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August 3, 1979

## REGULATORY DOCKET FILE COPY

Mr. Roby Bevan  
Project Manager  
Operating Reactors - Branch 2  
Division of Operating Reactors  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Dresden Station Units 1, 2 and 3  
Information Concerning Operation  
of Isolation (Emergency) Condensers  
NRC Docket Nos. 50-10/237/249

Dear Mr. Bevan:

The following information concerning operation of the Dresden Station Units 1, 2 and 3 isolation (emergency) condensers is being supplied in response to an NRC informal request received July 9, 1979.

The Unit 1 emergency condenser is designed to dissipate reactor decay heat in the event of a reactor scram coincident with closure of primary isolation valves or the turbine stop and bypass valves.

The system is automatically initiated by reactor high pressure at 1050 psig, high sphere pressure at +2 psig, closure of primary steam isolation valves (in anticipation of high pressure), low drum level at  $\leq 12$ ", and loss of auxiliary power. There are no time delays associated with the initiation circuitry.

There are no automatic closure or manual closure actions, of any valves in the recirculation loops, necessary for isolation condenser operation.

The Unit 1 Technical Specifications and station procedures require that an inventory of 30,000 gallons of water be maintained in the shell side of the emergency condenser. This allows for operation up to 8 hours with no make-up water. Heat removal capability is demonstrated once every 5 years as required by the Technical Specifications.

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Mr. Roby Bevan:

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The Dresden Units 2 and 3 isolation condensers are designed to provide core cooling in the event that the reactor is isolated from the main condenser by closure of the Main Steam Isolation Valves. The initiating signal for the isolation condenser is reactor pressure sustained at greater than 1070 psig for 15 seconds. This automatic initiating action prevents loss of primary system inventory through operation of the relief valves. The 15-second time delay prevents spurious initiation during short term pressure increases. The isolation condenser is sized to handle all core decay heat at 5 minutes after a scram. This heat removal capability is verified once every 5 years in accordance with Technical Specification Surveillance Requirement 4.5.E.C.

Once initiated automatically, the water inventory of the isolation condenser shell side is adequate to allow 20 minutes of operation before the water level reaches the top of the tubes, without adding any make-up. As stated in the FSAR, this 20 minutes is adequate to allow for manual initiation of make-up flow to the shell. The shell side water inventory required to ensure isolation condenser operability is defined in Technical Specification Basis 4.5.E and the Station Operating Procedures.

Station procedures define the proper methods of initiating make-up to the isolation condenser shell from any one of 3 sources of make-up water. The station procedures also outline the actions necessary to manually initiate the isolation condenser, including making up to the shell side.

Please address any additional questions you may have concerning this matter to this office.

Very truly yours,



Robert F. Janeczek  
Nuclear Licensing Administrator  
Boiling Water Reactors