



Luminant

Rafael Flores
Senior Vice President &
Chief Nuclear Officer
rafael.flores@luminant.com

Luminant Power
P O Box 1002
6322 North FM 56
Glen Rose, TX 76043

T 254.897.5590
F 254.897.6652
C 817.559.0403

CP-201000351
Log # TXNB-10018

Ref. # 10 CFR 52

March 5, 2010

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
ATTN: David B. Matthews, Director
Division of New Reactor Licensing

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4
DOCKET NUMBERS 52-034 AND 52-035
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION (RAI) NO. 4206 AND
SUPPLEMENTAL INFORMATION FOR RAI NO. 3705

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein the response to Request for Additional Information (RAI) No. 4206 and supplemental information for the response to RAI No. 3705 for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4.

Should you have any questions regarding these responses or supplemental information, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me.

The two commitments in this letter are stated on page 2.

I state under penalty of perjury that the foregoing is true and correct.

Executed on March 5, 2010.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

- Attachment 1: Response to Request for Additional Information No. 4206 (CP RAI #135)
- Attachment 2: Supplemental Response to Request for Additional Information No. 3705 (CP RAI #97)

D090
NRO

Regulatory Commitments in this Letter

This communication contains the following new or revised commitments which will be completed or incorporated into the CPNPP licensing basis as noted. The Commitment Number is used by Luminant for internal tracking.

<u>Number</u>	<u>Commitment</u>	<u>Due Date/Event</u>
7221	Site-specific design considerations for compliance with RG 4.21 will be added in FSAR Chapter 12. This RAI response will be revised to incorporate the changes by the end of May 2010.	May 31, 2010
7231	Subsection 12.3.1, "Minimization of Contamination and Radioactive Waste Generation," will be added to the DCD to delineate the design features incorporated into the US-APWR. This section will identify the design features discussed in RG 4.21 and where these features are specifically discussed in the DCD. The changes will be provided in Mitsubishi Heavy Industries, Ltd. letter to the NRC by the end of May 2010.	May 31, 2010

Electronic distribution w/ attachments

mike.blevins@luminant.com
Rafael.Flores@luminant.com
mlucas3@luminant.com
jeff.simmons@energyfutureholdings.com
Bill.Moore@luminant.com
Brock.Degeyter@energyfutureholdings.com
rbird1@luminant.com
Matthew.Weeks@luminant.com
Allan.Koenig@luminant.com
Timothy.Clouser@luminant.com
Ronald.Carver@luminant.com
David.Volkening@luminant.com
Bruce.Turner@luminant.com
Eric.Evans@luminant.com
Robert.Reible@luminant.com
donald.woodlan@luminant.com
John.Only@luminant.com
JCaldwell@luminant.com
David.Beshear@txu.com
Ashley.Monts@luminant.com
Fred.Madden@luminant.com
Dennis.Buschbaum@luminant.com
Carolyn.Cosentino@luminant.com

Luminant Records Management

masahiko_kaneda@mnes-us.com
masanori_onozuka@mnes-us.com
ck_paulson@mnes-us.com
joseph_tapia@mnes-us.com
russell_bywater@mnes-us.com
diane_yeager@mnes-us.com
kazuya_hayashi@mnes-us.com
mutsumi_ishida@mnes-us.com
nan_sirirat@mnes-us.com
masaya_hoshi@mnes-us.com
nicolas_kellenberger@mnes-us.com
rjb@nei.org
kak@nei.org
michael.takacs@nrc.gov
cp34update@certrec.com
michael.johnson@nrc.gov
David.Matthews@nrc.gov
Balwant.Singal@nrc.gov
Hossein.Hamzehee@nrc.gov
Stephen.Monarque@nrc.gov
jeff.ciocco@nrc.gov
michael.willingham@nrc.gov
john.kramer@nrc.gov
Brian.Tindell@nrc.gov
Donald.Palmrose@nrc.com
Elmo.Collins@nrc.gov
Loren.Plisco@nrc.com
Laura.Goldin@nrc.gov
James.Biggin@nrc.gov
Susan.Vrahoretis@nrc.gov
sfrantz@morganlewis.com
jrund@morganlewis.com
tmatthews@morganlewis.com

U. S. Nuclear Regulatory Commission
CP-201000351
TXNB-10018
3/5/2010

Attachment 1

Response to Request for Additional Information No. 4206 (CP RAI #135)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 4206 (CP RAI #135)

SRP SECTION: 12.03-12.04 - Radiation Protection Design Features

QUESTIONS for Health Physics Branch (CHPB)

DATE OF RAI ISSUE: 1/29/2010

QUESTION NO.: 12.03-12.04-11

10 CFR 20.1406, NUREG-0800, 'Standard Review Plan,' Section 12.03-12.04, Regulatory Guide (RG) 1.206, RG 4.21, RG 8.8, IEB 80-10

By letter dated September 30, 2009, the NRC staff issued RAI No. 3511 (CP RAI # 99). In Question 12.03-12.04-1 (13765), the NRC staff requested the applicant provide information regarding the design features and program elements needed to meet the requirements of 10 CFR 20.1406 for the systems structures and components for which the COL applicant has responsibility.

