

January 15, 2002

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 SECTION 2.3.4, STEAM AND POWER CONVERSION SYSTEMS, AND SECTIONS 2.3.3.27, 2.3.3.34, AND 2.3.3.36

On November 27, 2001, after the staff reviewed information provided in Sections 2.3.4, 2.3.3.27, 2.3.3.34, and 2.3.3.36 of the license renewal application (LRA), a conference call was conducted between the NRC and Duke Energy Corporation to clarify information presented in the application pertaining to the scoping of steam and power conversions systems, nuclear sampling system, spent fuel pool cooling system, and turbine building sump pump system. Participants in the November 27, 2001, 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:

#### General Questions - Both Plants

1. Discuss why the closure bolting is not included as a component for aging management of the steam and power conversion systems. Cracking and loss of preload in bolting could be a part of aging effect and may need aging management.

The applicant indicated that a similar question arose during the staff's review of Section 3.3, Auxiliary Systems, of the LRA. As such, a generic request for additional information will be issued by the staff to resolve this item.

#### 2.3.3.21 Groundwater Drainage System

1. The purpose of the Catawba Groundwater Drainage System is to remove water from the Auxiliary Building. The update final safety analysis report (UFSAR) states that the discharge piping terminates at the Auxiliary Building wall or nearby yard drain. Drawing CN-1581-1.0 has the license renewal boundary associated with the discharge piping ending at the missile boundary, not at the piping termination point. Provide justification for ending the license renewal boundary at this point.

The applicant indicated that the pipe is designated Class 3 (safety-related) up to the missile boundary, where the pipe classification changes. The staff reviewed the drawing and noted that the license renewal boundary ended where the safety-related pipe classification ended, and also acknowledged that Note 10 explained that seismic design was required for the groundwater drainage pump discharge check valve through the

missile barrier. As such, the staff is satisfied with this response, as well as the information provided in the drawing, and has no additional questions on this issue.

2. The McGuire systems sump pumps are identified on drawing MCFD-1581-01.00 as being within the license renewal boundary but the pump casings are not listed on Table 3.3-29 as needing an aging management review. Justify why the pump casings are not included in the feedwater system in Table 3.3-29 as a component for aging management.

The applicant indicated that the pump casings were listed in Table 3.3-29 on page 3.3-194 of the LRA. The staff is satisfied with this response, as well as the information provided in the LRA, and has no additional questions on this issue.

#### 2.3.3.27 Nuclear Sampling System - Catawba

1. On drawings CN-1572-1.1 and CN-2572-1.1, the safety-related piping to a relief valve off the line coming from the NI accumulators is not within the license renewal boundary. Justify not including this safety-related piping within the license renewal boundary. As a note, this piping is within the scope of license renewal for McGuire.

The applicant indicated that the subject piping should have been highlighted to indicate that the piping was within the scope of license renewal up to the point of the pipe class break (where the pipe classification was no longer safety-related) and that a highlighting error had been made. The staff is satisfied with this response and has no additional questions on this issue.

#### 2.3.3.36 Turbine Building Sump Pump System (WP) - Catawba

1. The system description on page 2.3-78 describes the Turbine Building Sump Pump System as a non-safety system whose postulated failure could prevent satisfactory accomplishment of certain safety-related functions. The "certain safety-related functions" which the failure of this system could impact are not described, nor are the "postulated failures." This system is not described in the FSAR. The referenced diagrams show that only a small portion of the system piping in the auxiliary building is within a license renewal boundary. The information provided is not adequate for making a determination if the license renewal boundaries for this system are appropriate. A more detailed system description needs to be provided.

The applicant and staff agreed that, since the UFSAR did not provide information pertaining to the function of this system, the staff may need to request additional information to complete its review of this item. However, the staff concluded that, since only Class F piping from these systems was within the scope of license renewal, understanding the function of these systems was not necessary. The staff concluded that the information provided in the application and in the drawings was sufficient and has no additional questions on this item.

#### 2.3.4.1 Auxiliary Feedwater System - McGuire

- 1 Part of 6-inch piping from the Auxiliary Feedwater Storage tank inside of the Auxiliary Building on drawing MCFD-1592-01.01, K-12 is Duke System Piping Class F due to flooding concerns and is included within the license renewal boundary. According to the drawing, a segment of this pipe is within the Auxiliary Building but is neither Duke System Piping Class F nor is within the license renewal boundary. Explain why the license renewal boundary ends where it does. On drawing MCFD-2592-01.01, the license renewal boundary for this pipe ends where the pipe exits the Auxiliary Building.

