

ILLINOIS POWER COMPANY



CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

January 4, 1990

10CFR50.36

Docket No. 50-461

Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: Special Report: Inoperability of the Differential Air
Temperature Indication at Clinton Power Station (CPS)

Dear Sir:

CPS Technical Specification 3.3.7.3, Action "a", requires that inoperabilities of meteorological monitoring instrumentation channels for more than 7 days be reported to the Commission within 10 days pursuant to Technical Specification 6.9.2, SPECIAL REPORTS. From 1330 hours on December 19, 1989 until 1345 hours on December 29, 1989, the 10 meter to 60 meter differential air temperature instrumentation was declared inoperable. This SPECIAL REPORT is being submitted in accordance with the CPS Technical Specifications to provide information regarding the cause of the malfunction and plans for restoring the instrumentation to OPERABLE status.

Cause of Malfunction

On December 19, 1989, while performing the daily channel check in accordance with Technical Specification Surveillance Requirement 4.3.7.3, Radiation Protection personnel noted that the differential temperature indicated by channel 7 did not agree with the differential temperature obtained by subtracting the 10 meter temperature indication from the 60 meter temperature indication. Maintenance Work Request (MWR) D06162 was written and at 1330 hours, the differential temperature instrumentation was declared inoperable.

Control and Instrumentation (C&I) personnel began troubleshooting on December 21, 1989 in accordance with MWR D06162. They determined that the differential temperature instrumentation had malfunctioned because of a problem in one of the temperature probes on the meteorological tower. Extremely cold ambient and wind chill temperatures (-40 to -50 degrees F), and ice formation on the meteorological tower however, prevented C&I personnel from safely climbing the tower that day to perform further troubleshooting.

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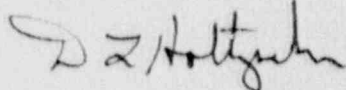
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On December 27, 1989, weather conditions had improved sufficiently to allow further troubleshooting to resume. On December 28, 1989, C&I personnel determined that a thermistor network in the 60 meter temperature sensor required replacing. Each temperature sensor contains two temperature elements, each containing a thermistor network. One temperature element provides temperature indication, the other is used as input to the differential temperature indication (channel 7). The resistance of the two thermistor networks in the 60 meter temperature sensor differed by approximately 2000 ohms at approximately 37 degrees F. The 60 meter temperature sensor was replaced and a functional test with an ice bath was successfully performed.

Plans for Restoration

On December 29, 1989, further data was obtained in accordance with MWR D06162 to verify that the problem had been corrected. At 1345 hours, the meteorological tower differential temperature instrumentation was declared operable.

Sincerely yours,



D. L. Holtzsch
Acting Manager -
Licensing and Safety

DAS/wrm

cc: NRC Region III Regional Administrator
NRC Clinton Licensing Project Manager
NRC Resident Office
Illinois Department of Nuclear Safety