The applicant's response, dated November 11, 2009, noted several design features and program elements were provided to minimize contamination of the facility and the environment consistent with the guidance in Regulatory Guide 4.21 "Minimization of Contamination and Radioactive Waste Generation: Life-Cycle Planning" and Nuclear Energy Institute template NEI 08-08A "Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination".

The NRC staff has reviewed the applicant's response and found the following examples of where question portions were not fully addressed by the applicant's response.

The applicant was asked to describe the provisions for those portions cooling water systems, down stream of the Liquid Waste Processing System (LWPS) connection points. While the applicant noted that evaporation pond piping would use leakage detection and inspection ports, neither this response, nor the response to RAI No. 2747 (CP RAI # 29), Question 11.02-2, dated September 24, 2009, noted this provision in the COL FSAR changes. This response also does not address the piping down stream of where the discharge piping from the evaporation pond connects to the cooling water discharge piping. The "Liquid Radioactive Release Lessons Learned Task Force Final Report" describes industry-operating experience involving inadvertent releases from cooling water piping or components located down stream of LWPS connections.

COL FSAR COL 10.4(2) notes that with abnormal chemistry, the Steam Generator Blowdown System (SGBDS) directs SGBDS water to Waste Water Management Pond C. However, this

response does not describe the leakage prevention and leakage detection provisions for the piping to and from Waste Pond C and for the construction of Waste Pond C.

The applicant was asked to describe leakage prevention and detection provisions for portions of the Steam and Condensate systems. The applicant's response only discussed the radiation monitoring detector installed on the condenser air ejector, and not prevention or early detection of releases from PWR secondary system piping. This radiation monitor is not capable of detecting tritium contamination. Electric Power Research Institute (EPRI) Technical Report (TR) 1008219 "PWR Primary-to-Secondary Leak Guidelines-Revision 3", notes that even without primary to secondary leakage, radioactive tritium will be present in PWR secondary side systems due to hydrogen diffusion through the Steam Generator u-tubes. Operating Experience regarding PWR secondary system underground piping leakage is discussed in Indian Point Nuclear Generating Unit 2 - NRC Integrated Inspection Report 05000247/2009002, dated May 14, 2009 (ML091340445), and May 24, 2004, Event Number 40771 for Surry Power Station.

The applicant was asked to describe provisions for leakage prevention and detection from systems receiving water from the boron recycle system. The applicant's response addressed leakage prevention provisions for valves, but did not discuss the leakage prevention and detection methods for piping containing recycled fluid, especially those portions of piping that originated in one building, and terminated in a separate building, such as the piping to and from the Primary Make-up Water Storage Tanks.

The applicant's response stated that heat exchangers separate radioactive fluid from non-radioactive fluid by tube walls. As noted in the USAPWR Design Control Document FSAR Tier 2 Section 9.1.3.2.1.3, the CCW/SFP heat exchanger is a plate type heat exchanger. Operating Experience from EPRI TR 1013470 "Plant Support Engineering: Guidance for Replacing Heat Exchangers at Nuclear Power Plants with Plate Heat Exchangers", notes that Plate Type heat exchanger gaskets are subject to leakage due to fouling of the gasket sealing surfaces during maintenance, and as a result of pressure spikes due to operational transients and events. The applicant did not discuss how the elements of the contamination minimization program will address operating experience showing the increased risk of leakage with Plate Type heat exchangers.

The examples provided are illustrative in nature, and do not portray an exhaustive review of the systems, structures and components, which should be considered during the 10 CFR 20.1406 review process.

Please revise and update the COL FSAR to describe in Comanche Peak FSAR Chapter 12, the design features, and related maintenance and inspection requirements, to prevent or mitigate contamination of the environment from COL applicant provided systems, structures and components, which may contain radioactive material. Alternately, describe and justify the specific approaches employed to prevent contamination of the environment and facility from COL Applicant provided Systems, Structures or Components containing radioactive material.

ANSWER:

The following design features are incorporated to prevent or mitigate contamination of the environment from various SSCs, in accordance with and satisfying RG 4.21:

- As discussed in EPRI TR 1008219, a survey of plants indicated that tritium diffusion can produce tritium concentrations in the secondary system. The trend of the tritium concentration in the secondary system is monitored by periodic sampling and significant change of the tritium

concentration will be detected. Leakage from the secondary system piping is collected and sent to Turbine building sump.

- All-welded piping is used on radioactively contaminated systems to the maximum extent practicable to reduce system leakage and crud buildup at the joints as discussed in the DCD Subsection 12.1.2.2.1.
- The potential for contamination due to leakage of the CCW/SFP plate-type heat exchanger is minimized by adapting the gasket to avoid contamination and by the use of appropriate maintenance procedures.
- As discussed in DCD Subsection 11.5.2.3.1, radiation monitors are installed to measure the radiation level in the CCWS due to potential contamination of material in the CCWS.

