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November 1, 1979

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

Subject: Dresden Station Unit 3
Quad-Cities Station Units 1 and 2
Zion Station Units 1 and 2
Additional Information Requested
in Response to IE Bulletin 79-01
NRC Docket Nos. 50-249/254/265/295/304

References (a): R. F. Heishman letter to C. Reed
dated September 20, 1979

(b): D. L. Peoples letter to J. G.
Keppler dated October 3, 1979

Dear Mr. Keppler:

Reference (b) transmitted our partial responses to information requested in Reference (a) and indicated additional information would be transmitted by November 1, 1979. The majority of the information requested has been obtained and is provided in Enclosure 1 for Dresden 3 and Quad-Cities 1 and 2 and in Enclosure 2 for Zion 1 and 2. The remaining outstanding information will be submitted as identified in the enclosures.

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

Very truly yours,

D L Peoples

D. L Peoples
Director of Nuclear Licensing

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Enclosure 1

Additional Information for IE Bulletin 79-01

Dresden Unit 3, Quad-Cities Units 1 and 2

Item No. 1

Electrical cable splices which are used only at electrical penetrations have been reviewed as required by IE Circular 78-08. Region III Office of Inspection and Enforcement has inspected the Dresden 3 and Quad-Cities 1 and 2 equipment qualification. As reported in Reference A), the results and NRC acceptance of the qualification for the splices is contained in IE Inspection Report Nos. 50-249/78-09, 50-249/78-14, and 50-249/78-25 for Dresden 3 and in IE Inspection Report Nos. 50-254/78-24, 50-254/78-26, 50-254/79-05, 50-265/78-25, 50-265/78-27 and 50-265/79-06 for Quad-Cities Units 1 and 2.

Item No. 2

A review was conducted of the list of safety-related electrical equipment located inside the containment submitted in Reference A) to determine which of the valves listed had environmentally qualified limit switches. The power-operated containment isolation valves inside the containment are all incorporated in that list. The majority of the valves in question are supplied by Limitorque and have been qualified for a LOCA environment. The limit switches for these Limitorque valves are an integral part of the valve and, therefore, are also considered qualified.

The only safety-related power operated valves in the containment that are not supplied by Limitorque are the Main Steam Isolation Valves, the inboard Recirculation Sample Isolation Valves, the head seal leak-off isolation valves and the head vent isolation valves.

At Dresden Station, the MSIVs use NAMCO Series EA 740 limit switches which have been shown to be qualified as reported to the NRC in Reference A. At Quad-Cities Station, the same EA 740 limit switches are used for the MSIV except for some remaining EA 770 which are being replaced with the EA 740 series as failures or malfunctions occur.

The head vent isolation valves which are located in the containment are closed prior to pressurization during startup per technical specifications. The units are also run with the head seal leak-off valve in the closed position. Both sets of valves will already be in the closed position in the event of a LOCA. It is our determination that position indication is not required. The limit switches used for position indication

on these valves are NAMCO type switch which do not have qualification data available, however, based on the above we believe these switches are not vital and need no qualification data.

The inboard Recirculation Sample Valves also have NAMCO type limit switches that do not have qualification data available. These valves close immediately upon a Group 2 isolation (Dresden operates with the valves normally closed). A LOCA could potentially cause the loss of only the inboard switch. Position indication, however, would be available for the outboard valve assuring containment isolation. Therefore, we feel qualification for the limit switch is not required.

IE Bulletin 79-01 also addresses other safety-related valves in the containment which have limit switches to indicate their position. On each unit, there are nine such valves; four on core spray, four on LPCI and one on Standby Liquid Control. Five of those valves are manually operated valves which are in the locked open position and are verified to be so during surveillances prior to startup. These valves would not change position during a LOCA. Therefore, qualification data for these limit switches is not required.

Two of the valves on LPCI and two on Core Spray are testable check valves with limit switches which are provided to indicate valve position only during test and would not perform an essential function during a LOCA. These switches, therefore, do not require qualification data.

The information concerning limit switches for containment isolation valves outside containment is being compiled and will be submitted with the information to be provided for electrical equipment outside of the containment.

Reference: A) Letter from Cordell Reed to Director
of Reactor Operations Inspection
Division dated 6/14/79 (Response to
IE Bulletin 79-01 and Supplement 79-01A)

Enclosure 2

Additional Information
for IEB 79-01

Zion Units 1 & 2

Item #1

Complete information on types of cable splices used at Zion and individual components making up the splice can be found in the following documents:

1. Sargent & Lundy Drawing 22E-0-3000 Pages A3 and A4.
2. D.G. O'Brien Inc. Equipment Manuals on electrical penetrations used at Zion Station.

The above documents are available at Zion Station for inspection.

Item #4

D.G. O'Brien has informed us (letter from Mr. H.P. Milberg to Mr. E. Campbell dated August 25, 1978) that engineering analysis has been made on the ability of their electrical penetrations to withstand chemical spray environment during a LOCA. The result of the analysis is that the penetrations are qualified for chemical spray environment of 3000 p.p.m. of Boron and pH of 9.5 - 10 and, therefore, are within LOCA requirements.

We have not yet received the Westinghouse analysis of the effect of chemical spray on Fischer/Porter and Barton transmitters, but we have been verbally assured by Westinghouse that the report will be available at Zion by November 15, 1979. A more detailed response will be provided by November 20, 1979.

Item #5

Item 5 of Enclosure 3 of the letter to Mr. Reed from R.F. Heishman concerning qualification of electrical equipment for operation in the containment at Zion Station states that Section 6.3 of the Zion FSAR indicates that a LOCA will produce radiation levels of 1.5×10^8 rads.

We have reviewed the Zion FSAR and conclude that the design criteria for radiation exposure of electrical equipment inside the containment is 1.2×10^8 rads. Question 7.28 in Amendment 16 dated October 1971 clearly indicates in the table on page 2 that the design integrated radiation dose is 1.2×10^8 rads. On page 6.3-2 of the FSAR, reference is made to Figure 6.3-4 as providing the design integrated gamma dose level inside the containment as a function of time. Figure 6.3-4 of the FSAR indicates that at the end of about one year, the integrated dose inside the containment is about 1.2×10^8 rads.

Therefore, it is C.E.C.'s position that the equipment listed in Item 5 which has been tested to 1.2×10^8 rads or greater is all properly qualified for service inside the containment at Zion Station.