



LIC-16-0022
April 8, 2016

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Fort Calhoun Station (FCS), Unit 1
Renewed Facility Operating License No. DPR-40
NRC Docket No. 50-285

Subject: Response to NRC Request for Additional Information RE: Revise Current Licensing Basis to Allow Use of Equipment Classification Methodology from ANSI/ANS-58.14-2011 (CAC NO. MF6721)

- References:
1. Letter from OPPD (L. P. Cortopassi) to NRC (Document Control Desk), "License Amendment Request (LAR) 15-02, Revise Current Licensing Basis to Allow Use of Equipment Classification Methodology from ANSI/ANS-58.14-2011," dated September 10, 2015 (LIC-15-0081) (ML15258A680)
 2. Letter from NRC (C. F. Lyon) to OPPD (S. M. Marik), "Fort Calhoun Station, Unit No. 1 -Request for Additional Information Re: Revise Current Licensing Basis to Allow Use of Equipment Classification Methodology from ANSI/ANS-58.14-2011 (CAC NO. MF6721)," dated February 23, 2016 (NRC-16-0017) (ML16048A154)

Attached is the Omaha Public Power District (OPPD) response to an NRC request for additional information (RAI) (Reference 2) regarding License Amendment Request (LAR) 15-02 (Reference 1), which is to revise Current Licensing Basis to Allow Use of Equipment Classification Methodology from ANSI/ANS-58.14-2011 for the FCS, Unit No. 1. This letter contains no regulatory commitments.

If you should have any questions regarding this submittal or require additional information, please contact Mr. Brad Blome at 402-533-7270.

Respectfully,

Shane M. Marik
Site Vice President and CNO

SMM/epm

Attachment:

c: M. L. Dapas, NRC Regional Administrator, Region IV
C. F. Lyon, NRC Senior Project Manager
S. M. Schneider, NRC Senior Resident Inspector

REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST
OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION. UNIT NO. 1
DOCKET NO. 50-285

By letter dated September 10, 2015 (Agencywide Document Access and Management System (ADAMS) Accession No. ML 15258A680), Omaha Public Power District (the licensee) submitted a license amendment request (LAR) to revise the current licensing basis to allow the use of an equipment classification methodology from the American Nuclear Standards Institute/American Nuclear Society (ANSI/ANS)-58.14-2011 at Fort Calhoun Station, Unit No. 1 (FCS).

The U.S. Nuclear Regulatory Commission staff has reviewed the information provided in the application and determined that additional information is required in order to complete its formal review of the request.

RAI 1

Revised Section 4.0, "Seismic Classifications," of the proposed LAR states that there are three seismic classifications for FCS structures, systems, and components (SSCs): Seismic Category I, Seismic Category II, and Non-seismic. However, Section 2, "Seismic Criteria, Analysis and Instrumentation," of Appendix F of the Updated Safety Analysis Report (USAR) only addresses seismic criteria for Class I and Class II. The change of seismic classification from two classes to three classes should be consistent throughout the USAR. Please:

- (a) Indicate likely USAR revisions to capture the above comment:**
- (b) Provide the seismic design criteria for Seismic Category II SSCs in the LAR and indicate likely USAR revisions to address this comment;**
- (c) Identify the design control document that lists Seismic Category II SSCs**

OPPD Response

The proposed seismic classifications are:

Seismic Category I: Those SSCs, including their foundations and supports, which are designed to withstand the effects of a design basis earthquake and remain functional to ensure: (1) the integrity of the RCPB, (2) the capability to shut down the reactor and maintain it in a safe shutdown condition, or (3) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the guideline exposures of 10 CFR 50.67.

Seismic Category II: Those SSCs, or portions thereof, that are not required to function during or following a design basis earthquake, but whose failure could prevent a safety-related function during or following a design basis earthquake.

Non-Seismic: Those SSCs that are not Seismic Category I or II.

The terminology "Seismic Class I" used throughout the USAR is equivalent to the new terminology "Seismic Category I". The terminology "Seismic Class I" will be replaced with "Seismic Category I" throughout the USAR.

The existing term Seismic Class II in the USAR refers to various non Class 1 Structures, Systems, and Components, such as structures which were designed based on the National Building Code, 1967 edition. Class II seismic criteria is defined in USAR Appendix F. This will be revised as Non-Seismic.

