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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. 3909

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein the response to Request for Additional Information No. 3909 for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4.

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

There are no commitments in this letter.

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

Executed on February 18, 2010.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

Rafael Flores

Attachment: Response to Request for Additional Information No. 3909 (CP RAI #126)

D090

Electronic distribution w/attachment

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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.: 3909 (CP RAI #126)

SRP SECTION: 09.02.04 - POTABLE AND SANITARY WATER SYSTEMS

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

DATE OF RAI ISSUE: 1/4/2010

QUESTION NO.: 09.02.04-1

USAPWR DCD Tier 1 Section 2.7.6.12.1, "Design Description" under the paragraph titled, "Interfaces Requirements," states that the PSWS [potable and sanitary water system] are interface systems. In accordance with 10 CFR 52.47(a)(26) and 10 CFR 52.80(a) requirements, site-specific ITAAC must be established in order to demonstrate that the specified Tier 1 interface requirements are met. Provide a site-specific COL application Part 10 ITAAC for the PSWS to address the interface requirement that is specified in Section 2.7.6.12.1 in accordance with 10 CFR Part 52 requirements.

ANSWER:

MHI has revised US-APWR DCD Tier 1 Subsection 2.7.6.12.1 (see letter UAP-HF-10046) to clarify that the PSWS (Potable and Sanitary Water Systems) do not have any safety-related interfaces with systems outside of the certified design. As stated in DCD Tier 2 Subsection 9.2.4.1, the PSWS have no safety design basis. DCD Subsection and COLA FSAR Subsection 9.2.4.1 describe the PSWS design bases, including compliance with GDC 60 requirements, and sufficiently describe the system requirements. Therefore, the PSWS are not Tier 1 interface systems. ITAAC Item 1 in Table 2.7.6.12-1 of DCD Tier 1, which requires the as-built PSWS to conform to the functional arrangement as described in DCD Tier 1 Subsection 2.7.6.12, is incorporated by reference into the CPNPP Units 3 and 4 FSAR. The "Key Design Features" in DCD Tier 1 Subsection 2.7.6.12.1 state that the PSWS are designed to prevent radiological contamination. DCD Tier 2 Subsection 9.2.4.1, which is incorporated by reference in the FSAR, and FSAR Subsection 9.2.4.1 describe how the PSWS are designed to prevent radiological contamination. Therefore, ITAAC Item 1 in Table 2.7.6.12-1 of DCD Tier 1 is appropriate and sufficient, and no site-specific ITAAC are needed for the PSWS.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

Changes to the DCD will be submitted in Mitsubishi Heavy Industries, Ltd. letter to the NRC, "Transmittal of the Updated Tier 1, Subsection 2.7.6.12.1 and Tier 2, Chapter 9, Subsection 9.2.4 of US-APWR DCD," dated February 19, 2010 (UAP-HF-10046).

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.: 3909 (CP RAI #126)

SRP SECTION: 09.02.04 - POTABLE AND SANITARY WATER SYSTEMS

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

DATE OF RAI ISSUE: 1/4/2010

QUESTION NO.: 09.02.04-2

The NRC staff reviewed the COL information items for the potable and sanitary water system (PSWS) and determined that the information that is called for by the USAPWR DCD does not pertain to or otherwise involve design provisions that are specified for preventing radioactive material from contaminating the PSWS. Therefore, the COL information items do not affect compliance with 10 CFR Part 50, Appendix A, General Design Criterion 60 requirements and the PSWS will continue to be acceptable in this regard.

Section 10 CFR 52.73(a) allows for a COL applicant to incorporate by reference the DCD. However, the NRC staff noted that in some cases, the information that was provided to address the COL information items for the PSWS was not limited to the information that was called for by the DCD, rather the information included changes to the PSWS design as described in Tier 1 and Tier 2 of the DCD. These changes were not properly identified and evaluated, and they are not listed in the Departures Report that is included as Part 7 of the COL application.

For example, the information that was provided to address COL 9.2(11) eliminates the design provision in DCD Tier 2 Section 9.2.4.1, "Design Bases," that specifies that "the potable water system layout is designed with no interconnection and/or sharing between systems or between units." This is also contrary to the certified design information that is specified in DCD Tier 1 Section 2.7.6.12.1, "Design Description." Properly identify and evaluate all departures from Tier 1 and Tier 2 of the DCD as required by 10 CFR Part 52 requirements.

