

November 2, 2001

LICENSEE : Duke Energy Corporation

FACILITIES: McGuire, Units 1 and 2, and Catawba, Units 1 and 2

SUBJECT: TELECOMMUNICATION WITH DUKE ENERGY CORPORATION TO DISCUSS  
INFORMATION IN THEIR LICENSE RENEWAL APPLICATION ON FIRE  
PROTECTION SYSTEMS

On October 3, 2001, after the NRC staff reviewed information provided in Chapter 2 of the license renewal application (LRA), conference calls were conducted between the NRC and Duke Energy Corporation (the applicant) to clarify information presented in the application pertaining to the scoping of structures and components in the fire protection systems. Participants in the conference call are provided in an attachment.

The questions asked by the staff, as well as the responses provided by the applicant, are as follows:

1. Was the Updated Final Safety Analysis Report (UFSAR) reviewed during the scoping evaluation? Were any structures or components identified as part of the design basis for McGuire or Catawba excluded from within the scope of license renewal?

The applicant indicated that the UFSAR was reviewed during the scoping evaluation, but that not all structures and components referred to in the UFSAR were part of the Quality Assurance (QA) Condition 3 program (such as those in areas listed in Section 9.5.1.2.2 of the McGuire UFSAR and those in the Turbine, Service and Administration Building areas listed in Section 9.5.1.2.1 of the Catawba UFSAR). According to the applicant, these items are not safety-related. As such, the fire protection features for these items were not required for compliance with Title 10 of the Code of Federal Regulations (10 CFR) Part 50.48 and are not QA Condition 3. The staff will take this information under consideration, but may request additional information to complete their review.

2. Section 9.5.1.1 of the McGuire UFSAR states that one of the objectives of the fire protection systems is to provide automatic (deluge) systems over oil hazard areas. Section 9.5.1.2.2 specifically states that water spray systems and sprinkler systems are provided for the protection of the oil storage house, the oxygen and acetylene gas storage yard area, compressed flammable gas cylinder storage area, main turbine piping and bearings, unit start-up and standby oil-filled power transformers, main turbine lube oil reservoirs, hydrogen seal oil unit, and the feedwater pump turbines. However, the fire water system piping leading to these areas is not highlighted on flow diagram MCFD-1599-01.00 and MCFD-1599-03.00. This question and its basis also applies to the lube oil storage house and hazardous waste storage building represented in flow diagram CN-1599-1.0. Why is this piping not within the scope of license renewal? The applicant indicated that automatic sprinkler systems were provided for items and areas listed in Section 9.5.1.2.2 of the McGuire UFSAR for property protection and insurance purposes. The items and areas listed in that section of the UFSAR were

located away from safety-related or safe shutdown equipment and structures. The staff will take this information under consideration, but may request additional information to complete their review.

3. How are changes to the plant during the staff's review of the license renewal application captured in the scoping methodology?

The applicant indicated that the Duke license renewal team, in accordance with 10 CFR 54.21(b), will perform annual reviews of plant modifications and will submit annual amendments to the LRA to identify any changes to the McGuire and Catawba current licensing basis (CLB) that materially affects the contents of the LRA, including the UFSAR supplement. This effort will continue during the staff's review of the LRA. The staff is satisfied with this response and has no additional questions on this issue.

4. Section 9.5.1.2.3.2 of the McGuire UFSAR states that sprinkler systems are provided for reactor coolant pumps (RCPs) 1A, 1B, 1C, 1D, 2A, 2B, 2C, and 2D. Why is the fire protection system piping to the RCPs not highlighted on flow diagram MCFD-1599-02.02? Similarly, NUREG-0954, Supplement 3 to the Catawba Safety Evaluation Report (SER), states that by letter dated February 10, 1984, the licensee committed to complete the installation of the RCP sprinkler system. Why is the fire protection system piping to the RCPs not highlighted on flow diagrams CN-1599-2.1 and CN-1599-2.2?