The following design features are incorporated in the COL applicant-provided SSCs:

- The evaporation pond liner has two layers of high density polyethylene (HDPE) with smooth surfaces and a drainage net in between for leak detection and collection. By this and other design features and operating procedures, the evaporation pond is in compliance with RG 4.21. A detailed discussion of the evaporation pond is provided in FSAR Subsections 11.2.3.1 and 11.2.3.4.
- The ultimate heat sink (UHS) interfaces with the essential service water system (ESWS). Since the ESWS is in compliance with RG 4.21 and does not normally contain any radioactivity, the UHS has no direct interface with any radioactive system and does not require compliance with RG 4.21. The compliance of the ESWS to RG 4.21 will be discussed in the DCD as committed below.
- As discussed in FSAR Subsection 11.2.3.4, leak collection and detection instrumentation are provided along the path of the evaporation pond piping. Inspection ports are also provided to allow access for inspection of the integrity of the evaporation pond piping. These design features are also provided in the piping from the evaporation pond to the discharge point near Squaw Creek Reservoir.
- As discussed in FSAR Subsections 10.4.8.2.1, 10.4.8.5, and 11.5.2.3, a radiation monitor is located in the piping downstream of the startup steam generator (SG) blowdown heat exchanger, which detects the presence of radioactivity in the SG blowdown system (SGBDS). When an abnormally high radiation level is detected, the blowdown lines are isolated and the blowdown water in the SGBDS is transferred to the waste holdup tank in the liquid water management system (LWMS). This design feature minimizes contamination of waste water management Pond C, which is shared with CPNPP Units 1 and 2.

Impact on R-COLA

Site-specific design considerations for compliance with RG 4.21 will be added in FSAR Chapter 12. This RAI response will be revised to incorporate the changes by the end of May 2010.

Impact on S-COLA

None.

Impact on DCD

Subsection 12.3.1, "Minimization of Contamination and Radioactive Waste Generation," will be added to the DCD to delineate the design features incorporated into the US-APWR. This section will identify the design features discussed in RG 4.21 and where these features are specifically discussed in the DCD. The changes will be provided in Mitsubishi Heavy Industries, Ltd. letter to the NRC by the end of May 2010.

U. S. Nuclear Regulatory Commission
CP-201000351
TXNB-10018
3/5/2010

Attachment 2

Supplemental Response to Request for Additional Information No. 3705 (CP RAI #97)

SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4
Luminant Generation Company LLC
Docket Nos. 52-034 and 52-035

RAI NO.: 3705 (CP RAI #97)

SRP Section: 03.11 - Environmental Qualification of Mechanical and Electrical Equipment

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 9/30/2009

QUESTION NO.: 03.11-12

This Request for Additional Information (RAI) is necessary for the NRC staff to assess the applicant's compliance with 10 CFR 52.79(a)(10).

Section 3.11(1) of US-APWR design certification document (DCD) requires that the COL applicant that references the US-APWR design be responsible for assembling and maintaining the environmental qualification (EQ) document, which summarizes the qualification results for all equipment identified in Appendix 3D, for the life of the plant (also see Figure 3.11-1 of the DCD). The applicant, in Section 3.11(1) of the COL application, proposes to bear this responsibility, rather than the DCD applicant. Provide the basis for this change and explain why it is acceptable to fulfill the records retention requirements.

SUPPLEMENTAL INFORMATION:

As described in MUAP-08015 Section 9 (ML093160512) and summarized below, there are three applicable and distinct Environmental Qualification Programs (EQPs) for each US-APWR project:

- standard US-APWR EQP
- specific Project EQP (PEQP)
- Licensee's Operational EQP (OEQP)

The DCD process licenses the standard US-APWR, including the standard EQP, which addresses both environmental and seismic qualification of important-to-safety SSCs. The standard EQP provides the requirements and guidance needed to develop a specific Project EQP (PEQP).

The PEQP is a design, procurement, construction, and test EQP. The PEQP covers the time period and project phases associated with the Project up to the point when fuel load is authorized, at which point the OEQP is initiated. Development of a specific PEQP is accomplished by establishing and defining a Project Organization. The Project Organization is comprised of MHI, MNES, one or more Architect/Engineers, key suppliers, one or more Constructors, the Applicant, and other key project

support organizations. The Project Organization is responsible for the actual design, procurement, construction, testing and early operation of the specific US-APWR project. The PEQP is finalized in conjunction with the completion of power ascension testing.

MHI/MNES is responsible for establishing a Project Equipment Qualification Organization (PEQO) within the Project Organization. The PEQO is responsible for preparing project-specific equipment qualification procedures following the guidance provided in the US-APWR EQP.

The PEQP is implemented with the understanding that

- the standard EQP directives form the policy basis for the program, and
- the standard EQP procedures provide overall direction in implementing project specific EQ procedures.

