

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

93 DEC 28 8 0:21 5
December 22, 1983

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Re: Catawba Nuclear Station
Units 1 and 2
Docket No. 50-414

Dear Mr. O'Reilly:

Pursuant to 10 CFR 50.55e, please find attached Significant Deficiency Report SD 414/83-17.

Very truly yours,

H.B. Tucker / *HTB*
Hal B. Tucker

LTP:dyh

Attachment

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

NRC Resident Inspector
Catawba Nuclear Station

Palmetto Alliance
2135½ Devine Street
Columbia, South Carolina 29205

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, Georgia 30339

Mr. Robert Guild, Esq.
Attorney-at-Law
P. O. Box 12097
Charleston, South Carolina 29412

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PDR ADOCK 05000414
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CATAWBA NUCLEAR STATION

REPORT NUMBER: SD-414/83-17

REPORT DATE: December 22, 1983

FACILITY: Catawba Nuclear Station
Unit 2

IDENTIFICATION OF DEFICIENCY:

Special welding bosses were installed instead of special welding boss restrictors. This deficiency was identified by Nonconforming Item 17404 on October 27, 1983.

INITIAL REPORT:

On November 22, 1983, Greg Niejfelt, NRC Region II, Atlanta, Georgia was notified of the deficiency by S D Alexander, R D Carroll, L M Coggins, and T L Utterback of Duke Power Company, Charlotte, North Carolina.

COMPONENT AND/OR SUPPLIER:

Fabricated by Duke Power Company, Catawba Nuclear Station.

DESCRIPTION OF DEFICIENCY:

As reported by NCIR 17404, three special welding bosses were installed instead of three restrictor special welding bosses which were specified on the Design piping drawings.

One item was discovered during the final QA review of the process control for weld number 2N1127-12. The other two items were discovered during a review by Mechanical Technical Support of similar process control to determine if this same problem existed in other instances where the Design piping drawing specifies the use of a restrictor special welding boss. All three discoveries were made after special welding boss installation and inspection by QC.

The initial errors were made by the draftsmen when the material lot numbers were assigned on the bill of materials of the Construction isometrics. These lot numbers are placed on the isometrics for warehousing inventory control identification. Neither the Isometric Draftsmen's nor the Material Systems Technicians' reviews discovered the errors. The assigned lot numbers were for special welding bosses (3M2FT410A006) instead of restrictor special welding bosses (3M2FZ410A006). Although, the description portions of the isometrics' bill of material did specify the restrictor type, the warehouse personnel issued the material to the craftsmen based on the lot number.

When the craftsmen fit-up the special welding bosses, the errors were not discovered. The QC Inspector should have discovered the errors during the fit-up inspections but did not. The fit-up inspection is based on the material description on the isometric,

not the lot number. It cannot be determined who the pipe fitter(s) was or why the errors were not discovered. An interview with the involved QC Inspector did not reveal why these items were missed. Each of the three bosses was installed in the Pipe Fabrication Shop with the same QC Inspector performing the fit-up inspections.

Although these three items were discovered as a result of the QA final review of process control, this type problem would not normally be found at final review because that part of the review is performed by comparing the material lot number listed on the Construction isometric to the lot number of the material whose heat number is recorded on the process control form. Although the comparison of lot numbers is performed during final review as an additional check, it is not intended to be the official material verification. The official material verification is performed by the QC Inspector during installation. In the case of the first item which was discovered, the material lot number had been revised at a later date on the Construction isometric to agree with the isometric's material description (i.e., restrictor type) without a check being made to see which type had been installed. As a result of that revision, the lot number discrepancy was found during QA final review.

ANALYSIS OF SAFETY IMPLICATIONS:

If this deficiency had remained undiscovered, the result would have been failure to meet the design criteria required for transition from Class 1 to Class 2 piping. In this case, the design and construction of the line was reviewed and found to meet Class 1 requirements through the first normally closed isolation valve. Therefore, no unacceptable safety implications would have resulted.

CORRECTIVE ACTION:

The special welding boss restrictors have been installed as required by design drawings. All restrictor special welding boss applications have been reviewed by Technical Support and one additional discrepancy was found (and documented on NCIR 17679). It also was installed in the Pipe Fabrication Shop but a different QA Inspector performed the fit-up inspection. Investigations show this problem to be isolated to restrictor special welding bosses due to unfamiliarities with the materials and the very close similarities of the materials and their lot numbers. The Draftsmen and Material Systems Technicians have been trained concerning these errors. In addition, all the appropriate craftsmen, Technical Support personnel, and QC Inspectors will also be trained by January 16, 1984.