



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

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Log # TXNB-10007

Ref. # 10 CFR 52

February 19, 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
RESPONSES TO REQUESTS FOR ADDITIONAL INFORMATION (RAI) NO. 4089 AND
4200, AND SUPPLEMENTAL INFORMATION FOR RAI NO. 2328

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein responses to Requests for Additional Information (RAI) No. 4089 and No. 4200, and supplemental information for the response to RAI No. 2328 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 only commitment in this letter is stated on page 2.

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

Executed on February 19, 2010.

Sincerely,

Luminant Generation Company LLC

Donald R. Woodlan for

Rafael Flores

- Attachment 1: Response to Request for Additional Information No. 4089 Revision 1 (CP RAI #127)
- Attachment 2: Response to Request for Additional Information No. 4200 Revision 1 (CP RAI #128)
- Attachment 3: Supplemental Response to Request for Additional Information No. 2328 (CP RAI #10)

*DOGO
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> |
|---------------|---|-----------------------|
| 7201 | DCD Tier 2 Subsection 9.5.1.1 will be revised to address deviations from the NFPA codes and standards as identified in RG 1.189 Regulatory Position 1.8.6 and FSAR Table 9.5.1-1R... Revision to DCD Tier 2, Subsection 9.5.1.1 will be provided in an upcoming DCD Update Tracking Report. | April 30, 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.Conly@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
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
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-201000191
TXNB-10007
2/19/2010

Attachment 1

Response to Request for Additional Information No. 4089 Revision 1 (CP RAI #127)

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.: 4089 Revision 1 (CP RAI #127)

SRP SECTION: 05.02.05 - Reactor Coolant Pressure Boundary Leakage Detection

QUESTIONS for Balance of Plant Branch 2 (ESBWR/ABWR) (SBPB)

DATE OF RAI ISSUE: 1/11/2010

QUESTION NO.: 05.02.05-3

The NRC staff has reviewed the applicant's responses to RAI 3457-13642 Question 05.02.05-1 and RAI 3457-13643 Question 05.02.05-2 (RAI number 58), dated October 26, 2009. The applicant agreed to provide procedures regarding conversion of the referenced leak detection instruments into a common leak rate and operator actions in response to prolonged leakage in COL application FSAR Subsection 13.5.2.1. The NRC staff finds that Subsection 13.5.2.1, "Operating and Emergency Operating Procedures," currently does not have such procedures for the staff to review. It appears that the applicant has not provided, but is committed to provide, such procedures prior to fuel loading. In doing so, the applicant is requested to provide the essential elements of the procedures in the FSAR to establish the licensing bases for meeting 10 CFR Part 50, Appendix A, General Design Criterion 30 and Regulatory Guide 1.45, "Guidance on Monitoring and Response to Reactor Coolant System Leakage." For example, in the FSAR, the referenced leak detection instruments need to be specified as well as the alarm set points. Further, in the FSAR, the applicant is requested to clarify that it will commit to the procedure guidance as described in RG 1.45, Revision 1, "Guidance on Monitoring and Response to Reactor Coolant system Leakage," Regulatory Position C.3. Otherwise, if an alternative proposal is selected, the applicant should describe and justify it in the FSAR.

Reference: Attachment 5 of Luminant Response to Requests for Additional Information dated 10/26/09, CP-200901530, Log # TXNB-09058, ML093010366.

ANSWER:

FSAR Subsection 5.2.5.9 has been revised to provide the essential elements of procedures, including the content of the previously committed COL items 5.2 (14) and 5.2 (15). The following types of procedures will be established and applied to CPNPP Units 3 and 4 as described in the attached FSAR pages.

- Procedures to analyze trends in unidentified and identified leakage rates and to evaluate the safety significance of leakage
- Procedures for responding to leakage

- Procedures for converting instrument output to a leakage rate

The revised subsection commits to use the guidance of RG 1.45, Revision 1 Position C.3 to develop these procedures.