The Site Design and Project Engineering Phase of the Project includes site and detailed engineering design, analysis, the preparation of SSC specifications listing EQ requirements where appropriate, EQ record generation, and related documentation control activities.

MHI/MNES, the A/E(s), Constructor(s), and equipment suppliers are responsible for completing certain PEQP activities during the Procurement Phase of the project under the direction of the PEQO. This phase includes qualifications, documentation, preparation of equipment EQ Packages and vendor qualification activities.

The PEQO is responsible for, or will be involved in, procurement and receipt inspection of safety-related and non-safety related equipment important to safety under the procurement authority provided by MHI/MNES and implemented by US-APWR EQP procedures. Receipt inspection, in general, is part of the MHI/MNES QA Program, which governs QA activities. The EQP requirements for the documentation associated with EQ qualification of SSCs are inputs to the QA Program primarily for vendor qualification, audit and documentation. As components are bought for a given US-APWR project, documentation packages and EQ packages accompany the physical delivery of those components. As such, the details for receipt inspection on procurement can be prepared at commencement of detailed design of a US-APWR. These EQ document packages are referred to as EQ Data Summary Reports (EQDSR) or Equipment EQ Report (EEQR) or Equipment Seismic Qualification Report (ESQR), or similar designations.

The PEQO is responsible for EQ data packages in accordance with industry standard practices. This is implemented by US-APWR EQP procedures. EQ data for each SSC will be compiled and organized for easy access by the licensee and other users of this information. The copies of all test reports, specifications, analysis, etc. are stored electronically for easy retrievability.

Once plant construction is initiated, a comprehensive EQ document control office is established on the plant site to receive, organize, and control all EQ document packages. EQ Data Packages generated during the design and procurement phases will be transferred from other project organizations to this office for consolidation and archiving. Upon completion of construction and beginning with the first system startup activities, the construction document control is responsible for turnover of the complete EQ document package for a given system. EQ document packages are turned over to the licensee as systems are completed and accepted by the licensee.

Prior to fuel load, the OEQP is established to support plant operations including low-power and power ascension testing. During initial full power testing, the design basis for plant EQ parameters is verified (e.g., operating temperatures, pressures, radiation levels).

In summary, Luminant does not independently assemble and maintain the EQ document. The EQ program activities are conducted by the PEQO throughout the duration of the project and all completed EQ documentation is turned over to the licensee prior to NRC authorization to load fuel. Some EQ documentation will be obtained in conjunction with power ascension testing and this documentation is primarily intended to verify the as-designed EQ parameters are not exceeded by the actual measured operating EQ parameters.

Section 3.11 of the COLA has been revised to clarify that the licensee assumes full OEQP responsibilities prior to unit fuel load.

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 3.11-1 and 3.11-2.

Impact on S-COLA

None.

Impact on DCD

None.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR**

3.11 ENVIRONMENTAL QUALIFICATION OF MECHANICAL AND ELECTRICAL EQUIPMENT

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

CP COL 3.11(3) Replace the last sentence of the fifth paragraph in DCD Section 3.11 with the following.

The CPNPP Units 3 and 4 EQ Program implementation milestones are as follows:

Activity	Milestone
Formulate Units 3 and 4 EQ Program	COLA Submittal
Assist with Reactor Vendor/Architect-Engineer/Constructor EQ Program	Combined License
Assume EQ Responsibilities for Unit 3 <u>Operational EQ Program established</u>	Unit 3 Fuel Load
Assume EQ Responsibilities for Unit 4 <u>Operational EQ Program established</u>	Unit 4 Fuel Load

RCOL2_03.1
1-12 S01

CP COL 3.11(1) Replace the first sentence of the sixth paragraph in DCD Section 3.11 with the following.

~~CPNPP Units 3 and 4, at time of license issuance, assumes full responsibility for the~~ Prior to unit fuel load, the Licensee establishes and implements an Operational EQ program; and assembles; and maintains the electrical and mechanical EQ records for the life of the plant to fulfill the records retention requirements delineated in 10 CFR 50.49 (Reference 3.11-2) and in compliance with the quality assurance program (QAP) described in Chapter 17.

RCOL2_03.1
1-12 S01

RCOL2_03.1
1-4

CP COL 3.11(4) Replace the eighth paragraph in DCD Section 3.11 with the following.

This subsection addresses EQ implementation in conjunction with the initial design, procurement, construction, startup and testing up to the point of turnover and initial license issuance. Implementation of the operational EQ program is included in Table 13.4-201. Periodic tests, calibrations, and inspections which verify that the identified equipment remains capable of fulfilling its intended function are described in ~~Reference 3.11-3~~ the operational EQ program. The

RCOL2_03.1
1-15

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR**

features of the US-APWR Equipment Qualification Program Technical Report MUAP-08015 (Reference 3.11-3) are included in the CPNPP Units 3 and 4 EQ Program.