ANSWER:

Subsections 9.2.4 of the DCD and FSAR have been revised to eliminate potential departures from the DCD. The PSWS design bases in DCD Subsection 9.2.4.1, including compliance with GDC 60, are applicable to CPNPP Units 3 and 4. DCD Subsection 9.2.4 has been revised to explain that the details of the potable water system design and operation are applicable to a COL application using onsite wells for the potable water supply. The first bullet in DCD Subsection 9.2.4.1 has been revised to state that the potable water system does not have any interconnection with or sharing between any radiologically-

controlled systems. The basis for compliance to GDC 60 in FSAR Subsection 9.2.4 is the same as that described in the DCD. Based on the attached DCD and FSAR changes, the CPNPP Units 3 and 4 PSWS do not involve any departure from the certified design.

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 9.2-4 and 9.2-5.

Impact on S-COLA

None.

Impact on DCD

Changes to the DCD will be submitted in Mitsubishi Heavy Industries, Ltd. letter to the NRC, "Transmittal of the Updated Tier 1, Subsection 2.7.6.12.1 and Tier 2, Chapter 9, Subsection 9.2.4 of US-APWR DCD," dated February 19, 2010 (UAP-HF-10046).

Specific design conditions such as maximum operating water temperature and required UHS water volume are described in detail in Subsections 9.2.5.2.3 and 9.2.5.3.

9.2.1.5.4 ESWP Motor Essential Service Water Flow

~~CP COL 9.2(7)~~ ~~Replace the content of DCD Subsection 9.2.1.5.4 with the following.~~ RCOL2_09.02.01-4

~~Not applicable to Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4.~~

9.2.2.2.2 System Operations

STD COL 9.2(27) Replace the last paragraph in DCD Subsection 9.2.2.2.2 with the following.

The operating and maintenance procedures regarding water hammer are included in system operating procedures in Section 13.5.2.1. A milestone schedule for implementation of the procedures is also included in Subsection 13.5.2.1.

9.2.4.1 Design Bases

CP COL 9.2(10)
CP COL 9.2(11) Replace the ~~first and~~ second bullet in DCD Subsection 9.2.4.1 with the following. RCOL2_09.02.04-2

- ~~The potable water system for CPNPP is designed to receive water from Somervell County Water District. The potable and sanitary water system pipes are fitted with backflow preventer to avoid chemical contamination. They are also physically separated from any radioactive sources, to prevent contamination. This assures that the water remains fit for human consumption and conforms to the requirements of GDC 60 (Reference 9.2.11-1).~~

- The receipt of potable water from Somervell County Water District conforms to the requirements of the Environmental Protection Agency "National Primary Drinking Water Standards," 40 CFR 141 (Reference 9.2.11-4). All state and local environmental protection standards are applied and followed, as these may be more stringent than federal requirements.

CP COL 9.2(9)
CP COL 9.2(15) Replace the fourth bullet in DCD Subsection 9.2.4.1 with the following.

- The supply capacity of potable water is 50 gpm (approximately 70,000 gpd), sufficient to provide a quantity of potable water based on 20 gpd for

approximately 3500 persons expected to be at the station during a 24-hour period of power generation or outages. No onsite potable water storage tank is required.

CP COL 9.2(12)
CP COL 9.2(17)

Replace the eighth bullet in DCD Subsection 9.2.4.1 with the following.

- Sanitary drainage from all CPNPP Units 3 and 4 buildings is routed to a single on-site sanitary sump lift station via an underground sanitary sewer line. The sanitary wastewater is pumped by grinder pump to a new sanitary wastewater treatment plant for purification.

CP COL 9.2(12)

Add the following bullet after the last bullet in DCD Subsection 9.2.4.1.

- The sanitary waste discharge system is designed to produce a wastewater effluent quality in compliance with federal, state, and local regulations and permits.

9.2.4.2 System Description

RCOL2_09.02.04-2

CP COL 9.2(11)

Replace the content of DCD Subsection 9.2.4.2 with the following.

The potable water system for CPNPP is designed to receive supply from Somervell County Water District.

9.2.4.2.1 General Description

CP COL 9.2(11)
CP COL 9.2(12)
CP COL 9.2(14)

Replace the content of DCD Subsection 9.2.4.2.1 with the following.

The potable and sanitary water system (PSWS) flow diagram is shown in Figure 9.2.4-1R. Major component data for the PSWS are provided in Table 9.2.4-1R.

