

Callaway Plant Unit 2

Combined License Application

Part 7: Departures and Exemption Requests

Revision 0
July 2008

7.0 DEPARTURES AND EXEMPTION REQUESTS

7.1 DEPARTURES

This Departure Report includes deviations in the {Callaway Plant Unit 2} COL application FSAR from the information in the U.S. EPR FSAR, pursuant to 10 CFR Part 52. The U.S. EPR Design Certification Application is currently under review with the NRC. However, for the purposes of evaluating these deviations from the information in the U.S. FSAR, the guidance provided in Regulatory Guide 1.206, Section C.IV.3.3, has been utilized.

The following Departures are described and evaluated in detail in this report.

1. {Safe Shutdown Earthquake (SSE)}
2. {Idealized Site Soil Profile}
3. {In-structure Response Spectra (ISRS)}
4. {TSC/OSC Location}
5. Generic Technical Specifications and Bases - Setpoint Control Program
6. Generic Technical Specifications and Bases - Error Corrections to Limiting Trip Setpoints
7. Generic Technical Specifications and Bases - Incorporation of Site-Specific Information

7.1.1 {SAFE SHUTDOWN EARTHQUAKE (SSE)}

Affected U.S. EPR FSAR Sections: Tier 1 Table 5.0-1 and Tier 2 Sections 2.0, 3.7.1, 3.10, Appendix 3C, and Attachment E to Appendix 3D

Summary of Departure:

The U.S. EPR FSAR identifies the SSE acceleration as the certified seismic design response spectra (CSDRS) shapes anchored to a peak ground acceleration of 0.3g. The corresponding Callaway Plant Unit 2 design ground motion response spectra are identified in FSAR Section 3.7.1.

Scope/Extent of Departure:

This Departure is identified in Part 2 FSAR, Sections 2.0, 2.5.2.6, 3.7.1, 3.10, Appendix 3C, and Attachment E to Appendix 3D.

Departure Justification:

This departure is justified using the U.S. EPR FSAR Section 2.5.2.6 seismic reconciliation guidelines. Callaway Plant Unit 2 site-specific in-structure response spectra (ISRS) are developed from the Callaway Plant Unit 2 site-specific ground motion response spectra (GMRS) and soil profiles and are compared with the U.S. EPR design certification ISRS. For most building locations, the Callaway Plant Unit 2 site-specific ISRS are confirmed to result in the amplitude of the site-specific ISRS not exceeding the ISRS for the U.S. EPR by greater than 10 percent in accordance with Step 8 of U.S. EPR FSAR 2.5.2.6. For building locations where the site-specific ISRS exceed the design ISRS by more than ten percent, evaluations of safety-related structures,

systems, and components (SSC) were performed in accordance with Step 9 of U.S. EPR FSAR 2.5.2.6. These evaluations confirm the SSCs are not affected.

Departure Evaluation:

This Departure, associated with the SSE, has been evaluated in accordance with the U.S. EPR FSAR Section 2.5.2.6 seismic reconciliation guidelines and determined to not affect the safety function of the safety-related SSCs of the U.S. EPR at the building locations where Callaway Plant Unit 2 site-specific ISRS exceed the ISRS for the U.S. EPR design certification by more than 10%.

Accordingly, this Departure does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific FSAR;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific FSAR;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific FSAR;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific FSAR;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific FSAR;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific FSAR;
7. Result in a design basis limit for a fission product barrier as described in the plant-specific FSAR being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific FSAR used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific FSAR.

Therefore, this Departure has no safety significance.}

7.1.2 {IDEALIZED SITE SOIL PROFILE

Affected U.S. EPR FSAR Sections: Tier 2 Section 3.7.1

Summary of Departure:

The U.S. EPR FSAR identifies the idealized site soil profile as the U.S. EPR design certification 10 generic soil profiles. The corresponding idealized Callaway Plant Unit 2 site soil profile is identified in Callaway Plant Unit 2 FSAR Section 3.7.1.

Extent/Scope of Departure:

This Departure is identified in Part 2 FSAR, Sections 2.5.2.6 and 3.7.1.

Departure Justification:

This departure is justified using the U.S. EPR FSAR Section 2.5.2.6 seismic reconciliation guidelines. Callaway Plant Unit 2 site-specific in-structure response spectra (ISRS) are developed from the Callaway Plant Unit 2 site-specific ground motion response spectra (GMRS) and soil profiles and are compared with the U.S. EPR design certification ISRS. For most building locations, the Callaway Plant Unit 2 site-specific ISRS are confirmed to result in the amplitude of the site-specific ISRS not exceeding the ISRS for the U.S. EPR by greater than 10 percent in accordance with Step 8 of U.S. EPR FSAR 2.5.2.6. For building locations where the site-specific ISRS exceed the design ISRS by more than ten percent, evaluations of safety-related structures, systems, and components (SSC) were performed in accordance with Step 9 of U.S. EPR FSAR 2.5.2.6. These evaluations confirm the SSCs are not affected.

Departure Evaluation:

This Departure, associated with the idealized site soil profile, has been evaluated in accordance with the U.S. EPR FSAR Section 2.5.2.6 seismic reconciliation guidelines and determined to not affect the safety function of the safety-related SSCs of the U.S. EPR at the building locations where Callaway Plant Unit 2 site-specific ISRS exceed the ISRS for the U.S. EPR design certification by more than 10%.

Accordingly, the Departure does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific FSAR;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific FSAR;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific FSAR;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific FSAR;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific FSAR;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific FSAR;
7. Result in a design basis limit for a fission product barrier as described in the plant specific FSAR being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific FSAR used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific FSAR.

Therefore, this Departure has no safety significance.}

7.1.3 {IN-STRUCTURE RESPONSE SPECTRA (ISRS)}

Affected U.S. EPR FSAR Sections: Tier 2 Section 3.7.2

Summary of Departure:

The U.S. EPR FSAR identifies ISRS at representative locations of the NI Common Basemat Structures, EPGB, and ESWB. The corresponding Callaway Plant Unit 2 ISRS are identified in Callaway Plant Unit 2 FSAR Section 3.7.2.

Scope/Extent of Departure:

This Departure is identified in Part 2 FSAR, Sections 2.5.2.6 and 3.7.2.

