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CP-200901563
Log # TXNB-09066

Ref. # 10 CFR 52

November 12, 2009

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
NO. 3105, 3327 (PARTIAL), AND 3451

Dear Sir:

Luminant Generation Company LLC (Luminant) herein submits responses to Requests for Additional Information (RAIs) No. 3105, 3327 (partial), and 3451 for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4. The affected Final Safety Analysis Report pages are included with the responses. The NRC has granted an extension for the responses to RAI No. 3327 Questions 13.03-2, -3, -7, and -15 until November 19, 2009.

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

The only commitment made in this letter is specified on page 3.

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

Executed on November 12, 2009.

Sincerely,

Luminant Generation Company LLC


for Rafael Flores

- Attachments
1. Response to Request for Additional Information No. 3105 (CP RAI #76)
 2. Response to Request for Additional Information No. 3327 (CP RAI #78)
 3. Response to Request for Additional Information No. 3451 (CP RAI #77)
 4. Electronic Attachments (on CD)

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cc: Stephen Monarque w/all Attachments

Electronic Distribution w/Attachments 1-3

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Regulatory Commitments in this Letter

This communication contains the following 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>
6671	A Proposed License Condition will be included in a future revision to Part 10 of the Combined License Application (COLA).	November 19, 2009

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Attachment 1

Response to Request for Additional Information No. 3105 (CP RAI #76)

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.: 3105 (CP RAI #76)

SRP SECTION: 06.02.02 - Containment Heat Removal Systems

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.02.02-1

NUREG-0800, Standard Review Plan (SRP) 6.2.2, 'Containment Heat Removal Systems,' and Regulatory Guide 1.82, 'Water Sources for Long-term Recirculation Cooling Following a Loss-of-Coolant Accident,' Revision 3, establish the criteria the NRC staff will use to evaluate whether an applicant meets the NRC's regulations.

The applicant is requested to describe its plan to include updated US-APWR design certification application submittals on sump performance, as well as incorporating US-APWR RAI response submittals that address additional programmatic items related to foreign materials, coatings deficiencies, permanent plant changes inside containment, and maintenance activities (including temporary changes) that are assessed and managed in accordance with the Maintenance Rule, into the applicant's combined license application.

ANSWER:

Programmatic items related to sump performance are described in "Amended MHI's Response to US-APWR DCD RAI No.354-2585 Revision 0", UAP-HF-09483, dated October 7, 2009 (ML092870440). The descriptions related to the additional programmatic items have been reflected in DCD Revision 2.

The CPNPP Units 3 and 4 FSAR has incorporated DCD Tier 2 Subsection 6.2.2.3 by reference along with the supplemental information. Consequently, the updated DCD submittals are adopted by the COL applicant. Luminant's plan is to incorporate by reference the US-APWR design as certified by the NRC, including US-APWR design certification application submittals which are incorporated into the design certification. Exceptions and departures will be properly documented, but none are projected at this time.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

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.: 3105 (CP RAI #76)

SRP SECTION: 06.02.02 - Containment Heat Removal Systems

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.02.02-2

NUREG-0800, Standard Review Plan (SRP) 6.2.2, 'Containment Heat Removal Systems,' and Regulatory Guide 1.82, 'Water Sources for Long-term Recirculation Cooling Following a Loss-of-Coolant Accident,' Revision 3, establish the criteria the NRC staff will use to evaluate whether an applicant meets the NRC's regulations.

The US-APWR design certification (DC) FSAR, in Chapter 6.2.2 "Containment Heat Removal Systems", states:

"Preparation of a cleanliness, housekeeping and foreign materials exclusion program is the responsibility of the COL applicant. This program addresses other debris sources such as latent debris inside containment. This program minimizes foreign materials in the containment". [See COL item 6.2(5)]

The COL applicant, in response to this COL item, states:

"Administrative procedures implement the containment cleanliness program."

"The containment cleanliness program including administrative procedures will be developed and implemented prior to initial fuel load". [Refer to STD COL item 6.2(5)]

In order to assess cleanliness program performance, acceptance criteria should be provided to the NRC staff. STD COL 6.2(5) does not specify containment cleanliness performance or acceptance criteria. Therefore, provide containment cleanliness criteria (for example, quantities and types of latent debris) in the COL application FSAR that enable the COL applicant to remain within the containment cleanliness design basis.

ANSWER:

Acceptance criteria for cleanliness, housekeeping and foreign materials exclusion are described in "Amended MHI's Response to US-APWR DCD RAI No.354-2585 Revision 0", UAP-HF-09483, dated October 7, 2009 (ML092870440). These acceptance criteria have been reflected in DCD Revision 2.

The CPNPP Units 3 and 4 FSAR has incorporated DCD Tier 2 Subsection 6.2.2.3 by reference and provided supplemental information. Therefore, the containment cleanliness criteria are incorporated into the FSAR. CPNPP COLA FŠAR Revision 1, scheduled for November 20, 2009, will incorporate by reference US-APWR DCD Revision 2.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

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.: 3105 (CP RAI #76)

SRP SECTION: 06.02.02 - Containment Heat Removal Systems

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.02.02-3

NUREG-0800, Standard Review Plan (SRP) 6.2.2, 'Containment Heat Removal Systems,' and Regulatory Guide 1.82, 'Water Sources for Long-term Recirculation Cooling Following a Loss-of-Coolant Accident,' Revision 3, establish the criteria the NRC staff will use to evaluate whether an applicant meets the NRC's regulations.

With regard to the COL item requiring the preparation of a containment cleanliness program, discuss program features or elements that provide assurance that the plant latent debris design bases are meant to include miscellaneous debris sources such as tape, equipment tags, stickers or placards.

Include in the discussion:

- * Organizational responsibilities for implementing the program
 - * Controls and limits on type and quantity of materials for all modes of operation (not limited to outages)
 - * Guidance documents used to develop the cleanliness program survey/sampling methods
 - * When sampling is required to be conducted
 - * When sampling results are evaluated
 - * Reporting requirements for degraded conditions or non-conforming results
-

ANSWER:

Program features are described in "Amended MHI's Response to US-APWR DCD RAI No.354-2585 Revision 0", UAP-HF-09483, dated October 7, 2009 (ML092870440). These descriptions and program features have been reflected in the DCD Revision 2.

The containment cleanliness program, to be developed prior to fuel load, will include the following:

- Organizational responsibilities for implementing the program
- Controls and limits on type and quantity of materials for all modes of operation (not limited to outages)
- Guidance documents used to develop the cleanliness program survey/sampling methods
- Inspection frequency
- Evaluation frequency
- Reporting requirements for degraded conditions or non-conforming results

The CPNPP Units 3 and 4 FSAR has incorporated DCD Tier 2 Subsection 6.2.2.3 by reference and provided supplemental information. Therefore, the containment cleanliness program is incorporated into the FSAR. The FSAR has been revised to include the above items.

Impact on R-COLA

See attached marked-up FSAR Draft Revision 1 page of 6.2-1.

Impact on S-COLA

None.

Impact on DCD

None.

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

6.2 CONTAINMENT SYSTEMS

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

6.2.2.3 Design Evaluation

STD COL 6.2(5) Replace the first~~last~~ sentence of the first bullet of the tenth paragraph in DCD Subsection 6.2.2.3 with the following.

CTS-00915

Administrative procedures in Subsection 13.5.1 implement the containment cleanliness program.

The program includes the following:

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- Organizational responsibilities for implementing the program
- Controls and limits on type and quantity of materials for all modes of operation (not limited to outages)
- Guidance documents used to develop the cleanliness program survey/sampling methods
- Inspection frequency
- Evaluation frequency
- Reporting requirements for degraded conditions or non-conforming results

Procedures to remove foreign materials and minimize the amount of debris that might be left in containment following refueling and maintenance outages address the following:

- Frequency of cleanliness control and inspection activities for operation and maintenance
- Restriction of materials introduced into the containment
- Accounting for materials introduced into and out of the containment (e.g., scaffold, tape, labels, plastic film, paper, cloth, keys, and pens)
- Cleaning of maintenance outage area, including areas associated with removal or replacement of insulation

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Attachment 2

Response to Request for Additional Information No. 3327 (CP RAI #78)

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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-4

SITE-5: Notification Methods and Procedures

Basis: 10 CFR 50.47(b)(5); Planning Standard E., 10 CFR 50, Appendix E.IV.D.1, 10 CFR 50, Appendix E.IV.D.3, 10 CFR 50.72(a)(3), 10 CFR 50.72(c)(3), NUREG-0654/FEMA-REP-1, Evaluation Criterion E.1, 2, 3, 4, 5, 6, 7

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirement A, B, C, D, E, F
Acceptance Criterion 1-31

- E-1. Appendix 3, "Public Alert and Notification System Description," Section III.C, "Special Alerting Arrangements," of the CPNPP Emergency Plan states that alerting requirements for industrial facilities and institutions were determined with consideration to existing alerting mechanisms. Discuss whether systems designed for other purposes are adapted to incident alert notification at CPNPP. Include this information in the Emergency Plan.
-

ANSWER:

- E-1. The Alert and Notification System (ANS) currently in place for Units 1 and 2, will be the same system used for the proposed new units. The sirens may also be used for dangerous weather or civil defense emergencies. The ANS Report, updated and revised September 28, 2004, is included with this response as Attachment 13.03-4A.

According to Section C.3 of Appendix 3 of NUREG-0654/FEMA-REP-1, Revision 1, siren systems should complement rather than substitute institutional alerting mechanisms already in place. Section 4.3 of the ANS Report states that industrial locations, schools, institutions, campgrounds, retail trade centers, private clubs, and public gathering facilities within the plume exposure pathway Emergency Planning Zone (EPZ) are collectively identified as special facilities. The alerting requirements for each facility was determined with consideration given to existing alerting mechanisms (e.g. page systems, intercoms, bells, and local sirens, etc.). Sections 4.3.1 through 4.3.5 of the ANS Report describe each of the special facilities identified within the EPZ and the alerting mechanism for each location. As described in the concluding paragraph of Section 4.3,

the existing ANS was designed to provide alerting capabilities to the respective offices of each industrial location, institution, campground, retail center, club, and public gathering place within the EPZ.

According to Section 4.3.2, three public school districts, Glen Rose Independent School District (ISD); Tolar ISD and Granbury ISD, were identified within the EPZ. Section 4.3.2 of the ANS Report states, "Each of the school Superintendents offices are within the 70 decibel (dB) radius of coverage of a siren. Once alerted by the sirens, it is the school's official's responsibility to determine what the emergency is and to respond accordingly. Each school building in the EPZ has some form of alerting system". Section VI.B.5.b of both the Hood and Somervell County Emergency Management Plans state that the primary responsibility for warning is assigned to the County Sheriff and tasks to be performed include disseminating warning and instructions to special facilities such as schools and hospitals.

According to Tab A of Appendix 1 of Annex N to the Hood County Emergency Management Plan (EMP), liaisons from each school district (Tolar and Granbury) are present in the Hood County Emergency Operations Center (EOC). Under the Incident Command Structure/Multagency Coordination Systems, these liaisons provide necessary coordination with the Superintendent of their respective school districts. Similarly, Tab A of Appendix 1 of Annex N to the Somervell County EMP identifies a Glen Rose Independent School District (ISD) liaison in the Somervell County EOC. This liaison provides necessary coordination with the Superintendent of the Glen Rose ISD.