The applicant indicated that MCFD-2592-01.01 is correct and that the license renewal boundary extends to the auxiliary building structure. Drawing MCFD-1592-01.01 has an error in that the line list change (from Class F to non-Class F piping) that corresponds to the boundary flag is not drawn. However, the boundary and line list change should have been at the auxiliary building transition. The staff is satisfied with this response and has no additional questions on this issue.

#### 2.3.4.2 Auxiliary Steam System

1. For McGuire, the 4-inch line off the 10-inch auxiliary steam piping at position G-6 on drawing MCFD-1595-01.02 is not within the license renewal boundary. The 10-inch piping is within the license renewal boundary. According to the description on page 2.3-86 of the application, a postulated failure of the Auxiliary Steam System could prevent the satisfactory accomplishment of unidentified safety-related functions. The failure of the 4-inch line could defeat the pressure boundary component function of the 10-inch piping. Justify not including the 4-inch line within the license renewal boundary.

The applicant referred the staff to the line list designation for the in-scope piping, which indicated that the piping was Class F. The applicant explained that the Class F piping was within the scope of license renewal because its failure could prevent a safety-related structure or component from performing its function. The loss of pressure boundary for the Class G 4-inch line does not have the potential to adversely affect a safety-related component or structure (otherwise it would be Class F piping). The staff is satisfied with the explanation provided and has no additional questions on this issue.

2. The license renewal boundary for the McGuire auxiliary steam piping on drawing MCFD-2595-01.00 starts at the boundary of the service building and the auxiliary building. It is noted on the drawing that the Duke Piping Classification changes from G to F at the boundary of the auxiliary building. It is not clearly identified if the license renewal boundary starts at the first seismic support as is done on other drawings. Verify the license renewal boundary includes all the Duke Piping Classification F piping.

The applicant verified that the license renewal boundary includes all the Class F piping. The staff is satisfied with this response and has no additional questions on this issue.

3. For McGuire Unit 1 there is a drawing, MCFD-1595-01.02, which contains the majority of the auxiliary steam system that is within the license renewal boundary. There is no equivalent drawing for Unit 2. MCF1550-04-00, "Index Of McGuire Flow Diagrams," lists

a drawing MCFD-2595-01.01, "Auxiliary Steam System" but that drawing was not provided.

The applicant indicated that the Unit 1 auxiliary steam system is used to support certain unit-shared component functions and, for this reason, contains more piping and components represented on flow diagrams and within the scope of license renewal. However, the Unit 2 auxiliary steam system does not serve those plant support loads and, as such, there is no corresponding equipment to represent on plant drawings and there is not a corresponding Unit 2 drawing to the Unit 1 drawing in question. The staff is satisfied with the explanation provided and has no additional questions on this issue.

4. On Catawba drawing CN-1595-1.0, piping to steam trap stations and the boric acid batching tank heater coil come off in-scope piping but are not marked as being within the license renewal evaluation boundary and are non-isolable from the in-scope piping. The function of the in-scope piping is to serve as a pressure boundaries but failure of the piping not included in the license renewal evaluation boundary could defeat that function. Provide justification for not including the piping to the steam trap stations and the boric acid batching tank heater coil in the license renewal evaluation boundary.

The applicant referred the staff to the line list designation for the in-scope piping, which indicated that the piping was Class F. The applicant explained that the Class F piping was within the scope of license renewal because its failure could prevent a safety-related structure or component from performing its function. The loss of pressure boundary for the out-of-scope piping does not have the potential to adversely affect a safety-related component or structure (otherwise it would be Class F piping). The staff is satisfied with the explanation provided and has no additional questions on this issue.

5. On Catawba drawing CN-1595-1.2, the piping from Drawing CN-1595-1.0 (to Steam Trap Station T-23) is within the scope of license renewal but the license renewal evaluation boundary is at a pipe size reducer without physical means of isolation. Provide justification for not extending the license renewal boundary to an isolation valve.

The applicant referred the staff to the line list designation for the in-scope piping, which indicated that the piping was Class F. The applicant explained that the Class F piping designation ends at the pipe size reducer because failure of the downstream pipe would not prevent the performance of a safety-related function. The staff is satisfied with the explanation provided and has no additional questions on this issue.

6. On Catawba drawing CN-1595-1.2, the piping from Drawing CN-1595-1.0 (to Steam Trap Station T-23) is within the scope of license renewal but the branch line off that pipe to the waste evaporator condensate return tank is not. The license renewal evaluation boundary is located where the pipes meet without physical means of isolation. Provide justification for not extending the license renewal boundary to an isolation valve.

The applicant referred the staff to the line list designation for the in-scope piping, which indicated that the piping was Class F. The applicant explained that the Class F pipe designation ends at the branch in question because failure of the pipe to the waste evaporator condensate return tank would not prevent the performance of a safety-

related function. The staff is satisfied with the explanation provided and has no additional questions on this issue.

