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CP-201000495
Log # TXNB-10028

Ref. # 10 CFR 52

April 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 NO. 4397 AND 4406

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein the response to Request for Additional Information (RAI) No. 4397 and No. 4406 for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4. RAI No. 4397 involves tornado missiles, and RAI No. 4406 involves Technical Specification test and inspection frequencies.

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

The only commitment in this letter is captured on page 2.

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

Executed on April 5, 2010.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

Rafael Flores

Attachments 1. Response to Request for Additional Information No. 4397 (CP RAI #150)
2. Response to Request for Additional Information No. 4406 (CP RAI #149)

D090
NRD

Regulatory Commitments in this Letter

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

Number	Commitment	Due Date/Event
7351	The first sentence in the third paragraph of DCD Subsection 3.3.2.3 will be corrected in the next revision of the DCD to delete "including loss of its siding" for the AC/B.	DCD Revision 3

Electronic distribution w/attachments

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Attachment 1

Response to Request for Additional Information No. 4397 (CP RAI #150)

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.: 4397 (CP RAI #150)

SRP SECTION: 03.03.02 - Tornado Loads

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)

DATE OF RAI ISSUE: 3/3/2010

QUESTION NO.: 03.03.02-8

The design-basis tornado missile spectrum that is acceptable to the NRC staff is defined in Table 2 of Regulatory Guide 1.76, Rev. 1. The three types of missiles included in the spectrum are (1) a schedule 40 pipe, (2) an automobile, and (3) a solid steel sphere. According to the text in Section 3.3.2.3 of the US-APWR DCD, Revision 2, which the COL applicant incorporated into Part 2, FSAR, Revision 1 by reference,

- the Turbine Building (T/B) siding fasteners are designed to retain the siding for loading caused by extreme winds with a basic wind speed of 155 mph, but the fastener design allows for portions of the siding to be blown off in the event of a design-basis tornado, and
- the Access Building (AC/B) is not designed for a tornado and consequently it could potentially fail due to design-basis tornado loading, including loss of its siding.

Luminant is requested to provide a description of the tornado-generated missiles that could be produced by failure of the T/B and AC/B and an analysis or test data showing that these missiles are not capable of producing tornado missile impact effects that are more severe than those produced by the missiles included in the missile spectrum defined in Table 2 of Regulatory Guide 1.76, Rev. 1 for Region I.

ANSWER:

The access building (AC/B) is a reinforced concrete structure that does not contain any metal siding. The first sentence in the third paragraph of DCD Subsection 3.3.2.3 will be corrected in the next revision of the DCD to delete "including loss of its siding" for the AC/B.

As discussed in DCD Subsection 3.3.2.3, missiles postulated to occur by a tornado-induced failure of the turbine building (T/B) or the AC/B are bounded by the design basis missiles identified in DCD Subsection 3.5.1.4. The design basis tornado-induced missiles are consistent with Table 2 of Regulatory Guide (RG) 1.76, Rev. 1 for Region I. The missiles in RG 1.76 Table 2 are recognized as representative of objects commonly found near nuclear plant sites. Solid steel spheres are postulated

as small rigid missiles of a size sufficient to pass through any opening in protective barriers. According to RG 1.76, the NRC staff considers a 6-inch Schedule 40 steel pipe and an automobile as representative of penetrating and massive missiles, respectively, for use in the design of nuclear power plants. RG 1.76 also concludes the Schedule 40 steel pipe is intended to represent a rigid component of a larger missile (e.g., building debris or an automobile) that may be lifted in the tornado wind field.

The CPNPP site is not unusual in any manner. CPNPP Units 3 and 4 FSAR Section 3.3.2.3 states that other miscellaneous non-seismic buildings and structures in the plant yard are located and/or anchored such that their failure will neither jeopardize safety-related SSCs nor generate missiles not bounded by those discussed in Subsection 3.5.1.4. As noted by the NRC, the design basis tornado-generated missile spectrum in RG 1.76 Table 2 is generally acceptable to the staff for the design of nuclear power plants. Thus, RG 1.76 Rev. 1 is applicable and appropriate for the tornado analysis of CPNPP Units 3 and 4. Protection from a spectrum of missiles provides assurance that the necessary SSCs will be able to mitigate the potential effects of a tornado on plant safety.

