



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

July 24, 2009

Mr. Preston D. Swafford
Chief Nuclear Officer and Executive Vice President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT NOTIFICATION OF INSPECTION AND
REQUEST FOR INFORMATION

Dear Mr. Swafford:

During the period of August 31 – September 4, 2009, the NRC will perform the baseline Public Radiation Safety Cornerstone inspection at Watts Bar, comprised of NRC Inspection Procedures 71121.03, Radiation Monitoring Instrumentation and Protective Equipment; 71122.01, Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems; and 71122.03, Radiological Environmental Monitoring Program and Radioactive Material Control Program. In addition, during the period of October 5 – 9, 2009, the NRC will perform Inspection Procedure 71121.01, Access Controls to Radiologically Significant Areas. The NRC will also perform sections of Inspection Procedure 71151, Performance Indicator Verification as it applies to radiation safety during the two inspection periods. 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. In lieu of a pre-inspection visit, we request that the requested information be provided to our staff by August 17, 2009. An address to which the information, preferably on CD, can be sent is provided on the enclosed document request.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Mike Brandon of your organization. If there are any questions about this inspection or the material requested, please contact the inspector, Heather J. Gepford at (404) 562-4659.

TVA

2

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,

/HJG RA for/

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

Docket Nos.: 50-390
License Nos.: NPF-90

Enclosure: Watts Bar Nuclear Plant, Notification of Inspection and Request for Information

cc w/encl.: (See page 3)

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,

/HJG RA for/

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

Docket Nos.: 50-390
 License Nos.: NPF-90

Enclosure: Watts Bar Nuclear Plant, Notification of Inspection and Request for Information

cc w/encl.: (See page 3)

X PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE X NON-SENSITIVE
 ADAMS: Yes ACCESSION NUMBER: _____ X SUNSI REVIEW COMPLETE **HJG**

OFFICE	RII:DRS	RII:DRS	RII:DRP				
SIGNATURE	HJG /RA/	HJG /RA for/	MDS /RA for/				
NAME	HGepford	BBonser	GGuthrie				
DATE	07/22/2009	07/22/2009	07/22/2009				
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

cc w/encl:
Gordon P. Arent
New Generation Licensing Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

Masoud Bajestani
Vice President Watts Bar Unit 2
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

Ashok S. Bhatnagar
Senior Vice President
Nuclear Generation Development and
Construction
Tennessee Valley Authority
Electronic Mail Distribution

Michael K. Brandon
Manager
Licensing and Industry Affairs
Watts Bar Nuclear Plant
Electronic Mail Distribution

Preston D. Swafford
Chief Nuclear Officer and Executive Vice
President
Tennessee Valley Authority
Electronic Mail Distribution

William R. Campbell
Senior Vice President
Fleet Engineering
Tennessee Valley Authority
Electronic Mail Distribution

Thomas Coutu
Vice President
Nuclear Support
Tennessee Valley Authority
Electronic Mail Distribution

General Counsel
Tennessee Valley Authority
Electronic Mail Distribution

Gregory A. Boerschig
Plant Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

Larry E. Nicholson
General Manager
Performance Improvement
Tennessee Valley Authority
Electronic Mail Distribution

Michael A. Purcell
Senior Licensing Manager
Nuclear Power Group
Tennessee Valley Authority
Electronic Mail Distribution

Michael J. Lorek
Vice President - Nuclear Oversight
Tennessee Valley Authority
Electronic Mail Distribution

Michael D. Skaggs
Site Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

Fredrick C. Mashburn
Acting Manager
Corporate Nuclear Licensing and Industry
Affairs
Tennessee Valley Authority
Electronic Mail Distribution

Robert J. Whalen
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-280

County Executive
375 Church Street
Suite 215
Dayton, TN 37321

(cc w/encl. continued page 4)

TVA

4

(cc w/encl. continued)
County Mayor
P.O. Box 156
Decatur, TN 37322

Lawrence Edward Nanney
Director
Division of Radiological Health
TN Dept. of Environment & Conservation
Electronic Mail Distribution