Alarm set points will be established as part of the procedure development process described in FSAR Subsection 5.2.5.9 using the parameters and sensitivities of the specific leak detection instruments selected during the detailed design process.

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 5.2-3 and 5.2-4.

Impact on S-COLA

None.

Impact on DCD

None.

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

5.2.4.1.1 Arrangement and Accessibility

STD COL 5.2(13) Replace the last paragraph with the following.

Class 1 component design is the same as the DCD design.

5.2.4.2 Preservice Inspection and Testing Program

STD COL 5.2(5) Replace the fourth sentence of the first paragraph in DCD Subsection 5.2.4.2 with the following.

The preservice inspection (PSI) program complies with the editions and addenda of American Society of Mechanical Engineers (ASME) Code Section XI incorporated by reference in Code of Federal Regulations, Title 10 (10 CFR) 50.55a(b) as applied to the construction of the component. The implementation milestones for the PSI and preservice testing (PST) program are provided in Table 13.4-201.

STD COL 5.2(14) Add the following Subsection after DCD Subsection 5.2.5.8.

STD COL 5.2(15)

5.2.5.9 Operating Procedures

The operating procedures regarding conversion of the referenced leak detection instruments into a common leak rate and operator actions in response to prolonged leakage are included in system operating procedures in Subsection 13.5.2.1. A milestone schedule for implementation of the procedures is also included in Subsection 13.5.2.1.

The procedure guidance as described in RG 1.45, Revision 1 Regulatory Position C.3. is used to develop these and other procedures to identify, monitor, and respond to leakage. The essential elements of these procedures include the following:

Monitoring instrumentation as required by technical specification surveillance requirements including:

- Containment sump level
- Containment airborne particulate radioactivity

RCOL2_05.0
2.05-3

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

- Condensate flow rate from air coolers
- Equivalent leak rate conversion

RCOL2_05.0
2.05-3

Establishing alarm setpoints to provide operators an early warning signal so they can take corrective actions in response to leakage rates less than Technical Specification limits including:

- Facilitation of stepwise operator action levels
- Response to administrative limits
- Allowance for individual instrument sensitivity and response times.

Actions in response to unexpected leakage rates less than Technical Specification Limits including:

- A validated computer program consistent with procedures and technical data to perform water inventory balance calculations
- Action levels to provide Operators guidance based on escalating administrative leakage limits below that are below Technical Specification limits
- Leak rate determination
- System walk downs
- Limits on continued operation
- Contingency plans

Guidance to recognize and respond to a prolonged low-level leakage condition including:

- Trending that includes action requirements based on deviations from the mean
- Outage and maintenance practices
- Corrective Action Program practices

5.2.6 Combined License Information

Replace the content of DCD Subsection 5.2.6 with the following.

CP COL 5.2(1) **5.2(1) ASME Code Cases that are approved in Regulatory Guide 1.84**

U. S. Nuclear Regulatory Commission
CP-201000191
TXNB-10007
2/19/2010

Attachment 2

Response to Request for Additional Information No. 4200 Revision 1 (CP RAI #128)

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.: 4200 Revision 1 (CP RAI #128)

SRP SECTION: 05.03.01 - Reactor Vessel Materials

QUESTIONS for Component Integrity, Performance, and Testing Branch 1 (AP1000/EPR Projects) (CIB1)

DATE OF RAI ISSUE: 1/12/2010

QUESTION NO.: 05.03.01-3

This Request for Additional Information is necessary for the NRC staff to verify the COL applicant's compliance with 10 CFR 52.79(a)(13).

Section 5.3.1.6.1 (sixth paragraph) of the US-APWR DCD discusses a recommended withdrawal schedule for both general capsules and standby capsules. Section 5.3.1.6.1 of the DCD also requires the COL applicant to address the use of such capsules and their withdrawal schedule. The COL application incorporates by reference Section 5.3 of the US-APWR DCD, but the COL application is not clear whether the COL applicant will follow the recommended general capsule withdrawal schedule as stated in the US-APWR DCD. The COL applicant adequately addressed the use of standby capsules in CP COL 5.3(2).

