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February 29, 1984
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Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

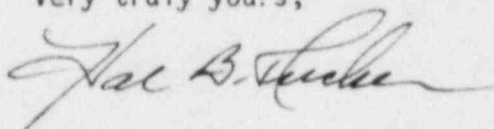
Re: RII:JPO
Catawba Nuclear Station
Docket Nos. 50-413 and 50-414

Dear Mr. O'Reilly:

Please find attached a final response to IE Bulletin 79-14, Revision 1, Supplement 2 for Catawba Nuclear Station Units 1 and 2.

I declare under penalty of perjury that the statements set forth herein are true and correct to the best of my knowledge.

Very truly yours,



Hal B. Tucker

LTP/php

Attachment

cc: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC Resident Inspector
Catawba Nuclear Station

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DUKE POWER COMPANY
CATAWBA NUCLEAR STATION

Response to IE Bulletin 79-14, Revision 1, Supplement 2

INTRODUCTION:

Duke Power Company has utilized an extensive quality assurance program at its Catawba Nuclear Station. Quality assurance procedures and related work area requirements control both design and construction efforts as well as detailed inspection and verification activities. The total program scope extends from initial design/construction through system completion and future modifications.

The quality assurance program at Catawba fully addresses those concerns identified by IE Bulletin 79-14. Fundamental throughout this program are numerous checks to confirm that the seismic analysis of Seismic Category I (i.e. Duke QA Condition 1) piping systems accurately reflects the as-built conditions which exist. Duke Power's rigorous compliance with the quality assurance program at Catawba assures that the requirements of IE Bulletin 79-14 have been and will continue to be satisfied.

DISCUSSION:

Duke Power's quality assurance program at Catawba is very thorough and complete. As applied to piping systems, individual elements of this program address three principal phases of activity. These phases are:

- 1) on-going design, construction, inspection and verification during system erection
- 2) as-built certification leading to ASME Code N stamping and turnover of completed systems
- 3) future modifications and/or additions to completed systems

In this manner, quality assurance requirements span from initial design/construction to final system completion and stamping. They are then continued for any modifications throughout the life of the plant.

Phase 1 begins with the initial design of the piping system and extends through construction, inspection and verification. This activity is performed in an on-going process for all revision work prior to as-built certification.

Extensive quality assurance procedures and resultant work area requirements exist to assure that design and as-built information are accurate and consistent. Primary items in this regard are the following procedures:

Design Engineering Department

PR-101 Engineering Calculations
PR-130 Engineering Drawings
PR-170 Design Specifications
PR-901 Document Control

Construction Department

M-4 Visual Inspection and NDE of Welds
M-8 Piping System Installation Inspection
M-51 Component Supports

All aspects of piping and support/restraint design are addressed. Important elements of the design, such as

- . pipe and support/restraint welds
- . pipe size/schedule
- . pipe run geometry
- . support/restraint type, location and design details
- . penetrations
- . clearances
- . pipe attachments
- . valve weight, location and orientation
- . support/restraint attachment
- . materials

which are established by detailed drawings and specifications are fully inspected and verified during the erection process. Inspection and verification activities include confirmation of QA records, visual checks, detailed measurements and NDE procedures as required to assure design requirements are satisfied within specified tolerances. Any nonconformances detected are fully resolved in accordance with established quality assurance procedures and NRC regulations. As required, design documentation is updated to reflect actual as-built conditions.

Phase 2 represents a process wherein the on-going activities affecting individual piping systems in phase 1 are brought to conclusion. The result is a consistent set of design, construction, inspection and verification documentation which can be certified as being "as-built." The scope of documentation certified "as-built" is the same as that utilized in phase 1 to establish the design.

Quality assurance procedure MPR-140, As-Built Verification of Duke Class A, B and C Systems, is the primary document governing the "as-built" certification process. Its purpose is to direct the flow of work necessary for certification in addition to providing adequate process documentation. At the conclusion of "as-built" certification, the individual piping systems (including supports/restraints) receive an ASME Code N-Stamp and are turned over to Duke Power's Nuclear Production Department for testing and operation.

Phase 3 represents future modifications and/or additions to complete piping systems. This activity is addressed in quality assurance procedure PR-160, Nuclear Station Modification. PR-160 is the primary document which establishes detailed requirements for the review, approval and processing of design changes following completion of phase 2 activities.

As per the requirements of PR-160, all design changes are reviewed and approved prior to beginning any work. Actual implementation of the change is performed by way of existing quality assurance procedures and related work area requirements. All necessary design documents (i.e. drawings, specifications, calculations, etc.) are revised in a manner necessary to assure that they reflect actual plant conditions.

In some instances, Duke QA Condition 1 piping may interface with non-safety related (i.e. Duke non-QA Condition) piping. To assure the structural integrity of the QA Condition 1 piping, a sufficient portion of non-QA Condition pipe is included in the analysis of the QA Condition 1 piping system. Adequate inspection, verification and modification control measures for the non-QA Condition portions of pipe are established by the following procedures:

CP-607	Craft Post Erection Pipe Inspection
DEP-VIE2	Nuclear Station Modification
CNSD-4.4.4	Processing Nuclear Station Modifications

The inspection, verification and control of the supports on the non-QA Condition portions of pipe are addressed by QA Program requirements previously described.

Implementation of the quality assurance program and control procedures discussed in the preceding has been an integral and on-going part of Duke Power's efforts at the Catawba Nuclear Station. This action assures that the seismic analysis of Seismic Category I/Duke QA Condition 1 piping systems accurately reflects the as-built conditions which exist at the plant. The total quantity of design, construction, inspection and verification documentation is very large. It is impractical, therefore, to address each item in this response. All necessary documents are, however, on file and are grouped by mechanical system for the Catawba Nuclear Station.

STATUS:

Hot functional testing was recently completed on Catawba Unit 1. Initial fuel load is currently scheduled for April 30, 1984.

There are 44 piping systems at Catawba Unit 1 which contain Seismic Category I/Duke QA Condition 1 piping. At this time, the "as-built" certification process for individual piping systems is either complete or in final stages of completion. This effort was initiated in January 1983 and is scheduled to be complete prior to fuel load. To date, no major problems have been encountered.

At Catawba Unit 2, hot functional testing and fuel load are targeted for May 1, 1985, and October 1, 1985, respectively. Piping system design, construction, inspection and verification efforts are continuing. Plans and scheduling are currently being finalized for the "as-built" certification of the Seismic Category I/Duke QA Condition 1 piping systems.