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January 5, 1981

Mr. James G. Keppler, Director
Directorate of Inspection
and Enforcement - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Dresden Station Units 1, 2, and 3
Quad Cities Station Units 1 and 2
Zion Station Units 1 and 2
Response to IE Bulletin 80-24
"Prevention of Damage Due to Water
Leakage Inside Containment"
NRC Docket Nos. 50-10-237/249,
50-254/265, 50-295/304

Reference (a): J. G. Keppler letter to C. Reed
dated November 21, 1980.

Dear Mr. Keppler:

Reference (a) transmitted IE Bulletin 80-24 requesting a response to concerns identified as a result of the October 17, 1980 Indian Point 2 event. Enclosed is Commonwealth Edison Company's response for Dresden, Quad Cities, and Zion Stations.

Please note that no response is provided for Dresden Unit 1, which is currently undergoing an extensive modification and chemical cleaning outage. The bulletin will be addressed prior to the startup of the unit, now scheduled for June, 1986.

Approximately 100 manhours were expended in conduct of the review and preparation of this report. A minimum of 200 additional manhours were required to complete the corrective actions (procedure modifications, interim surveillances, etc.) required by the bulletin.

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

Very truly yours,

Thomas J. Rausch

Thomas J. Rausch
Nuclear Licensing Administrator
Special Projects

cc: Director, NRC Office of
Inspection & Enforcement
Washington, DC 20555

RIII Inspector - Dresden
RIII Inspector - Quad Cities
RIII Inspector - Zion

SUBSCRIBED and SWORN to
before me this 5TH day
of January, 1981

Notary Public

ENCLOSURE

Commonwealth Edison Company

Response to IE Bulletin 80-24

Dresden Units 2 and 3, Quad Cities Units 1 and 2

Dresden Units 2 and 3 and Quad Cities Units 1 and 2 utilize a closed cooling water system (Reactor Building Closed Cooling Water System or RBCCW) to provide cooling to drywell components. These components include the Recirculation Pumps and Motors, Drywell Coolers, and the Drywell Equipment Drain Sump Heat Exchanger. The RBCCW system is an interface system with no direct path between the drywell and the environment, and is, as defined by GDC-57, a closed system. Cooling water system leakage has not been a problem for these units.

It should also be considered that due to the construction of the drywell and torus, it is not possible to accumulate any large quantity of water under the reactor vessel. These stations are constructed such that during a LOCA or similar event, the area under the vessel will drain via the downcomers into the torus. This would also occur during an event such as described in the bulletin. With no pumpage, the sumps would overflow to the drywell floor, and once the level reached downcomers, it would flow into the torus. Since the torus level is monitored, this increase would be noted and investigated. Even under this scenario, the water would not reach a level where it could adversely affect any critical system.

ENCLOSURE

Commonwealth Edison Company

Response to IE Bulletin 80-24

Zion Station Units 1 and 2

ITEM 1

A/B. Zion Station has one open cooling water system inside containment. This consists of essential service water supplied to the reactor containment fan coolers. There are five fan coolers in the Zion Station Containment. The design basis accident heat loads require three fan coolers for adequate heat removal. Normal operations require a maximum of four fan coolers. The service water used in the fan coolers is strained water from Lake Michigan. If a fan cooler is not being used, the service water to it is not normally isolated.

C. The headers to the fan coolers are made of carbon steel while the coolers themselves are plate finned copper-nickel 90-10 with a galvanized steel frame.

D/E. Zion Station has never experienced fan cooler tube leaks. However, after the 1980 Unit 2 refueling outage one gasket leak was identified on the water supply header and blanked off effectively stopping the leak. This leak occurred after the reassembly of the heat exchanger's after tube cleaning. Permanent repairs are scheduled for the 1981 refueling outage. This is the only known leakage problem to have occurred on the Zion Station Reactor Containment Fan Coolers. There have been no major repairs to the cooling system piping.

F. In the event that a fan cooler must be isolated, there are manual Isolation valves at the inlet and outlet of each cooler. These valves are located in containment. There are also motor operated valves for system isolation. All of the motor operated valves are located outside of the containment. There is one motor operated discharge valve from each fan cooler and the valve is controlled from the control room. The inlet motor operated valves are arranged on a common inlet header in such a way that two or three fan coolers can be isolated at a time. These valves are locally operated in the Auxiliary Building. Provisions exist for isolating all portions of the service water system inside containment in the event of the failure of any single isolation valve.

G/H/I. For performing leak tests of isolation valves, Appendix J of 10CFR50 has no provisions for testing open cooling water isolation valves. There are local gages for flow, pressure, and temperature on each of the discharge lines in the Auxiliary Building. The pressure in these lines are kept above 47 psig to prevent leakage from the containment during a design basis accident. A radiation level recorder is on the common service water discharge header and annunciates in the control room on high level.

ITEM 2

A. Unit 2 has independent dual indication on the safeguards panel in the control room of recirculation sump, containment sump, and containment water levels. Unit 1 has dual indication on the safeguards panel in the control room of recirculation sump level. Installation of independent dual indication containment sump and containment water levels will be accomplished during the next Unit 1 refueling outage to begin in January, 1981. Both Units 1 and 2 have single alarm indication at the radwaste panel of high reactor cavity sump level. With the completion of these modifications, both units will have redundant means of detecting and promptly alerting control room operators of a significant accumulation of water in containment.

B. Unit 1 and 2 containment sump pumps are equipped with pump run time meters. Readings are obtained by the shift once per day.

C. Surveillance procedures of at least monthly repetition will be instituted by June 1, 1981 to assure plant operators have at least two methods of determining water levels in each location where water may accumulate. The procedures shall require continued power operation be reviewed by station management after seven days where the detection system becomes inoperable or where no removal system is operable for a given water collection point. The containment recirculation sump is to be excluded from the removal system requirements. We will not put equipment in the sump that could block RHR pump suction during the recirculation phase of an accident. Water accumulation in the recirculation sump will eventually spill onto the containment floor and be pumped out of the containment sump.

D. Containment entries are routinely made by the Operating Department with findings indicated on the Equipment Attendant Log. During these inspections particular attention is given to any signs of leakage or water accumulation.

E. Interim surveillance measures were instituted, within 10 days of the bulletin date as required, which included periodic containment inspections during operation and inspections following containment closing subsequent to maintenance outages.

F. A technical specification change will be submitted to establish procedures for reporting of service water leaks inside containment via a special LER report of a degradation of the containment boundary.

ITEM 3 Zion Station has a closed cooling system inside containment called the Component Cooling System. There has been only one leak into containment from the component cooling system. This leakage was discovered on June 30, 1980 in the Unit 1 containment. The leakage was identified in these independent ways. First the decrease in component cooling inventory was noted by a decrease of level in the component cooling surge tank. This low level alarm annunciates in the control room. Secondly, the increase in containment sump pump run time indicated a leak inside containment. Thirdly, a routine containment entry inspection discovered component cooling water on the containment floor outside the missile barrier. Power reduction was necessary to be able to inspect inside the missile barrier. This was done, the leaking component discovered, and repairs made.