The source of potable water is from Somervell County Water District and provides an uninterruptible supply of 50 gpm directly to the end users. The potable water system consists of a distribution loop around the power block, local hot water heaters, and necessary interconnecting piping and valves within the PSWS with no sharing between any radiologically controlled systems. The water supply meets and/or exceeds the pressure, capacity, and quality requirements. No additional onsite water treatment is required.

RCOL2_09.02.04-2

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.: 3909 (CP RAI #126)

SRP SECTION: 09.02.04 - POTABLE AND SANITARY WATER SYSTEMS

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

DATE OF RAI ISSUE: 1/4/2010

QUESTION NO.: 09.02.04-3

Section 10 CFR 52.73 allows for COL applicants to incorporate by reference the DCD. The potable water system described in the US-APWR DCD (Rev 2) comprises the potable water storage tank, two potable water pumps, jockey pump, distribution loop around the power block, hot water heaters, and interconnecting piping and valves. Since the potable water supply at Comanche Peak Nuclear Power Plant is offsite, COL FSAR Sections 9.2.4.2.2.1 "Potable Water Storage Tank", 9.2.4.2.2.2 "Potable Water Pumps", and 9.2.4.2.2.3 "Jockey Pumps" were deleted in the FSAR. However, section 9.2.4.2.2.4, "Hot Water Heaters," was not deleted.

In USAPWR DCD Section 9.2.4.2.2.4, it states that the potable water tank supplies water to the hot water heater and is routed for domestic use. COL 9.2(16) requires the COL Applicant to provide values to the component Table 9.2.4-1 based on system and component descriptions from Section 9.2.4.2.1 and 9.2.4.2.2. Provide design details of the potable water tank that is proposed to supply hot water heaters and the COL applicant is asked to describe the potable water tank that will supply hot water heaters, including the effects of failure on safety-related equipment.

ANSWER:

Luminant has revised FSAR Subsection 9.2.4.2.2.4 to clarify that there is no potable water tank provided onsite and water to the water heaters is supplied via piping directly from the source (Somervell County Water District). Therefore, details of the potable water tank are not applicable to the CPNPP Units 3 and 4 FSAR.

Having water supplied by the Somervell County Water District rather than from onsite wells does not constitute a departure from the US-APWR DCD by virtue of the response to Question 09.02.04-2 above. The changes made to the DCD as described in the response to Question 09.02.04-2 clarify that the use of a potable water tank is optional depending upon the source selected for potable water.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 9.2-6.

Impact on S-COLA

None.

Impact on DCD

None.

The sanitary drainage system collects sanitary wastes from potable and non-potable water usage, from various plant areas such as restrooms and locker rooms. The waste is then drained to the 100,000-gpd sanitary wastewater treatment plant and 15 cu. ft. sludge dewatering filter press unit. The effluent is processed for disinfection and odor reduction and discharged to the Squaw Creek Reservoir. The sewage sludge is transferred to a truck for off-site landfill disposal. The sanitary drainage system does not serve any facilities in the radiologically controlled areas.

9.2.4.2.2.1 Potable Water Storage Tank

CP COL 9.2(9)
CP COL 9.2(15)

Replace DCD Subsection 9.2.4.2.2.1 with the following.

Not applicable to CPNPP Units 3 and 4.

9.2.4.2.2.2 Potable Water Pumps

CP COL 9.2(9)
CP COL 9.2(15)

Replace DCD Subsection 9.2.4.2.2.2 with the following.

Not applicable to CPNPP Units 3 and 4.

9.2.4.2.2.3 Jockey Pump

CP COL 9.2(9)
CP COL 9.2(15)

Replace DCD Subsection 9.2.4.2.2.3 with the following.

Not applicable to CPNPP Units 3 and 4.

9.2.4.2.2.4 Hot Water Heaters

RCOL2_09.02.04-3

CP COL 9.2(13)

Replace DCD Subsection 9.2.4.2.2.4 with the following.

Local potable water hot water heaters are used to provide hot water to building-specific areas based on their requirements. Water from the source (Somervell County Water District) is supplied to the hot water heaters, and is then routed to the shower and toilet areas and to other plumbing fixtures and equipment requiring domestic hot water service. Local electric water heaters are provided as required to serve restricted or possible contaminated areas such as the MCR. Point-of-use, inline electric water heating elements are used to generate hot water for the MCR and the T/B areas.

9.2.4.2.3 System Operation

CP COL 9.2(13)

Replace the first, second and third paragraphs in DCD Subsection 9.2.4.2.3 with the following.