The potential tornado-induced failure of the T/B or AC/B does not generate any missiles greater than the representative missiles listed in DCD Subsection 3.5.1.4. DCD Subsection 3.3.2.3 will be changed to indicate that if localized failures of wind girts and other exposed SSCs become dislodged, they do not warrant further evaluation because they are considered to be enveloped by the missiles addressed in DCD Subsection 3.5.1.4. No further analysis of site-specific tornado missiles is applicable.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

See attached markup of DCD Revision 2 page 3.3-7.

the effective tornado wind pressure load on the building. This ensures that there is no overall failure of the T/B, due to maximum tornado wind and/or atmospheric pressure change as defined in Table 2.0-1, which could affect the ability of adjacent buildings and structures to perform their intended safety functions. Localized failures of wind girts and other exposed SSCs are permitted. However, these items are designed to remain attached to the structure. ~~Alternately, if such~~ Any items (including the T/B siding) which might ~~could~~ become dislodged and become missiles under the maximum tornado conditions do ~~, they are reviewed to ensure that no new missiles are generated that are~~ not warrant further evaluation because they are considered to be enveloped by the missiles addressed in Subsection 3.5.1.4. The use of the tornado-generated missile spectrum described in Subsection 3.5.1.4, which is consistent with the most severe missile spectrum as identified for Region I in RG 1.76, Revision 1, provides assurance that the necessary SSCs will be available to mitigate the potential effects of a tornado on plant safety.

The AC/B is not designed for a tornado and consequently it could potentially fail due to design basis tornado loading~~, including loss of its siding~~. However, since its location is sufficiently far away from seismic category I structures, and adjacent safety-related SSCs buried in the plant yard, the collapse of the AC/B would not impact any adjacent safety-related SSCs. The AC/B may also have localized failure due to tornado loading; however, the design precludes the generation of missiles that are not bounded by Subsection 3.5.1.4. The locations of any safety-related SSCs in the plant yard adjacent to the AC/B, including those which may be field routed, are reviewed prior to installation to ensure that their distances away from the AC/B and/or burial depths are sufficient to prevent potential failure effects that could jeopardize their function and integrity. Therefore, the ability of other SSCs to perform their intended safety functions is not affected by the potential collapse or localized failure of the AC/B due to tornado loading.

It is the responsibility of the COL Applicant to assure that site-specific structures and components not designed for tornado loads will not impact either the function or integrity of adjacent safety-related SSCs, or generate missiles having more severe effects than those discussed in Subsection 3.5.1.4. Where required by the results of investigations, structural reinforcement and/or missile barriers are implemented so as not to jeopardize safety-related SSCs.

3.3.3 Combined License Information

COL 3.3(1) *The COL Applicant is responsible for verifying the site-specific basic wind speed is enveloped by the determinations in this section.*

COL 3.3(2) *These requirements also apply to seismic category I structures provided by the COL Applicant. Similarly, it is the responsibility of the COL Applicant to establish the methods for qualification of tornado effects to preclude damage to safety-related SSCs.*

COL 3.3(3) *It is the responsibility of the COL Applicant to assure that site-specific structures and components not designed for tornado loads will not impact either the function or integrity of adjacent safety-related SSCs, or generate*

Attachment 2

Response to Request for Additional Information No. 4406 (CP RAI #149)

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.: 4406 (CP RAI #149)

SRP SECTION: 16 - Technical Specifications

QUESTIONS for Technical Specification Branch (CTSB)

DATE OF RAI ISSUE: 3/3/2010

QUESTION NO.: 16-18

This is a follow-up on the Luminant response to RAI 3113 (CP RAI Number 90), Question 16-7.

In the response letter dated November 11, 2009, Luminant proposed to change the frequency specified for SR 3.7.9.5 from "in accordance with the Inservice Testing Program" to "in accordance with the Surveillance Frequency Control Program". This change is not consistent with requirements specified in TSTF-425, "Relocate Surveillance Frequencies to Licensee Control - RITSTF Initiative 5b," Revision 2, January 17, 2008. TSTF-425 states, in part, "the proposed change relocates all periodic Surveillance Frequencies from the Technical Specifications and places the Frequencies under licensee control in accordance with a new program, the Surveillance Frequency Control Program. All Surveillance Frequencies are relocated except:• Frequencies that reference other approved programs for the specific interval (such as the Inservice Testing Program or the Primary Containment Leakage Rate Testing Program);..." The staff requests that Luminant reinstate the original frequency requirements including its discussion in the Comanche Peak PTS bases.

