Commonwealth Edison
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April 8, 1988

Mr. A. Bert Davis
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Zion Station Units 1 and 2
Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Response to NRC Bulletin No. 88-01
NRC Docket Nos. 50-295/304, 50-454/455
and 50-456/457

Reference: (a) NRC Bulletin No. 88-01, dated February 5, 1988.

Dear Mr. Davis,

The above referenced NRC Bulletin requested that holders of operating licenses or construction permits for Nuclear Power Reactors provide information on Westinghouse series DS circuit breakers and safety concerns associated with their use. Additionally, to request that addresses using these breakers in class IE service perform and document inspection of the alignment in the breaker closing mechanism.

Commonwealth Edison has completed its review pursuant to the request outlined in NRC Bulletin 88-01 for Zion, Byron and Braidwood Nuclear Power Stations. The information is attached in Enclosures 1-3.

To the best of my knowledge and belief, the statements contained above are true and correct. In some respect these statements are not based on personal knowledge, but obtained information furnished by other Commonwealth Edison employees, contactor employees, and consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

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Please address any questions that you or your staff may have concerning this response to this office.

Respectfully,

Wayne E Morgan

W.E. Morgan
Nuclear Licensing Administrator

sj

cc: Resident Inspectors - Z/BY/BW
Document Control Desk

Subscribed and Sworn to
before me this 8th day
of April, 1988

Tilia S. Mayo
Notary Public

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ATTACHMENT 1

Zion Station
Response to NRC
Bulletin

Zion Station uses Westinghouse series "DB" breakers as reactor trip and bypass breakers (RTB) rather than the series "DS" breakers as referenced in I.E. Bulletin 88-01. Therefore, the "30-day" inspection of RTB's, as described in I.E. Bulletin 88-01, does not apply to Zion Station.

Zion Station does, however, use "DS" breakers in other 1E applications as well as non-1E applications. Therefore, the short term and the long term inspections, as described in I.E.B. 88-01, will have to be performed on all installed and spare 1E, DS-416 and DS-206 breakers at Zion Station.

The proposed schedule of completion of these inspections is as follows:

Unit-2

Short and long term inspections will be performed simultaneously and will be completed prior to restart following the next Unit-2 refueling outage, tentatively scheduled to start on October 20, 1988. Reporting of inspection results, as required by I.E.B. 88-01, will be submitted to the NRC within 30 days of completion of all Unit-2 inspections.

Unit-1

Zion Station is unable to meet the schedule for short and long term inspections, as suggested in I.E.B. 88-01, due to the fact that we are presently engaged in a refueling outage which includes major maintenance and modification activities. Zion Station can not effectively reschedule present planned outage activities to include all the breaker inspections required by I.E.B. 88-01 without extensive revision to work schedules and manpower requirements as well as the need for additional equipment outages. Approximately 50% of the breakers to be inspected require extensive planning and scheduling and can more effectively be made available during the next refueling outage.

To date, since starting plant operation, Zion Station has not experienced any failure of Westinghouse series "DS" breakers due to pole shaft weld failures. In addition, Zion's preventive maintenance program (PMP) includes Westinghouse "DS" breakers, wherein, every other outage, the breakers are partially disassembled, inspected, lubricated, reassembled and tested. While this PMP breaker inspection/overhaul does not specifically include the pole shaft welds, it does require that the breakers be operated mechanically to ensure function and then tested electrically to ensure protection. The Unit-1 Class 1E "DS" breakers were not scheduled for maintenance during the present outage. Non-1E breakers are being inspected this outage.

ATTACHMENT 2

Byron Station
Response To NRC
Bulletin 88-01

A review of Byron Station's 480V ESF substation key diagrams show for Unit 1 and Unit 2 a total of 112 type "DS" 1E circuit breakers. In addition, there are also 8 DS 416 reactor trip/bypass breakers in service and 1 spare in stock, giving a grand total of 121 DS Series 1E circuit breakers.

Following is an inspection summary for the reactor trip breaker and a proposed schedule for the balance of the breakers:

Reactor Trip Breakers
(Total 9)

The 9 reactor trip/bypass breakers have been inspected for short-term, long-term, and alignment of the breaker closing mechanism per NRC Bulletin 88-01. The seven main pole shaft welds and alignment were examined from March 2 to March 9, 1988 which was in accordance with the 30 day due date requested by the Bulletin. The four main breakers, four bypass breakers and one spare were found with marginal welds and remained in service or available for service with a schedule for reinspection at 200 cycles.