On September 23, 2003, FEMA issued a letter stating the ANS installed around Comanche Peak satisfies the requirements of NUREG-0654 and FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants," and there was reasonable assurance that the system is adequate to alert and promptly notify the public in the event of a radiological emergency at the site. The FEMA acceptance letter is included as Attachment 13.03-4B.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

Attachments

Attachment 13.03-4A – Comanche Peak Steam Electric Station Alert and Notification System Final Report, updated and revised September 28, 2004 (on CD)

Attachment 13.03-4B – Comanche Peak Steam Electric Station Alert and Notification System FEMA Acceptance Letter, September 23, 2003 (on CD)

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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-5

SITE-6 Emergency Communications

Basis: 10 CFR 50.47(b)(6), Planning Standard F; 10 CFR, Appendix E. IV.E.9; 10 CFR 50, Appendix E. IV.E.9; Generic Letter 91-14; 10 CFR 50.72(a)(4); NUREG 0654/FEMA-REP1; Evaluation Criterion F.1, F.2, F.3.

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirements A, B and F; Acceptance Criteria 1, 2, 6, 12, 23, 29, 30

- F-1. Section II.F.1, "Description of Communication Links," lists multiple on-site and off-site communication systems; however, information is needed regarding the availability of backup power sources. Discuss the availability of backup power sources for on-site and off-site communication systems. Include this information in the Emergency Plan.
 - F-2. Section II.F.1, "Description of Communication Links," states provisions are in place for the Emergency Notification emergency notification system (ENS), health physics network (HPN), and emergency response data system (ERDS). Discuss the availability of the RSCL, PMCL, MCL, and LAN. Include this information in the Emergency Plan.
 - F-3. Section II.F.1, "Description of Communication Links," states provisions are in place for the ENS. Describe the backup power system available to the ENS. Include this information in the Emergency Plan.
-

ANSWER:

- F-1. Subsection II.F.1 of the Units 3 and 4 Emergency Plan identifies five communications subsystems. Four of these subsystems have backup power sources available. The fifth (Sound Powered Telephones) doesn't require a backup power source. The Public Address System / Plant Page – Party System is powered by nonsafety-related uninterruptible power supply (UPS) systems, as specified in Subsection 9.5.2.1.1 of the US-APWR Design Control Document (DCD), Revision 1. The PABX (Private Automatic Branch Exchange) telephone system has a backup power source as described in Subsection 9.5.2.2.2.3 of the DCD. According to the DCD, the PABX is powered from the plant non safety-related load group and consists of independent

chargers and batteries for each PABX node. The batteries have the capability to operate the plant telephone system for approximately eight hours following loss of the normal ac. The Sound-Powered Telephone System is not dependent on back-up power, as described in Subsection 9.5.2.2.3 of the DCD. The Plant Radio System power sources are as described in Subsection 9.5.2.2.4.3. Non-portable communications equipment remains operable from independent power sources in the event of loss of normal power modes.

Subsection II.F.1 of the Emergency Plan incorporates Subsection 9.5.2 of the US-APWR DCD by reference. As such, the Emergency Plan does not need to be revised to reflect the information stated above.

Effective emergency onsite and plant-to-offsite communications are provided by the onsite PABX, an intraplant radio system capable of communicating with local officials and Off-site Communications Systems. These Off-Site Communications Systems, as described in Subsection II.F.1 of the CPNPP Units 3 and 4 Emergency Plan, include public telephone systems, the Federal Telecommunications System (FTS), and a corporate microwave communications system. The "dedicated circuit" and "private telephone lines" as described in Subsection II.F.1.b of the Units 3 and 4 Emergency Plan use the public telephone system. Public telephone systems are provided backup power to meet the requirements of 47 CFR 12.2.

The Federal Telecommunications System has robust backup power capability from generators and batteries. The intraplant radio system is powered by batteries that are rechargeable from backup power systems. Luminant has also installed and maintains a microwave communications system between CPNPP and the Dallas area, as described in Subsection II.F.1 of the Units 3 and 4 Emergency Plan. The microwave communications system provides backup capability if existing telephone circuits are unavailable. The microwave hut at Comanche Peak is supplied by a battery uninterruptible power supply, backed up by a diesel generator with a 1000 gallon capacity fuel tank.

Subsection II.F.1 of the Emergency Plan has been revised to include the backup power capabilities of the "dedicated circuit," "private telephone lines," and the microwave communications system discussed above.

- F-2. Subsection II.F.1.c of the Units 3 and 4 COL Emergency Plan, identifies the Federal Telecommunications System (FTS) as providing an independent telephone link to the NRC. As discussed in the System Background Information on the Emergency Telecommunications System (ML061360498), the NRC included ENS in the transition to FTS, along with the other emergency communications functions or circuits: Health Physics Network (HPN), Reactor Safety Counterpart Link (RSCL), Protective Measures Counterpart Link (PMCL), Emergency Response Data System (ERDS) Channel, Management Counterpart Link (MCL), and Local Area Network (LAN) Access. These circuits are known collectively as the Emergency Telecommunications System (ETS). The microwave communications system provides an additional capability to provide long distance access independent of the local telephone switch in accordance with "Voluntary Alternative Emergency Telecommunications System (ETS) Implementation" of RIS 2000-011, "NRC Emergency Telecommunications System" (ML003727812).

Subsection II.F.1.c of the Emergency Plan has been revised to discuss the availability of the RSCL, PMCL, MCL, and LAN.

- F-3. According to Subsection II.F.1.c of the Units 3 and 4 COL Emergency Plan, the FTS lines are used as the ENS, HPN, and for NRC personnel communications. See the responses to F-1 and F-2 above for a description of the backup power capabilities available for ENS communications.

No change to the Emergency Plan is required beyond those described in Responses F-1 and F-2, above.

Impact on R-COLA

See attached Subsection II.F.1 of the Emergency Plan, pages II-40, II-41, and II-42.

Impact on S-COLA

None.

Impact on DCD

None.

Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
Part 5 - Emergency Plan

F. Emergency Communications

The CPNPP Units 3 and 4 comprehensive communications system is designed to provide prompt, reliable, redundant intraplant communications, plant-to-off-site communications, and off-site emergency response communications with the State of Texas and Somervell and Hood Counties' EROs during normal operation and during accident conditions.

1. Description of Communication Links

Luminant maintains systems and procedures that provide for rapid communications between its ERFs and between CPNPP and off-site ERFs. Dedicated communicators are available to maintain a continuous channel of communications with the NRC as requested and to provide regular updates to the State of Texas and Somervell and Hood County officials approximately every 60 minutes, when conditions change, or as otherwise agreed. The communication system consists of the following subsystems:

- Public Address System / Plant Page – Party System
- Private Automatic Branch Telephone Exchange (PABX)
- Sound Powered Telephone System (SPTS)
- Plant Radio System
- Off-Site Communication System

Communication systems vital to operation and safety are designed so that failure of one component would not impair the reliability of the total communications system.

The communication systems provide independent, alternate and redundant ability to communicate with site and off-site agencies during all operating conditions. Subsection 9.5.2 of the US-APWR DCD provides additional details regarding the communications systems.

Luminant has installed and maintains a microwave communications system between CPNPP and the Dallas Area. This system increases the reliability of the plant-to-off-site telephone system by providing an alternate off-site path from the local Glen Rose telephone system for CPNPP telephone trunks. This microwave system consists of microwave towers located at CPNPP, at Luminant facilities in the Cedar Hill area of Dallas and at two locations in between. This microwave system provides circuits to CPNPP Units 3 and 4 which are used for local Dallas commercial trunk lines, and other Luminant telephone and data circuits. The microwave communications system provides backup capability if existing telephone circuits are unavailable. The microwave hut at Comanche Peak is supplied by a battery uninterruptible power supply, backed up by a diesel generator with a 1000 gallon capacity fuel tank.

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Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
Part 5 - Emergency Plan

The plant is provided with an alarm system as described in Section II.F.1 of this Plan. This alarm is initiated by the CR operator in the event that a site evacuation is ordered by the Emergency Coordinator.

Luminant maintains reliable communications links both within the plant and between the plant and external EROs.

- a. Luminant maintains capabilities for 24 hours per day emergency notification to the State and county emergency response organizations. The State of Texas and Hood and Somervell Counties are capable of receiving 24 hour per day emergency notifications.
- b. Notification to DPS and Somervell and Hood County Sheriff's Offices is made through the following communication links:
 - A dedicated circuit has been established that simultaneously links CPNPP Units 3 and 4 with the DPS, the Somervell County Sheriff's office and the Hood County Sheriff's office. When a call has been initiated, the other telephones ring until answered. Communications by CPNPP individuals, unrelated to an emergency, exercise/drill, system test or Public Information notification are not conducted on this line. Following activation of the local EOCs, communication with Hood and Somervell Counties is made through the respective EOC.
 - Private telephone capability to the county and State warning points/Sheriff's offices serves as backup to the dedicated circuit.
 - Voice and facsimile communications capability is provided via the PABX telephone system between the CR, TSC, EOF, OSC, the Luminant Corporate Office, NRC, State agencies and county Sheriff's offices.

The dedicated circuit and private telephone lines as described above use the public telephone system. Public telephone systems are provided backup power to meet the requirements of 47 CFR 12.2.

- c. Federal Telecommunications System:

The Federal Telecommunications System (FTS) is an independent phone link used for communications between CPNPP and the NRC. The FTS lines are used as the ENS, Health Physics Network (HPN), and for NRC personnel communications. Extensions to the FTS are in the Control Room, TSC and EOF. A communications equipment test shall be conducted monthly in accordance with applicable EPPs

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E-1

Comanche Peak Nuclear Power Plant, Units 3 and 4
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Part 5 - Emergency Plan

and shall involve the ENS telephone in the CR and the ENS and HPN telephones in the TSC and EOF.

The ENS, along with the other emergency communications functions or circuits: HPN, Reactor Safety Counterpart Link (RSCL), Protective Measures Counterpart Link (PMCL), Emergency Response Data System (ERDS) Channel, Management Counterpart Link (MCL) and Local Area Network (LAN) Access are known collectively as the Emergency Telecommunications System (ETS). The ETS uses the Federal Telecommunications System, with alternative communications paths as described below.

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F-2

- d. Luminant provides capability for emergency response communications between emergency response support personnel (e.g., on-site and off-site radiological monitoring teams and emergency repair and damage control teams) and the CR, TSC and the EOF using the intraplant radio transmitter-receiver system described above. Additionally, a number of trunk lines provide direct communications between off-site locations and various CPNPP ERFs. These lines allow State of Texas and Somervell and Hood County EROs to communicate with their personnel and facilities stationed on-site and allow CPNPP Units 3 and 4 radiological monitoring teams to transmit field data should their radio fail.

TDSHS field monitoring team communications are described in the State Plan.

The Security Organization uses separate communication channels of unique frequency to enable two-way radio communication between security posts and various plant buildings. Portable transmitter-receivers are provided to security personnel for communication between areas of the plant.