ANSWER:

The original frequency requirements for SR 3.7.9.5 based on the Inservice Testing Program have been reinstated including the discussion in the Comanche Peak PTS Bases. A review of all other SR in the TS was performed to ensure that no other SR that should be controlled by a specific program (such as the IST or the PCLRTP) had its frequency listed as being controlled by the SFCP.

Impact on R-COLA

See attached marked-up Technical Specification Revision 1 pages 3.7.9-2 and B 3.7.9-6.

Impact on S-COLA

None.

Impact on DCD

None.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME	
~~D~~E. Required Action and associated Completion Time of Condition A, B, or C not met. OR UHS inoperable for reasons other than Condition A, B, or C.	~~D~~E.1 Be in MODE 3. AND ~~D~~E.2 Be in MODE 5.	6 hours 36 hours	RCOL4_16-4 RCOL4_16-4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY	
SR 3.7.9.1	Verify each required UHS basin water level is ≥ ~~2,850,000~~2,800,000 gallons.	In accordance with the Surveillance Frequency Control Program	RCOL2_09.02.05-5
SR 3.7.9.2	Verify water temperature of UHS is ≤ ~~95~~93°F.	In accordance with the Surveillance Frequency Control Program	RCOL2_09.02.05-14
SR 3.7.9.3	Operate each cooling tower fan for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program	
SR 3.7.9.4	Verify each cooling tower fan starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program	
SR 3.7.9.5	Verify each UHS transfer pump starts on manual actuation~~operation~~.	In accordance with the Inservice Testing Program	RCOL4_16-1 RCOL4_16-7 RCOL4_16-18

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY

BASES

ACTIONS (continued)

The Frequency of this SR is in accordance with the Inservice Testing Program of the ASME Code. The ASME Code provides the activities and Frequencies necessary to satisfy the requirements. Such inservice inspections confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. RCOL4_16-7 RCOL4_16-18

SR 3.7.9.6 RCOL4_16-5

This SR verifies the correct alignment for manual, power-operated, and automatic valves in the UHS flow path to assure that the proper flow paths exist for UHS operation. This SR does not apply to valves that are locked, sealed or otherwise secured in position, since they are verified to be in the correct position prior to being locked, sealed, or secured. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk, and is controlled under the Surveillance Frequency Control Program.

SR 3.7.9.7

This SR verifies proper manual and automatic operation of the UHS valves on remote manual or on an actual or simulated actuation signal. The ESWS is a normally-operating system that cannot be fully actuated as part of normal testing. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk, and is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. FSAR Subsection 9.2.5. RCOL4_16-7

2. Regulatory Guide 1.27.

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.: 4406 (CP RAI #149)

SRP SECTION: 16 - Technical Specifications

QUESTIONS for Technical Specification Branch (CTSB)

DATE OF RAI ISSUE: 3/3/2010

QUESTION NO.: 16-19

This is a follow-up on the Luminant response to RAI 3113 (CP RAI Number 90), Question 16-10.

In the response letter dated November 11, 2009, Luminant proposed a frequency of "24 months" to SR 3.7.9.5 for operability testing of the Ultimate Heat Sink (UHS) water transfer pumps. This 24-month frequency is not consistent with the test frequencies listed on Comanche Peak(CP) FSAR Table 3.9-202, "Site-Specific Pump IST Requirements," which calls for both a "quarterly test" and a "biennially test" for the UHS water transfer pumps. The staff requests that Luminant revise SR 3.7.9.5 and associated supporting information in the PTS bases to reflect relevant information in the Comanche Peak COL FSAR Table 3.9-202.

ANSWER:

As described in question 16-18, the surveillance frequency for SR 3.7.9.5 has been changed to conform to the Inservice Testing Program frequencies for the UHS transfer pumps listed in FSAR Table 3.9-202.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.