The applicant indicated that this system was installed in response to operating experience at the Oconee Nuclear Station; however, this suppression system was never required to comply with 10 CFR 50.48. The applicant further indicated that a reactor coolant pump motor oil collection system had been installed at McGuire and Catawba to isolate oil from potential ignition sources. This was done as a backfit to comply with Appendix R, Section O. This modification precluded the need to maintain a sprinkler system. The staff is satisfied with this response and has no additional questions on this issue. However, the staff notes that the UFSAR needs to be updated to reflect the modification to the facility and associated obsolescence of the RCP sprinkler system.

5. Section 9.5.1.2.1 of the McGuire UFSAR states that fire hydrants are connected to the yard main. Fire hydrants are considered passive, long-lived components. Why are some of the fire hydrants, which appear to have fire protection intended functions in accordance with 10 CFR 50.48, excluded from the scope of license renewal as reflected by flow diagram MCFD 1599-01.00 and MCFD-1599-03.00?

The applicant indicated that fire protection flowpaths that supply water to safety-related areas such as the auxiliary building and reactor building are within the scope of license renewal. These flowpaths are highlighted on the applicable flow diagrams. Some fire hydrants are located along the required fire protection flowpath and are not isolable from the flowpath. These hydrants are shown highlighted on the flow diagrams and are within the scope of license renewal because their pressure boundary loss may prevent water from being supplied to the required areas. Other fire hydrants exist in the fire protection system that are downstream of isolation valves that isolate the required fire protection flowpath from the rest of the system. The license renewal boundaries are located at these isolation valves, as shown on the applicable flow diagrams. Equipment

in the portion of the system downstream of the isolation valves and the license renewal boundaries, including any fire hydrants, is not within the scope of license renewal. No fire hydrants are relied upon to protect safety-related and/or safe shutdown equipment at McGuire. The staff will take this information under consideration, but may request additional information to verify this basis for excluding certain fire hydrants from within the scope of license renewal.

6. Highlighted suction and discharge piping for the fire pumps on McGuire flow diagram MCFD-1599-01.00 indicates that the piping is within the scope of license renewal. However, the highlighting does not trace the outline of the fire pumps and associated strainers but passes through them. Are the fire pump casings and strainers within the scope of license renewal?

The applicant indicated that the fire pump casings and strainers were within the scope of renewal. However, the convention of highlighting the outline of these components on the flow diagram was not followed such that this was clear on the flow diagrams. The staff is satisfied with this response, but may request additional information to complete their review of the applicant's aging management review for fire pump strainers.

7. Operating License Conditions for McGuire and Catawba state, in part, that Duke Energy Corporation shall implement and maintain in effect all provisions of the approved fire protection program as described in the FSAR and as approved in the SER through applicable supplements.

Supplement 2 of the McGuire SER states that all fire water pumps are installed in accordance with applicable National Fire Protection Association (NFPA) guidelines. NFPA 20-1980 states that a fire pump shall not be used as a pressure maintenance pump. Section 9.5.1.2.1 of the McGuire UFSAR states that jockey pumps are provided to prevent frequent starting of the fire pumps by maintaining pressure in the yard mains.

Supplement 2 of the Catawba SER states that the performance capabilities of the fire pumps meet Section 6.b of Branch Technical Position (BTP) CMEB 9.5-1 and are, therefore, acceptable. Section 6.b of BTP CMEB 9.5-1 states that the fire pump installation should conform to NFPA 20, "Standards for the installation of centrifugal Fire Pumps." NFPA 20-1980 states that a fire pump shall not be used as a pressure maintenance pump. Section 9.5.1.2.1 of the Catawba UFSAR states that jockey pumps are provided to prevent frequent starting of the fire pumps by maintaining pressure on the system.

On what McGuire and Catawba flow diagrams are the jockey pumps represented? Are the jockey pump casings within the scope of license renewal?