Departure Justification:

This departure is justified using the U.S. EPR FSAR Section 2.5.2.6 seismic reconciliation guidelines. Callaway Plant Unit 2 site-specific in-structure response spectra (ISRS) are developed from the Callaway Plant Unit 2 site-specific ground motion response spectra (GMRS) and soil profiles and are compared with the U.S. EPR design certification ISRS. For most building locations, the Callaway Plant Unit 2 site-specific ISRS are confirmed to result in the amplitude of the site-specific ISRS not exceeding the ISRS for the U.S. EPR by greater than 10 percent in accordance with Step 8 of U.S. EPR FSAR 2.5.2.6. For building locations where the site-specific ISRS exceed the design ISRS by more than ten percent, evaluations of safety-related structures, systems, and components (SSC) were performed in accordance with Step 9 of U.S. EPR FSAR 2.5.2.6. These evaluations confirm the SSCs are not affected.

Departure Evaluation:

This Departure, associated with ISRS, has been evaluated in accordance with the U.S. EPR FSAR Section 2.5.2.6 seismic reconciliation guidelines and determined to not affect the safety function of the safety-related SSCs of the U.S. EPR at the building locations where Callaway Plant Unit 2 site-specific ISRS exceed the ISRS for the U.S. EPR design certification by more than 10%.

Accordingly, the Departure does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific FSAR;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific FSAR;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific FSAR;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific FSAR;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific FSAR;

6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific FSAR;
7. Result in a design basis limit for a fission product barrier as described in the plant specific FSAR being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific FSAR used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific FSAR.

Therefore, this Departure has no safety significance.}

7.1.4 {TSC/OSC LOCATION

Affected U.S. EPR FSAR Sections: Tier 2 Section 13.3

Summary of Departure:

U.S. EPR FSAR Section 13.3 recognizes that a COL applicant needs to provide a site specific emergency plan in accordance with 10 CFR 50.47 and 10 CFR 50 Appendix E. However, as stated in U.S. EPR FSAR Section 13.3, Emergency Planning, the standard U.S. EPR design includes facilities suitable for a Technical Support Center (TSC) and an Operational Control Center (OSC). Both facilities comply with Revision 1 of NUREG-0654/FEMA REP-1. AmerenUE has chosen not to utilize the U.S. EPR standard design related to the TSC and OSC facilities. Rather, existing Callaway Plant Unit 1 emergency response facilities will be utilized to support the emergency response preparedness needs of Callaway Plant Units 1 and 2.

Scope/Extent of Departure:

This Departure is identified in Part 2 FSAR, Section 13.3, and in Part 5, Emergency Plan.

Departure Justification:

The TSC in the U.S. EPR standard design is located adjacent to the main control room (MCR) location. The OSC in the U.S. EPR standard design is provided within the Access Building. Both the TSC and OSC are provided with the necessary communications and computer support equipment.

The existing Callaway Plant Unit 1 TSC contains adequate space to also house the OSC. This arrangement which combines TSC and OSC functions into a single facility has proven effective for many years in demonstrating effective communication between team members and in dispatching Emergency Teams in a timely fashion. The existing TSC facility for Callaway Plant Unit 1 is of sufficient size to accommodate the TSC and OSC emergency response needs for both units. The existing TSC is located sufficiently close to Callaway Plant Unit 2 to ensure the required emergency response time can be met. Modification of the existing TSC to accommodate the communication infrastructure needs for the Callaway Plant Unit 2 emergency response plan will ultimately result in a more effective Emergency Response Organization than if separate facilities were maintained.

A more detailed description of the proposed Emergency Plan is provided in COLA Part 5, Emergency Plan.

Departure Evaluation:

This departure is for a non-safety related system, and the alternate locations of the TSC and OSC meet applicable requirements.

Accordingly, the Departure does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific FSAR;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific FSAR;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific FSAR;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific FSAR;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific FSAR;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific FSAR;
7. Result in a design basis limit for a fission product barrier as described in the plant specific FSAR being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific FSAR used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific FSAR.

Therefore, this Departure has no safety significance.}

7.1.5 **GENERIC TECHNICAL SPECIFICATIONS AND BASES - SETPOINT CONTROL PROGRAM**

Affected U.S. EPR FSAR Sections: Tier 2 Section 16.0 – Technical Specifications 3.3.1 and 5.5 and Bases 3.3.1

Summary of Departure:

A Setpoint Control Program is adopted in the {Callaway Plant Unit 2} Technical Specifications (TS). TS 5.5.18, Setpoint Control Program (SCP), is added to the TS. The TS requirements for the Setpoint Control Program establishes that Limiting Trip Setpoints (LTSPs), Nominal Trip Setpoints (NTSPs), Allowable Values (AVs), and As-Found Tolerance and As-Left Tolerance Bands for each of the required Technical Specification Instrument Functions in TS 3.3.1, "Protection Systems (PS)," shall be documented in the SCP. The TS requirements for the SCP also establish that the methods used to determine the Limiting Trip Setpoints (LTSPs), Nominal Trip Setpoints (NTSPs), Allowable Values (AVs), and As-Found Tolerance and As-Left Tolerance Bands for the required instrument functions shall be those included in NRC approved setpoint methodology documents. These NRC approved setpoint methodology documents are listed in TS 5.5.18. The

TS requirements for the SCP also include the Technical Specification Task Force (TSTF)-493, "Clarify Application of Setpoint Methodology for LSSS Functions," guidance to provide assurance that the required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. Finally, the TS for the SCP require the SCP to be provided, including any revisions or supplements, to the NRC on a periodic basis.

Scope/Extent of Departure:

This Departure is identified in Section A of Part 4 of the {Callaway Plant Unit 2} COL Application, {item 1}.

