

September 3, 2004

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Stop P1-137
Washington, DC 20555-0001

ULNRC05051



**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
SPECIAL REPORT
METEOROLOGICAL TOWER 10M - 60M AT
INDICATION INOPERABLE**

Ladies and Gentlemen:

Enclosed is a Special Report documenting the Inoperability of 10 Meter - 60 Meter Meteorological Monitoring Instrumentation on the Primary Meteorological Tower in accordance with Final Safety Analysis Report 16.3.3.3, and the actions taken to restore this circuitry to an Operable status.

If you have any questions or require additional information, please contact Mr. Mark Reidmeyer, Supervisor, Regional Regulatory Affairs at (573) 676-4306.

Sincerely,

A handwritten signature in cursive script that reads "Keith D. Young".

Keith D. Young
Manager
Regulatory Affairs


Enclosure

Handwritten initials "IED" in a stylized, slanted font.

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Mr. Bruce S. Mallett
Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-4005

Senior Resident Inspector
Callaway Resident Office
U.S. Nuclear Regulatory Commission
8201 NRC Road
Steedman, MO 65077

Mr. Jack N. Donohew (2 copies)
Licensing Project Manager, Callaway Plant
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop 7E1
Washington, DC 20555-2738

Missouri Public Service Commission
Governor Office Building
200 Madison Street
PO Box 360
Jefferson City, MO 65102-0360

Mr. Jerry B. Uhlmann
Director
Missouri State Emergency Management Agency
P.O. Box 116
Jefferson City, MO 65102

ENCLOSURE

Special Report

The Meteorological Instrumentation Limiting Condition For Operation (LCO) (Section 16.3.3.3 of FSAR) specifies the meteorological monitoring instrumentation channels required to be operable at all times. This includes the ambient air temperature difference between the 60 meter and 10 meter levels of the tower, 60-10 Delta-T (DT). With one or more required meteorological monitoring channels inoperable for more than 7 days, LCO Action 'a' requires a Special Report to be submitted to the Commission within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to an operable status. In addition to the technical specification required 60-10 DT instrument, Callaway has a 90-10 DT instrument as well.

Problem description:

On August 23, 2004, Callaway's contract meteorologist identified a problem with the Primary Tower's 10 meter reference temperature, starting with the rain which began on the evening of August 19, 2004. The data appeared to be slightly offset low, compared with the Secondary Tower, and noisy when compared with its previous signal condition. With additional input from the meteorologist, the 10 meter reference temperature, the 60-10 meter DT, and the 90-10 meter DT were declared Inoperable effective 2100 on August 19, 2004. A plant work document, W240061, was written to troubleshoot the noise and offset.

A troubleshooting plan was developed and is currently being pursued. Because this appeared to be a noise issue, a recently identified shielding issue was pursued first. A potential ground loop in the instrument cable shields has been identified. Due to several days of rain, making it unsafe to work on the tower, the work on the shielding issue was not completed until August 26th. Based on a review of the data on August 27, this work did not have any impact on the noise or offset. The noise disappeared around 2 am on August 28, 2004, which has made it difficult to identify the source of the noise. There is indication of the noise on mornings when there is heavy fog, but the data does not have the same characteristic spiking as the previously identified noise.

The cause of this noise could not be correlated to any work activities, external interference (such as owls or buzzards), or meteorological conditions. The noise disappeared from the data during the night following a significant storm on August 27-28.

AmerenUE will continue the troubleshooting plan to resolve the noise and offset problem. All of the aspirators, thermistors, and aspirator cables were replaced in July 2004, which provided all new equipment back to the tower terminal boxes. This corrected the DT offsets previously identified by the contract meteorologist. Therefore, the tower terminal boxes and cables back to the equipment rack were not replaced.

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Operability requirements:

The bases for the specification states:

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data are available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Programs," February 1972.

The 60-10 DT instrument channel is used as a measure of atmospheric stability for dose projections. Specifically, the 10 meter reference temperature provides the electronic reference for the 60-10 meter DT instrument channel, as well as the non-technical specification 90-10 meter DT channel. The DT data is used as a measure of atmospheric stability in dose assessment models for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere.

Callaway has a diverse method of determining the atmospheric stability class using any of four calculated sigma theta values derived from the wind direction instruments. Therefore, alternate methods were available to fulfill this function when the 60-10 DT or 90-10 DT instrument channels were out of service. Callaway maintained the capability to perform dose projections throughout this period.

Plans for restoration to Operable status:

In addition to the work previously mentioned, AmerenUE is pursuing replacing cards in the racks, cleaning terminals and then recalibrating the instrumentation. Due to this new problem with noise, we are also pursuing a cable and termination replacement from the tower terminal boxes back to the instrument rack. This work will be pursued in parallel with the continued troubleshooting being performed.