- e. Notification, alerting and activation of emergency response personnel in the TSC, OSC, and EOF are described in Section II.E.2 of this Plan.
- f. Communications between CR/TSC/EOF to the NRC Operations Center is via the ENS or private telephone. Communications from the CR/TSC/EOF to the regional office is via the normal private telephone capability. Communications between the TSC/EOF and off-site monitoring teams is via the radio system described in Section II.F.1.d.
- g. Luminant will activate the Emergency Response Data System (ERDS) within one hour of the declaration of an Alert or higher emergency classification.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-6

SITE-7: Public Information

Basis: 10 CFR 50.47(b)(7); 10 CFR 50, Appendix E.IV.D.2; NUREG-0654/FEMA-REP-1, Evaluation Criterion G.1, G.2, G.3, G.4, G.5

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

- G-1. Section G.2, "Distribution and Maintenance of Public Information," states information intended for the transient population may include postings and publications provided in selected businesses, public buildings, recreational areas, hotels, motels, and campgrounds. Discuss how often public education and information materials are disseminated to selected businesses, public buildings, recreational areas, hotels, motels, and campgrounds. Include this information in the Emergency Plan.
- G-2. Section G.3, "News Media Coordination," provides information regarding the Joint Information Center (JIC). Discuss whether there is space for a limited number of news media at the near-site Emergency Operations Facility (EOF). Include this information in the Emergency Plan.
-

ANSWER:

- G.1. The responsibility for distributing and maintaining public education and information materials is addressed in the Hood and Somervell County Emergency Plans. According to Section IV.B.1 of the Hood County and Somervell County's respective Annex W, "Fixed Nuclear Facility," each county provides public safety information and education to its residents and visitors

Section V.B.2 of the Hood County Annex W states that the Emergency Management Coordinator is responsible for providing annual public information and educational materials Section V.D.5 of Annex I, "Public Information," of the Hood County Emergency Plan states that emergency

preparedness information is published annually in the local telephone directory and an annual emergency preparedness calendar is published and distributed to local residents

According to Section V.B.4 of the Somervell County Annex W, the Public Information Officer is responsible for providing annual public information and educational materials. Section V.D.5 of Annex I of the Somervell County Emergency Plan states that emergency preparedness information is published annually in the local telephone directory; emergency public information for transients is published as needed and distributed to hotels, motels, and other locations; and emergency public information signs and posters are placed in public locations for evacuation information for Comanche Peak.

Section II.G.2 of the Comanche Peak Units 3 and 4 COLA Emergency Plan discusses information intended for the transient population. The Emergency Plan has been revised to indicate that this information will be reviewed and, if necessary, updated annually.

- G.2. Section II.G.3 of the Emergency Plan provides information regarding the Joint Information Center (JIC). As described in the Plan, the JIC is located in the Granbury City Hall and space is provided for approximately 75 media personnel. The JIC serves as the single point for dissemination of emergency-related information to the news media. Space is not provided in the Emergency Operations Facility (EOF) for news media, thus there is no need to revise the Emergency Plan.

Impact on R-COLA

See attached Subsection II G 2 of the Emergency Plan Draft Revision 1 page II-45.

Impact on S-COLA

None.

Impact on DCD

None.

Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
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to selected local businesses, public buildings, recreational areas, hotels, motels, and campgrounds. This information provides transients sources for local emergency information, such as local EAS radio stations, telephone numbers for the Somervell and Hood County Sheriff's offices, instructions if asked to take shelter or evacuate, as well as maps and directions for evacuation routes and reception centers. This information will be reviewed and, if necessary, updated annually in coordination with Hood and Somervell Counties.

RCOL2_1
3.03-6

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

3. News Media Coordination

- a. During an emergency, news conferences are coordinated with Federal, State, and local public information personnel. Upon declaration of a SAE or higher emergency classification the JIC is activated in accordance with the EPPs. The JIC, located in the Granbury City Hall at 116 W. Bridge, in Granbury, TX, functions as the single contact point for dissemination of emergency-related information to the news media.
- b. The JIC provides space for approximately 75 media personnel and is located outside the Plume Exposure Pathway EPZ.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

4. Information Exchange

- a. A Company Spokesperson who has access to required information provides plant status and company information during scheduled news conferences and media briefings. The Information Liaison and Company Spokesperson are the primary contacts for the news media for Luminant.
- b. Luminant liaisons coordinate with designated members of the State of Texas and Somervell and Hood County EROs on a periodic basis.
- c. Rumor control is accomplished through ongoing contact between the designated Company Spokesperson, the State of Texas' Public Information Coordinator and Somervell and Hood County Public Information Officers. Luminant's Rumor Control Coordinator and Rumor Control Aides in the JIC monitor communications, identify rumors, and make appropriate contacts to obtain and disseminate accurate information through the representatives in the JIC. Luminant customer inquiries are handled by Customer Contact Centers. Employees are updated via the company intranet/portal. Elected officials and regulatory agencies are updated through

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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-8

SITE-9: Accident Assessment

Basis: 10 CFR 50.47(b)(9), Planning Standard I.; 10 CFR 50, Appendix E.IV.B; 10 CFR 52.79(a)(17), Three Mile Island Requirements; NUREG-0654/FEMA-REP-1, Evaluation Criterion I.1 through I.11; Supplement 1 to NUREG-0737, Section 6.1.b - Control Room Post-accident sampling capability

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirement A; Acceptance Criteria 1, 4, 5, 25, and 27

- I-1. Section I.1, "Parameters Indicative of Emergency Conditions," states Appendix 1, "Emergency Action Levels," includes the various indications that correspond to the emergency plant system and effluent parameter values that are indicative of off-normal conditions based on the methodology provided in NEI 99-01. Propose an ITAAC or License Condition that will ensure that the final version of the initial emergency action levels will be discussed with, and agreed upon with, state and local governmental authorities.
-

ANSWER:

- I-1. Consistent with the requirements of Section IV.B of Appendix E to 10 CFR Part 50, initial emergency action levels will be discussed and agreed upon with State and local agencies responsible for emergency planning. The initial emergency action levels will be submitted to the NRC for approval. Luminant has established relationships with these agencies as a result of the operation of CPNPP Units 1 and 2.

A Proposed License Condition will be included in a future revision to Part 10 of the Combined License Application (COLA).

Impact on R-COLA

Section 2 of Part 10 Draft Revision 1, page 4 has been revised to add Emergency Planning Actions.

Impact on S-COLA

None.

Impact on DCD

None.

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

Part 10 - ITAAC and Proposed License Conditions

2.3 Operational Programs

Operational Programs are identified in Table 13.4-201 and their implementation by the milestones indicated in the Table is a potential condition to the license. Some of these programs may be adequately controlled by other methods such as the regulations, the technical specifications or a commitment tracking system and will not need to be addressed in a license condition. A proposed license condition is provided in section 3 below based upon the current information in Chapter 13 of the COLA FSAR.

2.4 Environmental Protection Plan

The Environmental Protection Plan (EPP) and its implementation may also be a potential condition to the license. The EPP has typically been an appendix to the operating license and that precedent may be followed for COLs as well. No plant specific environmental items have been identified which are not adequately controlled by regulations, the appropriate permits, etc. and thus an EPP has not been proposed and is not needed.

2.5 Technical Specifications

Implementation of Technical Specifications prior to fuel load could also constitute a potential condition to the license. The Technical Specifications have typically been an appendix to the operating license and that precedent may be followed for COLs as well.

2.6 Emergency Planning Actions

Execution of Letters of Agreement with State and local entities identifying the specific nature of arrangements in support of emergency preparedness and certifying the agency's concurrence with the emergency action levels prior to the full-participation exercise is a potential condition to the license. A proposed license condition is provided in section 3 below.

Submittal of a fully developed set of site-specific Emergency Action Levels (EALs) to the NRC in accordance with NEI 99-01, Revision 5 at least 180 days prior to initial fuel load is a potential condition to the license. A proposed license condition is provided in section 3 below.

2.6.2.7 Others

The current operating licenses have some typical license conditions in areas such as security, fire protection and others. These current license conditions may or may not apply to COLs.

3. Specific Proposed License Conditions

The license conditions identified thus far during the COL development and review are:

RCOL2_13.
03-8
RCOL2_13.
03-2

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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-9

SITE-10: Protective Response

Basis: 10 CFR 50.47(b)(10); Planning Standard J., 10 CFR 50, Appendix E.IV; NUREG-0654/FEMA-REP-1, Evaluation Criterion J.1; Evaluation Criterion J.2; Evaluation Criterion J.1 through 12; RIS 2003-12, Clarification of NRC Guidance for Modifying Protective Actions.

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

- J-1. Onsite individuals will be notified by audible warnings (page II-58); however, in high noise areas other measures may be used. Describe the other measures used to notify individuals in high noise areas, and include this in the Emergency Plan.
- J-2. Evacuees are directed to the designated relocation site. Describe the designated relocation site and provide letters of commitment if the site(s) is not under owner control. Include this information in the Emergency Plan.
- J-3. Section J.10, "Protective Measures Implementation," (page II-64) states that emergency plan procedures (EPPs) provide locations of pre-selected radiological sampling and monitoring points. Provide a map that shows the pre-selected sampling and monitoring points. Include this information in the Emergency Plan.
- J-4. Section J.10.m states that the choices of recommended protective actions are based on guidance provided in NUREG-0654, Supplement 3. Table II-3, "Protective Action Guides," (page II-64) identifies evacuation as the PAR when the projected dose is exceeded. However, information is needed regarding how the evacuation time estimate (ETE) is used in the decision to implement an evacuation PAR. Describe how the ETE is used in the determination of the PAR. Include this information in the Emergency Plan.
-

ANSWER:

J-1. The US-APWR Public Address System/Page plant addressing system, described in Section 9.5.2.2.1 of the US-APWR DCD, will be used to alert personnel in an emergency. Section 4.1.1.1 of the Unit 1 and 2 Emergency Plan Procedure EPP-314, "Evacuation and Accountability", discusses evacuation alarms and announcements. According to the EPP, personnel in high noise areas are alerted to evacuate by blue rotating beacons. A copy of the current version of this procedure is provided as Attachment 13.03-09A for information purposes as it does not specifically address Units 3 and 4. Subsection II.J.1 of the Emergency Plan has been revised to discuss the blue rotating beacons.

J-2. Plans and Procedures for the establishment and operation of relocation centers by the Cities of Stephenville, Cleburne, and Benbrook were included as Supplemental Information in Part 5 of the Combined License Application. These relocation centers would be established in the event of an evacuation for Comanche Peak Units 1 and 2. The existing relocation centers utilized for the Comanche Peak site will be used for Units 3 and 4.

Appendix 7 of the Units 3 and 4 Emergency Plan contains Letters of agreement with the Cities of Stephenville and Cleburne indicating each cities commitment to extend their existing agreement with Comanche Peak to include the proposed Units 3 and 4 prior to operation of the units. Appendix 7 of the Emergency Plan has been revised to include the Letter of Agreement with Benbrook.

-3. Comanche Peak utilizes the existing siren locations as its pre-selected radiological sampling and monitoring points in the event of an emergency at Units 1 or 2. The same locations would be utilized in the event of an emergency at Units 3 or 4. Subsection II.J.10.a of the Emergency Plan has been revised to indicate that a map illustrating pre-selected radiological sampling and monitoring points has been included in Appendix 4.

J-4. Luminant does not currently consider evacuation time estimates when protective actions recommendations are developed. This information is provided to county officials responsible for protective action decisions. Luminant recognizes that the information requested is the subject of proposed rulemaking by the NRC. Luminant will ensure compliance with any new requirements regarding protective action recommendation after the final rule is promulgated.

No changes to the Emergency Plan are necessary.

EPPs are required to be submitted to the NRC at least 180 days prior to the scheduled date for initial fuel load as required by Section V of Appendix E to 10 CFR Part 50.

Impact on R-COLA

See attached Emergency Plan Draft Revision 1 pages II-59 and II-65, Appendix 4 pages A4-10 and A4-16, and Appendix 7 page A7-25.

Impact on S-COLA

None.

Impact on DCD

None.

