



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

January 22, 2019

Mr. Fadi Diya, Senior Vice President  
and Chief Nuclear Officer  
Ameren Missouri  
Callaway Plant  
8315 County Road 459  
Steedman, MO 65077

SUBJECT: CALLAWAY PLANT – NOTIFICATION OF NRC TRIENNIAL HEAT SINK  
PERFORMANCE INSPECTION (05000483/2019001) AND REQUEST FOR  
INFORMATION

Dear Mr. Diya:

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 Callaway Plant from March 4 - 8, 2019. The inspection will consist of two reactor inspectors from the NRC's Region IV office for one week. The inspection will be conducted in accordance with NRC Inspection Procedure 71111, Attachment 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 onsite 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 February 25, 2019. Also, appropriate personnel knowledgeable of heat exchangers should be available to support the inspectors 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 Randy Pohlman of your licensing organization. If there are any questions about this inspection or the material requested, please contact the lead inspector, Chad Stott, by telephone at 817-200-1526 or by e-mail at [Chad.Stott@nrc.gov](mailto:Chad.Stott@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 Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRC's "Agency Rules of Practice & 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/**

Vincent G. Gaddy, Chief  
Engineering Branch 1  
Division of Reactor Safety

Docket No.: 50-483  
License No.: NPF-30

Enclosure: Triennial Heat Sink Performance Inspection Request for Information

cc: Electronic Distribution to Callaway Plant

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DATE	1/22/19	1/22/19	1/22/19	1/22/19	1/22/19		

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**Request for Information  
Triennial Heat Sink Performance Inspection  
Callaway Plant**

Inspection Report: 05000483/2019001

Inspection Dates: March 4 – 8, 2019

Inspection Procedure: IP 71111.07, Heat Sink Performance, Triennial Review

Inspectors: Chad Stott, Reactor Inspector  
Wes Cullum, Reactor Inspector

**Information Requested for the In-Office Preparation Week**

The following information should be made available to the lead inspector, Chad Stott, by February 25, 2019. Please note that additional information may be requested during the onsite portion of the inspection. It is preferable to have the information provided in electronic format, although the information may also be sent to the Region IV office in hard copy to the attention the lead inspector. Also, we request that you categorize the documents in your response with the numbered list below. If any requested documents are large and only hard copy formats are available, please inform the inspector, and provide the documentation during the first day of the onsite inspection. Additionally, requested documents such as corrective action program documents are to be for the time period from the current onsite inspection back to the previous triennial heat sink performance inspection. Requested documents such as surveillances, maintenance tasks, or thermal performance tests are to be the last three performances of those activities. If the requested documentation does not apply to the sample selection for this inspection, no response is necessary. If the information requested above will not be available or if there are questions regarding this information request, please contact the lead inspector as soon as possible.

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

- Component Cooling Water Heat Exchanger EEG01B
- Component Cooling Water Pump Room Cooler SGL11A
- Residual Heat Removal Heat Exchanger EEJ01B
- Containment Cooler SGN01A

**I. For the selected heat exchangers that are directly cooled by the service water system, as applicable:**

1. Method and results of heat exchanger performance testing (last 3 results)
2. Method and results of heat exchanger inspection and cleaning (last 3 results)
3. Procedures for heat exchanger operation
4. Relevant updated final safety analysis report and technical specification pages

5. Relevant heat transfer calculations
6. Tube plugging maps, tube plugging criteria, and allowable tube plugging
7. Evaluations of water hammer in susceptible heat exchangers
8. Results from periodic flow testing or flow balancing (last 3 results)
9. Eddy current test reports and visual inspection records (last 3 results)
10. List (with descriptions) of corrective action program documents (last 3 years, all trains)
11. Heat exchanger data sheets and design basis documents

**II. For the selected heat exchangers that are directly cooled by a closed loop cooling water system, as applicable:**

1. Procedures for heat exchanger operation
2. Relevant updated final safety analysis report and technical specification pages
3. Relevant heat transfer calculations
4. Evaluations of water hammer in susceptible heat exchangers
5. Chemical treatment program for corrosion control
6. Results from periodic flow testing or flow balancing (last 3 results)
7. Tube plugging maps, tube plugging criteria, and allowable tube plugging
8. Eddy current test reports and visual inspection records (last 3 results)
9. List (with descriptions) of corrective action program documents (last 3 years, all trains)
10. Heat exchanger data sheets and design basis documents

**III. For the selected heat sink samples, as applicable:**

*For an above-ground UHS encapsulated by embankments, weirs, or excavated side slopes:*

1. Results of inspections for seepage, settlement, rip rap protection, etc. (last 3 results)
2. Third party dam inspections (last 3 results)
3. Calculation(s) of sufficient reservoir capacity
4. List (with descriptions) of corrective action program documents (last 3 years)

*For underwater UHS weirs or excavations:*

1. Results of inspections for settlement, movement, or sediment intrusion (last 3 results)
2. List (with descriptions) of corrective action program documents (last 3 years)

*For an UHS such as a forced draft cooling tower or spray pond:*

1. Calculation(s) of sufficient reservoir capacity
2. Results of periodic monitoring and trending of sedimentation (last 3 results)
3. Method and results of performance monitoring of heat transfer capability (last 3 results)
4. Method and results of performance monitoring of UHS structural integrity (last 3 results)
5. List (with descriptions) of corrective action program documents (last 3 years)

*Service water system (SWS) and UHS:*

1. List (with descriptions) of design changes involving the SWS and the UHS (last 3 years)
2. Procedures for a loss of SWS or UHS
3. Relevant updated final safety analysis report and technical specification pages
4. Methods and results of macrofouling treatment and control (last 3 results)
5. Methods and results of biocide treatment and control (last 3 results)
6. Methods and results of chemistry monitoring (last 3 results)
7. Evaluation(s) of strong-pump weak-pump interaction in susceptible system designs
8. Results from periodic flow testing or flow balancing (last 3 results)
9. Design basis leakage rate assumptions
10. Results of monitoring of safety- to nonsafety-related portions (i.e., leakage of interface valves) of the SWS (last 3 results)
11. List (with descriptions) of corrective action program documents, including thru-wall pipe leaks (last 3 years)
12. Results of ultrasonic tests and visual inspections of SWS piping (last 3 results)
13. Results of buried or inaccessible pipe testing, inspection, or monitoring program (last 3 results)
14. For closed cooling water systems, trend data from make-up systems (last 3 results)

15. Results from program used to detect protective coating failure, corrosion, and erosion (last 3 results)
16. Results of safety-related traveling screen and strainer performance tests (last 3 results)
17. Results of service water pump bay silt accumulation monitoring (last 3 results)
18. Results of service water pump bay level instrumentation calibrations (last 3 results)
19. Design basis documents

Inspector Contact Information:

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