

DUKE POWER COMPANY

POWER BUILDING

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

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WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

January 20, 1982

TELEPHONE: AREA 704  
373-4083

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

Re: Catawba Nuclear Station  
Unit 2  
Docket No. 50-414



Dear Mr. O'Reilly:

Pursuant to 10 CFR 50.55e, please find attached Significant Deficiency Report SD 414/81-32.

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

NRC Resident Inspector  
Catawba Nuclear Station

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

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

Handwritten notes and signatures at the bottom right, including "IE 27" and "5/1".

DUKE POWER COMPANY  
CATAWBA NUCLEAR STATION

REPORT NO.: SD-414/81-32

REPORT DATE: January 20, 1982

FACILITY: Catawba Nuclear Station - Unit 2

IDENTIFICATION OF DEFICIENCY: Pressurizer Upper Lateral Supports - Inappropriate welding procedure specified.

INITIAL REPORT: On December 21, 1981; A. Ignatonis, NRC Region II, Atlanta, Georgia was notified of the deficiency by W. O. Henry, L. M. Coggins, and S. H. Van Malssen of Duke Power Company, Charlotte, North Carolina.

SUPPLIER AND/OR COMPONENT: Pressurizer Upper Lateral Support Steel

DESCRIPTION OF DEFICIENCY: During the issuance of process control for the welding of the pressurizer upper lateral supports, incorrect welding procedures were specified to be used for the referenced welding. These incorrectly specified procedures passed through a mechanical technical support person, a welding technical support person, and a quality assurance check without being detected. The process control information was forwarded to the Craft to guide the erection of the steel. During the erection process an in-process fabrication problem was encountered and the process control information was returned to Technical Support Welding. Technical Support Welding personnel noticed specification of the incorrect welding procedure on the process control.

As a result of this incident, an investigation was launched to determine the extent of the referenced problem. The scope of this investigation included all process control information originated for the fabrication of equipment supports fabricated in accordance with subsection NF of ASME Section III. Of the 374 separate process control forms checked, 66 errors were found. These errors are described below:

16 errors on upper pressurizer support: A construction variation notice to Design changed material; Process Control was not changed to reflect this. No work has been done, and tickets have been corrected.

18 errors on upper pressurizer: This was documented December 4, 1981 on NCI 13,533.

16 errors on upper pressurizer support. The Process Control called for a fillet weld; the design drawing specified a full penetration weld. No work has been done, and tickets have been corrected.

16 errors on reactor coolant pump lateral support: General note on drawing states "all plate material to be SA516 GR 70 unless otherwise noted." Shim plates to be welded were specified on design drawing as A-36; Process Control used P number, group number for SA 516 Gr 70. No work has been done, and tickets have been corrected.

ANALYSIS OF SAFETY IMPLICATIONS: While welding was performed on the upper pressurizer support steel, it was discovered that the welding procedures had been improperly specified and qualified. Welding procedures were then developed in accordance with ASME Section IX for the material in question. These procedures were performed using the welding parameters used by the Craft to weld the pressurizer support steel referenced in this report. The use of these parameters during welding of the procedure qualification mechanical test coupons resulted in test results (impacts, tensiles, bends) that satisfied all design and code requirements. Since these requirements were met using the welding parameters used in actually welding the supports, the structural integrity of the support steel was never a question and, therefore, was not compromising to the public safety.

The other errors noted did not involve welds that had been made. Therefore, the structural integrity of these supports was never threatened.

CORRECTIVE ACTION: In order to evaluate and correct any programmatic deficiencies in the process control issuance and checking procedures, the following plan was formulated. Each discipline (mechanical, instrumentation, support restraints, and civil) in the Technical Support organization will follow this plan during the investigation.

1. Each discipline will examine their methods for specifying the proper field weld data sheets required to fabricate items within their jurisdiction. This examination shall include a check for technical accuracy of all construction procedures that are used by each discipline to select data sheets.\*
2. Each discipline will examine their methods for assuring that material changes such as those specified by variation notices, are incorporated into the appropriate process control. This examination should include a review of historical data to assure proper notation of material changes in the past.
3. Each discipline will examine their methods for determining the types of materials to be welded and their methods for selecting the proper FWDS.\*
4. Each discipline will determine all the grades, types, etc. of material to be fabricated by welding within their bounds of authority. Once this information has been obtained, Technical Support Welding shall analyze the information to assure the existence of qualified welding procedures to weld all materials to be fabricated by welding.
5. An audit shall be performed to determine the competence of all process control originators and checkers in selecting the proper FWDS to weld any joint. This audit will be conducted by an individual(s) from an offsite organization.
6. Each discipline will examine their methods for detecting design originated changes in code requirements.
7. Design will be informed of the effects code, code date and material changes have on the welding program.

The proposed date for completion of this examination, a compilation of the results, and the subsequent implementation of any recommendations is June 1, 1982.

\*Data sheets and FWDS refer to Duke Field Weld Data Sheets. These data sheets along with the Duke Welding Process Specification are equivalent to ASME Section IX's WPS.