



EDISON PLAZA  
300 MADISON AVENUE  
TOLEDO, OHIO 43652-0001

Docket Number 50-346

License Number NPF-3

September 6, 1990

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

AB-90-0020  
NP 33-90-16

Subject: Voluntary Report of Service Water Heat Exchanger Testing during the Sixth Refueling Outage.

Gentlemen

During the sixth refueling outage, while performing a flow balance test of service water train 1-1, it was determined that the expected flow rates through several heat exchangers were not being achieved. Although the flows were below those listed in the USAR, engineering evaluation determined there was no impact on the plant's response to the accidents analyzed in the USAR. The test was being performed to verify balanced flow following implementation of a system modification. Under Modification 87-1315 a butterfly valve was replaced with a ball valve to improve control. With this new type valve full open, the flow through the CCW heat exchanger was greater than expected which resulted in less than expected flow through the other system loads. The other loads include a containment air cooler, an ECCS room cooler, a hydrogen dilution blower and a control room EVS condenser unit. The flows were evaluated and determined to be adequate with the exception of ECCS Room Cooler 1-5.

ECCS Room Cooler 1-5 is one of two 100 percent capacity coolers in Room 105. Only one is necessary to support the equipment in the room after a LOCA. The flow through this cooler was found to be less than required. The other cooler in the room (No. 1-4) was found to have adequate flow. Through engineering evaluation, an appropriate valve position that would provide CCW cooling (while still leaving adequate flow for the other loads) was determined. The pre-modification configuration from the previous operating cycle was also evaluated, and it was determined that the corresponding flows were adequate with the exception of ECCS Room Cooler No. 1-5. ECCS Room Cooler No. 1-4 is currently in service. Cooler No. 1-5 will be inspected to determine the cause of its reduced flow.

Toledo Edison is developing its inspection and preventive maintenance program for all service water coolers and piping per its response to Generic Letter 89-13 on January 30, 1990, Serial Number 1-904.

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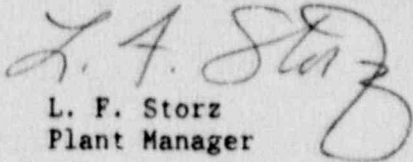
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During the sixth refueling outage, efficiency testing of Containment Air Cooler (CAC) 1-2 determined that the air side of the cooler was excessively fouled. CAC 1-2 is one of three 50 percent capacity units. Only two are mechanically and electrically aligned to be operated, simultaneously. An evaluation of past operating history of CAC 1-2 has revealed that it accumulates more dirt than the other two units. This appears to be due to the air flow pattern around it. The fouling was excessive due to the type and volume of work in containment during the previous refueling outages.

The CAC 1-2 was thoroughly cleaned and retested which verified an acceptable level of efficiency. Periodic tests have been developed to check the efficiency of the CACs. Preventive maintenance work orders are also being written to provide for the air-side cleaning of the CACs during refueling outages.

Very truly yours,



L. F. Storz  
Plant Manager

JCS/eld

cc: A. B. Davis, Regional Administrator, NRC Region III  
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