James H. Bassham
Director
Tennessee Emergency Management
Agency
Electronic Mail Distribution

Ann Harris
341 Swing Loop
Rockwood, TN 37854

TVA

5

Letter to Preston D. Swafford from Brian Bonser dated July 24, 2009

SUBJECT: WATTS BAR NUCLEAR PLANT NOTIFICATION OF INSPECTION AND
REQUEST FOR INFORMATION

Distribution w/encl:

C. Evans, RII

L. Slack, RII

OE Mail

RIDSNRRDIRS

PUBLIC

RidsNrrPMWattsBar1 Resource

RidsNrrPMWattsBar2 Resource

Pre-Inspection Document Request

Public Radiation Safety Cornerstone

Licensee: Watts Bar Nuclear Plant
Docket Number(s): 50-390

Inspection Dates: August 31-September 4, 2009:

71122.01 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems
71122.03 Radiological Environmental Monitoring Program (REMP) and Radioactive
Material Control Program
71121.03 Radiation Monitoring Instrumentation and Protective Equipment
71151 Performance Indicator Verification (Public Radiation Safety Cornerstone)

The most recent inspection completed for inspection procedures 71122.01, 71122.03, and 71121.03 was May 2006.

Inspection Dates: October 5-9, 2009:

71121.01 Access Control to Radiologically Significant Areas
71151 Performance Indicator Verification (Occupational Radiation Safety Cornerstone)

The most recent inspection for inspection procedures 71121.01 and 71151 was March 2008.

Documentation is requested from the date of the previous inspection of a given area 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 Heather Gepford at 404-562-4659. Thank you in advance for all your effort in putting together this material.

Assistance Requested During On-Site Inspection

- Identification of work activities during the inspection for inspector observations, including notification of pre-job briefings.
- Advance notification of any liquid or gaseous effluent releases, including the associated pre-release sampling, analysis, and permit generation.
- Health physics assistance in plant walk-downs assessing access controls, e.g. verifying the posting and locking of entrances to locked-high radiation areas and very high radiation areas, and spent fuel pool controls.
- Assistance in plant/area walk-downs including: (1) liquid and gaseous effluent systems and associated effluent/process radiation monitors, (2) radiation monitors, including ARMs, CAMs, whole body counters, personnel contamination monitors, etc., (3) meteorological equipment, (4) groundwater monitoring locations including wells, manways, etc.
- Assistance with observations of REMF sample collection and processing.

Enclosure

General Information Request

1. Telephone numbers of contacts
2. Plant, Radiation Protection, and Chemistry organizational charts
3. Electronic copy of applicable chapters of UFSAR (e.g. radiation protection program, effluents and environmental monitoring programs, radiation monitoring system, etc.)
4. Latest revision of the Offsite Dose Calculation Manual (ODCM)
5. List of radiation protection and chemistry (i.e. effluents) procedures
6. Most recent DAW 10 CFR Part 61 analytical results.
7. Corrective Action Program procedures
8. Audits and self-assessments performed since May 2006 that encompass the areas of (1) radiation protection, (2) access controls, (3) effluent treatment and monitoring program (including chemistry and count room), (4) radiological environmental monitoring program, (5) radioactive material control, (6) meteorological monitoring program, (7) groundwater monitoring, (8) radiation measurement instrumentation program (fixed and portable), and (9) respiratory protection program.