Attachment

Attachment 13.03-09A – EPP-314, “Evacuation and Accountability” (on CD)

Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
Part 5 - Emergency Plan

J. Protective Response

This section of the Plan describes protective actions that have been developed for the Plume Exposure Pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are described. Protective actions for the Ingestion Exposure EPZ are described.

1. On-Site Notification

Luminant establishes and maintains methods to inform personnel within the site boundary of an emergency condition requiring individual action. Luminant informs individuals located within the Protected Area primarily via use of the plant public address system and audible warning systems. In addition to employees and contractors with emergency response assignments, these individuals located within the Protected Area may include:

- a. Employees not having emergency assignments
- b. Visitors
- c. Contractor and construction personnel, and
- d. Other persons who may be in the public access areas on or passing through the site or within the owner controlled area

In high noise areas or other areas where these systems may not be audible, other measures, such as rotating blue warning beacons, may be used.

RCOL2_13.
03-9

CPNPP Units 3 and 4 inform individuals located outside of the Protected Area (PA) via audible warnings provided by warning systems and the activities of the Security Organization and, if needed, local law enforcement personnel. CPNPP Units 3 and 4 provide information regarding the meaning of the various warning systems, and the appropriate response actions, via plant training programs, visitor orientation, escort instructions, posted instructions, or within the content of audible messages.

Luminant maintains the ability to notify individuals within the Protected Area within about 15 minutes of the declaration of any emergency requiring individual response actions, such as accountability or evacuation.

Personnel arriving or remaining on-site are to be notified of protective measures and shall be provided protective equipment, as necessary, depending on the actual radiological conditions existing during the emergency.

2. Evacuation Routes and Transportation

During an emergency at CPNPP Units 3 and 4, the Emergency Coordinator may choose to evacuate certain areas, buildings, or the entire site. The decision to evacuate is based on the action that presents the least risk to affected personnel.

**Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
Part 5 - Emergency Plan**

10. Protective Measures Implementation

- a. Appendix 4 provides a ~~map~~ maps of the Plume Exposure Pathway EPZ illustrating evacuation routes, evacuation areas, and locations of shelter areas and reception centers and locations of. ~~EPPs provide locations of pre-selected radiological sampling and monitoring points.~~ Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.
- b. Appendix 4 provides maps of the Plume Exposure Pathway EPZ illustrating population distribution around the facility by evacuation area and in a sector format. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.
- c. Warnings to the public within the Plume Exposure Pathway EPZ are the responsibility of the State of Texas and Somervell and Hood County officials. The primary method of warning the public is by the use of the Alert and Notification System, which is described in Appendix 3. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.
- d. The State of Texas and Somervell and Hood Counties' Plans establish means for protecting those persons whose mobility may be impaired due to institutional or other confinement. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.
- e. The State of Texas and Somervell and Hood Counties' Plans establish provisions for the use of radioprotective drugs, particularly for state and local emergency workers, including any mobility-impaired or institutionalized members of the general public whose evacuation could not be readily effected. These provisions include quantity, storage and means of distribution. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.
- f. The State of Texas does not administer radioprotective drugs to the general population. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.
- g. The State of Texas and Somervell and Hood Counties' Plans include a means of relocating the populace within the Plume Exposure EPZ. Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.
- h. The State of Texas and Somervell and Hood Counties' Plans include reception centers beyond the Plume Exposure EPZ.

RCOL2_1
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RCOL2_1
3.03-9

**Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
Part 5 - Emergency Plan**

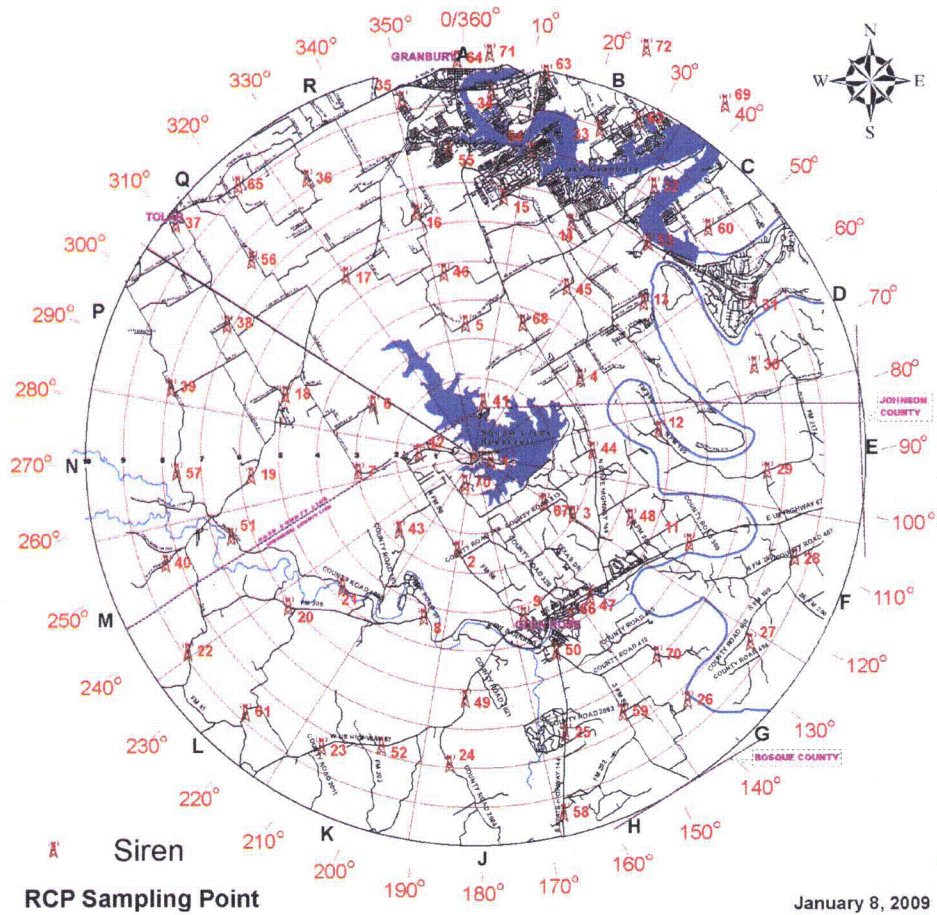
The following figures illustrate selected information from the ETE:

- Figure A4-1 illustrates the Plume Exposure Pathway EPZ, including the permanent resident population of each emergency response planning area.
- Figure A4-2 illustrates the permanent resident population of the Plume Exposure Pathway EPZ in a sector format
- Figure A4-3 illustrates the locations of reception centers assumed for conduct of the ETE.
- Figure A4-4 illustrates the evacuation routes for the Plume Exposure Pathway EPZ population in Somervell County.
- Figure A4-5 illustrates the evacuation routes for the Plume Exposure Pathway EPZ population in Hood County
- Figure A4-6 illustrates the pre-selected radiological sampling and monitoring points.

RCOL2_1
3.03-9

Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
Part 5 - Emergency Plan

Figure A4-6 – Pre-selected Radiological Sampling and Monitoring Points



RCOL2
13.03-9

RCOL2
13.03-9

**Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
Part 5 - Emergency Plan**

RCOL2
13.03-9

City of Benbrook
TXNP-08018
Attachment
March 28, 2008

**Comanche Peak Nuclear Power Plant Units 3 and 4
Combined License Application Emergency Plan**

The City of Benbrook intends to work with Luminant Power to extend our existing agreement for the Comanche Peak Nuclear Power Plant site to include the two additional proposed units prior to operation of these units.

The specific nature of arrangements in support of emergency preparedness for operation of the proposed new nuclear units will be clearly established in a properly executed and binding letter of agreement that will be included in the Comanche Peak Units 3 and 4 Emergency Plan if and when Luminant Power proceeds with construction and operation of these nuclear plants.

Away Wayman
Print Name

Away
Signature

8-18-08
Date

City Manager
Title

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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-10

SITE-11: Radiological Exposure Control

Basis: 10 CFR 50.47(b)(11); Planning Standard K., 10 CFR 50, Appendix E (none), NUREG-0654/FEMA-REP-1; Evaluation Criterion K.1 through 7.

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

- K-1. Clarify whether the EOF (Emergency Operations Facility) Radiological Protection Coordinator in Section K.2 is the same as the Emergency Operations Facility Radiation Protection Coordinator as listed in Section B.5, "Plant Emergency Response Positions." Include this information in the Emergency Plan.
- K-2. Section K.2 identifies Chapter 12 of the CPNPP Units 3 and 4 FSAR as describing the Radiation Protection Program (RPP). FSAR Section 12.5, "Operational Radiation Protection Program," CP COL 12.1(5) states that the contents in DCD Section 12.5 are replaced with text incorporating NEI 07-03, "Generic FSAR Template Guidance for Radioactive Protection Program Description," Revision 5 by reference. None of these sections or references describes procedures that would be in place to facilitate allowing increased dose. Identify the procedure titles and describe the general contents of procedures that would govern the decision-making to allow volunteers to receive doses in excess of routine limits during an emergency. Include this information in the Emergency Plan.
-

ANSWER:

- K.1. The EOF (Emergency Operations Facility) Radiation Protection Coordinator referenced in Section II.B.5 of the Emergency Plan is the same individual referenced in Section K.2. The text in Section K.2 has been changed to "EOF Radiation Protection Coordinator."
- K.2. Guidance for authorizing and documenting emergency exposure is discussed in Comanche Peak Units 1 and 2 Emergency Plan Procedure (EPP) EPP-305, "Emergency Exposure Guidelines and Personnel Dosimetry," for the operating nuclear power reactors at Comanche Peak. Section 4.3 of this EPP details authorization for personnel to exceed exposure limits set

forth in 10 CFR Part 20. A copy of the current version of this procedure is provided as Attachment 13.03-10A for information purposes as it does not specifically address Units 3 and 4. A procedure with content similar to EPP-305 will be developed for Units 3 and 4 as indicated in Appendix 5 of the Emergency Plan.

Section II.K of the Units 3 and 4 Emergency Plan describes processes for authorizing and implementing emergency dose constraints consistent with EPA guidance. Appendix 5 of the Units 3 and 4 Emergency Plan indicates that one of the topical areas to be addressed by Emergency Plan Procedures is "Emergency Exposure Guidelines and Personnel Dosimetry." Subsection II.K.2 of the Emergency Plan has been revised to indicate that information regarding processes for authorizing and implementing emergency dose constraints is discussed in the EPP that addresses "Emergency Exposure Guidelines and Personnel Dosimetry."

EPPs are required to be submitted to the NRC at least 180 days prior to the scheduled date for initial fuel load as required by Section V of Appendix E to 10 CFR Part 50. Luminant will meet that requirement.

Impact on R-COLA

See attached Subsection II.K.2 of the Emergency Plan Draft Revision 1 page II-68.

Impact on S-COLA

None.

Impact on DCD

None.

Attachment

Attachment 13.03-10A – EPP-305, "Emergency Exposure Guidelines and Personnel Dosimetry"
(on CD)

**Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application
Part 5 - Emergency Plan**

Table II-4 Emergency Worker Exposure Guidelines

Activity	Dose Guideline in rem		
	TEDE	Lens of the Eye	Other Organs**
Any activity other than those specifically authorized below	5	15	50
Protecting Valuable Property	10	30	100
Lifesaving or Protection of Large Populations	25	75	250
Lifesaving or Protection of Large Populations ^{Note 1}	>25	>75	>250

Note 1: This guideline applies only to volunteers who are fully aware of the risks involved.

