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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

MAY 22 1979

Docket No. 50-315
Docket No. 50-316

American Electric Power Service
Corporation
Indiana and Michigan Power Company
ATTN: Mr. John E. Dolan
Vice Chairman
Engineering and Construction
2 Broadway
New York, NY 10004

Gentlemen:

Enclosed is IE Bulletin No. 79-11 which requires action by you with regard to your power reactor facilities with an operating license or a construction permit.

Should you have questions regarding this Bulletin or the actions required of you, please contact this office.

Sincerely,

James G. Keppler
James G. Keppler
Director

Enclosure: IE Bulletin
No. 79-11

cc w/encl:
Mr. D. V. Shaller,
Plant Manager
Central Files
Director, NRR/DPM
Director, NRR/DOR
PDR
Local PDR
NSIC
TIC
Ronald Callen, Michigan Public
Service Commission
Citizens for a Better Environment

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U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

May 22, 1979

IE Bulletin No. 79-11

FAULTY OVERCURRENT TRIP DEVICE IN CIRCUIT BREAKERS FOR ENGINEERED SAFETY SYSTEMS

Discussion:

We have received information from Westinghouse and an NRC licensee relating to the potential failure of a circuit breaker in an engineered safety system of a nuclear power plant. This circuit breaker had a defect in one of its three time delay dashpots which resulted in a reduced time delay for overcurrent protection. The defect was a small hairline crack in the end cap of the dashpot. Further investigation by this licensee disclosed that 7 out of 17 spare dashpot end caps and 2 non-engineered safety feature breakers also had similar defects. The circuit breaker is a Westinghouse type DB-75. Westinghouse type DB-50 breakers also use the same type of dashpot and end cap. DB-50 and -75 breakers are used extensively in PWR's, and some BWR's may also have the same breakers.

Similar make and model circuit breakers, when used for scram purposes, do not require the overcurrent trip feature and thus are not of concern. The end cap crack defect, if severe enough, could result in premature tripping of the circuit breaker because of insufficient time delay in overcurrent protection, i.e., the motor starting (inrush) current could cause the breaker to trip inadvertently and thus prevent the motor start.

The defects reported by the licensee in April 1979, occurred in the replacement end caps which were provided to solve the problem described in IE Bulletin 73-1. The subject of Bulletin 73-1 was end caps made of a black phenolic material. As a result of that Bulletin, the black end caps were replaced with a new type made of fibre-filled polyester material called "navy-gray". Prior to the April 1979 report, there have been no reports of suspect "navy-gray" end caps either from scheduled testing or unusual behavior in service. The manufacturer of the "navy-gray" end caps believes the crack defects may be linked to a raw material batch problem. That is, the molding ingredient materials used may have neared the end of their shelf life before use. It is not believed the end caps, after fabrication, have a significant shelf life limit, due to the low residual s

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