71121.01 Access Control to Radiologically Significant Areas

1. Site and corporate procedures associated with the access control program. Procedures should include:
 - Radiological surveys, postings, and radiation control barricades
 - Security and control of high radiation sources/objects 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)
 - Key controls for all high radiation areas
 - Radioactive material control, including contamination and hot particles
 - Dosimetry monitoring (electronic dosimeters, multi-badging, etc.)
 - Calculations of internal exposures
2. List of the 10 most exposure significant work areas within radiation areas, high radiation areas (<1R/hr), or airborne radioactivity areas in the plant. This may include areas with low dose rates but high collective dose. Identify any high radiation areas with significant dose rate gradients (factor of 5 or more), including underwater diving activities.
3. List or map of HRAs, LHRAs, HDR-HRAs (>25 rem in one hour @ 30 cm), and VHRAs. Include areas with the potential to become a HRA during routine operations or outages.
4. RWPs for the 5 highest dose rate areas or outage tasks; RWPs for airborne areas.
5. Internal and skin dose assessments, including calculations, for any internal exposures greater than 10 mrem CEDE or skin doses greater than 500 mrem since March 2008.
6. List of corrective action reports generated since March 2006 related to access controls, including the following:
 - Access controls, including high radiation area radiological incidents
 - Radiological events caused by radiation worker errors
 - Radiological events caused by radiation protection technician errors

71122.03: Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program

1. Site and corporate procedures associated with the REMP program, meteorological monitoring, and radioactive material control program. These procedures should include:
 - Environmental sampling methodology for each matrix (e.g. TLD, ground and surface water, milk, vegetation, sediment, etc.) including sample collection, preparation, and analysis
 - Calibration and maintenance of sampling equipment
 - Calibration and QC activities for sample counting instruments
 - Calibration, maintenance, and routine surveillance of meteorological instruments
 - Control, survey and release of individuals and materials from the RCA
 - Response to alarms at RCA and/or protected area exits
 - Calibration, maintenance, and use of small article monitors, tool monitors, etc.
2. Two most recent Annual Environmental Monitoring Reports
3. Calibration and maintenance records for air samplers and composite water samplers.
4. Calibration records for environmental sample counting instruments, including control charts and LLD determination OR audits of quality control program of vendor laboratory used to analyze REMP samples, as appropriate.
5. Interlaboratory comparison program results for the past two years (in-house laboratory or vendor laboratory). For in-house counting lab, quality control evaluation of results.
6. Calibration/surveillance/maintenance records for the meteorological instruments since May 2006.
7. List of small article monitors, tool monitors, etc. and their locations (calibration records for select instruments will be requested by the inspectors after reviewing the list).
8. List of corrective action reports generated since May 2006 related to the REMP and Radioactive Material Control program, including the following:
 - REMP program, including sampling and sample analysis
 - Meteorological monitoring program, including sensor problems, tower unavailability and data transmission/display discrepancies
 - Radioactive material control

71122.01 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

1. Site and corporate procedures/manuals associated with the radioactive effluents treatment and monitoring program. Procedures/manuals should include:
 - Calibration and routine surveillance procedures for the effluent monitors listed below, including set-point determination.
 - HP/Chemistry/Operations procedures for liquid and gaseous effluent sampling, analysis, and release, including release permit generation
 - Calibration and use of the effluent sample counting laboratory instruments (gamma spectroscopy, liquid scintillation, gas proportional)
 - Counting laboratory QC activities, including daily/weekly calibration checks, control charts, and interlaboratory comparison performance
 - Surveillance activities on air treatment systems, including charcoal/HEPA filter testing
 - Calculation of projected doses to members of the public from effluent releases
2. Procedures for onsite/offsite surface/groundwater monitoring activities and leak detection