** Includes skin and extremities.

2. Radiation Protection Program

The Emergency Coordinator, in consultation with the TSC Radiological Assessment Coordinator and/or EOF Radiological Radiation Protection Coordinator, is responsible for authorization of any emergency exposures resulting in doses exceeding the numerical values of the occupational dose limits provided in 10 CFR Part 20.

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03-10

The EPP addressing "Emergency Exposure Guidelines and Personnel Dosimetry" provides guidance for authorizing and documenting emergency exposures.

RCOL2_13.
03-10

If exposures in excess of the numerical values of the occupational dose limits provided in 10 CFR Part 20 are required, the following shall apply:

- Rescue personnel should be volunteers or professional rescue personnel.
- Rescue personnel should be familiar with consequences of exposure to radiation.
- Women capable of reproduction should not take part in these actions.
- Volunteers 45 or older, if available, should be selected.
- Planned individual emergency dose should not exceed 25 rems (TEDE).
- Internal exposure should be minimized (as long as TEDEs are maintained ALARA) by using best available respiratory protection, and contamination should be controlled by use of available protective clothing.

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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-11

SITE-13: Recovery and Reentry Planning and Post-accident Operations
Basis: 10 CFR 50.47(b)(13); Planning Standard M., 10 CFR 50 , Appendix E.IV.H., NUREG-0654/FEMA-REP-1; Evaluation Criterion M.1 through 4.

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirement A; Acceptance Criterion 1

M-1. Operations Support personnel are identified as having the responsibility for analyzing and developing plans and procedures to support restoration of the site to operational status, but positions and authorities of key Operations Support and Technical Support personnel need to be provided. Identify the position/title and authorities of key positions of the Operations Support staff and Technical Support staff that have responsibility for analyzing and developing plans and procedures to support restoration of the site to operational status. Include this information in the Emergency Plan.

ANSWER:

M-1 Key positions in the recovery organization are described in Subsection II.M.2 of the Emergency Plan. Overall direction and control of the Recovery Organization is assumed by the Recovery Manager who is a Senior Member of the Luminant management team. The decision making authority lies with the Recovery Manager. These duties are delineated in Comanche Peak Units 1 and 2 Emergency Plan Procedure EPP-109 "Duties and Responsibilities of the Emergency Coordinator/Recovery Manager" for the operating nuclear power reactors at Comanche Peak. A copy of the current version of this procedure is provided as Attachment 13.03-11A for information purposes as it does not specifically address Units 3 and 4. Subsection II.M.2 of the Emergency Plan has been revised to refer to the EPP addressing "Duties and Responsibilities of the Emergency Coordinator/Recovery Manager" regarding overall direction and control of recovery activities.

As described in Section II.M.2, the Recovery Organization absorbs the existing Emergency Response Organization (ERO). Management of activities conducted from the Emergency Operations Facility, as well as direction and control of the ERO, is assumed by the Recovery

Manager. During the initial stages of the recovery phase, Emergency Organization personnel continue their functional assignments.

The structure of CPNPP Recovery Organization for the operating nuclear plant is discussed in Units 1 and 2 Procedure EPP-121 "Reentry, Recovery and Closeout". These organizational components are staffed according to the needs of the recovery effort. Key personnel are appropriately trained and qualified to fill positions in these organizations. However, because of the uncertainty of the level of effort required for the Recovery, it is impractical to include more specific information in the Emergency Plan. A copy of the current version of this procedure is provided as Attachment 13.03-11B for information purposes as it does not specifically address Units 3 and 4. Subsection II.M.2 of the Emergency Plan has been revised to indicate that the structure of the CPNPP Recovery Organization is discussed in the EPP addressing "Reentry, Recovery, and Closeout."

Procedures with content similar to EPP-109 and EPP-121 will be developed for Units 3 and 4 as indicated in Appendix 5 of the Emergency Plan.

EPPs are required to be submitted to the NRC at least 180 days prior to the scheduled date for initial fuel load as required by Section V of Appendix E to 10 CFR Part 50 and Luminant will meet that requirement.

Impact on R-COLA

See attached Subsection II.M.2 of the Emergency Plan Draft Revision 1 page II-76.

Impact on S-COLA

None

Impact on DCD

None

Attachments

Attachment 13.03-11A – EPP-109 "Duties and Responsibilities of the Emergency Coordinator/Recovery Manager" (on CD)

Attachment 13.03-11B – EPP-121 "Reentry, Recovery and Closeout" (on CD)

Comanche Peak Nuclear Power Plant, Units 3 and 4
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Part 5 - Emergency Plan

The Recovery Organization is composed of CPNPP Units 3 and 4 personnel; Luminant resources are available as necessary. Contract personnel are used as needed to expand the capabilities of Luminant personnel. Because the magnitude of any recovery effort is dependent on the scope of the event, Recovery Organization staffing requirements are difficult to predict in advance; therefore, this Plan only predesignates certain management level positions in the Recovery Organization. Managers form their respective groups as appropriate to deal with recovery. The structure of the CPNPP Recovery Organization is discussed in the EPP addressing "Reentry, Recovery, and Closeout."

RCOL2_1
3.03-11

The primary positions in the Recovery Organization are described below:

Recovery Manager

A member of Luminant senior management is designated as the Recovery Manager and is responsible for directing actions of the Recovery Organization.

Responsibilities and authorities assigned to the Emergency Coordinator are transferred to the Recovery Manager when the Recovery Organization is formed, thus assuring continuity of resources, communications and other activities initiated by the ERO. This information is provided in the EPP addressing "Duties of the Emergency Coordinator/Recovery Manager."

RCOL2_1
3.03-11

Operations Support

Operations Support personnel are responsible for analyzing and developing plans and procedures directly supporting operations with the objective of restoring the site to operational status. Their primary responsibilities include:

- Providing direct support to shift operations
- Analyzing instrument and control problems and developing modification and repair plans
- Analyzing conditions and developing guidance for shift operations personnel regarding core protection
- Developing out-of-normal and emergency procedures for operations support

Technical Support

Technical Support personnel are responsible for:

- Determining need for and providing engineering and technical specialists to support other managers as required
- Assuring design activities are adequately staffed and equipped to provide timely support

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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-12

SITE-14: Exercises and Drills

Basis: 10 CFR 50.47(b)(14); Planning Standard N, 10 CFR 50, Appendix E.IV.F.2., NUREG-0654/FEMA-REP-1; Evaluation Criterion N.1 through N.5.

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

- N-1. Section N.1.b, "Exercise Scenarios and Participation," describes the biennial exercises but does not discuss remedial exercises. Provide information regarding remedial exercises and include this information in Emergency Plan.
- N-2. Section N.2.d, "Radiological Monitoring Drills," states that radiological monitoring drills include collection and analysis of all sample media and provisions for communications and record keeping; however, the Emergency Plan does not specify the frequency of the testing. Discuss whether radiological drills are conducted annually and include this information in the Emergency Plan.
-

ANSWER:

- N-1. In accordance with Section IV.F.2.f of Appendix E to 10 CFR Part 50, a remedial exercise will be required if the onsite emergency plan is not satisfactorily tested during the biennial exercise, such that the NRC cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency. Section II.N.1 of the Emergency Plan has been revised to indicate that a remedial exercise will be conducted in the event the emergency plan is not satisfactorily demonstrated during a biennial exercise.
- N-2. Section II.N.2.d of the Emergency Plan states that Luminant conducts radiological monitoring drills; however, the Emergency Plan does not state that the drills will be conducted annually. Section II.N.2.d has been revised to correct the omission to indicate that radiological monitoring drills are conducted annually.

Impact on R-COLA

See attached Subsections II N 1 and II N 2.d of the Emergency Plan Draft Revision 1 pages II-80 and II-81.

Impact on S-COLA

None

Impact on DCD

None

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c. Remedial Exercises

A remedial exercise is required if it is determined that the emergency plan was not satisfactorily demonstrated during the biennial exercise such that the NRC cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency.

2. Drills

Luminant maintains adequate emergency response capabilities between biennial exercises by conducting drills, including at least one drill involving a combination of some of the principal functional areas of on-site emergency response capabilities, including activities such as: management and coordination of emergency response, accident assessment, protective action decision-making, and plant system repair and corrective actions. The drills follow preplanned scenarios developed to thoroughly test response of personnel involved. On the spot performance corrections may be made and demonstration of proper performance offered by the drill controller during drills. Upon request, Luminant encourages the State of Texas and Somervell and Hood County governments to participate in the drills.

During these drills, activation of the ERFs may not be necessary. Luminant may use the drills to consider accident management strategies, provide supervised instruction, allow the operating staff to resolve problems and focus on internal training objectives. Luminant may include one or more drills as portions of an exercise.

The activities undertaken in the event of an actual declared emergency may be used to satisfy emergency drill requirements, provided that these activities demonstrate adequate execution of the specified activities.

The drill program includes the following:

a. **Communications Drills**

Communications links between CPNPP Units 3 and 4, the DPS, and Somervell and Hood County EOCs are tested monthly. Communications between CPNPP Units 3 and 4, Federal agencies and the State of Texas are tested quarterly. Communications between CPNPP Units 3 and 4, State and local EOCs and radiological monitoring teams are tested annually. Communications tests evaluate both the operability of the system(s) and the ability to understand message content.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

b. **Fire Drills**

Luminant conducts fire drills as discussed in Subsection 9.5.1 of the FSAR. The Somervell County Fire, Rescue, and EMS

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Service are invited to participate annually in one of the periodic drills.

c. **Medical Emergency Drills**

Luminant conducts medical emergency drills that include a simulated contaminated injured individual and participation by the local support services agencies (e.g., medical transportation and off-site medical treatment facility) annually.

Medical Emergency drills include:

- A simulated contaminated-injured individual
- Transport to an off-site medical facility
- Participation by the off-site medical facility

d. **Radiological Monitoring Drills**

Luminant conducts radiological monitoring drills annually to prepare radiological monitoring teams to perform air sampling as well as dose rate and surface contamination determinations within the Plume Exposure Pathway EPZ. Radiological monitoring drills include:

- Use of the appropriate procedures for collecting and analyzing samples and recording results
- Collection and analysis of sample media for which the facility is responsible
- Communications with monitoring teams
- Recordkeeping activities

Site personnel assigned to radiological monitoring teams participate in drills to collect environmental samples such as soil, water, and vegetation. These drills maintain site personnel capable to assist State agencies, if necessary. Luminant may coordinate radiological monitoring drills with those drills conducted by the State of Texas and Somervell and Hood County or may conduct these drills independently.

e. **Radiation Protection Drills**

Luminant conducts on-site Radiation Protection drills at least semi-annually. Radiation Protection drills include:

- Response to and analysis of simulated elevated airborne and liquid activity levels
- Response to simulated elevated area radiation levels
- Analysis of the simulated radiological situation using the appropriate procedures.

Appendix 8 of this Plan provides a cross-reference to these provisions in State and local Plans, as applicable.

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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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-13

SITE-15: Radiological Emergency Training

Basis: 10 CFR 50.47(b)(15); Planning Standard O., 10 CFR 50, Appendix E.IV. F.1, Appendix E.IV. F.2.g; NUREG-0654/FEMA-REP-1, Evaluation Criterion O.1. though 5.