Departure Justification:

U.S. EPR FSAR Generic Technical Specification Table 3.3.1-2 contains a Reviewer's Note which requires a plant specific setpoint study to be conducted and that the values of the Limiting Trip Setpoint be replaced after the completion of the study. However, the plant specific setpoint study can not be completed until after selection of instrumentation. Nevertheless, instrumentation selection may not occur until after the approval of the COL application is granted. As an alternative approach, it is proposed that the Limiting Trip Setpoints be relocated to the Setpoint Control Program and that the Setting Basis (Analytical Limits or Design Limits, as applicable) for the required instrument functions be specified in the TS. The Setpoint Control Program is a TS required program and is consistent with the approach used for the TS required Core Operating Limits Report and the Pressure and Temperature Limits Report. In the case of the Core Operating Limits, the NRC approved relocation of cycle-specific parameter limits from the TS to the Core Operating Limits Report. The basis for acceptability of this approach was that the methodology for determining cycle-specific parameter limits is documented in NRC approved topical reports or in an NRC approved plant-specific submittal. As a consequence the NRC review of proposed changes to the TS for these cycle-specific parameter limits was primarily limited to confirmation that the updated limits were calculated using an NRC approved methodology and consistent with applicable limits of the safety analysis. The approach documented in the TS for the Core Operating Limits Report also allows the NRC to trend the parameter limit changes, if desired. The Core Operating Limits Report approach is documented in NRC Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits for Technical Specifications," dated October 3, 1988, and is reflected in the current Improved Standard Technical Specifications (NUREG-1430 through NURG-1434). For the Setpoint Control Program, the TS require that the Limiting Trip Setpoints be developed using NRC approved setpoint methodology. In addition, by specifying the Analytical Limits and Design Limits in the TS, assurance is provided that the Limiting Trip Setpoints are developed and maintained such that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. The approach documented in the TS for the Setpoint Control Program also allows the NRC to trend the parameter limit changes, if desired, since the TS requires the Setpoint Control Program to be submitted to the NRC prior to initial fuel load and periodically thereafter.

Departure Evaluation:

This Departure, the inclusion of a Setpoint Control Program and associated changes in the TS and Bases, provides assurance that Limiting Trip Setpoints are developed and maintained such that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses.

Accordingly, the Departure does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific FSAR;

2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific FSAR;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific FSAR;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific FSAR;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific FSAR;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific FSAR;
7. Result in a design basis limit for a fission product barrier as described in the plant specific FSAR being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific FSAR used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific FSAR.

Therefore, this Departure has no safety significance.

7.1.6 **GENERIC TECHNICAL SPECIFICATIONS AND BASES - {ERROR CORRECTIONS TO LIMITING TRIP SETPOINTS**

Affected U.S. EPR FSAR Sections: Tier 2 Section 16.0 – Technical Specification 3.3.1 and Bases 3.3.1.

Summary of Departure:

This Departure corrects the following errors in Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1:

1. The Setting Basis values for Functions A.3, A.5, A.14, A.17, A.18, A.19, B.2.b, B.2.c, B.2.3, B.8.a, B.9.a, B.9.c, and B.9.d in Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1 are revised to include the missing inequality signs and to correct the inequality signs, as required. Corresponding changes are made to the Bases, as required.
2. Generic U.S. EPR Technical Specification 3.3.1, Table 3.3.1-2 includes Limiting Trip Setpoint values with time delays for Functions A.18 and B.2.b. The time delays are removed from the TS 3.3.1, Table 3.3.1-2 Setting Basis values for Function A.18, High SG Level, and Function B.2.b, Main Feedwater Full Load Closure on High SG Level (Affected SGs).
3. The Setting Basis for generic U.S. EPR Technical Specification 3.3.1, Table 3.3.1-2 Function B.11.b is revised to indicate that the value is "As specified in the COLR."

Scope/Extent of Departure:

This Departure is identified in Section A of Part 4 of the {Callaway Plant Unit 2} COL Application, {items 2, 3, and 4.}

Departure Justification:

This Departure corrects errors in Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1 regarding the Limiting Trip Setpoints for various Functions. In addition, the Bases for generic U.S. EPR Technical Specification 3.3.1 are revised to reflect the changes.

The changes to correct the inequality signs for Functions A.3, A.5, A.14, A.17, A.18, A.19, B.2.b, B.2.c, B.2.3, B.8.a, B.9.a, B.9.c, and B.9.d and eliminate the time delays from Functions A.18 and B.2.b of Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1 correct errors in the generic U.S. EPR Technical Specifications to be consistent with the U.S. EPR design and analyses.

The values associated with the Limiting Trip Setpoint and Setting Basis are cycle-specific parameter values. As such, consistent with the Limiting Trip Setpoint specified in generic U.S. EPR Technical Specification 3.3.1, Table 3.3.1-2 for Function B.11.c, it is appropriate for the Limiting Trip Setpoint and Setting Basis for Function B.11.b to also be specified in the COLR.

Departure Evaluation:

This Departure, the correction of values associated with various Limiting Trip Setpoints in Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1 and associated changes in the Bases, provides assurance that Limiting Trip Setpoints are developed and maintained such that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. Accordingly, the Departure does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific FSAR;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific FSAR;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific FSAR;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific FSAR;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific FSAR;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific FSAR;
7. Result in a design basis limit for a fission product barrier as described in the plant specific FSAR being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific FSAR used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific FSAR.

Therefore, this Departure has no safety significance.}

7.1.7 {GENERIC TECHNICAL SPECIFICATIONS AND BASES - INCORPORATION OF SITE-SPECIFIC INFORMATION

Affected U.S. EPR FSAR Sections: Tier 2 Section 16.0 – Technical Specifications 3.7.8, 3.7.10, 3.7.16, 4.3.1.1, 4.3.1.2.d, 5.1, and 5.5.17, and Bases 3.7.8, 3.7.10, 3.7.12, 3.7.15, and 3.7.16.

Summary of Departure:

The generic U.S. Technical Specifications and Bases utilize Reviewer's Notes and square brackets (i.e., [...]) to identify that a COL applicant needs to provide site-specific information. As stated in Regulatory Guide 1.206, C.I.16:

"Applicant-supplied information to fulfill COL information items for a certified design or, as discussed in Section C.IV.3.3.3 of this guide, to replace information bracketed in the generic TS and bases, is not considered a deviation from the generic TS and bases and does not require an exemption..."

In order to incorporate the site-specific information requested by the generic U.S. EPR Technical Specifications and Bases, non-bracketed text in the generic U.S. EPR Technical Specifications and Bases was modified to properly and accurately reflect the requirements for the site-specific systems and components.

Scope/Extent of Departure:

This Departure is identified in Section A of Part 4 of the Callaway Plant Unit 2 COL Application, items 5, 6, 7, 8, 11, 12, 14, 22, and 24.