3. Two most recent Annual Radioactive Effluents Release Reports.
4. Summary of spill, leak, or unexpected liquid discharge data documented in the site's 10 CFR 50.75(g) files.
5. Two most recent calibrations for the following effluent monitors, including flow meter calibrations:
 - o 0-RE-90-122, Waste Disposal System Liquid Effluent Monitor
 - o 1-RE-90-400&402, Shield Building Exhaust Low & High Range Effluent Monitor
 - o 0-RE-90-118, Waste Gas Holdup System Gas Effluent Monitor
 - o 1-RE-90-404, Condenser Vacuum Air Exhaust Post Accident Effluent Monitor
 - o 1-RE-90-130, Containment Purge Air Exhaust Effluent Monitor
6. List of time periods during which the above listed effluent monitors were out of service since May 2006.
7. List of modifications and design changes, including procedural or operational changes, made to effluent treatment, monitoring, or sampling systems or to plant ventilation systems since May 2006.
8. Most recent liquid and gaseous continuous release permits and most recent liquid and gaseous batch release permits (4 total).
9. Two most recent surveillances of the air cleanup system for the routine main plant airborne effluent release pathway including flow rate and HEPA/charcoal efficiency.
10. Interlaboratory comparison program results for effluent sample counting laboratory since May 2006.
11. List of corrective action reports generated since May 2006 related to effluent monitoring equipment, effluent treatment systems, and air cleanup systems.
12. List of corrective action reports generated since May 2006 for tritium or other radioisotopes in ground water wells, or identification of spills or leaks from contaminated systems, structures, and components.

Available for onsite review by inspector during inspection:

- Plant drawings sufficient to permit the inspector to walk-down the liquid and gaseous effluent processing systems and effluent/process radiation monitors.
- Description and/or 50.59 evaluations of modifications and design changes, including procedural or operational changes, made to effluent treatment, monitoring, or sampling systems or to plant ventilation systems since May 2006.

71121.03 Radiation Monitoring Instrumentation and Protective Equipment

1. Site and corporate procedures/manuals associated with radiation monitoring instrumentation and respiratory protection. Procedures/manuals should include:
 - o Operation, calibration, and maintenance of ARM, CAM, portal monitor (PM), personnel contamination monitor (PCM), and tool monitors, including set-point determination
 - o Operation and calibration of Whole Body Counter (WBC) equipment
 - o Issuance/operation of portable survey instruments
 - o Calibration and maintenance of portable instruments (e.g. ion chambers, friskers, teletectors, rem-ball)
 - o Actions to be taken when portable instrument 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. If PASS capabilities have been modified through license amendment, provide a copy of the amendment and applicable SER
 3. Two most recent surveillances of PASS equipment (or equivalent equipment as approved by license amendment)
 4. Two most recent calibrations for the following ARM/CAM equipment:
 - 0-RE-90-102, Fuel Pool Accident Radiation Monitor
 - 1-RE-90-271, Reactor Building Upper Compartment Post Accident
 - 1-RE-90-273, Reactor Building Lower Compartment Post Accident
 - 1-RE-90-1, Spent Fuel Pool Area
 - 1-RE-90-2, Personnel Air Lock
 - SFP Area Airborne Particulate Activity (CAM)
 5. Two most recent calibrations for PCMs and PMs located at the RCA exit.
 6. Most recent calibration of WBC and copy of the analysis library.
 7. Records of certification of air quality for equipment used to provide breathing air for air-supplied respirators and SCBA bottles since May 2006.
 8. List of corrective action reports generated since May 2006 involving radiation monitoring and protective equipment deficiencies, including the following:
 - Area radiation monitors and continuous air monitors
 - Portable instrumentation, PCM, PM, and WBC monitoring equipment
 - Respiratory protection equipment and program implementation.

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

71151 Performance Indicator (PI) Verification

1. Procedure(s) for identifying, notification, tracking, and correcting PI occurrences
2. Monthly PI reports since January 2008, and copies of associated PERs for Occupational Exposure Control Effectiveness and RETS/ODCM Radiological Effluent occurrences
3. List of all corrective action documents since January 2008 using keywords such as: HRA, LHRA, VHRA, unintended dose, unlocked door, etc.
4. List of all dose rate alarms > 1 R/hr and dose alarms since January 2008.

Inspector Contact Information:

Heather J. Gepford
 (404) 562-4659
 Heather.Gepford@nrc.gov

Mailing Address

US NRC Region II
 ATTN: Heather J. Gepford
 61 Forsyth Street, SW
 Suite 23T85
 Atlanta, GA 30303-3415

Enclosure