SRP ACCEPTANCE CRITERIA (NUREG-0800, section 13.3): Requirements A and B; Acceptance Criteria 1 and 2

- O-1. Specialized training is provided for first aid and rescue personnel as described in Section O.3, "First Aid Response." Discuss whether the training provided to the first aid team is equivalent to the Red Cross "first responder" training. Include this information in the Emergency Plan.
- O-2. Specialized training is provided for personnel responsible for accident assessment as described in Section O.4, "Emergency Response Training and Qualification," for accident assessment personnel; however, control room shift personnel are not identified. Explain whether specialized initial training and periodic retraining is provided to control room personnel. Include this information in the Emergency Plan.
-

ANSWER:

- O.1 Requirements for initial and continuing training for all personnel are described in Comanche Peak Units 1 and 2 Procedure No. TRA-105, "Emergency Preparedness Training," for the operating nuclear power reactors at Comanche Peak. The Emergency Response Organization Initial and Continuing Training Program Curriculums outline the training requirements for specific positions on the Emergency Response Organization Roster. While the training may in fact be equivalent to the Red Cross First Responder training, it is not appropriate to include this information in the Emergency Plan. NRC review and inspection activities will assure that the training is appropriate for the position.

A copy of the current version of this procedure is provided as Attachment 13.03-13A for information purposes as it does not specifically address Units 3 and 4. A procedure with content similar to TRA-105 will be developed for Units 3 and 4 as indicated in Appendix 5.

Subsection II.O.3 of the Emergency Plan has been revised to indicate that first aid training is provided to First Aid Team Members in accordance with the EPP addressing "Emergency Preparedness Training."

- O.2 The Control Room Shift Personnel responsible for accident assessment is the Shift Manager. This position acts as the Emergency Coordinator in the early stages of an event. As such, Comanche Peak Units 1 and 2 Emergency Plan Procedure EPP-201, "Assessment of Emergency Action Levels, Emergency Classification and Plan Activation," for the operating nuclear power reactors, directs the accident assessment. This position, generically referred to as "Emergency Director," requires initial and continuing training as discussed below. A copy of the current version of this procedure is provided as Attachment 13.03-13B for information purposes as it does not specifically address Units 3 and 4. A procedure with content similar to EPP-201 will be developed for Units 3 and 4 as indicated in Appendix 5.

As described in Part O.1 of this response, Comanche Peak Units 1 and 2 Procedure No. TRA-105 contains the requirements for initial and continuing training for all personnel. As discussed in Section 6.1 of the procedure, three training groups are described: Plant Staff, Emergency Response Organization, and Off-Site Response Agencies. The Emergency Response Organization Initial and Continuing Training Program Curricula outline the training requirements for specific positions on the Emergency Response Organization Roster. Detailed course descriptions provided in Attachment 8.1, "Course Catalog," and Attachment 8.2, "KEY ERO Positions," delineate the key positions requirements. Subsection II.O.4 of the Emergency Plan has been revised to indicate that initial and continuing training for ERO personnel is provided in accordance with the EPP addressing "Emergency Preparedness Training."

EPPs are required to be submitted to the NRC at least 180 days prior to the scheduled date for initial fuel load as required by Section V of Appendix E to 10 CFR Part 50 and Luminant will meet that requirement.

Impact on R-COLA

See attached Subsections II.O.3 and II.O.4 of the Emergency Plan Draft Revision 1 page II-85.

Impact on S-COLA

None

Impact on DCD

None

Attachments

Attachment 13.03-13A - TRA-105 "Emergency Preparedness Training" (on CD)

Attachment 13.03-13B - EPP 201, "Assessment of Emergency Action Levels, Emergency Classification and Plan Activation" (on CD)

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2. On-site Emergency Response Training

Instructions for personnel who are accredited for unescorted access to the site are provided in site access training.

Emergency response training program is provided to Luminant personnel who may be called upon to respond to an emergency. The training program includes practical drills, consistent with Section II.N of this Plan; during which each individual demonstrates the ability to discharge their assigned emergency response function. The instructor/evaluator immediately corrects any erroneous performance noted during these practical drills and, as appropriate, demonstrates proper performance consistent with approved procedures and accepted standards.

Training is also provided to the CPNPP Units 3 and 4 Fire Brigade. This training is coordinated by the Nuclear Training Manager, and addresses methods and equipment used for fighting various types of fires that could occur on-site. Appropriate emphasis is placed on radiological aspects of firefighting in accordance with section 9.5.1 of the FSAR.

Security training is conducted by the CPNPP Units 3 and 4 Security Organization and is coordinated by the Security Manager. Training is provided to security personnel based on each person's specific tasks. Appropriate emphasis is placed on emergency response required within radiologically controlled environments in accordance with the Security Plan.

Personnel not assigned to CPNPP Units 3 and 4 ERO receive information on reporting emergencies and expected actions in case of an emergency.

3. First Aid Team Training

Luminant provides first aid training to First Aid Team Members in accordance with ~~approved procedures~~ the EPP addressing "Emergency Preparedness Training."

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4. Emergency Response Training and Qualification

Luminant conducts a program for instructing and qualifying personnel who implement this Plan. Each individual completes the required training prior to assignment to a position in the ERO. The training program establishes the scope, nature, and frequency of the required training and qualification measures.

Luminant implements a program to provide position-specific emergency response training for designated members of the ERO. Initial and continuing training for ERO personnel is provided in accordance with the EPP addressing "Emergency Preparedness Training." The content of the training program is appropriate for the duties and responsibilities of the assigned position. The affected positions and the scope of the associated training programs include:

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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.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-14

SITE-17: Response to Hostile Actions
Regulatory Basis: 10 CFR 52.79(a)(41); 10 CFR 50.54(hh)(1)

SRP Acceptance Criteria (NUREG-0800, section 13.3): Requirement G; Acceptance Criteria 30

Q-1. Provide the title of the procedure that will address actions in response to a security event, based on February 25, 2002 ICM order and NRC Bulletin 2005-02, 'Emergency Preparedness and Response Plans for Security Events,' dated July 18, 2005, and any specific site needs to the list of emergency plan implementing procedures in Appendix 5, "Emergency Plan Procedures," to the Comanche peak Emergency Plan.

ANSWER:

Q-1. The NRC issued Regulatory Issue Summary (RIS) 2006-12 endorsing the NEI White Paper, entitled "Enhancements to Emergency Preparedness Programs for Hostile Action," dated May 2005 (revised November 18, 2005). According to the RIS, the NRC found the NEI White Paper to contain an acceptable implementation methodology for licensees to apply in adopting the program enhancements discussed in NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events."

As stated in NRC Bulletin 2005-02, the compensatory measures imposed under the NRC Order of February 25, 2002 included direction to "review Safeguards and Emergency Plans and take actions to ensure that emergency onsite staffing, facilities and procedures are adequate to accomplish actions necessary for response to terrorist threats."

To satisfy the requirements of the NRC Order, Subsection II.E.1 of the Emergency Plan has been revised to indicate that in the event of an attack on the site by a hostile force, a brief notification (site name, emergency classification, if determined, and nature of threat) is provided to the NRC following notification of the designated State and local authorities within approximately fifteen minutes of the discovery of the event.

Appendix 5 of the Emergency Plan has been revised to indicate that information regarding actions in response to a security event is discussed in the EPP that addresses "Security Events."

Impact on R-COLA

See attached subsection II.E.1 of the Emergency Plan Draft Revision 1 page II-36 and Appendix 5 page A5-1.

Impact on S-COLA

None

Impact on DCD

None

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E. Notification Methods and Procedures

Luminant has established procedures for notification of the State of Texas and Somervell and Hood Counties' EROs. This section discusses notification of emergency personnel, the content of initial and follow up messages to EROs and the public, and the means to provide early notification and clear instruction to the public within the Plume Exposure Pathway EPZ.

1. Notification of State and Local Authorities

The Emergency Coordinator initiates notification of the State of Texas and Somervell and Hood Counties' authorities when the following conditions occur:

- Initial declaration of an emergency classification
- Escalation of an emergency classification
- Initial PAR
- Change in a PAR
- Emergency Termination and Reclassification
- Emergency Termination (with no reclassification)

Initial notifications shall begin no later than fifteen (15) minutes after one of the above conditions are met.

Initial notifications are made to the following:

- Somervell County Sheriff or Dispatcher
- Hood County Sheriff or Dispatcher
- DPS

A dedicated line has been established that simultaneously links CPNPP with the DPS, the Somervell County EOC, and the Hood County EOC. Section II.F.1 of this Plan provides a description of the primary and back-up notification systems. Message content and verification methods are established in EPPs and agreements between the affected organizations.

The NRC is notified as soon as is practical following the notification of the State of Texas and Somervell and Hood County authorities and within one hour of the emergency declaration, including escalation or termination⁴. The primary notification system to be used is the Emergency Notification System (ENS). Back-up notification capability is maintained through the use of commercial telephone systems.

⁴In the event of a security-related attack on the site by a hostile force, a brief notification (site name, emergency classification, if determined, and nature of threat) is provided to the NRC following notification of the designated State and local authorities and within approximately fifteen minutes of the discovery of the event.

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EPPs address a range of actions needed to implement the contents of this Plan. The EPPs address, at a minimum, the following topics:

EPP Topic	Corresponding COL Emergency Plan Section(s)
Assessment of Emergency Action Levels, Emergency Classification and Plan Activation	Section II.D
Notifications	Sections II.A.1, II.E, II.L.1
Emergency Communications Systems and Equipment	Section II.F
Protective Action Recommendations	Sections II.J.7, II.J.10
Activation and Operation of the Technical Support Center (TSC)	Sections II.A.1, II.B, II.E.2, II.H.1
Activation and Operation of the Operations Support Center (OSC)	Sections II.A.1, II.B, II.E.2, II.H.1
Activation and Operation of the Emergency Operations Facility (EOF)	Sections II.A.1, II.B, II.E.2, II.H.1
Activation and Operation of the Joint Information Center (JIC)	Section II.G.3
Evacuation and Accountability	Sections II.A.1, II.J.2, II.J.4, II.J.5
Core Damage Assessment	Section II.I
On-Site/In-Plant Radiological Surveys and Off-Site Radiological Monitoring	Section II.B.5, II.I.7
Use of Thyroid Blocking Agents	Section II.J.6
Emergency Exposure Guidelines and Personnel Dosimetry	Sections II.K.2, II.K.3
Decontamination	Sections II.K.5, II.K.7
Obtaining and Analyzing High Activity Samples Under Emergency Conditions	Section II.I
Emergency Media Relations	Section II.G
Reentry, Recovery, and Closeout	Section II.M
Duties and Responsibilities of the Emergency Coordinator / Recovery Manager	Sections II.B, II.M
Emergency Repair and Damage Control and Immediate Entries	Section II.O
<u>Security Events</u>	<u>Section II.E.1</u>

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Additional plant procedures address various activities that are required to support the ongoing maintenance of emergency preparedness. These supporting

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

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RAI NO.: 3327 (CP RAI #78)

SRP SECTION: 13.03 - Emergency Planning

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 13.03-16

SITE-19: Emergency Plan Considerations for Multi-unit Sites

T-1. Regulatory Guide (RG) 1.206 states, in part, that if the proposed new reactor(s) is located on, or near, an operating reactor site with an existing emergency plan (i.e., multiunit site), and the emergency plan for the proposed new reactor(s) includes various elements of the existing plan, then the applicant should address the 9 elements as described in Section C.I.13.3.2, "Emergency Plan Considerations for Multi-unit Sites." Revise the plan to address the 9 elements as identified in RG 1.206 Section C.I.13.3.2.

ANSWER:

Each Emergency Plan is a stand alone document, however, Section I.C of the CPNPP Units 3 and 4 Emergency Plan states. "Two Westinghouse 4-loop pressurized water reactors (Units 1 and 2) are also located at CPNPP. The planning basis draws extensively on the existing Emergency Plan."