RCOL2_03.1
1-15
RCOL2_03.1
1-12 S01

3.11.1.1 Equipment Identification

CP COL 3.11(5) Replace the last sentence of the first paragraph in DCD Subsection 3.11.1.1 with the following.

Table 3D-201 identifies CPNPP Units 3 and 4 site-specific electrical and mechanical equipment locations and environmental conditions (both normal and accident) to be addressed in the EQ program. This table lists information on site-specific safety-related equipment and non-safety-related equipment which is important to safety equipment. The provisions in the US-APWR DCD for the environmental qualification of mechanical equipment are applied to the plant-specific systems.

RCOL2_03.1
1-16 S01
RCOL2_03.1
1-3

3.11.1.2 Definition of Environmental Conditions

CP COL 3.11(9) Replace the fourth sentence of the first paragraph in DCD Subsection 3.11.1.2 with the following.

Plant-specific EQ parameters are documented in the corresponding equipment specifications, drawings, procedures, instructions, and qualification packages. Any parameters based on site-specific considerations are identified in the environmental qualification documentation described in Section 3.11.

RCOL2_03.1
1-12 S01
RCOL2_03.1
1-6

3.11.3 Qualification Test Results

CP COL 3.11(2) Replace the fifth paragraph in DCD Subsection 3.11.3 with the following.

Test results for ~~site-specific~~ electrical and mechanical equipment are maintained with the project records as auditable files. Such records are maintained from the time of initial receipt through the entire period during which the subject equipment remains installed in the plant, ~~or is stored for future use, or is held for permit verification.~~ The license holder for CPNPP Units 3 and 4 assumes full

RCOL2_03.1
1-13

RCOL2_03.1
1-13 S01

SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 3705 (CP RAI #97)

SRP Section: 03.11 - Environmental Qualification of Mechanical and Electrical Equipment

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 9/30/2009

QUESTION NO.: 03.11-13

Section 3.11(2) of the US-APWR DCD states that the COL applicant (not COL holder) is responsible for describing how the results of the qualification tests for all equipment, not only site-specific equipment, is to be recorded in an auditable file in accordance with requirements of 10 CFR 50.49. Provide a detailed account of each responsibility of both the COL applicant and the COL holder to meet the requirements under 10 CFR 50.49 for implementation of COL item CP COL 3.11(2).

SUPPLEMENTAL INFORMATION:

Refer to the supplemental information provided for Question 03.11-12 above.

FSAR Subsection 3.11.3 has been revised to clarify the responsibilities of the EQP at different phases of the project.

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 3.11-2 and 3.11-3.

Impact on S-COLA

None.

Impact on DCD

None.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR**

features of the US-APWR Equipment Qualification Program Technical Report MUAP-08015 (Reference 3.11-3) are included in the CPNPP Units 3 and 4 EQ Program.

RCOL2_03.1
1-15
RCOL2_03.1
1-12 S01

3.11.1.1 Equipment Identification

CP COL 3.11(5) Replace the last sentence of the first paragraph in DCD Subsection 3.11.1.1 with the following.

Table 3D-201 identifies CPNPP Units 3 and 4 site-specific electrical and mechanical equipment locations and environmental conditions (both normal and accident) to be addressed in the EQ program. This table lists information on site-specific safety-related equipment ~~or~~ and non-safety-related equipment which is important to safety equipment. The provisions in the US-APWR DCD for the environmental qualification of mechanical equipment are applied to the plant-specific systems.

RCOL2_03.1
1-16 S01
RCOL2_03.1
1-3

3.11.1.2 Definition of Environmental Conditions

CP COL 3.11(9) Replace the fourth sentence of the first paragraph in DCD Subsection 3.11.1.2 with the following.

Plant-specific EQ parameters are documented in the corresponding equipment specifications, drawings, procedures, instructions, and qualification packages. ~~Any parameters based on site specific considerations are identified in the environmental qualification documentation described in Section 3.11.~~

RCOL2_03.1
1-12 S01
RCOL2_03.1
1-6

3.11.3 Qualification Test Results

CP COL 3.11(2) Replace the fifth paragraph in DCD Subsection 3.11.3 with the following.

Test results for ~~site specific~~ electrical and mechanical equipment are maintained with the project records as auditable files. Such records are maintained from the time of initial receipt through the entire period during which the subject equipment remains installed in the plant, ~~or is stored for future use, or is held for permit verification. The license holder for CPNPP Units 3 and 4 assumes full~~

RCOL2_03.1
1-13

RCOL2_03.1
1-13 S01

Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR

~~responsibility for the EQ program at time of license issuance. Documentation for the qualification of safety-related equipment and non-safety-related equipment which is important to safety is ultimately the responsibility of the COL Applicant who, later as the licensee, maintains a complete set of EQ records.~~ The EQ records are maintained for the life of plant to fulfill the records retention requirements delineated in 10 CFR 50.49 (Reference 3.11-2) and in compliance with the QAP described in Chapter 17.

RCOL2_03.1
1-13 S01

3.11.4 Loss of Ventilation

CP COL 3.11(6) Replace the second paragraph in DCD Subsection 3.11.4 with the following.