Please confirm that the COL applicant plans to follow the withdrawal schedule for general capsules recommended in the US-APWR DCD.

ANSWER:

Luminant confirms that it will follow the recommended withdrawal schedule for general capsules found in US-APWR DCD Subsection 5.3.1.6.1.

Impact on R-COLA

See the attached marked-up FSAR Revision 1 page 5.3-2.

Impact on S-COLA

None.

Impact on DCD

None.

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

The recommended general capsule withdrawal schedule is applied and the use of RCOL2_05.0
~~these~~ standby surveillance capsules is incorporated by updating the 3.01-3
surveillance program once sufficient data are retrieved to determine the
withdrawal schedule for these capsules.

CP COL 5.3(2) Replace the last paragraph with the following in DCD Subsection 5.3.1.6.1.

Accelerated irradiation capsules as defined in American Society for Testing and Materials (ASTM) E-185 (Ref. 5.3-24) and integrated surveillance program for multiple reactors at a single site, are not applicable at CPNPP Units 3 and 4.

5.3.1.6.3 Predicted Effects of Radiation on Beltline Region Materials

CP COL 5.3(2) Add the following text after the last paragraph in DCD Subsection 5.3.1.6.3.

A summary technical report, including test results, is submitted as specified in 10 CFR 50.4, for the contents of each capsule withdrawn, within one year of the date of capsule withdrawal unless an extension is granted by the Director, Office of Nuclear Reactor Regulation.

The report includes the data required by ASTM E-185-82, as specified in paragraph III.B.1 of 10 CFR 50, Appendix H, and includes the results of the fracture toughness tests conducted on the beltline materials in the irradiated and unirradiated conditions.

If the test results indicate a change in the Technical Specifications, either in the pressure-temperature limits or in the operating procedures, the expected date for submittal of the revised Technical Specifications is provided with the report.

5.3.2.1 Limit Curves

STD COL 5.3(1) Replace the last sentence in the second paragraph with the following in DCD Subsection 5.3.2.1.

The generic pressure and temperature limits reports (PTLR) for the US-APWR reactor vessel will be applied.

The COL Holder will update the P/T limits prior to fuel loading using the PTLR methodologies approved in the US-APWR DCD and the plant specific material

U. S. Nuclear Regulatory Commission
CP-201000191
TXNB-10007
2/19/2010

Attachment 3

Supplemental Response to Request for Additional Information No. 2328 (CP RAI #10)

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.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 - Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-7

Please revise the CPNPP FSAR, Subsection 9.5.1.1, to include a description of the deviation from the National Fire Protection Association (NFPA) codes and standards, as stated in Table 9.5.1-1R. RG 1.189, Regulatory Position 1.8.6 provides guidance as to the information the applicant should include in a future revision of this subsection of the FSAR.

SUPPLEMENTAL INFORMATION:

DCD Tier 2 Subsection 9.5.1.1 will be revised to address deviations from the NFPA codes and standards as identified in RG 1.189 Regulatory Position 1.8.6 and FSAR Table 9.5.1-1R. A change to the CPNPP FSAR is not needed based on the committed change to the DCD. If any deviations are taken, they will be noted in the FHA in DCD Tier 2 for US-APWR and COL FSAR for CPNPP. As of this time, no deviations are identified.

FSAR Subsection 9.5.1.6.4.2.1 identifies the use of the equivalency concept to meet fire protection requirements as identified in RG 1.189 Regulatory Position 1.8.6.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

Revision to DCD Tier 2, Subsection 9.5.1.1 will be provided in an upcoming DCD Update Tracking Report.

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.: 2328 (CP RAI #10)

SRP SECTION: 09.05.01 - Fire Protection Program

QUESTIONS for Fire Protection Team (SFPT)

DATE OF RAI ISSUE: 6/30/2009

QUESTION NO.: 09.05.01-8

RG 1.189, Regulatory Position 2.1.1, states that unused ion exchange resins and hazardous chemicals should not be stored in areas that contain or expose equipment important to safety. Please revise the CPNPP FSAR Subsection 9.5.1.6.4.2.4, to clarify whether storage of unused ion exchange resins or hazardous chemicals and/or any other combustible materials will be permitted in safety-related areas and describe what, if any, effective administrative controls exist for such storage. Please also provide justification for allowing storage of these types of materials in safety-related equipment, and demonstrate why this is an acceptable deviation from the regulatory guide.