Further discussion of the relationship between the two facilities is contained in Section II.A of the Emergency Plan, "Coordination with CPNPP Units 1 and 2", as follows:

Luminant has identified the need to coordinate emergency response actions taken at CPNPP Units 3 and 4 with CPNPP Units 1 and 2. The need to coordinate activities between TSCs and OSCs has also been identified. As noted previously in this section, the Emergency Coordinator is responsible for directing notifications to affected plant staff, which may include the unaffected units' CRs. This notification, and subsequent communications, will enable the unaffected units' staff to take action, if necessary.

In the unlikely event that an emergency is declared during operations at Units 3 and/or 4 concurrent with an emergency at Units 1 and/or 2, a single Emergency Coordinator is designated from on-site shift management in accordance with EPPs. The Emergency Coordinator discharges those duties described in this Emergency Plan, as well as those described in the Units 1 and 2 Emergency Plan, and provides for coordination of activities between the on-site TSCs and OSCs in accordance with EPPs.

Additionally, there is a potential for an emergency at Units 1 and/or 2 to affect personnel and activities at Units 3 and/or 4 while one or both of these units remain under construction. Emergency actions, including requirements for notification of construction site personnel, are stipulated in EPPs. Requirements for subsequent response actions by construction site personnel are stipulated in the Construction Site Health and Safety Plan or its supporting documents.

RG 1.206 Section C.I.13.3.2 includes the following guidance:

If the new reactor is located on, or near, an operating reactor site with an existing emergency plan (i.e., multiunit site), and the emergency plan for the new reactor includes various elements of the existing plan, the application should do the following:

Address the extent to which the existing site's emergency plan is credited for the new unit(s), including how the existing plan would be able to adequately accommodate an expansion to include one or more additional reactors and include any required modification of the existing emergency plan for staffing, training, emergency action levels, and the like.

As noted above, although the Emergency Plan for Units 3 and 4 draws upon the Unit 1 and 2 Emergency Plan, each facilities' Plan is a stand alone document. The independence of the two plans is not intended to infer that the elements of the emergency response protocols are independent. Common elements exist, particularly with regard to the State and Local Response organizations, off site emergency response facilities and corporate support. However, each of the Plans meets the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50. No further modification to the existing emergency plan is required and the remaining elements of RG 1.206 Section C.I.13.3.2 are not applicable to the COLA Emergency Plan.

Impact on R-COLA

None

Impact on S-COLA

None

Impact on DCD

None

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Attachment 3

Response to Request for Additional Information No. 3451 (CP RAI #77)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**Comanche Peak Units 3 and 4
Luminant Generation Company LLC
Docket No. 52-034 and 52-035**

RAI NO.: 3451 (CP RAI #77)

SRP SECTION: 06.04 - Control Room Habitability System

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.04-1

Comanche Peak (CP) combined license (COL) 6.4(1) pertains to the evaluation of threats from toxic chemicals of mobile and stationary sources to control room habitability. During the NRC staff's review of the regulatory requirements associated with CP COL 6.4(1), the NRC staff could find no commitment by the applicant nor mechanism in the COL FSAR that will drive the COL applicant to perform future surveys of stationary and mobile sources of hazardous chemicals on a periodic basis.

The NRC staff notes that Regulatory Guide 1.196 Regulatory Position 2.5 "Hazardous Chemicals" states:

"Regulatory Guide 1.78 encourages licensees to conduct periodic surveys of stationary and mobile sources of hazardous chemicals in the vicinity of their plant sites. The periodicity should be based on the number, size, and type of industrial and transportation activities in the vicinity of the plant and regional and local changes in uses of land. The staff recommends conducting a survey of the location, types, and quantities of the mobile and stationary hazardous chemical sources at least once every 3 years, or more frequently as applicable.

The staff also recommends annual performance of an onsite survey of hazardous chemical sources."

As such, the NRC staff requests additional information as to how the COL applicant intends to satisfy the intent of this regulatory guide during the life cycle of Comanche Peak, Units 3 and 4. The NRC staff requests that the COL applicant amend the COL FSAR to ensure that the intent of this passage from Regulatory Guide 1.196 is satisfied throughout the life cycle of Comanche Peak, Units 3 and 4.

ANSWER:

Future surveys of offsite stationary and mobile sources of hazardous chemicals will be conducted on an annual basis throughout the life cycle of Comanche Peak Units 3 and 4, in accordance with the guidance in Regulatory Guide (RG) 1.196.

The CPNPP potential offsite chemical hazards are reviewed annually as part of the Land Use Census required by the Offsite Dose Calculation Manual (ODCM).

The requirements and instructions for conducting the annual chemical hazard survey are described in CPNPP procedures for Comanche Peak Units 1 and 2. These requirements/instructions include the following:

- As part of the Land Use Census, the identification of any potential source of hazardous chemicals and/or toxic gases that could impact control room habitability should be conducted in accordance with NEI 99-03, "Control Room Habitability Guidance," and RG 1.196.
- The identification of any potential source of hazardous chemicals and/or toxic gases should include the location, types, and quantities of hazardous chemicals and/or toxic gases within a five mile radius of the plant.
- Potential sources of hazardous chemical and/or toxic gases can be either mobile or stationary."

In addition, prior to the use of chemicals/consumables on the Comanche Peak site, the Chemical Overview Group will perform a Control Room Habitability assessment. In accordance with the provisions of CPNPP procedures for Comanche Peak Units 1 and 2, requirements for Control Room Habitability assessment are specified for all halogenated gas or liquid products to be purchased in quantities of 100 pounds or greater.

The CPNPP procedures for Comanche Peak Unit 3 and 4 will be modeled after the Unit 1 and 2 procedures. Thus, procedures for Comanche Peak Units 3 and 4 will ensure that annual surveys are conducted for off-site chemical hazards and that control room habitability assessments will be conducted for chemicals to be used on-site prior to their storage and use.

The FSAR 6.4 commitment to RG 1.196 includes commitments to all applicable regulatory positions as described in DCD Revision 2 Table 1.9.1-1 (Sheet 14 of 15). FSAR Subsection 6.4.4.2 has been revised to reflect the periodic surveys encouraged by RG 1.78 and RG 1.196.

Impact on R-COLA

See attached marked-up FSAR Draft Revision 1 page 6.4-3.

Impact on S-COLA

None.

Impact on DCD

None.

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Part 2, FSAR

RG 1.78 states that it is expected that a control room operator will don a respirator and protective clothing, or take other mitigating action within two minutes after detection. The concentration in the MCR reaches the human detection threshold for chlorine (3.5 ppm) at approximately 9 minutes and reaches the maximum concentration (5.7 ppm) in approximately 13 minutes. Also during a toxic gas emergency, the control room operators have the option of manually actuating the emergency isolation mode of the MCR HVAC System.

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All of the FSAR Table 2.2-214 assumed chemical releases were analyzed with the HABIT code, and all produce maximum control room concentration values well below the IDLH. Therefore, there will be no procedure requiring operator action, either donning respirators and protective clothing or manually isolating the control room HVAC System. Both of these response actions will be considered at the discretion of the operators in the event of a toxic gas release. The CPNPP Units 3 and 4 Emergency Plan includes provisions for maintaining self-contained breathing apparatuses (SCBAs) in the control room.

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Periodic surveys will be conducted at least once every three years of stationary and mobile sources of hazardous chemicals within a five mile radius of the plant. In addition, prior to use, chemicals and chemicals of potential impact (halogenated gas or liquid products to be purchased in quantities of 100 pounds or greater) will require a Control Room Habitability assessment. These surveys and procedures will be developed per the discussions in COLA FSAR Subsection 13.5.2.2 as Chemical/Radiochemical Control Procedures and/or Radioactive Waste Management Procedures.

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6.4.6 Instrumentation Requirement

CP COL 6.4(5) Replace the last paragraph in DCD Subsection 6.4.6 with the following.

Instrumentation to detect and alarm a hazardous chemical release in the vicinity of CPNPP Units 3 and 4, and to automatically isolate the control room envelope (CRE) from such releases is not required based on analyses described in Subsection 6.4.4.2. No hazardous chemicals concentrations in the MCR exceeded the IDLH criteria of RG 1.78.

6.4.7 Combined License Information

Replace the content of DCD Subsection 6.4.7 with the following.

CP COL 6.4(1) **6.4(1) Toxic chemicals of mobile and stationary sources and evaluation of the control room habitability**

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**Comanche Peak Units 3 and 4
Luminant Generation Company LLC
Docket No. 52-034 and 52-035**

RAI NO.: 3451 (CP RAI #77)

SRP SECTION: 06.04 - Control Room Habitability System

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.04-2

The NRC staff notes that Regulatory Position C.4 "Component Design Criteria And Qualification Testing" of Regulatory Guide 1.52, 'Design, Inspection, and Testing Criteria for Air Filtration and Adsorption Units of Post-Accident Engineered-Safety-Feature Atmosphere Cleanup Systems in Light-Water-Cooled Nuclear Power Plants,' Revision 3 provides the acceptance criteria with respect to charcoal adsorber weight, type and distribution for CP COL 6.4(4). Some or all of regulatory positions of C.4 may apply when the applicant determines the weight and distribution of the charcoal adsorber. In particular, since the COL applicant commits to the use of the type III impregnated charcoal, the requirements of System Design Criteria 3.6 and Regulatory Position C.4.11 do apply and will serve as the acceptance criteria for the adsorber installed in the ESF filtration units of the MCR HVAC system.

The NRC staff requests that the COL applicant finalize the design, select the weight, type and distribution that satisfies the regulatory criteria and create an ITAAC that verifies the as-built is consistent with the as-analyzed.

ANSWER:

The charcoal adsorber type, weight and distribution have been added to DCD Table 6.4-1 and COL 6.4(4) has been deleted in DCD Revision 2. CPNPP COLA FSAR Revision 1, scheduled for November 20, 2009, will incorporate by reference US-APWR DCD Revision 2.

The as-built charcoal adsorber system is verified to be consistent with the as-analyzed condition in the charcoal adsorber preoperational test, DCD Subsection 14.2.12.1.79, under the prerequisite B.2 "Component testing and instrument calibrations is completed." However, the charcoal adsorber type, weight and distribution are not key adsorber parameters and as such are not included in the ITAAC. The key parameter for the main control room HVAC system charcoal adsorber is the charcoal adsorber efficiency, which is described in DCD Tier 1 Table 2.7.5.1-3 item 4.b.i.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**Comanche Peak Units 3 and 4
Luminant Generation Company LLC
Docket No. 52-034 and 52-035**

RAI NO.: 3451 (CP RAI #77)

SRP SECTION: 06.04 - Control Room Habitability System

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.04-3

The NRC staff's review of the "as built" listing of the materials of construction for the engineered safety features (ESF) system components per the requirements of CP COL 6.5(4) is not possible at this stage of the licensing process.

The NRC staff requests that the COL applicant select the materials to be used and create an ITAAC that satisfies the requirements of CP COL 6.5(4), Regulatory Guide 1.206 C.1.6.5.1.6 "Materials" and System Design Criteria 3.5 of RG 1.52, or develop an alternative approach that satisfies the regulatory requirements.

ANSWER:

The ESF filter system materials have been added to DCD Subsection 6.5.1.7 and COL 6.5(4) has been deleted in DCD Revision 2. CPNPP COLA FSAR Revision 1, scheduled for November 20, 2009, will incorporate by reference US-APWR DCD Revision 2.

