the most exposure significant radiologically risk-significant work activities planned for the outage, including at least five activities scheduled during the week of the inspection.

4. List or map of HRAs, LHRAs, and VHRAs. Include areas with the potential to become a HRA during routine operations or outages.

5. RWPs for the 5 highest dose rate areas or outage tasks; RWPs for airborne areas.

6. Inventory of nonexempt licensed materials, including storage location.

7. List of unusual dosimetry occurrences, including electronic dosimeter malfunctions/alarms.

8. List of corrective action reports generated since January 1, 2010, related to radiological hazard assessment and control, including the following:

   - Exposure controls, including high radiation area radiological incidents.
   - Radiation monitoring (e.g. surveys, contamination, airborne).
   - Radiological events caused by radiation worker errors.
   - Radiological events caused by radiation protection technician errors.

Occupational ALARA Planning and Controls [71124.02]

1. Site and corporate procedures associated with maintaining site dose ALARA, including those involving ALARA work activities. These procedures should include:

   - ALARA program implementation.
   - ALARA committee activities.
   - ALARA planning, briefing, and reviews.
   - Radiation work permit preparation.
   - Radiation work permit compliance (by workers).
   - Making changes to dose estimates during task performance.
   - Work controls.
   - Engineering controls.
   - Exposure mitigation requirements.

2. Most recent annual ALARA report and most recent refueling outage report.

3. Annual ALARA goals for 2009, 2010, and 2011, and the methodology utilized to make the projections.

4. Site collective dose totals and 3-year averages for the last three years.

5. Site specific trends in collective exposure and source-term measurements.

6. List of the 5-10 work activities planned during the inspection likely to result in the highest personnel collective exposures. Include the dose projections.

7. List of the jobs-in-progress during the inspection with work activities which present the greatest radiological risk to workers (e.g. work in HRAs, diving, potentially changing radiological conditions).

8. Temporary shielding requests generated for the outage.

9. List of six techniques integrated into work activities that result in significant collective dose reductions during outages and/or routine operations.

10. ALARA Committee activity summaries (e.g. meeting minutes) for three months or 3 meetings after the last refueling outage, and the three months or 3 meetings prior to the upcoming refueling outage.

11. Licensee Event Reports, Special Reports, audits, and self assessments related to the ALARA program performed since the last inspection, and any associated corrective action reports.

12. List of corrective action reports related to the ALARA program and radiation worker practices since the last inspection. Include occurrences where the collective exposure was greater than intended dose determined to be ALARA for the individual work activities.

13. Outline of the interfaces between operations, radiation protection, maintenance, maintenance planning, scheduling, and engineering groups with respect to the ALARA program and ALARA planning.

14. Outline of the source term reduction strategy. Specific 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.
    - Source term reduction evaluation.
    - Results achieved since last inspection.

15. Completed ALARA packages (including post-job reviews) for the five work activities that were completed during the last outage, which had the greatest collective dose and/or presented significant radiological risk.

16. List of five activities in the past in which the estimated work hours were significantly different than the actual hours expended. List five activities in which the estimated and actual hours expended were accurate.

17. List of five events where the work scope changed or was extended and alternative ALARA measures were taken to respond to the unexpected conditions.

18. List of activities since that last inspection that were reviewed for ALARA problems and actions taken to prevent recurrence.

19. Identify the system(s) utilized to track and trend collective dose, providing sufficient detail to assess the ability of the system to detect and control work activity specific trends.

In-Plant Airborne Radioactivity Control and Mitigation [71124.03]

1. Site and corporate procedures/manuals 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.).
   - Calibration and maintenance of portable instruments.
   - 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).
   - 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 SCBA.

2. Two most recent calibrations for the following CAM equipment:

   - Control Room Ventilation.
   - Spent Fuel Pool.
   - Radioactive Waste Processing.

3. Records of certification of air quality for equipment used to provide breathing air for air supplied respirators and SCBA bottles since the last inspection.

4. List of corrective action reports generated since the last inspection involving radiation monitoring and protective equipment deficiencies, including the following:

   - Continuous air monitors.
   - Respiratory protection equipment and program implementation.

5. Available for onsite review by inspector during inspection:

   - Inventory, inspection, and maintenance records for SCBA equipment.
   - Training records, including fit-testing, for SCBA-qualified individuals.
   - Training records/certification for individuals qualified to perform maintenance on vital components (e.g. regulators) on SCBA.

Occupational Dose Assessment [71124.04]

1. 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.

1. NVLAP accreditation documentation for current dosimetry used by site.

2. 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 January 1, 2010. *[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]*.

3. List of all personnel contamination events, dispersed contamination/discrete particles, identified since January 1, 2010. *[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. Copies of all audits, self-assessments, and/or reviews related to internal or external dosimetry issues generated since January 1, 2010. The documents provided should include any reviews/evaluations conducted of vendor facilities, e.g., corporate or outside vendor/ or corporate calibration facilities.

5. Provide a list of Condition Report (CR) documents generated since January 1, 2010, for Internal or external dosimetry issues/events. *[Note: only titles/summary statement should be provided for use by the inspectors to select a sample of issues for in-depth review].*