

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

USNRC REGION II  
ATLANTA, GEORGIA

31 NOV 18 4 8: 07

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

November 13, 1981

TELEPHONE: AREA 704  
373-4083

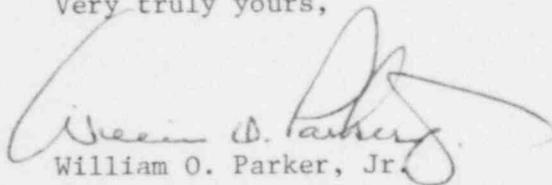
Mr. James P. O'Reilly, Director  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

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

Dear Mr. O'Reilly:

Pursuant to 10 CFR 50.55e, please find attached Significant Deficiency Report SD-413, 414/81-25.

Very truly yours,

  
William O. Parker, Jr.



RWO/php  
Attachment

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

Mr. Robert Guild, Esq.  
Attorney-at-Law  
314 Pall Mall  
Columbia, South Carolina 29201

NRC Resident Inspector  
Catawba Nuclear Station

Palmetto Alliance  
2135 1/2 Devine Street  
Columbia, South Carolina 29205

8111240763 811113  
PDR ADCK 05000413  
S PDR

OFFICIAL COPY

IE 22  
5  
11

DUKE POWER COMPANY  
Catawba Units 1 and 2

Report: SD 413, 414/81-25

Report Date: 11/13/81

Facility: Catawba Nuclear Station, Units 1 and 2

Identification of Deficiency: Westinghouse has discovered that their SA1 relay will not pass the requirements of ANSI C37.90-1978. This deficiency was brought to our attention through letters dated 7/23/81 and 10/1/81.

Description of the Deficiency: Westinghouse notified Duke Power Company that they had discovered a generic problem with their SA1 differential relays in that they would not pass the full surge withstand requirement of the ANSI Standard C37.90-1978. This standard requires that a relay withstand a 2.4KV crest value of a test oscillatory wave and their tests indicate possible failures above a 1.8KV crest. If such a surge were to be present on the 125 VDC control power inputs to the relay, for example, the relay could possibly give a false trip output.

At Catawba, the SA1 relay is used to protect the Class 1E diesel generators (emergency AC on-site power sources) against short circuits. Each diesel generator is protected by its own respective relay. If a given SA1 calls for a trip, the affected diesel generator's main circuit breaker will trip. A shutdown of the diesel engine and generator will also occur.

Initial Report: On October 16, 1981, Mr. A. Ignatonis of the NRC Region II office was contacted and notified of this item by W. O. Henry and W. J. Foley of Duke Power Company, Charlotte, N. C. 28242.

Analysis of Safety Implication:

If a situation were to occur at a Catawba unit in which all offsite power was lost, the two Class 1E diesel generators (train A and train B) would provide the required onsite AC power. In the event that a given surge above the withstand capability of the SA1 then caused a relay to false trip, one of the two onsite 1E AC power sources would be lost until it could be determined that a false trip had occurred. In order to restore power to the affected train, the lockout relay tripped by the SA1 relay would first have to be reset. The affected diesel generator would then have to be restarted and loaded.

In the situation described above, there would be no affect on the health and safety of the public. The AC power required to shut down the plant would be provided by the unaffected diesel generator. Note--a given surge causing a trip of an SA1 would affect only one relay since each diesel generator's SA1 relays are powered by independent DC systems and connected to their respective independent current transformers.

Duke Power Company has employed the Westinghouse SA1 relay in various applications for years in both Class 1E and non-Class 1E service. A false trip attributable to surges has never occurred. The probability of the above

scenario occurring is judged extremely remote.

Corrective Action: Westinghouse has available modification kits for the SAI relays that can be used to upgrade the surge withstand ability to that called for in ANSI C37.90-1978. These kits are being ordered and are expected to be installed by January 1, 1983.