The applicant indicated that the jockey pumps were not within the scope of license renewal because they are not QA Condition 3 components and because a failure of these components would not cause a loss of intended function. The staff will consider this information but may request additional information to determine if Duke Energy's reliance upon a QA Condition 3 designation was appropriate for identifying structures and components within the scope of license renewal.

8. Section 9.5.1.8 of NUREG-0954, Supplement 3 to the Catawba SER, states that the staff approved a deviation from the fire protection guidelines in BTP CMEB 9.5-1 to allow for a partial coverage suppression systems instead of area-wide coverage on the 543' elevation of the Catawba 1 and 2 auxiliary building to provide reasonable assurance that safe shutdown capability would not be impacted by fire damage. Why is piping to the auxiliary building not highlighted on flow diagram CN-1599-1.0 to indicate that it is within the scope of license renewal? Is the partial coverage suppression sprinkler piping and associated fire protection components (e.g. sprinklers) within the scope of license renewal and subject to an aging management review (AMR)? Is the fixed water sprinkler system for the auxiliary building, which provides suppression water to various components listed in Section 9.5.1.2.1 of the Catawba UFSAR, within the scope of license renewal and subject to an AMR?

The applicant indicated that the piping to the auxiliary building should be highlighted on flow diagram CN-1599-1.0 to indicate that it is within the scope of license renewal and that the drawing was in error because of an administrative oversight. Additionally, the partial coverage suppression sprinkler piping and associated fire protection components (e.g. sprinklers) are within the scope of license renewal and subject to an aging management review. Similarly, the fixed water sprinkler system for the auxiliary building, which provides suppression water to various components listed in UFSAR Section 9.5.1.2.1, is also within the scope of license renewal and subject to an AMR. The staff is satisfied with this response and has no additional questions on this issue.

9. For Catawba, piping to the Unit 1 and 2 containment mechanical equipment buildings fire hose racks and sprinklers that appear to have fire protection intended functions required for compliance with 10 CFR 50.48 are not highlighted on flow diagram CN-1599-1.0. Why is this piping not within the scope of license renewal?

The applicant indicated that the Unit 1 and 2 containment mechanical equipment buildings house non-safety-related ventilation equipment that cools the containment building to make it habitable for maintenance, operations and radiation protection personnel during refueling outages. As such, fire suppression systems in these buildings are not required by 10 CFR 50.48. The applicant also stated that these buildings are remotely located (one to two hundred feet) from the containment structure. The staff will take this information under consideration, but may request additional information to determine if other safety-related or important to safety structures or components could be adversely affected by a spread of fire from the Unit 1 and 2 containment mechanical equipment buildings such that fire suppression capability would be required by 10 CFR Part 50.48 and within the scope of license renewal.

10. The purpose of the Catawba Standby Shutdown System (SSS) as stated in the FSAR and in NUREG-0954 SSER 4 is to achieve and maintain safe hot standby conditions in the plant. The SSS complies with the guidelines of SRP Section 9.5.1, Position C.5.c. The Standby Shutdown Facility (SSF) is provided for alternative shutdown capability in accordance with 10 CFR 50.48 and NUREG 0800. Fire protection system piping to the SSF and the SSF diesel generator room is not highlighted on flow diagrams CN-1599-1.0 and CN-1599-2.3. Similar piping is not highlighted on the McGuire flow diagrams. Why is this piping not within the scope of license renewal?

The applicant responded that NUREG 0800 requires that suppression capability be provided for the fire area under consideration in the plant, not in the SSF. The applicant indicated that suppression capability was provided for the fire area under consideration in the plant, and that portion of the fire water system was within the scope of license renewal. However, fire suppression capability in the SSF was provided as a conservative measure. As such, that suppression system piping falls outside the scope of license renewal. This basis for excluding fire water piping to the SSF also applies to McGuire. The staff is satisfied with this response and has no additional questions on this issue.

