



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

June 14, 2012

Mr. Joseph W. Shea  
Manager, Corp. Nuclear Licensing Programs  
Tennessee Valley Authority  
1101 Market Street, LP 4B-C  
Chattanooga, TN 37402-2801

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

Dear Mr. Shea:

The NRC will perform the baseline heat sink inspection (HS) at the Sequoyah Nuclear Plant from July 16 – 20, 2012. 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. These documents have been divided into two groups. The first group (Section A of the enclosure) identifies information to be provided prior to the inspection to ensure that the inspectors are adequately prepared. The second group (Section B of the enclosure) identifies the information the inspectors will need upon arrival at the site. 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 on June 11, 2012 and understand that our regulatory contact for this inspection will be Don Sutton of your organization. If there are any questions about this inspection or the material requested, please contact the lead inspector Robert Williams at (404) 997-4664 ([robert.williams@nrc.gov](mailto:robert.williams@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/*

Steven J. Vias, Branch Chief  
Engineering Branch 3  
Division of Reactor Safety

Docket Nos. 50-327, 50-328  
License Nos. DPR-77, DPR-79

Enclosure:  
Pre-Inspection Document Request

cc: (See page 3)

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Enclosure:  
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Distribution w/encl:

S. Shaeffer, DRP  
J. Hamman, DRP  
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PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE       NON-SENSITIVE  
ADAMS:X  Yes      ACCESSION NUMBER: \_ml12167a082\_\_\_\_\_       SUNSI REVIEW COMPLETE       FORM 665 ATTACHED

OFFICE	RII:DRS	RII:DRS	RII:DRS				
SIGNATURE	RA	RA	RA				
NAME	RWILLIAMS	CFLETCHER	SVIAS				
DATE	6/14/2012	6/14/2012	6/14/2012				
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY      DOCUMENT NAME:      HTTP://PORTAL.NRC.GOV/EDO/RII/DRS/EB3/REQUEST FOR INFORMATION/UNAPPROVED DRAFTS/SEQUOYAH HEAT SINK RFI LETTER\_2012004.DOCX

cc w/encl:  
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Division of Radiological Health  
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Nashville, TN 37243

Senior Resident Inspector  
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Ann Harris  
341 Swing Loop  
Rockwood, TN 37854

## HEAT SINK PERFORMANCE DOCUMENT REQUEST

Inspection Dates: July 16 – July 20, 2012  
Inspection Procedures: IP 71111.17 “Heat Sink Performance”  
Inspectors: R. Williams, Reactor Inspector (Lead Inspector)

### A. Information Requested for the In-Office Preparation Week

The following information should be sent to the Region II office in hard copy or electronic format (preferred), in care of Robert Williams by July 9, 2012 to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The inspector will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week (Section B of this enclosure). We ask that the specific items selected from the lists be available and ready for review on the first day of inspection. \*Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector(s), and provide subject documentation during the first day of the onsite inspection. If you have any questions regarding this information request, please call the inspector as soon as possible.

#### A.1 Heat Exchangers and Service Water Equipment

- a) List of heat exchangers (HXs) or equipment cooled by service water (SW) directly or indirectly.
  - For HXs directly cooled by SW provide the testing, inspection, maintenance and monitoring of biotic fouling and macrofouling programs
- b) HX performance inspections methods and results for HXs that are inspected/cleaned
- c) Response to Generic Letter 89-13
- d) Design Basis documents associated with the SW system
- e) Design Basis documents associated with the Ultimate Heat Sink (UHS)
- f) SW system flow diagrams
- g) Recent Health Reports associated with the SW System and systems that are cooled by SW
- h) List of SW system related corrective action documents (with a brief description) which have received a Root Cause Analysis or an elevated severity level in the last two years
- i) Recent Operating Experience Events (2009-2012)

Enclosure

- j) List of applicable Codes and Industry Guidelines
- k) List of findings in the HS Performance area for the last 3 years.
- l) List of redundant or infrequently used HXs
- m) Chemistry Program (corrosion/biological fouling inhibitors used)
- n) Provide whether the UHS is above ground encapsulated by embankments, weirs or excavated side slopes, underwater weir or excavation, or forced draft cooling tower or spray pond,
- o) Provide a list of buried or inaccessible piping and the piping test program, inspection or monitoring program
- p) List of safety-related and non-safety related valve interface

**B. Information to be provided on-site to the inspector at the entrance meeting (July 16, 2012):**

**B.1 Heat Exchangers and Service Water Equipment**

The inspector will select two to four heat exchangers and/or heat sink samples as required by the inspection procedure during in-office preparation. The following items will be requested when the selections are made.

- a) Updated list of System Engineers
- b) List of any thru-wall leaks including completed or planned corrective actions and structural evaluations
- c) Provide a copy of the corrective actions and supporting documentation
- d) For the HXs that have Visual and/or Eddy Current Testing performed provide a copy of the examination records, examiner qualification records, and associated corrective action documents.
- e) Heat transfer calculations
- f) Evaluations for the potential of Water Hammer
- g) Documentation for controls and operational limits for excessive flow induced vibrations
- h) Periodic Flow test results at/or near maximum design flow
- i) For an UHS that is encapsulated by embankments, weirs or excavated side slopes provide (1) third party dam inspection results, and (2) documentation showing that there is sufficient reservoir capacity

- j) For an UHS that is an underwater weir or excavation provide documentation showing:
  - a. Periodic monitoring and trending of sediment build-up
  - b. Sufficient reservoir capacity
  - c. Considerations for adjacent non-seismic and/or non-safety related structures possible degradation or blocking of safety-related flow paths due to severe weather or seismic events
  - d. Performance monitoring of Heat Transfer capabilities
  - e. Performance monitoring of UHS structural integrity
  
- k) SW flow balance test results

Inspector Contact Information:

Robert Williams  
Reactor Inspector  
404-997-4664  
[Robert.Williams@nrc.gov](mailto:Robert.Williams@nrc.gov)

Mailing Address:

US NRC Region 2  
Attn: Robert Williams  
Marquis One Tower  
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Atlanta, GA 30303