Operating and the Technical Staff surveillances are trending the operations of the 8 reactor trip/bypass breakers in order to keep track of the number of cycles.

Balance of Applicable Breakers
(Total 112)

The remainder of the breakers are listed by type:

(4) DS416 Breakers
(74) connected DS 206 Breakers
(34) Future DS 206 Breakers

Sixteen of the 78 receive ESF trip/close signals and each one will be scheduled at the earliest opportunity, next surveillance or maintenance, for the seven weld examinations and alignment of breaker. The remaining 96 will begin with both inspections, long and short term, at the rate of 25% per refueling. This is derived from a station total of four safety related divisions in which one entire division is taken out of service per refueling outage for maintenance. Therefore, the year for completion of weld/alignment inspections is 1993 and a report in accordance with this NRC Bulletin will be sent within 60 days after the restart of each major maintenance outage.

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Zion Station does recognize the importance of performing the pole shaft weld inspections and proposes the following alternate Unit-1 inspection schedule for review and concurrence. Sixteen, or approximately 50%, of the Unit-1 "DS" breakers in 1E applications will be inspected during the present Unit-1 outage. These breakers were selected on the basis of 1) Availability of the breaker during the present outage; Is the equipment already out of service?, 2) Safety significance of the equipment operated, 3) Those breakers which have experienced a greater number of breaker operations to date, and 4) The availability of redundant equipment. The remaining Unit-1 "DS" breakers in 1E applications along with spare 1E breakers will be deferred until the next Unit-1 outage in 1989.

ATTACHMENT 3

Braidwood Station
Response to NRC
Bulletin 88-01

Following is an inspection summary for the reactor trip breakers and a proposed schedule for the balance of the breakers at Braidwood Station:

Reactor Trip Switchgear
Unit 1 - (5 Breakers)

Braidwood Station's Unit 1 RTBs (type DS-416) were inspected upon receipt of Westinghouse's Technical Bulletin NSID-TB-87-11 per the recommended long-term and short-term inspections. The RTBs were inspected by a certified VT-1 visual weld examiner between January 24 and February 2, 1988. Three out of the four RTBs were found acceptable. On one RTB, the left pole lever weld was rejected due to aligned porosity contributing to unacceptable weld length. The RTB was removed from service and replaced with a spare RTB meeting the acceptance criteria of the Westinghouse Technical Bulletin.

Reactor Trip Switchgear
Unit 2 - (4 Breakers)

The Braidwood Unit 2 RTBs were inspected prior to Westinghouse Technical Bulletin NSID-TB-87-11 and NRC Bulletin 88-01 being issued. The inspection was performed by Mr. K. Naidu, Office of Nuclear Reactor Regulation, with participation from NRC Region III and Westinghouse personnel. This inspection centered around the welds on the pole shaft and alignment of the breaker closing mechanism. Braidwood did not formally inspect the welds at this time as Westinghouse and the NRC were developing their positions on this issue. During this inspection a total of twenty-three breakers were examined and the results were documented in Inspection Reports 50-456/87039 (DRS) and 50-457/87037 (DRS). No problems were identified.

Subsequent to the inspection of the Unit 1 RTBs, the NRC issued Bulletin 88-01 which added to the inspection criteria of the Westinghouse Bulletin. The NRC Bulletin added an inspection for porosity, a parameter not specifically inspected for under the Westinghouse Bulletin. Westinghouse on March 1, 1988, has taken issue with the NRC's position on porosity and has offered a "more functional acceptance criteria for inspecting breaker pole shaft welds for porosity".

Pending resolution of the acceptance criteria for porosity between Westinghouse and the NRC, Braidwood has completed the Unit 1 inspection and will perform formal documented inspections of the Unit 2 RTBs during the surveillance outage currently scheduled for late 1988. Should a reinspection of the Unit 1 RTBs be warranted because of the porosity concern, it would be performed at an opportune time for the unit.

Balance of Applicable Breakers
(Total) 64)

The remainder of the breakers are listed by type:

(52) connected DS 206 breakers
(12) future DS206 breakers

Sixteen of the 52 receive ESF trip/close signals and each one will be scheduled at the earliest opportunity, next surveillance or maintenance, for the seven weld examinations and alignment of breaker. The remaining 48 will begin with 25% per refueling. Therefore, the year for completion of weld/alignment inspections is 1993.

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