Departure Justification:

In order to accurately and properly incorporate the site-specific information requested by the generic U.S. EPR Technical Specifications and Bases in various Reviewer's Notes and brackets, generic non-bracketed text in the U.S. EPR Technical Specifications and Bases was modified. These modifications meet the intent of the generic U.S. EPR Technical Specifications and Bases Reviewer's Notes and brackets to incorporate the site-specific information. The affected Technical Specifications and Bases appropriately define the necessary requirements to ensure safe operation of the plant.

Departure Evaluation:

The Departures to non-bracketed text in the generic U.S. EPR Technical Specifications and Bases to incorporate site-specific information are consistent with the intent of the applicable Reviewer's Notes and bracketed text in the generic U.S. EPR Technical Specifications and Bases. The affected Technical Specifications and Bases appropriately define the necessary requirements to ensure safe operation of the plant.

Accordingly, the Departure does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific FSAR;

2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific FSAR;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific FSAR;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific FSAR;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific FSAR;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific FSAR;
7. Result in a design basis limit for a fission product barrier as described in the plant specific FSAR being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific FSAR used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant-specific FSAR.

Therefore, this Departure has no safety significance.}

7.2 EXEMPTION REQUESTS

These exemption requests have been developed assuming approval and issuance of a design certification for the U.S. EPR and are based on the current version of the U.S. EPR FSAR.

{AmerenUE} request the following exemptions related to:

1. {Safe Shutdown Earthquake (SSE),}
2. Generic Technical Specifications and Bases - Setpoint Control Program,
3. Generic Technical Specifications and Bases - Error Corrections to Limiting Trip Setpoints,
4. {Generic Technical Specifications and Bases - Incorporation of Site-Specific Information,}
5. Fitness for Duty Program,
6. Use of M5TM Advanced Zirconium Alloy Fuel Rod Cladding,
7. Dedicated Containment Penetrations{, and}
8. {Use of 2004 Edition of the ASME Code.}

The exemption requests associated with Use of M5™ Advanced Zirconium Alloy Fuel Rod Cladding, Dedicated Containment Penetrations, and Use of 2004 Edition of the ASME Code are the same as those previously requested by AREVA in support of the U.S. EPR Design Certification Application.

Discussion and justification for each of the above exemption requests are provided in the following pages.

7.2.1 {SAFE SHUTDOWN EARTHQUAKE (SSE)}

Applicable Regulation: 10 CFR Part 52

The U.S. EPR FSAR Tier 1 Table 5.0-1 and Tier 2 Sections 2.0 and 3.7.1 identify the SSE acceleration as the certified seismic design response spectra (CSDRS) shapes anchored to a peak ground acceleration of 0.3g. The corresponding Callaway Plant Unit 2 design ground motion response spectra are identified in Callaway Plant Unit 2 FSAR Section 3.7.1.

Pursuant to 10 CFR 52.7, 10 CFR 50.12 and 10 CFR 52.93, AmerenUE requests an exemption from compliance with the U.S. EPR FSAR Tier 1 and 2 requirements associated with the SSE.

Discussion:

The U.S. EPR FSAR Tier 1 Table 5.0-1 and Tier 2 Sections 2.0 and 3.7.1 identify the SSE acceleration as the certified seismic design response spectra (CSDRS) shapes anchored to a peak ground acceleration of 0.3g. The corresponding Callaway Plant Unit 2 design ground motion response spectra are identified in Callaway Plant Unit 2 FSAR Section 3.7.1. This departure is justified using the U.S. EPR FSAR Section 2.5.2.6 seismic reconciliation guidelines. Callaway Plant Unit 2 site-specific in-structure response spectra (ISRS) are developed from the Callaway Plant Unit 2 site-specific ground motion response spectra (GMRS) and soil profiles and are compared with the U.S. EPR design certification ISRS. The Callaway Plant Unit 2 site-specific ISRS are confirmed to lie within the envelope of the U.S. EPR design certification ISRS or evaluations confirm that safety-related structures, systems, and components of the U.S. EPR at the building locations where Callaway Plant Unit 2 site-specific ISRS exceed the ISRS for the U.S. EPR design certification by more than 10% are not affected.

The exemption is not inconsistent with the Atomic Energy Act or any other statute. As such, the requested exemption is authorized by law.

This change does not result in a departure from the design and does not require a change in the design described in the U.S. EPR FSAR. In addition, an evaluation has been conducted and concludes that safety-related structures, systems, and components of the U.S. EPR at the building locations where Callaway Plant Unit 2 site-specific ISRS exceed the ISRS for the U.S. EPR design certification by more than 10% are not affected. Therefore, the requested exemption will not present an undue risk to the public health and safety.

The change does not relate to security and does not otherwise pertain to the common defense and security. Therefore, the requested exemption will not endanger the common defense and security.

Consistent with 10 CFR 50.12(a), a special circumstance is present that requires an exemption in that the Callaway Plant Unit 2 site-specific GMRS exceed the U.S. EPR CSDRS. Evaluations confirm that safety-related structures, systems, and components of the U.S. EPR at the building locations where Callaway Plant Unit 2 site-specific ISRS exceed the ISRS for the U.S. EPR design certification by more than 10%. However, evaluations also confirm that this exceedance does

not affect the safety related function of the safety-related SSCs of the U. S. EPR. As such, application of the regulation for this particular circumstance would not serve the underlying purpose of the rule and is not required to achieve the underlying purpose of the rule.

This requested exemption does not require a change in the design described in the U.S. EPR FSAR. Therefore, this exemption will not result in any loss of standardization.

For these reasons, AmerenUE requests approval of the requested exemption from compliance with the U.S. EPR FSAR Tier 1 and 2 requirements associated with the SSE.}

7.2.2 GENERIC TECHNICAL SPECIFICATIONS AND BASES – SETPOINT CONTROL PROGRAM

Applicable Regulation: 10 CFR Part 52

The Generic Technical Specification and Bases included in U.S. EPR FSAR Tier 2 Chapter 16 are revised to reflect the adoption of a Setpoint Control Program.

Pursuant to 10 CFR 52.7 and 10 CFR 52.93, {AmerenUE} requests an exemption from the U.S. EPR FSAR Tier 2 requirements to support the adoption of a Setpoint Control Program.