The term Seismic Category II from ANSI 58.14 replaces seismic class II/I and is included in the proposed changes to the USAR Appendix N and the definition will be added to the USAR Appendix F. This definition will be applied to SSCs that are not required to function during or following a design basis earthquake, but whose failure could prevent a safety-related function during or following a design basis earthquake. The classification would typically be used at Fort Calhoun Station for non-safety-related piping that is connected to safety-related piping at a normally closed valve or other acceptable isolation item. The boundary from a safety-related or pressure integrity standpoint may be at the valve; however, unless the valve was supported by a seismic anchor, the analysis would have to extend past the valve to a physical or analytical anchor. Based on the guidance from ANSI/ANS 58.14-2011 Paragraph 4.5.2 (2), the piping and supports on the non-safety-related portion would need to be seismically qualified. It was recognized during initial planning for the equipment classification project that this condition existed at Fort Calhoun Station. The use of Seismic Category II would allow FCS to properly classify such piping. The subject supports and piping would be classified as non-safety-related with augmented requirements, Seismic Category II. The associated piping qualification would include the seismic design basis accelerations in the analysis but the piping and appurtenances would be required only to maintain structural integrity and not functionality. For example, use of operability allowables under an SSE would be acceptable provided the overall integrity of the piping and support system is maintained. The stresses in the safety-related portions of the piping and associated supports would still be required to meet the design basis code allowables.

As part of the equipment classification project the affected equipment will be identified and the plant components database (Asset Suite) will be updated to specify Seismic Category II. Applicable design guidance will be added to the affected design control documents, such as CC-FC-309-1011-AD-MEI-5.

RAI-2

The proposed LAR eliminates many sections, including safety class interfaces, correlations between safety class and equipment design code, and quality assurance (including Table N-2). Since the sections removed from the USAR will no longer be part of the current licensing basis for FCS, please provide justification for removing these sections from the licensing basis.

OPPD Response

The subject sections of the USAR were removed because they were no longer necessary due to the detailed criteria that is included in ANSI 58.14. ANSI 58.14 provides significant additional guidance on addressing interfaces in Section 5.2, Interface Criteria. The following provides a correlation between the subject current USAR section being removed and the ANSI 58.14 section that addresses the methodology:

Current USAR Appendix N Section:	ANSI 58.14 Section:	Notes:
3.0	5.2	
3.1	5.2 & 4.1.9	Single-failure criterion will determine the number of isolation devices required at an interface between safety-related and non-safety-related SSCs. The application of single-failure criterion will be in accordance with USAR Appendix G.
3.2	5.2 & Appendix D	
3.3	5.2.1	
3.4	4.5	This exception will be maintained in the USAR.
3.5	4.5 & Appendix D	
Table N-2	Section 6 and Section 6, Table 1	Applicable ASME and ANSI code classes are included in USAR Appendix F and elsewhere in the USAR
4.0	N/A	Section 4.0 was general Information that is included in new Table N-2, USAR Appendix F and elsewhere in the USAR
5.0	6.5 & Section 6, Table 1	The Fort Calhoun QA topical report will be revised to recognize the new terminology. The correlation between current QA class and the revised terminology is CQE to Q (i.e. Safety Related/SR) and Limited CQE to A (i.e. Augmented Quality/AQ)

It should be noted that the LAR requests the use of the methodology from ANSI 58.14. The change requested is to replace one standard, ANSI 51.1, currently referenced in USAR Appendix N with ANSI 58.14 to allow the use of the methodology in ANSI 58.14. The change does not substitute, change, add to or supersede any other plant license and design basis regulatory standards, including those standards or references listed in the ANSI 58.14 standard.

RAI-3

Table N-1,"Basic Design Requirements," of the proposed LAR states that pressure integrity Class C-4 (equivalent to safety class A) is either Seismic Category II or "no requirements specified." However, Section 2.0 of the proposed LAR states that safety class A is non-safety-related with augmented requirements (i.e., those SSCs are not safety-related but are relied upon during a special event, such as station blackout, or to which a licensing requirement or commitment applies. Therefore, based on Table N-1, those non-safety related SSCs with augmented requirements may correspond to either Seismic Category II or "no requirements specified." Please justify why safety class A or pressure integrity Class C-4 is designated as either Seismic Category II or "no requirements required."

OPPD Response

The definition for Pressure Integrity Class C-4 is those SSCs that are not C-1, 2 or 3. ANSI 58.14, Section 6.1 provides additional guidance and indicates that C-1, 2, 3 components can be ASME or other codes and standards in accordance with applicable guidance. By definition systems classified as Pressure Integrity Class C-4 are not safety-related. In accordance with the regulations these non-safety systems cannot cause failure of safety-related systems. Those systems that fall into the non-safety related with Augmented Quality Requirements are those to which additional requirements may apply. Augmented Quality Components (i.e., Safety Class A) are equivalent to the current classification of Limited CQE which is defined in the FCS QA topical report as,

"Limited Critical Quality Elements (Limited CQE) defined as those structures, systems, components or items whose satisfactory performance is required to prevent or mitigate the failure of those structures, systems, components or items identified as CQE."

If performance of a given Augmented Quality system is required to prevent or mitigate the failure of those structures, systems, components or items identified as CQE (i.e., ANSI 58.14 Class Q) under a Design Basis Seismic event then it would be specified as a Seismic Category II system. The example identified in the response to RAI-1 above is a case where Seismic Class II requirements would be applied. If however the additional augmented requirements are not associated with a seismic requirement then the SSC will be specified as Non-Seismic. It should be further noted that each category shown in Table N-1 is considered independent of the others.