Site-specific electrical and mechanical equipment (including instrumentation and control and certain accident monitoring equipment), subject to environmental stress associated with loss of ventilation or other environmental control systems including heat tracing, heating, and air conditioning, is qualified using the process an equivalent qualification process to that delineated for the US APWR standard plant described in MUAP-08015 (Reference 3.11-3).

RCOL2_03.1
1-17 S01
RCOL2_03.1
1-8

3.11.5 Estimated Chemical and Radiation Environment

CP COL 3.11(7) Replace paragraph in DCD, Subsection 3.11.5 with the following.

Chemical and radiation environmental requirements for site-specific electrical and mechanical equipment (including instrumentation and control and certain accident monitoring equipment) ~~are to be included in the Equipment EQ Technical Report MUAP-08015 (Reference 3.11-3).~~ This equipment is qualified using the process an equivalent qualification process to that delineated for the US APWR standard plant described in MUAP-08015 (Reference 3.11-3).

RCOL2_03.1
1-17 S01
RCOL2_03.1
1-8

3.11.6 Qualification of Mechanical Equipment

CP COL 3.11(8) Replace the second paragraph in DCD, Subsection 3.11.6 with the following.

Site-specific mechanical equipment requirements are to be included in Table 3D-201 by completion of detailed design. This equipment is qualified using the process an equivalent qualification process to that delineated for the US APWR standard plant described in MUAP-08015 (Reference 3.11-3).

RCOL2_03.1
1-17 S01
RCOL2_03.1
1-8

SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 3705 (CP RAI #97)

SRP Section: 03.11 - Environmental Qualification of Mechanical and Electrical Equipment

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 9/30/2009

QUESTION NO.: 03.11-14

Section 3.11(3) of the US-APWR DCD states that the COL applicant is required to provide a schedule showing the EQ program proposed implementation milestones. Provide that schedule for the CP COL 3.11(3) information. In addition, explain how this will work with the operational program described in Comanche Peak Nuclear Power Plant, FSAR Table 13.4-201 as item No. 3.

SUPPLEMENTAL INFORMATION:

Refer to the supplemental information provided for the response to Question 03.11-12 above. Figure 9.1 in MUAP-08015 Rev.1 provides a project-specific EQ program milestone schedule and is attached for the reviewer's convenience.

Impact on R-COLA

None.

Impact on S-COLA

None.