SUPPLEMENTAL INFORMATION:

FSAR Subsection 9.5.1.6.4.2.4 has been revised to clarify that control of hazardous chemicals (i.e., used ion exchange resin and HEPA filters) and combustibles will be administratively controlled through procedures.

As stated in the attached revised FSAR pages, storage and use of combustibles in safety-related areas will be procedurally controlled by the combustibles control program with appropriate fire protection supervisor review and approval. The use and storage of hazardous chemicals in safety-related areas will be controlled by the combustibles control program in conjunction with the site hazardous material control program. The FSAR has been revised to clarify storage of combustible materials and hazardous chemicals.

Equipment containing combustible material may be located within safety-related areas. These materials are contained within sealed metal portions of the equipment and are not readily exposed to flame. Because these materials are contained within the equipment, they are not considered an ignition source. The quantities and types of these materials are identified in and controlled by the Fire Hazards Analysis (FHA). Combustible material within a system is not considered to be stored; it is considered to be in use within the system. Therefore, this use of combustible material is not a deviation from the regulatory guide for bulk storage in safety-related areas.

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 9.5-14, 9.5-15, and 9.5-16.

Impact on S-COLA

None.

Impact on DCD

None.

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

9.5.1.6.4.2.2 Safe Shutdown Procedures

Procedures for effecting safe-shutdown for CPNPP use two normal safety trains of equipment, which allows safe plant shutdown without further degradation of plant safety functions should a fire occur in one of the four separate safety train areas. Time-critical operations for effecting safe-shutdown are identified in the safe-shutdown analysis and incorporated in post-fire procedures. These time governed steps were validated prior to procedural incorporation. Procedures govern the tasks to implement remote shutdown capability when offsite power is available and when offsite power is not available for 72 hours. These procedures also address necessary actions to compensate for spurious operations and high-impedance faults if such actions are required. Fire events and fire protection deficiencies that meet the criteria of 10 CFR 50.72 and 10 CFR 50.73 will be reported to the NRC as appropriate in accordance with the requirements of these regulations and the guidelines provided in NUREG 1022.

9.5.1.6.4.2.3 Low Power and Non-Power Procedures

Low power and non-power operating procedures serve to minimize the potential for fire events to affect safety functions during shutdown operations (i.e., maintenance or refueling outages) when fire risk may increase significantly because of work activities. The procedures assure sufficient redundancy. They also assure that critical safety functions (e.g., reactivity control, reactor decay heat removal, and spent fuel pool cooling) are shielded from potential adverse impact of a fire that could result in the unacceptable release of radioactive materials, under the differing conditions that may be present during shutdown operations.

9.5.1.6.4.2.4 Control of Combustibles

Effective administrative controls through a combustibles control program minimize the amount of combustibles that safety-related areas are exposed to during operation or maintenance periods. The combustibles control program establishes a control mechanism for the introduction, use, and handling of combustibles and applies to all site areas and structures which are under the jurisdiction of Nuclear Operations. Bases for the program include Nuclear Electric Insurance Limited (NEIL) Property Loss Prevention Standards and Appendix A to Branch Technical Position APCS 9.5-1 "Guidelines for Fire Protection for Nuclear Power Plants."