Discussion:

U.S. EPR FSAR Generic Technical Specification Table 3.3.1-2 contains a Reviewer’s Note which requires a plant specific setpoint study to be conducted and that the values of the Limiting Trip Setpoint be replaced after the completion of the study. However, the plant specific setpoint study can not be completed until after selection of instrumentation. Nevertheless, instrumentation selection may not occur until after the approval of the COL application is granted. As an alternative approach, it is proposed that the Limiting Trip Setpoints be relocated to the Setpoint Control Program and that the Setting Basis (Analytical Limits or Design Limits, as applicable) for the required instrument functions be specified in the Technical Specifications (TS).

The {Callaway Plant Unit 2} TS requirements for the Setpoint Control Program establishes that Limiting Trip Setpoints (LTSPs), Nominal Trip Setpoints (NTSPs), Allowable Values (AVs), and As-Found Tolerance and As-Left Tolerance Bands for each of the required Technical Specification Instrument Functions in TS 3.3.1, “Protection Systems (PS),” shall be documented in the SCP. The TS requirements for the SCP also establish that the methods used to determine the Limiting Trip Setpoints (LTSPs), Nominal Trip Setpoints (NTSPs), Allowable Values (AVs), and As-Found Tolerance and As-Left Tolerance Bands for the required instrument functions shall be those included in NRC approved setpoint methodology documents. These NRC approved setpoint methodology documents are listed in TS 5.5.18. The TS requirements for the SCP also include the Technical Specification Task Force (TSTF)-493, “Clarify Application of Setpoint Methodology for LSSS Functions,” guidance to provide assurance that the required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. Finally, the TS for the SCP require the SCP to be provided, including any revisions or supplements, to the NRC on a periodic basis.

The Setpoint Control Program is a TS required program and is consistent with the approach used for the TS required Core Operating Limits Report and the Pressure and Temperature Limits Report. In the case of the Core Operating Limits, the NRC approved relocation of cycle-specific parameter limits from the TS to the Core Operating Limits Report. The basis for acceptability of this approach was that the methodology for determining cycle-specific parameter limits is documented in NRC approved topical reports or in an NRC approved plant-specific submittal. As a consequence the NRC review of proposed changes to the TS for these cycle-specific

parameter limits was primarily limited to confirmation that the updated limits were calculated using an NRC approved methodology and consistent with applicable limits of the safety analysis. The approach documented in the TS for the Core Operating Limits Report also allows the NRC to trend the parameter limit changes, if desired. The Core Operating Limits Report approach is documented in NRC Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits for Technical Specifications," dated October 3, 1988, and is reflected in the current Improved Standard Technical Specifications (NUREG-1430 through NURG-1434). For the Setpoint Control Program, the TS require that the Limiting Trip Setpoints be developed using NRC approved setpoint methodology. In addition, by specifying the Analytical Limits and Design Limits in the TS, assurance is provided that the Limiting Trip Setpoints are developed and maintained such that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. The approach documented in the TS for the Setpoint Control Program also allows the NRC to trend the parameter limit changes, if desired, since the TS requires the Setpoint Control Program to be submitted to the NRC prior to initial fuel load and periodically thereafter.

As previously stated, the inclusion a Setpoint Control Program and associated changes in the TS and Bases, provides assurance that Limiting Trip Setpoints are developed and maintained such that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. Therefore, these changes will not result in a significant decrease in the level of safety otherwise provided by the design described in the U.S. EPR FSAR.

The exemption is not inconsistent with the Atomic Energy Act or any other statute. As such, the requested exemption is authorized by law.

These changes do not result in a departure from the design, do not require a change in the design described in the U.S. EPR FSAR, and do not change the intent of the Generic Technical Specifications. In addition, the inclusion a Setpoint Control Program and associated changes in the TS and Bases, provides assurance that Limiting Trip Setpoints are developed and maintained such that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. Therefore, the requested exemption will not present an undue risk to the public health and safety.

The changes do not relate to security and do not otherwise pertain to the common defense and security. Therefore, the requested exemption will not endanger the common defense and security.

The special circumstance necessitating the request for exemption is that the adoption of the Setpoint Control Program allows the Generic Technical Specifications Reviewer's Note associated with the plant specific setpoint study to be addressed, while providing assurance that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. As such, application of the regulation for this particular circumstance would not serve the underlying purpose of the rule and is not required to achieve the underlying purpose of the rule.

This is a standard departure that is intended to be applicable to all COL Applicants that reference the U.S. EPR FSAR. Therefore, this departure will not result in any loss of standardization.

For these reasons, {AmerenUE} requests approval of the requested exemption from the U.S. EPR FSAR Tier 2 requirements to support the adoption of a Setpoint Control Program.

7.2.3 **GENERIC TECHNICAL SPECIFICATIONS AND BASES - {ERROR CORRECTIONS TO LIMITING TRIP SETPOINTS}**

Applicable Regulation: 10 CFR Part 52

The generic Technical Specifications and Bases included in U.S. EPR FSAR Tier 2 Chapter 16 are revised to correct errors in the Limiting Trip Setpoints for several Functions provided in Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1.

Pursuant to 10 CFR 52.7 and 10 CFR 52.93, {AmerenUE} requests an exemption from the U.S. EPR FSAR Tier 2 requirements to correct errors in Table 3.3.1-2 of the generic U.S. EPR Technical Specification 3.3.1, regarding Limiting Trip Setpoints for various Functions.

Discussion:

The generic Technical Specifications and Bases included in U.S. EPR FSAR Tier 2 Chapter 16 are revised to correct errors in the Limiting Trip Setpoints for several Functions provided in Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1. In addition, the Bases for generic U.S. EPR Technical Specification 3.3.1 are revised to reflect the changes.

The changes to correct the inequality signs for Functions A.3, A.5, A.14, A.17, A.18, A.19, B.2.b, B.2.c, B.2.3, B.8.a, B.9.a, B.9.c, and B.9.d and eliminate the time delays from Functions A.18 and B.2.b of Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1 correct errors in the generic U.S. EPR Technical Specifications to be consistent with the U.S. EPR design and analyses.

The values associated with the Limiting Trip Setpoint and Setting Basis are cycle-specific parameter values. As such, consistent with the Limiting Trip Setpoint specified in generic U.S. EPR Technical Specification 3.3.1, Table 3.3.1-2 for Function B.11.c, it is appropriate for the Limiting Trip Setpoint and Setting Basis for Function B.11.b to also be specified in the COLR.

