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TIC

January 4, 1980

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
Response to IE Bulletin 79-26,
Boron Loss from Control Blades
NRC Docket Nos. 50-10/237/249/254/265

Reference (a): J. G. Keppler letter to C. Reed
dated November 20, 1979

Dear Mr. Keppler:

Reference (a) transmitted IE Bulletin 79-26 which required a response for Dresden Units 1, 2, and 3 and Quad Cities Units 1 and 2 concerning the loss of boron from control blades.

Our responses to Items 1 and 2 of IE Bulletin 79-26 are provided in Enclosure 1 for Dresden 1, Enclosure 2 for Dresden 2 and 3, and Enclosure 3 for Quad Cities 1 and 2. As indicated, responses to Items 3 and 4 will be made in accordance with the requirements of the Bulletin.

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

Very truly yours,

D. L. Peoples
Director of Nuclear Licensing

Enclosure

cc: Director, Division of
Reactor Operations
Inspection

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ENCLOSURE 1

DRESDEN 1 RESPONSE TO IE BULLETIN 79-26
BORON LOSS FROM BWR CONTROL BLADES

Item 1

Edison's Nuclear Fuel Services Department routinely calculates the boron depletion history for each of the 80 control blades in the Dresden 1 reactor. In the past, this information has been calculated on a nodal and blade average basis. To comply with the Bulletin, the EOC 11 B¹⁰ depletion data for the three nodes composing the upper one-fourth of each blade were averaged. This method will be continued for future Dresden 1 operations.

Item 2

No blades reached 34% B¹⁰ depletion averaged over the upper one fourth of the blade during Cycle 11 operation. Routine blade shuffling combined with the replacement of up to 8 lead exposure blades with new blades at BOC 12 will prevent any blades from reaching this value of B¹⁰ depletion during the upcoming cycle. The current blade management program should minimize the possibility of this occurrence in future cycles.

Items 3 and 4

Items 3 and 4 will be responded to in accordance with the requirements of the bulletin.

ENCLOSURE 2
DRESDEN 2/3 RESPONSE TO I.E. BULLETIN 79-26
BORON LOSS FROM BWR CONTROL BLADES

Item 1

A record of current B¹⁰ depletion averaged over the top one-fourth of each control blade in Dresden Units 2 and 3 has been established, and station procedures are now being revised to include a monthly check of current control blade B¹⁰ depletion. This information then is used to make predictions of future control blade exposures.

Item 2

The table below categorizes present upper one-fourth segment average blade exposures and identifies the number of blades which are predicted to exceed 34% B¹⁰ depletion by the next refueling outage.

	<u>Number of Blades Currently >34%</u>	<u>Total Number of Blades Predicted to Exceed 34% by Next Outage</u>
D2	3	26
D3	0	0

Item 2a

All control blades predicted to reach 34% B¹⁰ depletion during this cycle or the next will be replaced in the next refueling outage, at which time the possibility of shuffling less depleted blades also will be investigated. The same strategy will be used during future outages.

Item 2b

Our records and predictions indicate that no condition will be reached in current operating cycles where any blades attain greater than 42% B¹⁰ depletion (averaged over the top one-fourth of the blade) or where greater than 26% of the control blades exceed 34% depletion on Units 2 or 3.

Items 3 and 4

Items 3 and 4 will be responded to within the time frame identified in the bulletin.

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ENCLOSURE 3
QUAD CITIES 1/2 RESPONSE TO IE BULLETIN 79-26
BORON LOSS FROM BWR CONTROL BLADES

Item 1

The review of the operating history of the Quad-Cities Station control blades has found maximum control rod segment exposures of 1.37 snvt and 1.08 snvt for Unit One and Unit Two, respectively. This translates into maximum B^{10} depletions, averaged over the upper quarter of the blade, of 22.8% for Unit One and 18.1% for Unit Two. Since the threshold for B^{10} leaching is believed to be 25% of B^{10} depletion, no boron leaching is expected to have occurred. Review of control rod exposures will be made on a continuing basis.

Item 2

No control blades are expected to have greater than 34 percent B^{10} depletions, averaged over the upper one-fourth of the blade, by the next refueling outages. Continued review of control blade exposures should minimize the possibility of control rods exceeding 34 percent B^{10} depletion.

Items 3 and 4

Items 3 and 4 will be responded to in accordance with the requirements of the bulletin.