DUKE POWER COMPANY
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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
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April 30, 1985

Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

RE: Catawba Nuclear Station, Unit 2
Docket Nos. 50-414
Significant Deficiency No. 414/85-02

Dear Dr. Grace:

Please find attached the final report on this item concerning welds on the Unit 2 SIS Accumulator Tanks. This report updates the status of corrective action described in our initial report of February 22, 1985.

Very truly yours,

H.B. Tucker/mjf

Hal B. Tucker

LTP/mjf

Attachment

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

NRC Resident Inspector
Catawba Nuclear Station

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CATAWBA NUCLEAR STATION

REPORT NUMBER: SD 414/85-02

REPORT DATE: 4/30/85

FACILITY: Catawba Nuclear Station Unit 2

IDENTIFICATION OF DEFICIENCY:

While performing a preservice inspection on the shell to upper-head weld on Safety Injection Accumulator Tank 2D, Babcock & Wilcox discovered multiple rejectable indications. Due to this discovery and rejection by Babcock & Wilcox, Duke radiographed the tank weld in question which was made by Southwest Fabricating and Welding Company, a Westinghouse sub-vendor. The subsequent radiograph, divided into 34, 12" intervals, yielded 31 intervals rejectable due to possible slag in the fill of this vendor weld. Examination of radiographs determined that slag may possibly be present in 4-5% of weld thickness in 33-34% of weld length. This was reported as Duke Nonconforming Item (NCI) 19227.

INITIAL REPORT:

On January 25, 1985, C. Burger, NRC Region II, Atlanta, GA was notified of this deficiency by L. M. Coggins, D. M. Collings and T. L. Utterback of Duke Power Company, P. O. Box 33189, Charlotte, N. C. 28242.

COMPONENT AND/OR SUPPLIER:

Safety Injection System Accumulator tank

Supplier: Westinghouse Electric Corporation
Haymaker Road/Northern Pike
Pittsburgh, PA 15230

Manufacturer: Southwest Fabricating and Welding
7525 Sherman Street
Houston, Texas 77261

DESCRIPTION OF DEFICIENCY:

The accumulators are part of the Safety Injection System (SIS), which provides emergency core and containment cooling in the event of a pipe break in either the primary Reactor Coolant or secondary Main Steam system. In the worst of these cases, rapid depressurization of the Reactor Coolant system occurs and the SIS provides rapid injection of the tank contents (borated water) when the reactor coolant pressure drops below the tank cover gas pressure.

The weld containing the indications joins the shell to the hemispherical upper-head. Both the shell and head are made from SA-264 composite material consisting of SA-537 class 1 base steel with 5/32" SA-240 Type 304 cladding. The minimum composite thickness of the head is 0.95 inches and the minimum composite thickness of the shell is 1.88 inches.

ANALYSIS OF SAFETY IMPLICATIONS:

A fracture evaluation was performed by the Westinghouse Materials Technology Group to determine the safety significance of these indications. This evaluation concluded that even in the worst case, where the indications are assumed to extend to the inside surface and to be continuous around the vessel, sufficient safety margin exists to preclude tank failure. In any case, there would be a leak before break condition.

CORRECTIVE ACTION AND STATUS:

Additional ultrasonic inspection has confirmed that linear indications are present in portions of the upper head to shell weld on tank 2D. Southwest Fabricating is developing a procedure for removing these indications and repairing the weld. This procedure will be reviewed by Duke and Westinghouse, and if found acceptable, repairs will begin around May 6, 1985.

Furthermore, weld examinations on the other SIS Accumulator tanks at Catawba have been completed. After evaluation by Duke, Southwest, and Westinghouse personnel, it was determined that no other weld repairs are required. The SIS Accumulator Tanks at Catawba are the only tanks in the Duke system built by Southwest Fabricating and welding.