

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CH. LOTTE, N. C. 28242

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

TELEPHONE: AREA 704  
373-4083

August 13, 1981

Mr. James P. O'Reilly, Director  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

Re: Catawba Nuclear Station  
Units 1 and 2  
Docket Nos. 50-413 and 50-414



Dear Mr. O'Reilly:

Pursuant to 10 CFR 50.55e, please find attached Significant Deficiency Report SD 413-414/81-17.

Very truly yours,

*William O. Parker, Jr.*

William O. Parker, Jr.

RWO/php  
Attachment

cc: Director  
Office of Inspection and Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Resident Inspector  
Nuclear Regulatory Commission  
Catawba Nuclear Station

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## CATAWBA NUCLEAR STATION

REPORT NUMBER: SD-413-414/81-17

REPORT DATE: August 13, 1981

FACILITY: Catawba Nuclear Station Station, Units 1 & 2

### IDENTIFICATION OF DEFICIENCY:

In some Gould K-2000S and K-1600S load center breakers, evidence of contact between the mag latch lever and the right pole current sensor coil was observed. Insulation damage can result on the coil if this condition is left uncorrected.

### INITIAL REPORT:

On July 14, 1981, Mr Dennis Myers of the NRC, Region II, Atlanta, Georgia was notified of the deficiency by Mr R S Thompson, Mr L A Lecaros, and Mr W O Henry of Duke Power Co., Charlotte, NC 28242.

### SUPPLIER AND/OR COMMENTS:

Brown Boveri Electric, Inc., Springhouse, Pennsylvania, manufactured the breakers which are used to supply the 600V auxiliary power to equipment used in various class 1E functions.

### DESCRIPTION OF DEFICIENCY:

During inspection of 600V switchgear breakers, evidence of contact between the mag latch lever and the right pole current sensor coil was observed in some breakers. The contact only occurs when the mag latch is activated by a fault indication. The problem is caused by an outside diameter of the coil which varies somewhat, and is, in some cases, too large for the space allowed by the breaker design. A second concern, also relating to the outside diameters of current sensor coils, was discovered during this investigation. In some cases, the coil was observed to be in contact with the lower terminal current stud, directly behind it. Although the coil is sufficiently insulated for the operating voltage between the two components, normal design practice would require additional insulation in the area of contact.

### ANALYSIS OF SAFETY IMPLICATION:

#### Mag Latch Lever Clearance

With repeated operations of the mag latch mechanism, insulation can be rubbed off of the sensor coil, exposing a small area of a conductor. Although the mag latch lever is at ground potential, contact with the coil would not prevent the breaker from opening, since initiation of the tripping would occur prior to contact between the two components.

Coil damage observed during inspection was not sufficient to prevent the equipment from performing its class 1E function.

Lower Terminal Current Stud Clearance

No impairment of the equipment to perform its safety related function is represented by the proximity of the current sensor coil to the current stud, since the coil is sufficiently insulated for contact with this component, which is at 600V potential. The coil is Hi-Pot tested at 2200 volts.

CORRECTIVE ACTION:

Mag Latch Lever Clearance

Gould K2000S and K1600S are to be inspected for contact between the mag latch lever and the current sensor coil. If evidence of contact is found, clearance will be obtained by grinding the area of contact on the mag latch lever per instructions received from Brown Boveri. Coils on which insulation damage is observed will be repaired, or replaced, depending upon the extent of damage. Corrective actions are expected to be complete by November 11, 1981.

Lower Terminal Current Stud Clearance

For breakers in which sensor coils are found to be in contact with the current stud, insulating tape will be applied to the stud surface in the area of contact per instructions from Brown Boveri. Corrective actions are expected to be complete by November 11, 1981.