RCOL2_09.0
5.01-8 S01
RCOL2_09.0
5.01-8 S01

The Operations Shift Manager is responsible for

- ensuring the safety and integrity of the plant in the event of a fire emergency
- implementing the requirements of this program during off normal working hours regarding transient combustible permits

The Fire Protection Supervisor is responsible for

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

- ensuring that periodic inspections are performed to identify accumulations of transient combustibles
- ensuring that transient combustibles do not reach unacceptable levels in any area
- determining compensatory measures as required; identifying, documenting and recommending corrective action for any fire hazard or condition to the responsible manager
- providing information, guidance and assistance to any department responsible for implementing the program
- reviewing and approving all general storage areas that contain any equipment, materials, etc., which are combustible and placed in plant areas
- ensuring that the storage areas are periodically monitored to assure that the on-hand combustibles are in accordance with the respective combustible loading calculation

RCOL2_09.0
5.01-8 S01

Each department minimizes the amount of transient combustibles in each of their work or storage areas to reduce the potential fire hazard. Combustible materials are used strictly on an as-needed basis. The Fire Protection Supervisor approves all plant storage areas containing any combustible equipment or materials. Any flammable/combustible material that has not been included in the Combustible Loading Calculations is treated as transient combustibles and require a permit in accordance with this program.

These controls are ~~patterned after~~ based on the recommendations in NFPA 804, and the guidance in RG1.189 and govern the following:;

- The fire protection program includes administrative control of combustibles through the implementation of the combustibles control program. Combustibles in all plant areas including areas important to safety are administratively controlled to ensure proper handling and use of combustible materials. Also, the storage of combustible materials in areas important to safety is administratively controlled. Designated storage areas are established and controlled through appropriate fire protection engineer reviews and identified as appropriate in the Fire Hazards Analysis.
- Proper control of flammable and combustible liquids and gases throughout the plant including safety-related areas. The handling, use and storage of flammable and combustible liquids complies with the provisions of NFPA 30. The amounts of these materials are controlled and the materials are handled using approved containers. The storage, use and handling of compressed gases comply with the provisions of NFPA-55.

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

- ~~Proper~~ Procedural control of combustible materials such as HEPA and charcoal filters, dry ion exchange resins or other combustible materials used in safety-related areas. The use and storage of hazardous chemicals is controlled by the combustibles control program as applicable in conjunction with the site chemical control program. Use of Ssuch materials will be allowed in safety-related areas only in amounts which will be used immediately. | RCOL2_09.0
5.01-8 S01
- Procedural control to Restrict the prohibit the bulk storage of combustibles (e.g. unused ion exchange resin) and hazardous materials (e.g. used ion exchange resin and HEPA filters) in safety-related areas. | RCOL2_09.0
5.01-8 S01
- Transient fire loads during maintenance and modifications such as combustibles and flammable liquids, wood, and plastic materials in buildings containing safety-related systems or equipment. Only fire retardant wood is allowed within safety-related areas and this is on a case-by-case basis. This control requires an in-plant review of work activities to identify transient fire loads. The supervisor or foreman responsible for reviewing the work activity will specify any required additional fire protection consulting the fire protection engineer as required.
- The fire protection program includes fire prevention element reviews of proposed plant modifications. A fire protection engineer (assisted by others as necessary) reviews proposed plant modifications to ensure the following: fixed fire loads are not adversely increased beyond that accounted for in the fire hazards analysis, suitable fire protection is provided in the affected area, and the fire hazards analysis is updated accordingly.
- Waste, debris, scrap, and oil spills resulting from work activities in safety-related areas are minimized while work is in progress and removed at the end of each shift or upon completion of an activity, whichever is shorter.
- Periodic housekeeping inspection for accumulation of combustibles is performed to assure that procedural controls in place are effective.

All interior temporary structures will be constructed of noncombustible, limited-combustible, or fire-retardant pressure-impregnated wood. Structures constructed of noncombustible or limited-combustible materials will be protected by an automatic fire suppression system unless a fire hazard analysis determines that automatic suppression is not required. Structures constructed of fire-retardant pressure-impregnated wood are protected by an automatic fire suppression system. The use of interior temporary coverings is limited to special conditions where interior temporary coverings are necessary and constructed of approved fire-retardant tarpaulins. Where framing is required, it is constructed of noncombustible, limited-combustible, or fire-retardant pressure-impregnated wood. All interior temporary facilities have the appropriate type and size of portable fire extinguisher.