#### 2.3.4.3 Condensate System - Catawba

1. On Drawings CN-1590-1.8 and CN-2590-1.8 for the condensate system, the license renewal boundary ends where the piping exits the auxiliary building with no explanatory note or physical means of isolation. Provide justification for ending the license renewal boundary at this point.

The applicant referred the staff to the line list designation for the in-scope piping, which indicated that the piping was Class F. The applicant explained that the Class F piping designation ends at the point the piping penetrates the auxiliary building. The staff is satisfied with the explanation provided and has no additional questions on this issue.

#### 2.3.4.4 Condensate Storage System - Catawba

1. The system description on page 2.3-88 describes the Condensate Storage System as a non-safety system whose postulated failure could prevent satisfactory accomplishment of certain safety-related functions. The “certain safety-related functions” which the failure of this system could impact are not described, nor are the “postulated failures.” The referenced diagrams show that only a small portion of the system piping in the auxiliary building is within a license renewal boundary. The system description on page 2.3-88 does not provide an adequate explanation for the location of the license renewal boundaries. An example: On Drawings CN-1590-2.1 and CN-2590-2.1 for the condensate storage system, the license renewal boundary ends where the piping exits the auxiliary building with no explanatory note or physical means of isolation.

The applicant responded that the small portion of piping is designated Class F. The license renewal evaluation boundary for the piping in question ends upstream of isolation valve 1CS64 (Class G piping) and where it penetrates the auxiliary building/turbine building wall (also Class G piping). The applicant referred the staff to the discussion of Class F piping on page 2.1-7 of the LRA. The staff is satisfied with the explanation provided and has no additional questions on this issue.

#### 2.3.4.5 Feedwater System - Catawba

1. On drawing CN-1591-1.1, the license renewal evaluation boundary appears to start in the middle of the feedwater piping down stream of the feedwater isolation valves at the wall separating the turbine building from the yard, without any physical means of isolation. Provide justification for not extending the license renewal boundary to an isolation valve. There are identical issues with CN-2591-1.1.

The applicant indicated that the piping in question was Class F and this designation changed at the transition to pipe Class G, which does not meet the license renewal scoping criteria. The staff is satisfied with this explanation and has no additional questions on this issue.

2. On drawing CN-1591-1.1, the license renewal evaluation boundaries for the piping associated with tempering flow to the steam generator upper nozzles starts in the middle of the pipe without any physical means of isolation. Provide justification for not extending the license renewal boundary to an isolation valve. Additionally, at the start of the license renewal evaluation boundary a Note 14 is referenced. Note 14 tells the reviewer to see CN-1490-CF039 for exact class break boundary, CN-1490-CF039 is not provided in the application. There are identical issues with CN-2591-1.1.

The applicant indicated that the piping in question was Class F and this designation changed at the transition to pipe Class G, which does not meet the license renewal scoping criteria. The staff is satisfied with this explanation and has no additional questions on this issue.

3. On drawing CN-2591-1.1, the line to 2CF134 is not within the scope of license renewal. On drawing CN-1591-1.1, the line to 1CF134 is within the scope of license renewal. Since the lines serve the same purpose, justify why the line to 2CF134 is not within the scope of license renewal.

The applicant indicated that the piping in question is within the scope of license renewal and should have been highlighted. An administrative error had been made, and the drawing was incorrect. The staff is satisfied with this explanation and has no additional questions on this issue.

#### 2.3.4.6 Feedwater Pump Turbine Exhaust System - McGuire

1. On drawings MCFD-1593-02.00 and MCFD-2593-02.00, the license renewal boundary on the ½ inch line to the feedwater pump turbine condenser starts at a vendor interface prior to a flanged connection without any physical means of isolation. This piping is Duke Piping Class F. The Duke Piping Class of the piping upstream of vendor interface is not identified although this piping appears to perform the same function as the in-scope piping. As this system is not described in the UFSAR, it is not possible to make a determination if the license renewal boundaries for this system are appropriate. Provide justification for locating the license renewal boundary where you did.

The applicant indicated that the piping upstream of vendor interface is identified as SP01, HM03, SM03, etc., and that this piping does not perform the same function as the in-scope, Class F piping. A failure of this piping will not cause the failure of a safety-related component function. The staff is satisfied with this explanation and has no additional questions on this issue.