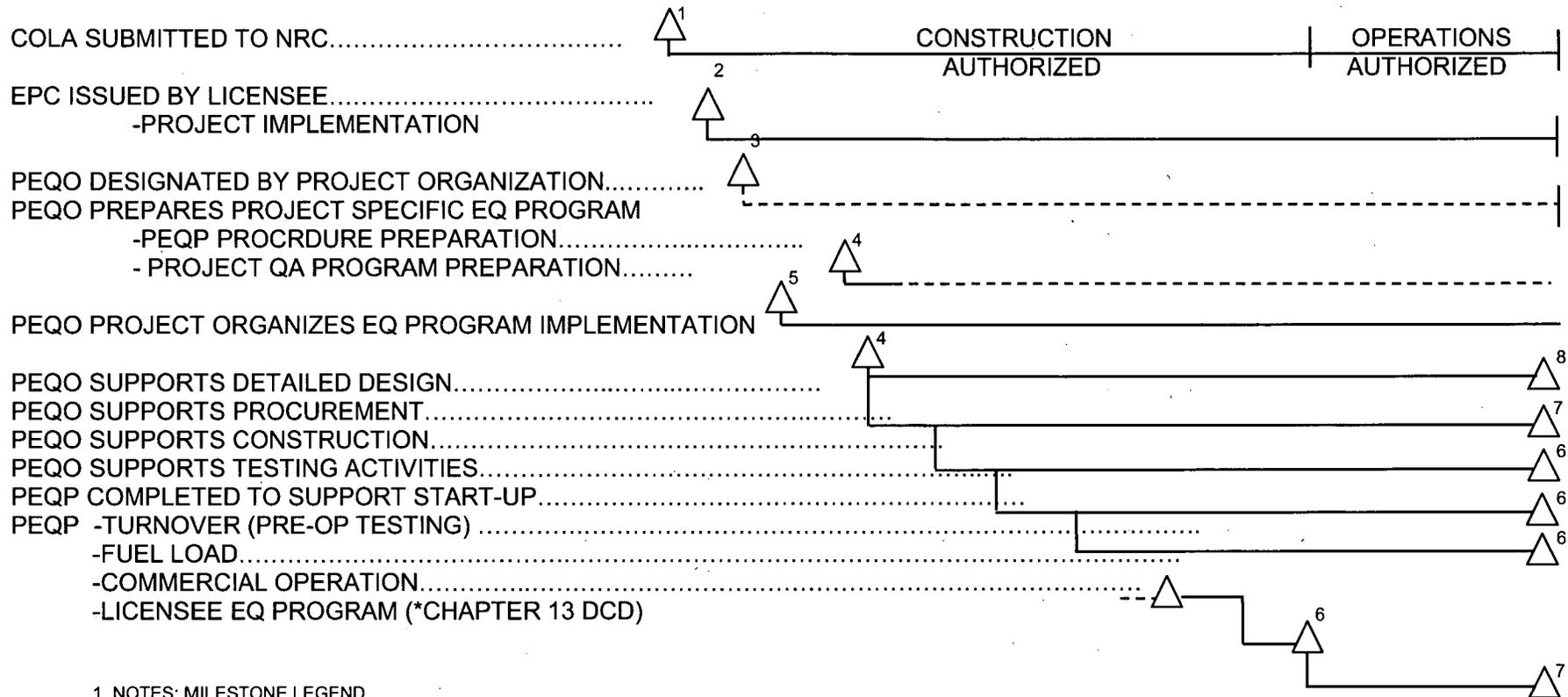
Impact on DCD

None.

Attachment

MUAP-08015 Equipment Qualification Program Rev.1 (ML093160512), Figure 9.1.

Figure 9.1 US-APWR Project Specific EQ Program Milestone Schedule



1. NOTES: MILESTONE LEGEND

- △¹ COLA SUBMISSION
- △² EPC (ENGINEER, PROCUREMENT, CONSTRUCTION) CONTRACT ISSUED BY LICENSEE (OWNER)
- △³ PEQO-PROJECT EQ ORGANIZATION FORMED; MNES, ENGINEER, CONSTRUCTOR, LICENSEE
- △⁴ PEQP- PROJECT SPECIFIC EQ PROGRAM ESTABLISHED- PROJECT SPECIFIC
- △⁵ QA PROGRAM – PROJECT SPECIFIC
- △⁶ PLANT FUEL LOAD
- △⁷ COMMERCIAL OPERATION – US APWR
- △⁸ PEQO COMPLETES TURNOVER OF PEQP TO LICENSEE; PEQO DISBANDED

PEQO = PROJECT EQUIPMENT QUALIFICATION ORGANIZATION

PEQP = PROJECT EQUIPMENT QUALIFICATION PROGRAM

SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 3705 (CP RAI #97)

SRP Section: 03.11 - Environmental Qualification of Mechanical and Electrical Equipment

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 9/30/2009

QUESTION NO.: 03.11-15

Section 3.11(4) of the US-APWR DCD requires the COL applicant to describe periodic tests, calibrations, and inspections to be performed during the life of the plant, which verify that the identified equipment remains capable of fulfilling its intended function. In the FSAR replacement paragraph of CP COL 3.11(4), the COL applicant references a DC applicant technical report and FSAR Table 13.4-201 for implementation of the operational EQ program. It is not clear how the COL applicant intends to meet this requirement. CP COL 3.11(4) needs to be clarified to demonstrate compliance with this DCD COL item.

SUPPLEMENTAL INFORMATION:

The operational EQ program addresses periodic tests, calibrations, and inspections to be performed during the life of the plant, which verify that the identified equipment remains capable of fulfilling its intended function. The FSAR was updated by Luminant letter TXNB-09064 (ML093200501) on November 11, 2009 and Luminant understands from conference calls with the NRC that no supplemental information is required.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 3705 (CP RAI #97)

SRP Section: 03.11 - Environmental Qualification of Mechanical and Electrical Equipment

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 9/30/2009

QUESTION NO.: 03.11-16

The last sentence of the proposed paragraph in CP COL 3.11(5) reads "This table lists information on site-specific safety-related or important to safety equipment." The second sentence of the same paragraph in Section 3.11.1.1 reads "Safety-related and important to safety components." Please clarify what information the table provides.

SUPPLEMENTAL INFORMATION:

FSAR Table 3D-201 uses the term "Other" in the column that describes the purpose of the equipment listed. For Table 3D-201 Items 1-12, "Other" means "Instruments used for safe shutdown." For Items 33-64, "Other" means "Instruments used for operation of safety-related heating and ventilation equipment."

FSAR Subsection 3.11.1.1 has been revised to clarify the meaning of "equipment important to safety."

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 3.11-2.

Impact on S-COLA

None.

Impact on DCD

None.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR**

features of the US-APWR Equipment Qualification Program Technical Report MUAP-08015 (Reference 3.11-3) are included in the CPNPP Units 3 and 4 EQ Program.

RCOL2_03.1
1-15
RCOL2_03.1
1-12 S01

3.11.1.1 Equipment Identification

CP COL 3.11(5) Replace the last sentence of the first paragraph in DCD Subsection 3.11.1.1 with the following.

Table 3D-201 identifies CPNPP Units 3 and 4 site-specific electrical and mechanical equipment locations and environmental conditions (both normal and accident) to be addressed in the EQ program. This table lists information on site-specific safety-related equipment ~~and non-safety-related equipment which is important to safety equipment.~~ The provisions in the US-APWR DCD for the environmental qualification of mechanical equipment are applied to the plant-specific systems.