As previously stated, these changes in the Technical Specifications and Bases, provide assurance that Limiting Trip Setpoints are developed and maintained such that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. Therefore, these changes will not result in a significant decrease in the level of safety otherwise provided by the design described in the U.S. EPR FSAR.

The exemption is not inconsistent with the Atomic Energy Act or any other statute. As such, the requested exemption is authorized by law.

These changes do not result in a departure from the design, do not require a change in the design described in the U.S. EPR FSAR, and do not change the intent of the generic Technical Specifications. In addition, these changes provide assurance that Limiting Trip Setpoints are developed and maintained such that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. Therefore, the requested exemption will not present an undue risk to the public health and safety.

The changes do not relate to security and do not otherwise pertain to the common defense and security. Therefore, the requested exemption will not endanger the common defense and security.

The special circumstance necessitating the request for exemption is that the adoption of these changes provide assurance that required instruments will always actuate safety functions at the point assumed in the applicable safety analyses. As such, application of the regulation for this

particular circumstance would not serve the underlying purpose of the rule and is not required to achieve the underlying purpose of the rule.

This is a standard departure that is intended to be applicable to all COL Applicants that reference the U.S. EPR FSAR. Therefore, this departure will not result in any loss of standardization.

For these reasons, AmerenUE requests approval of the requested exemption from the U.S. EPR FSAR Tier 2 requirements to correct errors in the Limiting Trip Setpoints in Table 3.3.1-2 of generic U.S. EPR Technical Specification 3.3.1.}

7.2.4 **{GENERIC TECHNICAL SPECIFICATIONS AND BASES – INCORPORATION OF SITE-SPECIFIC INFORMATION}**

Applicable Regulation: 10 CFR Part 52

The generic Technical Specifications and Bases included in U.S. EPR FSAR Tier 2 Chapter 16 are revised to incorporate site-specific information requested by the generic U.S. EPR Technical Specifications and Bases.

Pursuant to 10 CFR 52.7 and 10 CFR 52.93, {AmerenUE} requests an exemption from the U.S. EPR FSAR Tier 2 requirements to support the incorporation of site-specific information requested by the generic U.S. EPR Technical Specifications and Bases.

Discussion:

The generic U.S. Technical Specifications and Bases utilize Reviewer's Notes and square brackets (i.e., [...]) to identify that a COL applicant needs to provide site-specific information. As stated in Regulatory Guide 1.206, C.I.16:

"Applicant-supplied information to fulfill COL information items for a certified design or, as discussed in Section C.IV.3.3.3 of this guide, to replace information bracketed in the generic TS and bases, is not considered a deviation from the generic TS and bases and does not require an exemption..."

In order to incorporate the site-specific information requested by the generic U.S. EPR Technical Specifications and Bases, non-bracketed text in the generic U.S. EPR Technical Specifications and Bases was required to be modified to properly reflect the requirements for the site-specific systems and components.

As previously stated, these modifications meet the intent of the generic U.S. EPR Technical Specifications and Bases Reviewer's Notes and brackets to incorporate the site-specific information. The affected Technical Specifications and Bases appropriately define the necessary requirements to ensure safe operation of the plant. Therefore, these changes will not result in a significant decrease in the level of safety otherwise provided by the design described in the U.S. EPR FSAR.

The exemption is not inconsistent with the Atomic Energy Act or any other statute. As such, the requested exemption is authorized by law.

These changes do not result in a departure from the design, do not require a change in the design described in the U.S. EPR FSAR, and do not change the intent of the generic Technical Specifications and Bases. Therefore, the requested exemption will not present an undue risk to the public health and safety.

The changes do not relate to security and do not otherwise pertain to the common defense and security. Therefore, the requested exemption will not endanger the common defense and security.

The special circumstance necessitating the request for exemption is that the adoption of these changes allows the site-specific information requested by the Reviewer's Notes and square bracketed text contained in the generic U.S. EPR Technical Specifications and Bases to be properly and accurately incorporated. As such, application of the regulation for this particular circumstance would not serve the underlying purpose of the rule and is not required to achieve the underlying purpose of the rule.

This is a standard departure that is intended to be applicable to all COL Applicants that reference the U.S. EPR FSAR. Therefore, this departure will not result in any loss of standardization.

For these reasons, AmerenUE requests approval of the requested exemption from the U.S. EPR FSAR Tier 2 requirements to support the adoption of changes to non-bracketed text in the generic U.S. EPR Technical Specifications to address the incorporation of site-specific information requested by the generic U.S. EPR Technical Specifications in Reviewer's Note and square bracketed material.}

7.2.5 FITNESS FOR DUTY PROGRAM

Applicable Regulation: 10 CFR 52.79(a)(44)

Specific wording from which a schedule exemption is requested:

(a) The application must contain a final safety analysis report that describes the facility, presents the design bases and the limits on its operation, and presents a safety analysis of the structures, systems, and components of the facility as a whole. The final safety analysis report shall include the following information, at a level of information sufficient to enable the Commission to reach a final conclusion on all safety matters that must be resolved by the Commission before issuance of a combined license:

(44) A description of the fitness-for-duty program required by 10 CFR part 26 and its implementation.

Pursuant to 10 CFR 52.7 and 10 CFR 52.93, {AmerenUE} requests a schedule exemption from the requirement of 10 CFR 52.79(a)(44) to provide a "description of the fitness-for-duty program required by 10 CFR part 26 and its implementation" in its application for a combined license for {Callaway Plant Unit 2}. {AmerenUE} proposes to provide the Fitness for Duty (FFD) Program description required by 10 CFR 52.79(a)(44) based on the revised 10 CFR Part 26 regulations that are expected to be promulgated and become effective in early 2008 since these are the regulations that are expected to be in effect at the time of implementation of the program.

Discussion:

In an April 17, 2007, affirmation session (ADAMS ML071070361), the Commission approved a final rule amending FFD regulations in 10 CFR Part 26 for both the construction and operating phases for a new nuclear plant. The new and revised Part 26 regulations are expected to be promulgated and become effective in 2008. Implementation of a fitness for duty program at this station is not expected to be required until after 2008.

The construction phase of the Fitness for Duty Program as applied to new plants is not required to be implemented until the commencement of on-site construction of safety or security-related systems, structures and components. {AmerenUE} will not begin these activities until after the amendments to 10 CFR Part 26 regulations are expected to take effect. The operational phase of the FFD Program is required to be implemented prior to fuel load.