#### 2.3.4.8 Main Steam

1. On Catawba drawing CN-1593-1.7, piping from the Main Steam Lines to the continuous drain orifice stations is within the license renewal scope. One-inch lines coming off the in-scope two-inch lines are not within the license renewal boundaries but cannot be isolated from the in-scope lines. If the component function of piping is to be a pressure boundary, failure of the one-inch lines could compromise the function of the two-inch piping. Justify why the one inch lines are not within the license renewal boundary. There are identical issues with CN-2593-1.7.

The applicant indicated that the piping in question is Class F. The one-inch lines coming off the in-scope two-inch lines are not within the license renewal boundaries because they are designated as Class G piping, which does not meet the license renewal scoping criteria. A failure of these one-inch lines will not cause the failure of a safety-related component function. The staff is satisfied with this response and has no additional questions on this issue.

2. The McGuire UFSAR states that the 28 inch turbine inlet piping is Duke Safety Class F which should make it within the scope of license renewal. On Drawings MCFD-1593-01.01 and MCFD-2593-01.01, the license renewal boundary on the 28 inch turbine inlet piping stops at a vendor boundary prior to reaching the turbine throttle valve. Explain why the license renewal boundary does not include the entire length of the 28 inch turbine inlet piping.

The applicant indicated that the piping in question is Class F. The piping from the line list break to the throttle valves is part of the vendor interface and is not designated as Class F. As such, this piping and the throttle valves is not within the license renewal boundaries because they do not meet the license renewal scoping criteria. A failure of these components will not cause the failure of a safety-related component function. The staff is satisfied with this explanation and has no additional questions on this issue.

#### 2.3.4.9 Main Steam Supply To Auxiliary Equipment System

1. On McGuire drawing MCFD-2593-01.02, safety-related lines to valves 2SA0061 and 2SA0060 and the associated valve bodies are not within the license renewal scope. Justify not including these safety related valves and the downstream piping within the scope of license renewal.

The applicant indicated that the piping and valve bodies in question are within the scope of license renewal and should have been highlighted. An administrative error had been made, and the drawing was incorrect. The staff is satisfied with this response and has no additional questions on this issue.

2. The Aging Management Review Result Table (Table 3.4-8) for this system at McGuire and Catawba identifies the auxiliary feedwater (AFW) pump turbine as a component subject to aging management review. The component function is to act as a pressure boundary. This is confusing as the turbine is a complex piece of equipment with numerous moving parts. Specify which parts of the AFW turbine are subject to an aging management review.

The applicant indicated that the AFW pump turbine is within the scope of license renewal; however, only the turbine casing is subject to an aging management review because it is the passive component, whereas the other components are active. As such, Table 3.4-8 should have more clearly listed only the turbine casing, since the reference to the AFW pump turbine is limited to the casing only. The staff is satisfied with this response and has no additional questions on this issue.

#### 2.3.4.10 Main Steam Vent To Atmosphere System - McGuire

1. A large portion of the exhaust piping for the Main Steam Safety Valves (MSSV) is excluded from the license renewal scope as shown on drawings MCFD-1593-01.00 and MCFD-2593-01.00. A note, Note 13, is referenced on the drawings which states that "THE IMPULSE LINE IS EXCLUDED FROM PIPE CLASS F REQUIREMENTS SEE MCC-1205.9-00-D001." No explanation for excluding this piping is provided in the application or the FSAR. MCC-1205.9-00-D001 was not provided as part of the application. Justify excluding from the license renewal scope the portion of MSSV exhaust piping shown on MCFD-1593-01.00 and MCFD-2593-01.00.

The applicant indicated that the piping is not safety-related or Class F and is not used to mitigate any of the regulated events (e.g., station blackout) included in the license renewal rule scoping criteria. The applicant also indicated that MCC-1205.9-00-D001 is available at the McGuire Nuclear Station for review during the on-site inspections. The staff is satisfied with this explanation and has no additional questions on this issue.

#### 2.3.4.11 Main Turbine Hydraulic Oil System

#### 2.3.4.12 Main Turbine Lube Oil and Purification System.

1. According to the Catawba and McGuire system descriptions on pages 2.3.97 and 2.3.99, these two systems have the exact same function. Since neither system is described in the plants' updated final safety analysis reports (UFSARs), this could not be verified. The system descriptions do not provide enough information to determine the function of components on the diagrams. Also, the Duke Piping Class of the piping in these systems is not consistently provided. The Main Turbine Lube Oil and Purification System is not listed in the "Catawba License Renewal Drawing Index" or the "McGuire License Renewal Drawing Index."

The applicant responded that these systems contain components that are used to mitigate anticipated transient without scram events. However, these components are electrical (Active) and are not subject to an aging management review. The staff is satisfied with the information provided 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/*

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Docket Nos. 50-369, 50-370, 50-413, and 50-414

Attachment: As stated

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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/***

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