UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

October 19, 2017

Mr. Richard L. Anderson, Vice President
Entergy Operations, Inc.
1448 S.R. 333
Russellville, AR 72802-0967

SUBJECT: ARKANSAS NUCLEAR ONE - NOTIFICATION OF NRC TRIENNIAL HEAT SINK PERFORMANCE INSPECTION (05000313/2017004 AND 05000368/2017004) AND REQUEST FOR INFORMATION

Dear Mr. Anderson:

The purpose of this letter is to notify you that U.S. Nuclear Regulatory Commission (NRC) staff will conduct a triennial heat sink performance inspection at your Arkansas Nuclear One, Units 1 and Unit 2, from November 13–17, 2017. The inspection will consist of one reactor inspector from the NRC's Region IV office for one week. The inspection will be conducted in accordance with NRC Inspection Procedure 71111.07, "Heat Sink Performance."

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. Please note that the documents are requested to be provided by November 6, 2017. We request that during the on-site inspection week you ensure that copies of analyses, evaluations, or documentation regarding the implementation and maintenance of your heat exchanger program are available. Of specific interest are those documents that establish that your heat exchanger program satisfies NRC regulatory requirements and conforms to applicable NRC guidance. Also, appropriate personnel knowledgeable of safety-related heat exchangers should be available to support the inspector at the site during the inspection.

We have discussed the schedule for this inspection activity with your staff and understand that our regulatory contact for this inspection will be Michael Hall of your licensing organization. If there are any questions about this inspection or the material requested, please contact the inspector, Chris Smith, by telephone at 817-200-1095 or by e-mail at chris.smith@nrc.gov.

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, control number 3150-0011. 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 10 CFR 2.390 of the NRC's "Rules of Practice and Procedure," 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 Wayne C. Sifre Acting for/

Thomas R. Farnholtz, Chief
Engineering Branch 1
Division of Reactor Safety

Docket Nos. 50-313, 50-368
License Nos. DPR-51, NPF-6

Enclosure:
Triennial Heat Sink Performance Inspection
Request for Information

cc: Electronic Distribution

ARKANSAS NUCLEAR ONE - NOTIFICATION OF NRC TRIENNIAL HEAT SINK PERFORMANCE INSPECTION (05000313/2017004 AND 05000368/2017004) AND REQUEST FOR INFORMATION – October 19, 2017

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Request for Information
Triennial Heat Sink Performance Inspection
Arkansas Nuclear One

Inspection Report:	05000313/2017004 and 05000368/2017004
Inspection Dates:	November 13–17, 2017
Inspection Procedure:	IP 71111.07, Triennial Heat Sink Performance
Inspector:	Chris Smith, Reactor Inspector

Information Requested for the In-Office Preparation Week

The following information should be sent to the Region IV office in hard copy or electronic format, to the attention of Chris Smith, by November 6, 2017. The inspector will review specific items from the information requested below and then request from your staff additional documents needed during the on-site inspection week. Also, we request that you categorize the documents in your response with the numbered list below. Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector, and provide subject documentation during the first day of the on-site inspection. If you have any questions regarding this information request, please call the lead inspector as soon as possible.

The following heat exchangers/heat sinks have been selected for inspection:

- Unit 1 Reactor Building Service Water Cooler Coil (Train A), VCC-2A
- Unit 1 Loop Decay Heat Cooler (Train B), E-35B 'B'
- Unit 2 Component Cooling Water Heat Exchanger (Train A), 2E-28A
- Unit 2 Emergency Cooling Pond, T-250

For all samples listed above:

1. Copies of any self-assessments or audits performed in the previous three years

2. Copies of any documents such as a Generic Letter 89-13 heat exchanger program description, heat exchanger program document, etc.

3. List of commitments (with descriptions) to the Generic Letter 89-13 program

4. Copies of system health reports and maintenance rule system notebooks

5. Copies of design bases documents, updated final safety analysis report pages, technical specification (and bases) pages, and technical requirements manual (and bases) pages

6. List of corrective action program documents (with descriptions) for the past three years

7. List of any design changes (with descriptions) implemented during the past three years

8. List of preventive maintenance tasks (with descriptions) and frequency

Enclosure

9. Copies of simplified piping and instrumentation drawings or diagrams and operator training manuals, if available

For the specific heat exchangers selected:

Testing Documents

10. Copies of the two most recent completed tests confirming thermal performance for those heat exchangers which are performance tested

11. Instrument uncertainties of the instruments used during testing

12. Copy of any operability determinations or other documentation of degradation associated with the heat exchangers or the systems that support the operation for the selected heat exchangers

13. Documents that show the as-found results are recorded, evaluated, and appropriately dispositioned such that the as-left condition is acceptable

Cleaning Documents

14. The cleaning and inspection maintenance schedule for each heat exchanger for the next five years

15. Copy of the document describing the inspection results for the last two cleaning and inspection activities completed on each heat exchanger

16. Cleaning procedures with acceptance criteria for the selected heat exchangers

17. Copies of the documents that verify the structural integrity of the heat exchanger (e.g., eddy current summary sheets, ultrasonic testing results, and visual inspection results)

18. Copies of those documents that describe the methods taken to control water chemistry in the heat exchangers

Design Documents

19. Provide a list of calculations (with descriptions) which currently apply to each heat exchanger

20. Copies of vendor data sheets and design basis data for the selected heat exchangers

21. Copy of the calculation which establishes the limiting (maximum) design basis heat load which is required to be removed by each of these heat exchangers

22. Copy of the calculation which correlates surveillance testing results from these heat exchangers with design basis heat removal capability (e.g., basis for surveillance test acceptance criteria)

23. Copy of the calculations or documents which evaluate the potential for water hammer or excessive tube vibration in the heat exchanger or associated piping

24. Copy of the document which identifies the current number of tubes in service for each heat exchanger and the supporting calculation which establishes the maximum number of tubes which can be plugged in each heat exchanger

25. Copy of the document establishing the repair criteria (plugging limit) for degraded tubes which are identified in each heat exchanger

For the ultimate heat sink or safety-related service water system:

26. Dam inspections that monitor the integrity of the ultimate heat sink (if applicable)

27. Copies of calculations and surveillances that determine the ultimate heat sink reservoir capacity and heat transfer capability (if applicable)

28. Copies of procedures for a loss of ultimate heat sink or safety-related service water system

29. Copies of inspections and/or maintenance related to macrofouling (silt, mussel shells, debris, etc.) and aquatic life

30. Copies of inspections and/or maintenance related to preventing biotic fouling

31. Copies of procedures and/or test results to survey or monitor interface valves between the safety-related section of the service water system and the nonsafety-related section

32. Copy of the most recent service water flow balance test results, both as-found and as-left

33. History of any thru-wall pipe leaks on the safety-related service water system

Inspector Contact Information:

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Reactor Inspector
817-200-1095
Chris.Smith@nrc.gov

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