



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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June 24, 2002

Mr. M. S. Tuckman
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SUBJECT: MCGUIRE AND CATAWBA NUCLEAR STATIONS - ERRATA PAGES FOR
NRC INSPECTION REPORT 50-369/02-05, 50-370/02-05, 50-413/02-05 AND
50-414/02-05

Dear Mr. Tuckman:

Through recent discussions with Mr. R. Gill of your staff we have become aware of some erroneous information included in the subject NRC inspection report. The errors included a reference to paragraphs of your License Renewal Application which should have referred to two of your internal documents, a misplaced paragraph in the report details, and an incorrectly numbered reference to a portion of your Catawba Updated Final Safety Analysis Report. The errors are minor in nature and do not affect the report's conclusion, however we wish to correct them with amended pages. Please substitute the enclosed amended pages into all copies of the subject inspection report sent to you on May 6, 2002. We apologize for any inconvenience caused by these errors.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this report, please contact Caudle Julian at (404) 562 - 4603.

Sincerely,

IRA

Victor M. McCree, Deputy Director
Division of Reactor Projects

Docket Nos. 50-369, 50-370 and 50-413, 50-414
License Nos. NPF-9, NPF-17 and NPF-35, NPF-52

Enclosure: NRC Inspection Report Amended Pages

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C. Evaluation of Scoping and Screening of Structural Components

1. Structural Scoping and Screening Process

The Duke license renewal scoping and screening of McGuire and Catawba are documented in the following two documents: MCS-1274.00-00-0002, "McGuire Systems and Structures Scoping and Screening for License Renewal," Revision 6, 3/4/02 and CNS-1274.00-00-0002, "Catawba Systems and Structures Scoping and Screening for License Renewal," Revision 6, 3/4/02. Section 4.2 and Table 4.2-1 of those documents list the scoping results of structures at each site. The applicant does not have separate screening results for the structures, rather the applicant lists the screening results in the aging management assessment document.

During the inspection, the inspectors inquired how the applicant drew the boundaries of each structure to show which part is in scope and which part is not. The applicant stated that, if any part of a structure is in scope then the entire structure is in scope unless otherwise specified. The inspectors agreed with this method.

The inspectors also requested that the applicant provide site drawings that show the power plant layout and location of all structures. The applicant provided a master site plan for each plant. For McGuire, DWG MC-1003-1, "McGuire Nuclear Station Units 1&2, Plot Plan, General Arrangement," Revision 95, 5/13/99 shows all the in scope structures. DWG MC-1002-01.00, "McGuire Nuclear Station Units 1&2, General Plan," Revision 10, 10/22/99 shows the Standby Nuclear Service Water Pond. For Catawba, DWGs CN-1003-10, "Plot Plan, General Arrangement," Revision 22, 5/11/99 shows the in scope structures and CN-1003-15, "Master Site Plan," Revision 1, 2/21/01 shows the Standby Nuclear Service Water Pond and other structures.

2. Structures that the LRA concludes are within the scope of license renewal.

a. Catawba Upper Head Injection (UHI) Tank Building

Table 2.2-2 of the LRA indicates that the Catawba UHI Tank Building is within the scope of license renewal. Section 2.4 of the LRA indicates that this structure is in scope for Catawba only. Section 2.4.2.1 of the LRA states that the UHI Tank Building at Catawba is a reinforced concrete structure that houses equipment that is within the scope of license renewal.

To determine why the UHI Tank Building was in scope for Catawba only, the inspectors requested information to understand the design differences between McGuire and Catawba. The applicant provided McGuire drawing MC-1204-2-A, "Auxiliary Building Units 1 and 2 - Floor EI 750+0, General Arrangement Plan - Sheet 1 of 2," and MC-1204-3-A, "Auxiliary Building Units 1 and 2 - Floor EI 750+0, General Arrangement Plan - Sheet 2 of 2," to demonstrate that the UHI tanks are located in the McGuire Auxiliary Building and not in a separate structure. The drawings depicted the UHI tanks as an "accumulator water tank" and an "accumulator gas tank." To demonstrate that these tanks were associated with the UHI system, the applicant furnished an excerpt from the Fire Hazards Analysis (FHA) pertaining to Fire Area 21, which linked the accumulator water and gas tanks to the UHI system. The inspectors were satisfied that a UHI Tank Building was in scope for Catawba only because this structural component did not exist at the McGuire site.

b. The Catawba Auxiliary Building Structures.