In view of the near-term effectiveness of new FFD regulations, it would be more efficient for {AmerenUE} and the NRC to submit the FFD Program description required by 10 CFR 52.79(a)(44) based on the revised Part 26 rules rather than the rules currently in effect. Accordingly, {AmerenUE} submits a request for a schedule exemption from current Part 52 regulations pursuant to 10 CFR 52.7, "Specific Exemptions," and 10 CFR 52.93, "Exemptions and Variances."

Granting this request, which is authorized by law, would allow the NRC to conduct its acceptance review of the {Callaway Plant Unit 2} COL Application based on the revised rules that will become effective in the near future. {AmerenUE} does not expect the NRC to issue the requested COL until the revised FFD rules take effect. For this and other reasons, granting this exemption request will not present an undue risk to the public health and safety, and is consistent with the common defense and security.

The pending amendments to Part 26 create "special circumstances," as defined in 10 CFR 50.12 (Specific Exemptions) that warrant granting this exemption. Applying the current Fitness for Duty regulations in reviewing the FFD Program description required by 10 CFR 52.79(a)(44) would not serve, and is not necessary to achieve, the underlying purposes of the rule. Further, the underlying purpose of 10 CFR 52.79(a)(44) can be satisfied by meeting the requirements of the revised FFD regulations that will become effective in the near future.

Moreover, compliance with the current rule would cause undue hardship for {AmerenUE} and would also be inefficient and burdensome for the NRC staff. That approach would require {AmerenUE} to prepare, and NRC to review, information based on Fitness for Duty regulations that will soon be superseded by Part 26 amendments, and then (presumably) complete a similar submittal under the revised FFD rules.

For these reasons, {AmerenUE} requests approval of the requested schedule exemption from the Part 52 requirements to provide a description (in the FSAR) of the fitness for duty program that meets the current Part 26 Fitness for Duty regulations.

7.2.6 USE OF M5™ ADVANCED ZIRCONIUM ALLOY FUEL ROD CLADDING

Applicable Regulations: 10 CFR 50.46 and 10 CFR 50, Appendix K

Pursuant to 10 CFR 52.7 and 10 CFR 52.93, {AmerenUE} requests an exemption from the requirements of 10 CFR 50.46, Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors, and 10 CFR 50, Appendix K, ECCS Evaluation Models, paragraph I.A.5, regarding the use of Zircaloy or ZIRLO as fuel cladding material. This exemption request is related to the proposed use of the M5™ advanced zirconium alloy for the {Callaway Plant Unit 2} fuel rod cladding and fuel assembly structural material.

Discussion:

In accordance with 10 CFR 52.7, the Commission may grant exemptions from requirements of the regulations of 10 CFR 52 and that the NRC consideration is governed by 10 CFR 50.12. 10 CFR 50.12 states that the NRC may grant an exemption provided that: 1) the exemption is authorized by law, 2) the exemption will not present an undue risk to public health and safety,

3) the exemption is consistent with common defense and security, and 4) special circumstances, as defined in 10 CFR 50.12(a)(2) are present. The requested exemption to allow the use of advanced zirconium alloys other than Zircaloy and ZIRLO for fuel cladding material {for Callaway Plant Unit 2} satisfies these requirements as described below.

The NRC has approved similar exemption requests for other nuclear power plants; in particular, fuel with M5™ cladding is used in several operating plants in the United States.

The fuel that will be irradiated in the {Callaway Plant Unit 2} contains cladding material that does not conform to the cladding material designations explicitly defined in 10 CFR 50.46 and 10 CFR 50, Appendix K. However, the criteria for these sections are satisfied for the {Callaway Plant Unit 2} core containing M5™ fuel rod cladding and fuel assembly structural material. Therefore, the requested exemption is authorized by law.

The M5™ fuel rod cladding and fuel assembly structural material have been evaluated to confirm that the operation of this fuel product does not increase the probability of occurrence or the consequences of an accident. The evaluation also concluded that no new or different type of accident will be created that could pose a risk to public health and safety. In addition, appropriate safety analyses have been performed to demonstrate that this fuel type does not present an undue risk to the public health and safety. NRC approved safety analyses methods are used for the {Callaway Plant Unit 2} core which contains M5™ fuel rod cladding and fuel assembly structural materials.

The M5™ fuel rod cladding is similar in design to the cladding material used in operating plants. The special nuclear material in this fuel product will be handled and controlled in accordance with approved procedures. It has been confirmed through evaluation that M5™ fuel rod cladding and fuel assembly structural material will not endanger the common defense and security.

The special circumstance necessitating the request for exemption to 10 CFR 50.46 and 10 CFR 50, Appendix K is that neither of these regulations allows the use of M5™ fuel rod cladding material. The underlying purpose of 10 CFR 50.46 is to ensure that nuclear power facilities have adequately demonstrated the cooling performance of the Emergency Core Cooling System (ECCS). Topical Report BAW-10227P-A, Evaluation of Advanced Cladding and Structural Material (M5™) in PWR Reactor Fuel, approved by the NRC by letter dated February 4, 2000, demonstrates that the effectiveness of the ECCS will not be affected by a change from Zircaloy fuel rod cladding to M5™ fuel rod cladding.

The underlying purpose of 10 CFR 50, Appendix K, paragraph I.A.5 is to ensure that cladding oxidation and hydrogen generation are appropriately limited during a LOCA and conservatively accounted for in the ECCS evaluation model. Specifically, 10 CFR 50, Appendix K requires that the Baker-Just equation be used in the ECCS evaluation model to determine the rate of energy release, cladding oxidation, and hydrogen generation. Appendix D of BAW-10227P-A demonstrates that the Baker-Just model is conservative in all post-LOCA scenarios with respect to the use of M5™ advanced alloy as a fuel rod cladding material.

Therefore, the intent of 10 CFR 50.46 and 10 CFR 50, Appendix K is satisfied for the planned operation with M5™ fuel rod cladding and fuel assembly structural material. Issuance of an exemption from the criteria of these regulations for the use of M5™ fuel rod cladding and fuel assembly structural material in the {Callaway Plant Unit 2} core will not compromise safe operation of the reactor.

For these reasons, {AmerenUE} requests approval of the requested exemption from the 10 CFR 50.46 and 10 CFR 50, Appendix K, requirements regarding the use of Zircaloy or ZIRLO as fuel cladding material.