The ESF filter system materials are chosen in accordance with the requirement of RG 1.52 and ASME AG-1-2003 as described in DCD Subsection 6.5.1.7. The materials of construction are established during the development of the procurement specification and confirmed by the procurement process, including receipt inspection. The associate documentation is available on site for NRC review after the processes are complete. As such, an ITAAC for material confirmation is not necessary.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**Comanche Peak Units 3 and 4
Luminant Generation Company LLC
Docket No. 52-034 and 52-035**

RAI NO.: 3451 (CP RAI #77)

SRP SECTION: 06.04 - Control Room Habitability System

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.04-4

As part of its review per the guidance of NUREG-0800, Standard Review Plan (SRP) Chapter 6.4 and Regulatory Guide 1.78, 'Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release,' the NRC staff plans to perform a confirmatory calculation for the toxic gas event analyzed as described FSAR subsection 6.4.4.2.

The NRC staff requests that the COL applicant provide the requisite input parameters used in the HABIT EXTRAN and CHEM models and any significant intermediate values.

The NRC staff also requests that the applicant describe all relevant assumptions used in the applicant's analysis. In particular, the NRC staff requests that the applicant provide the basis for the CHEM model's flow rate of contaminated toxic air into the CRE (i.e. fresh air intakes and CRE infiltration) Also, identify whether the release was assumed to be a liquid tank burst or a gas tank burst.

The NRC staff will use this information to support the NRC staff's confirmatory calculation of the event described in FSAR subsection 6.4.4.2.

ANSWER:

The assumed truckload of chlorine on Highway FM 56 1.4 miles from the nearest CPNPP Units 3 and 4 MCR inlet is the bounding case for HABIT, EXTRAN and CHEM models. The input parameters utilized are as follows:

US-APWR MCR Input Parameters (based on DCD Tables 15.6.5-5):

Control Room Volume: 140,000 ft³ (3,964 m³)

MCR Intake Height: 46.9 feet (14.3 m)

Occupancy Factor: 1

Intake Flow rate: 1,800 cfm (0.8495 m³/second)*

Additional Infiltration Rate: 120 cfm (0.05663 m³/second)*

Assumed Stability Class and Wind Speed: G and 2.5 m/second (per the Annual Stability Class Frequency Distribution shown in FSAR Table 2.3-305, this worst-case G Stability occurs for all wind speeds only 2.99% of the time, conservatively well within the Regulatory Guide 1.78 "exceeded only 5% of the time" limit).

* The MCR input parameters (i.e., flow rate and dimension) are the same as Table 15.6.5-5. The intake flow rate is based on the unfiltered makeup air flow rate during normal operation before detecting the toxic gases. The additional infiltration rate is based on the total amount of unfiltered inleakage during emergency pressurization condition.

EXTRAN Additional Inputs:

Release Type: Liquid Tank Burst
Initial Mass: 20,000 kg
Storage and Air Temperature: 25°C**
Distance to Intake: 2,253 m
Intake Height: 14.3 m

** A sensitivity evaluation for a 0°C storage temperature showed no significant change in results.

There are no significant intermediate values.

Impact on R-COLA

None.

Impact on S-COLA

None.

Impact on DCD

None.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**Comanche Peak Units 3 and 4
Luminant Generation Company LLC
Docket No. 52-034 and 52-035**

RAI NO.: 3451 (CP RAI #77)

SRP SECTION: 06.04 - Control Room Habitability System

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.04-5

The NRC staff notes that per the applicant's analysis of FSAR subsection 6.4.4.2 and the expectation created with RG 1.78, the Comanche Peak Nuclear Power Plant, Units 3 and 4 main control room (MCR) operators would don a respirator and protective clothing within approximately 11 minutes from the start of described toxic gas event. The applicant also indicates that the MCR operators ... *"have the option of manually actuating the emergency isolation mode of the MCR HVAC System."*

Given the fact that the projected chlorine concentrations within the control room envelope (CRE) peak out at 5.2 parts per million (ppm) (i.e. well below the IDHL) and given the effects of donning respirators (e.g. poor communications, increased risk of operator error), the NRC staff requests that the applicant clarify the operator actions that would be captured in the plant's toxic gas response procedures. Would donning a respirator and protective clothing take precedence over isolating the CRE? Upon the MCR operators sensing the chlorine, would donning a respirator and protective clothing be a mandatory response or a prescribed response?

For all the toxic chemicals of FSAR Table 2.2-214 that screened in as potential threats to the control room, would the control room concentrations of any of these toxic chemicals reach levels perceptible to the MCR operator? How would the procedural response to this (these) toxic gas(es) differ from that for chlorine?

ANSWER:

All of the FSAR Table 2.2-214 assumed chemical releases were analyzed with the HABIT code and all produce maximum control room concentration values well below the IDLH. Therefore, there will be no procedure requiring operator action, either donning respirators and protective clothing or manually isolating the control room HVAC System. Both of these response actions will be considered at the discretion of the operators in the event of a toxic gas release. The CPNPP Units 3 and 4 Emergency Plan (ML082680315) includes provisions for maintaining self-contained breathing apparatuses (SCBAs) in the control room.

Of the toxic chemicals and their locations listed in FSAR Table 2.2-214, the HABIT code analyses show that the following chemicals could have control room maximum concentrations which would be perceptible to operators according to the AIHA Odor Detection Thresholds included in Appendix B of NUREG/CR-6624:

- Chlorine released offsite from Highway FM56
- Hydrogen sulfide released from Sunoco Pipeline, LP
- Morpholine released onsite from CPNPP Units 3 and 4 Water Treatment
- Ammonia released onsite from CPNPP Units 3 and 4 Water Treatment

The discretionary operator response to the release of these and any chemical will not differ from those for the release of chlorine.

Impact on R-COLA

See attached marked-up FSAR Draft Revision 1 page 6.4-3.

Impact on S-COLA

None.

Impact on DCD

None.

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

RG 1.78 states that it is expected that a control room operator will don a respirator and protective clothing, or take other mitigating action within two minutes after detection. The concentration in the MCR reaches the human detection threshold for chlorine (3.5 ppm) at approximately 9 minutes and reaches the maximum concentration (5.7 ppm) in approximately 13 minutes. Also during a toxic gas emergency, the control room operators have the option of manually actuating the emergency isolation mode of the MCR HVAC System.

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All of the FSAR Table 2.2-214 assumed chemical releases were analyzed with the HABIT code, and all produce maximum control room concentration values well below the IDLH. Therefore, there will be no procedure requiring operator action, either donning respirators and protective clothing or manually isolating the control room HVAC System. Both of these response actions will be considered at the discretion of the operators in the event of a toxic gas release. The CPNPP Units 3 and 4 Emergency Plan includes provisions for maintaining self-contained breathing apparatuses (SCBAs) in the control room.

RCOL2_06.0
4-5

Periodic surveys will be conducted at least once every three years of stationary and mobile sources of hazardous chemicals within a five mile radius of the plant. In addition, prior to use, chemicals and chemicals of potential impact (halogenated gas or liquid products to be purchased in quantities of 100 pounds or greater) will require a Control Room Habitability assessment. These surveys and procedures will be developed per the discussions in COLA FSAR Subsection 13.5.2.2 as Chemical/Radiochemical Control Procedures and/or Radioactive Waste Management Procedures.

RCOL2_06.0
4-1

6.4.6 Instrumentation Requirement

CP COL 6.4(5) Replace the last paragraph in DCD Subsection 6.4.6 with the following.

Instrumentation to detect and alarm a hazardous chemical release in the vicinity of CPNPP Units 3 and 4, and to automatically isolate the control room envelope (CRE) from such releases is not required based on analyses described in Subsection 6.4.4.2. No hazardous chemicals concentrations in the MCR exceeded the IDLH criteria of RG 1.78.

6.4.7 Combined License Information

Replace the content of DCD Subsection 6.4.7 with the following.

CP COL 6.4(1) **6.4(1)** *Toxic chemicals of mobile and stationary sources and evaluation of the control room habitability*

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**Comanche Peak Units 3 and 4
Luminant Generation Company LLC
Docket No. 52-034 and 52-035**

RAI NO.: 3451 (CP RAI #77)

SRP SECTION: 06.04 - Control Room Habitability System

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

DATE OF RAI ISSUE: 9/24/2009

QUESTION NO.: 06.04-6

The level of detail provided in FSAR 6.4.3 is not adequate to determine if the regulatory requirements are met. Please provide in the FSAR the essential elements of the training and procedures necessary to demonstrate the regulatory commitments are met. Specifically, what will the operators be directed and trained to do to meet the recommendations in RG 1.196. The NRC staff requests that in responding and revising the FSAR, that the applicant establish a consistency with the following regulatory positions:

- Regulatory Position C.5 "Emergency Planning" of Regulatory Guide 1.78;
- Regulatory Position 2.5 "Hazardous Chemicals" of Regulatory Guide 1.196;
- Regulatory Position 2.2.1 "Comparison of System Design, Configuration, and Operation with the Licensing Bases" of Regulatory Guide 1.196; and
- Regulatory Position 2.7.1 Periodic Evaluations and Maintenance of Regulatory Guide 1.196

Please include a discussion of what operators will be directed to do when they smell toxic gas or are notified by external sources that there was a toxic gas release. Please include a discussion any arrangements that will be in place for notification of the control room when a release has occurred.

ANSWER:

As indicated in the answer to Question 06.04-5 above, the HABIT code analyses show peak control room concentration results are well under the IDLH limits for all toxic chemicals evaluated, hence no operator action (neither donning SCBAs nor control room envelope isolation) would be procedurally prescribed. Any actions in the event that the operators smell toxic gas or are notified of a release by external sources would be left to the discretion of the operators. The CPNPP Units 3 and 4 Emergency Plan (ML082680315) includes provisions for maintaining SCBAs in the control room and provides

criteria for classifying hazardous chemical release events that are deemed to be detrimental to normal plant operations (notification of an unusual event) or that prohibit access to a vital area (alert).

The FSAR 6.4 commitment to RG 1.196 and RG 1.78 includes commitments to all applicable regulatory positions contained therein, including regulatory positions 2.5, 2.2.1, 2.7.1 of RG 1.196 and C.5 of RG 1.78 and any periodic survey recommendations.

As such, these positions will be addressed by Operating and Emergency Operating Procedures, as appropriate, per COLA FSAR 13.5.2.1.

Impact on R-COLA

See the attached marked-up for Question 06.04-5 above.

Impact on S-COLA

None.

Impact on DCD

None.

Attachment 4

Electronic Attachments (on CD)

- Attachment 13.03-4A – Comanche Peak Steam Electric Station Alert and Notification System Final Report, updated and revised September 28, 2004
- Attachment 13.03-4B – Comanche Peak Steam Electric Station Alert and Notification System FEMA Acceptance Letter, September 23, 2003
- Attachment 13.03-09A – EPP-314, "Evacuation and Accountability"
- Attachment 13.03-10A – EPP-305, "Emergency Exposure Guidelines and Personnel Dosimetry"
- Attachment 13.03-11A – EPP-109 "Duties and Responsibilities of the Emergency Coordinator/Recovery Manager"
- Attachment 13.03-11B – EPP-121 "Reentry, Recovery and Closeout"
- Attachment 13.03-13A - TRA-105 "Emergency Preparedness Training"
- Attachment 13.03-13B - EPP 201, "Assessment of Emergency Action Levels, Emergency Classification and Plan Activation"