The Auxiliary Building Structures are a collection of structures including the Auxiliary Building (AB), the Diesel Generator Building (DGB), the Fuel Building (FB), the Fuel Pool, the Control Complex, the Doghouses, and the Upper Head Injection Buildings.

Section 4.1 of CNS-1274.00-00-0007, "Catawba Units 1&2, Structures & Structural Components Screening and Aging Management Review for License Renewal," Revision 1, 6/8/01 describes the screening process and results of the screening review for the Catawba Auxiliary Building Structures. The AB is identified as a seismic Category I structure that houses the Nuclear Steam Supply System auxiliary equipment. The AB is a free standing reinforced concrete structure and it performs many Part 54 intended functions. The applicant determined that the entire AB is within the scope of license renewal. The inspectors agreed with that determination.

The Spent Fuel Building is part of the Fuel Building (FB). The FB is a composite free standing reinforced concrete and steel structure that is subdivided into the Spent Fuel Building (SFB) and the New Fuel Building (NFB). The NFB is designed to receive, store, and ship new nuclear fuel. The SFB houses the Spent Fuel Pool (SFP) and cask handling area. The SFP is enclosed on three sides by seismic Category I concrete structure. Spent nuclear fuel is stored in the SFP in submerged storage racks. The side that is common to the NFB is enclosed by a non-seismic Category I steel structure that also encloses the New Fuel Vault. The SFP is lined with stainless steel liner to prevent leakage. Table 3.1-1 of CNS-1274,00-00-0007 indicates that the SFB, the stainless liner, and the spent fuel storage racks are within the scope of license renewal.

The Catawba Control Complex actually is part of the Auxiliary Building. The Control Complex includes the Control Room, the Battery Room, and the Cable Room. It is constructed integrally with the AB and hence is within the scope of license renewal.

The DGB is a reinforced concrete structure that provides environmental protection and missile shielding for the diesel generators. The building is divided in half by a reinforced concrete wall isolating each of the two diesel generators. Both the diesel generator intake and exhaust are equipped with louvers. The louvers are not designed to withstand a design event (tornado or seismic). Therefore, the louvers are not within the scope of license renewal. The applicant stated that failure of the louvers will not restrict the flow area or degrade the performance of the diesel generator structure. The inspectors requested further explanation of this statement, and the applicant indicated that the louvers are fixed louvers, so failure of the louvers will only enlarge the flow area, not reduce it. The inspectors agreed with this explanation. The entire DGB is within the scope of license renewal (except the fixed louvers) and the inspectors agreed with this assessment.

c. The Catawba Nuclear Service Water Structures

The Catawba Nuclear Service Water (NSW) Structures include the NSW and the Standby Nuclear Service Water (SNSW) Pump Structure, the NSW Conduit Manholes, the NSW Intake Structures, the SNSW Discharge Structures, the SNSW Pond Outlet, the SNSW Pond, and the SNSW Pond Dam.

The NSW and SNSW Pump Structure is a reinforced concrete structure founded on solid rock. The Pump Structure provides tornado missile protection and the interior concrete walls provide

fire barriers for the pumps. Reinforced concrete roof hatches are provided to allow access to equipment. Water enters the pit area of the pump house through a pipe and passes a baffle wall to reduce water velocity. The water then flows through a screen assembly to remove trash that could damage the pump. Table 3.1-1 of CNS-1274.00-00-0007 indicates the Pump Structure and the screen assembly are all within the scope of license renewal.

The NSW conduit manholes at Catawba are seismic Category I reinforced concrete box shaped structures. The manholes and covers provide missile protection to the nuclear service water conduit. Both the manholes and covers are within the scope of license renewal.

The NSW Intake structure is a box shaped reinforced concrete structure. This structure is submerged in the plant's intake channel. It houses the intake pipe and the entrance is protected by trash screens. Drawing CN-1347-01-3, "NSW & SNSW Intake Structure, Concrete, Reinforcing, and Miscellaneous Steel, Plan and Details," Revision 9, 7/9/95 depicts that the entrance to the intake pipe is protected from all directions by trash racks which are anchored into the concrete. The Intake Structure, trash racks and screens are all within the scope of license renewal.

d. The McGuire Reactor Building Structures

License Renewal document MCS-1274-00-00-0007, "Structures and Structural Components Screening and Aging Management Review for License Renewal," Revision 1, 6/8/01 provides the screening results of all structures and structural components of the McGuire Nuclear Station for license renewal.