11. Section 9.5.1.2.1 of the Catawba UFSAR states that manual hose stations and automatic sprinkler or deluge systems are provided for the protection of turbine building components. Fire protection system piping to the Unit 1 and Unit 2 turbine buildings is not highlighted on flow diagram CN-1599-1.0. Why is this piping not within the scope of license renewal?

The applicant indicated that no safety-related or safe shutdown equipment is housed in the turbine buildings. Fire barriers and distance will prevent the spread of fire in the turbine building to other buildings that contain safety-related or safe shutdown equipment. The staff will consider this information but may request additional information to complete its review.

12. Section 9.5.1.2.1 of the UFSAR states that the interior fire protection (RF) system provides a fixed water suppression system for charcoal filters. Fire protection system piping to charcoal filters is not highlighted on flow diagrams CN-1599-2.1 and CN-1599-2.2. Why is this piping not within the scope of license renewal?

The applicant indicated that the charcoal filters on the flow diagram are associated with a nonsafety-related containment ventilation system that cools the containment building to make it habitable for maintenance, operations and radiation protection personnel during refueling outages. The staff will consider this information but may request additional information to verify that the portion of the RF system that provides a fixed water suppression system for charcoal filters is not within the scope of license renewal.

13. Fire protection system piping from the nuclear service water system to the nuclear service water structure that appears to have fire protection intended functions required for compliance with 10 CFR 50.48 is not highlighted on flow diagrams CN-1599-2.1 and CN-1599-2.2. Why is this piping not within the scope of license renewal?  
The applicant indicated that a modification had been implemented to install fire hydrants 61 and 62 in the yard outside the nuclear service water pump structure. This modification precluded the need to rely on the nuclear service water system for fire protection of the pump structure. These fire hydrants are governed by the operability requirements specified in Selected Licensee Commitment 16.9-23, which states that fire hydrants 61 and 62 are required to be operable whenever equipment in the nuclear service water system pump structure is required to be operable. The applicant further indicated that a future modification to remove the nuclear service water system piping and components associated with fire protection of the pump structure is planned. The

staff reviewed flow diagram CN-1599-1.2 to verify that hydrants 61 and 62 were within the scope of license renewal. The staff also reviewed Selected Licensee Commitment 16.9-23 to verify the function of these hydrants. As such, the staff is satisfied with this response and has no additional questions on this issue.

14. Piping associated with the low pressure CO<sub>2</sub> storage tank fill connection and equalizing connection piping that appears to have fire protection intended functions required for compliance with 10 CFR 50.48 is not highlighted on flow diagrams CN-1599-4.0 or CN-2599-4.0. Why is this piping not within the scope of license renewal?

The applicant indicated that this piping was within the scope of license renewal up to and including the first isolation valves from the tank (as reflected in the flow diagrams). The applicant stated that these isolation valves are normally closed (as reflected in the flow diagrams) such that a breach in pressure boundary downstream of the isolation valve would not affect the CO<sub>2</sub> storage tank's ability to perform its intended function. The staff is satisfied with this response and has no additional questions on this issue.

A draft of this telecommunication summary was provided to the applicant to allow them the opportunity to comment prior to the summary being issued.

*/RA/*

Rani L. Franovich, Project Manager  
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Docket Nos. 50-369, 50-370, 50-413, and 50-414

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14. Piping associated with the low pressure CO<sub>2</sub> storage tank fill connection and equalizing connection piping that appears to have fire protection intended functions required for compliance with 10 CFR 50.48 is not highlighted on flow diagrams CN-1599-4.0 or CN-2599-4.0. Why is this piping not within the scope of license renewal?

The applicant indicated that this piping was within the scope of license renewal up to and including the first isolation valves from the tank (as reflected in the flow diagrams). The applicant stated that these isolation valves are normally closed (as reflected in the flow diagram) such that a breach in pressure boundary downstream of the isolation valve would not affect the CO<sub>2</sub> storage tank's ability to perform its intended function. The staff is satisfied with this response and has no additional questions on this issue.

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