7.2.7 DEDICATED CONTAINMENT PENETRATIONS

Applicable Regulation: 10 CFR 50.34(f)(3)(iv)

Pursuant to 10 CFR 52.7 and 10 CFR 52.93, {AmerenUE} requests an exemption from the requirements of 10 CFR 50.34(f)(3)(iv) with respect to providing a dedicated containment penetration. The specific requirement is as follows.

Provide one or more dedicated containment penetrations, equivalent in size to a single 3-foot diameter opening, in order not to preclude future installation of systems to prevent containment failure, such as filtered vented containment system.

Discussion:

In accordance with 10 CFR 52.7, the Commission may grant exemptions from requirements of the regulations of 10 CFR 52 and that the NRC consideration is governed by 10 CFR 50.12. 10 CFR 50.12 states that the NRC may grant an exemption provided that: 1) the exemption is authorized by law, 2) the exemption will not present an undue risk to public health and safety, 3) the exemption is consistent with common defense and security, and 4) special circumstances, as defined in 10 CFR 50.12(a)(2) are present. The requested exemption relative to not utilizing a dedicated containment penetration for {Callaway Plant Unit 2} satisfies these requirements as described below.

This requested exemption is not precluded by law.

The {Callaway Plant Unit 2} design does not utilize a dedicated containment penetration. The severe accident assessment (U.S. EPR FSAR Tier 2 Section 19.2), the Probabilistic Risk Assessment (U.S. EPR FSAR Tier 2 Section 19.1) and the containment analysis (U.S. EPR FSAR Tier 2 Section 6.2) demonstrate that a dedicated containment penetration is not required. Specific containment overpressure protection is provided through its large size and strength and through the availability of 47 Passive Autocatalytic Recombiners (PARs) and Severe Accident Heat Removal System (SAHRS) for the removal of hydrogen and steam, respectively, the principle contributors to high containment pressure during a severe accident. The functions of these systems are described in U.S. EPR FSAR Tier 2 Section 19.2.3.3.2. Therefore, the requested exemption does not present an undue risk to the public health and safety.

The severe accident assessment, the Probabilistic Risk Assessment and the containment analysis demonstrate that a dedicated containment penetration is not required. As such, the requested exemption will not endanger the common defense and security.

The special circumstance necessitating the request for exemption is that the severe accident assessment, the Probabilistic Risk Assessment and the containment analysis demonstrate that a dedicated containment penetration is not required, as previously discussed. Therefore, application of the rule is not necessary to achieve the underlying purpose of the rule.

For these reasons, {AmerenUE} requests approval of the requested exemption from 10 CFR 50.34(f)(3)(iv) with respect to providing a dedicated containment penetration.

7.2.8 {USE OF 2004 EDITION OF THE ASME CODE

Applicable Regulation: 10 CFR 50.55a

Pursuant to 10 CFR 52.7 and 10 CFR 52.93, AmerenUE requests an exemption from the requirements of 10 CFR 50.55a with respect to the edition of the ASME Code to be applied in the Callaway Plant Unit 2 COL Application.

10 CFR 50.55a codifies the ASME code as part of the NRC requirements and currently specifies the use of the 2001 Edition through the 2003 Addenda of the ASME Code. Consistent with NRC policy, 10 CFR 50.55a is amended periodically to incorporate newer editions and addenda of the ASME Code and Code Cases. The current proposed rulemaking (72 FR 16731 dated April 5, 2007) will incorporate the 2004 Edition of the ASME Code. This exemption is only necessary until such time as the rulemaking is finalized and becomes effective.

Discussion:

The 2004 Edition of the ASME Code (no addenda) is applied in the Callaway Plant Unit 2 COL Application, consistent with the NRC proposed rulemaking to endorse and incorporate the newer edition and addenda. The use of the 2004 Edition of the ASME Code will not take precedence over any ASME Code modifications or limitations currently outlined in 10 CFR 50.55a. This is dictated under the assumption that all modifications and limitations to the 2001 ASME Code and up to the 2003 Addenda as outlined currently by 10 CFR 50.55a will remain valid upon NRC endorsement of the 2004 Edition of the ASME Code. Until such time as an exemption is granted, reconciliation has been conducted with the latest ASME Code edition endorsed by the NRC.

In accordance with 10 CFR 52.7, the Commission may grant exemptions from requirements of the regulations of 10 CFR 52 and that the NRC consideration is governed by 10 CFR 50.12. 10 CFR 50.12 states that the NRC may grant an exemption provided that: 1) the exemption is authorized by law, 2) the exemption will not present an undue risk to public health and safety, 3) the exemption is consistent with common defense and security, and 4) special circumstances, as defined in 10 CFR 50.12(a)(2) are present. The requested exemption to permit the use of the 2004 Edition of the ASME Code for Callaway Plant Unit 2 satisfies these requirements as described below.

This requested exemption is not precluded by law.

10 CFR 50.55a codifies the ASME code as part of the NRC requirements and currently specifies the use of the 2001 Edition through the 2003 Addenda of the ASME Code. Consistent with NRC policy, 10 CFR 50.55a is amended periodically to incorporate newer editions and addenda of the ASME Code and Code Cases. The current proposed rulemaking will incorporate the 2004 Edition of the ASME Code and issuance of the final rule is expected in April 2008. Therefore, the requested exemption does not present an undue risk to the public health and safety.

10 CFR 50.55a codifies the ASME code as part of the NRC requirements and currently specifies the use of the 2001 Edition through the 2003 Addenda of the ASME Code. Consistent with NRC policy, 10 CFR 50.55a is amended periodically to incorporate newer editions and addenda of the ASME Code and Code Cases. The current proposed rulemaking will incorporate the 2004 Edition of the ASME Code and issuance of the final rule is expected in April 2008. As such, the requested exemption will not endanger the common defense and security.

The special circumstance necessitating the request for exemption is that the current rulemaking will incorporate the 2004 Edition of the ASME Code and issuance of the final rule is

expected in April 2008. The acceptability of the 2004 Edition of the ASME Code in terms of public health and safety is recognized by virtue of the proposed rulemaking, and compliance with the existing edition of the ASME Code in the intervening months is not necessary to achieve the underlying intent of the rule.

For these reasons, AmerenUE requests approval of the requested exemption from 10 CFR 50.55a with respect to the edition of the ASME Code to be applied in the Callaway Plant Unit 2 COL Application.}