Section 4.3 of MCS-1274.00-00-0007 contains the screening results of the McGuire Reactor Building Structures. The Reactor Building Structures consists of three major structures; the Reactor Building, the Steel Containment Vessel, and the Containment Internal Structures. The Reactor Building is a reinforced concrete structure composed of a right vertical cylinder with a shallow dome and flat circular foundation mat. The annulus floors are part of the Reactor Building.

The Steel Containment is a free standing welded steel shell with a vertical cylinder, hemispherical dome and a flat base. The containment is anchored to the Reactor Building foundation mat. Hatches and penetrations penetrate through the containment vessel.

The Containment Internal Structures consist of many major structures. They are: the containment base slab, the reactor vessel cavity wall, the upper reactor cavity, control rod drive mechanism missile shield system, the refueling canal, the crane wall, the steam generator enclosures, the pressurizer enclosure, the divider deck, the equipment floor, the ice condenser floor, the pressure seals and gaskets, and the accumulator wing walls.

As listed in Table 3.1-1, the applicant concluded that the entire Reactor Building Structures are within the scope of license renewal. The inspectors agreed with that assessment.

e. The McGuire Main Steam Doghouse

The Main Steam Doghouse is part of the McGuire Auxiliary Building Structures. The McGuire Main Steam Doghouses exist for each reactor unit on opposite sides of the reactor buildings. The interior doghouses are those situated between the two reactor buildings. The Main Steam

d. The Catawba Low Pressure Service Water Discharge Structure

Section 9.2.8.1 of the Catawba UFSAR states that the conventional LPSW system is designed to supply lake water for various makeup and cooling functions on the secondary side of the plant. Furthermore, the safety evaluation contained in Section 9.2.8.3 of the UFSAR states that the conventional LPSW system does not perform any safety related functions. Since the LPSW Discharge Structure does not perform or support any license renewal function and its failure will not affect any safety related equipment, it is not within the scope of license renewal. The inspectors agreed with this assessment.

D. Fire Protection

Section 2.1.1.3.1, "Fire Protection," of the LRA states that Duke Quality Assurance (QA) Condition 3 applies uniquely to fire protection (FP) systems, structures, components (SSCs), and services. In addition, this section of the LRA states that systems designated as QA Condition 3 are those systems that promptly detect, control and extinguish fires to limit their damage and provide protection for systems, structures, components and services so that a fire will not prevent the safe shutdown of the plant. Section 2.3.3.19, Fire Protection System, of the LRA states that, for McGuire and Catawba, the interior/exterior FP system provides fire suppression to protect the capability to shut down the reactor and maintain it in a safe shutdown condition and to minimize radioactive releases to the environment in the event of a fire.

On September 18 and 20, 2001, conference calls between the NRR and Duke were conducted to discuss the methodology used by the applicant to perform a scoping evaluation of FP equipment. A summary of these conference call was issued by NRR October 15, 2001. During these conference calls, the applicant indicated that existing plant drawings and documents were reviewed to identify structures and components designated as QA Condition 3, and thus within the scope of license renewal. The applicant also stated that FP SSCs that are identified in the UFSAR as being required to comply with 10 CFR 50.48 are also identified in the QA Condition 3 program.

On October 3, 2001, a conference call between the NRR and Duke was conducted to further discuss the applicant's licensing basis, as described in the UFSAR, and the results of the applicant's scoping evaluation of FP equipment. A summary of this conference call was issued by NRR November 2, 2001. During the conference call, the applicant indicated that only fire protection features that protect safety-related equipment were required to comply with 10 CFR 50.48. The applicant further indicated that these fire protection features (those that protect safety-related equipment) were designated QA Condition 3.

To better understand the methodology used by the applicant to identify FP SSCs within the scope of license renewal, the inspectors reviewed license renewal basis specifications. Specifications MCS (CNS)-1274.00-00-0002, "McGuire (Catawba) Systems and Structure Scoping for License Renewal," Revision(s) 6, describe the methodology used to perform license renewal scoping; identify the intended functions for in-scope systems and structures; and present the results of the scoping evaluations. Section 3.6.1 of these specifications state that systems and structures relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with 10 CFR 50.48 are within the scope of license renewal. The specifications define QA Condition 3 systems as those systems that promptly detect, control and extinguish fires to limit their damage and provide protection for SSCs and services so that a fire will not prevent the safe shutdown of the plant. These specifications also indicate that the fire protection intended function applies to systems that are required to remain functional to