RCOL2_03.1
1-16 S01
RCOL2_03.1
1-3

3.11.1.2 Definition of Environmental Conditions

CP COL 3.11(9) Replace the fourth sentence of the first paragraph in DCD Subsection 3.11.1.2 with the following.

Plant-specific EQ parameters are documented in the corresponding equipment specifications, drawings, procedures, instructions, and qualification packages. ~~Any parameters based on site-specific considerations are identified in the environmental qualification documentation described in Section 3.11.~~

RCOL2_03.1
1-12 S01
RCOL2_03.1
1-6

3.11.3 Qualification Test Results

CP COL 3.11(2) Replace the fifth paragraph in DCD Subsection 3.11.3 with the following.

Test results for ~~site-specific~~ electrical and mechanical equipment are maintained with the project records as auditable files. Such records are maintained from the time of initial receipt through the entire period during which the subject equipment remains installed in the plant, or is stored for future use, or is held for permit-verification. ~~The license holder for CPNPP Units 3 and 4 assumes full-~~

RCOL2_03.1
1-13

RCOL2_03.1
1-13 S01

SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 3705 (CP RAI #97)

SRP Section: 03.11 - Environmental Qualification of Mechanical and Electrical Equipment

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 9/30/2009

QUESTION NO.: 03.11-17

Explain the equivalent qualification process used to qualify the equipment, identified in Appendix 3D, in CP COL items 3.11(6), 3.11(7), and 3.11(8). Provide details of what parameters are used to evaluate the equivalency in the process. Identify where the equivalent qualification process is defined or explained.

SUPPLEMENTAL INFORMATION:

The equivalent qualification process to be used to qualify equipment identified in Appendix 3D is described in the response to RAI No. 2765 (CP RAI #73) Question 03.11-8 in Luminant letter TXNB-09063 (ML093220204) and summarized below:

The phrase "equivalent qualification process" means that the site-specific electrical and mechanical equipment will be qualified following the guidance provided in MUAP-08015(R1). The concept of qualification for site-specific equipment is clarified by rephrasing the first sentence of the second paragraph in DCD Subsection 3.11.4 to state "The COL Applicant is to qualify site-specific electrical and mechanical equipment (including instrumentation and control, and certain accident monitoring equipment) using a qualification process that is equivalent to that delineated for the US-APWR standard plant, as described in Technical Report MUAP-08015(R1)."

The term "equivalent" denotes the qualification process is equal to that described in MUAP-08015 Rev.1 (ML093160512). There is no intention to imply a different qualification process can be used. To prevent misinterpretation, "equivalent qualification" has been deleted from FSAR Subsections 3.11.4, 3.11.5, and 3.11.6.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 3.11-3.

Impact on S-COLA

None.

Impact on DCD

None.

Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR

~~responsibility for the EQ program at time of license issuance. Documentation for the qualification of safety-related equipment and non-safety-related equipment which is important to safety is ultimately the responsibility of the COL Applicant who, later as the licensee, maintains a complete set of EQ records.~~ The EQ records are maintained for the life of plant to fulfill the records retention requirements delineated in 10 CFR 50.49 (Reference 3.11-2) and in compliance with the QAP described in Chapter 17.

RCOL2_03.1
1-13 S01

3.11.4 Loss of Ventilation

CP COL 3.11(6) Replace the second paragraph in DCD Subsection 3.11.4 with the following.

Site-specific electrical and mechanical equipment (including instrumentation and control and certain accident monitoring equipment), subject to environmental stress associated with loss of ventilation or other environmental control systems including heat tracing, heating, and air conditioning, is qualified using the process an equivalent qualification process to that delineated for the US APWR standard plant described in MUAP-08015 (Reference 3.11-3).

RCOL2_03.1
1-17 S01
RCOL2_03.1
1-8

3.11.5 Estimated Chemical and Radiation Environment

CP COL 3.11(7) Replace paragraph in DCD, Subsection 3.11.5 with the following.

Chemical and radiation environmental requirements for site-specific electrical and mechanical equipment (including instrumentation and control and certain accident monitoring equipment) are to be included in ~~the Equipment EQ Technical Report MUAP-08015 (Reference 3.11-3).~~ This equipment is qualified using the process an equivalent qualification process to that delineated for the US APWR standard plant described in MUAP-08015 (Reference 3.11-3).

RCOL2_03.1
1-17 S01
RCOL2_03.1
1-8

3.11.6 Qualification of Mechanical Equipment

CP COL 3.11(8) Replace the second paragraph in DCD, Subsection 3.11.6 with the following.

Site-specific mechanical equipment requirements are to be included in Table 3D-201 by completion of detailed design. This equipment is qualified using the process an equivalent qualification process to that delineated for the US APWR standard plant described in MUAP-08015 (Reference 3.11-3).

RCOL2_03.1
1-17 S01
RCOL2_03.1
1-8