



Luminant

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Ref. # 10 CFR 52

May 6, 2011

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

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4
DOCKET NUMBERS 52-034 AND 52-035
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION NO. CP RAI #198
(10 CFR PARTS 30, 40, AND 70)

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein the response to Request for Additional Information (RAI) CP RAI #198 for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4. The RAI addresses information related to 10 CFR Parts 30, 40, and 70.

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

The commitments made in this letter are captured on page 2.

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

Executed on May 6, 2011.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

Attachment: Response to Request for Additional Information (CP RAI #198)

DO90
NRO

Regulatory Commitments in this Letter

This communication contains the following new or revised commitments which will be completed or incorporated into the CPNPP licensing basis as noted:

<u>Number</u>	<u>Commitment</u>	<u>Due Date/Event</u>
8271	<p>The response to CP RAI #198 Question 5 states:</p> <p>New fuel will be received and stored in the CAA, which is entirely encompassed by the boundary of the proposed PA. Upon declaration of an operational PA, the remaining requirements of 10 CFR 73.55 will be implemented, and the PA will be established and declared operational prior to fuel load.</p>	Prior to fuel load
8272	<p>The response to CP RAI #198 Question 6b states:</p> <p>FSAR Table 1.9-220 has been revised to include compliance with NRC Bulletin 2005-01. A response to this bulletin will be submitted in separate letter as it contains SGI. Anticipated submittal is prior to December 31, 2011.</p>	12/31/2011
8273	<p>The response to Question CP RAI #198 Question 5 states:</p> <p>A separate SGI letter will be forthcoming that provides the SNM Physical Protection Program during the time the requirements 10 CFR 73.67 are in effect. This description of the SNM Physical Protection Program will be provided by December 31, 2011.</p>	12/31/2011

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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.: CP RAI #198

QUESTIONS Related to Standard License Conditions for 10 CFR Parts 10, 30, 40 and 70

DATE OF RAI ISSUE: 1/14/2011

QUESTION NO.: 1

1. The NRC staff's memorandum (ML083030.065), dated December 9, 2008, proposed that Combined License (COL) applicants incorporate a number of 10 CFR Parts 30, 40, and 70 license conditions into the COLA. Subsequent to this memorandum, and based on its review of this COLA, the NRC staff has revised some of these license conditions. As such, Luminant is requested to include the following license conditions in the COLA, Part 10, "Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) and Proposed License Condition."
 - A. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Luminant Generation Company, LLC and Comanche Peak Nuclear Power Company LLC:
 - (1)
 - (i) Pursuant to the Atomic Energy Act of 1954 (the Act) and 10 CFR Part 70, "Domestic licensing of special nuclear material," to receive and possess at any time, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, described in the final safety analysis report (FSAR), as supplemented and amended;
 - (ii) Pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after the finding in Section 2.D(1) of this license has been made ((note: 2D(1) is a reference to the 10 CFR 52.103(g), "Operation under a combined license," finding), in accordance with the limitations for storage and amounts required for reactor operation, and described in the FSAR, as supplemented and amended;
 - (2) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
 - B. The licensee shall implement applicable portions of the Fire Protection Program prior to initial receipt of byproduct, source, or special nuclear materials onsite (excluding Exempt Quantities as described in 10 CFR 30.18)

ANSWER:

- A. Subsequent to the issuance of this RAI on January 14, 2011, a Design Centered Working Group (DCWG) meeting was held on February 16, 2011 to discuss among other topics, generic Combined License (COL) standards. Prior to this DCWG meeting, the NRC Staff provided comments to the DCWGs and the NEI regarding the proposed license condition wording for compliance to 10 CFR Parts 30, 40, and 70. The Staff comments included additional proposed generic license condition wording. As a result of this meeting and discussion with the NRC Staff, Luminant has utilized the expanded generic license condition language to address license conditions associated with byproduct, source and special nuclear material (SNM) in a revision to Part 10 of the CPNPP Units 3 and 4 COL application. The expanded language license condition also includes "...prior to the finding in Section 2.D.(3)..." in License Conditions (3)(i) and (4)(i), which was an NEI comment provided during the meeting.
- B. Information related to the Fire Protection Program is discussed in FSAR Subsection 9.5.1. FSAR Subsection 9.5.1.6 states that a construction fire protection program will be in place during construction. FSAR Table 13.4-201, Item 8 states that the portions of the Fire Protection Program needed to support new fuel receipt and storage will be in place prior to receipt of new fuel, and the portions needed to support fuel load and operation will be implemented prior to fuel load. The programs in Table 13.4-201 with the "Requirement" of "License Condition" are implemented per the license condition proposed in Part 10 of this application. The proposed license conditions in Part 10, the implementation requirements in FSAR Table 13.4-201, and FSAR Subsection 9.5.1.6 describe the Fire Protection Plan as required to support the receipt of byproduct, source or SNM per 10 CFR Parts 30, 40 and 70, excluding exempt quantities defined in 10 CFR 30.18.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 13.4-5 and COLA Part 10 pages 4, 5, 6, 7, and 8.

Impact on S-COLA

This response is considered standard.

Impact on DCD

None.

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

STDCP COL
13.4(1)

Table 13.4-201 (Sheet 4 of 11)

CTS-01140

Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
8.	Fire Protection Program	<u>10 CFR 70.22</u> 10 CFR 50.48	9.5.1	<p><u>The Construction Fire Protection Program will be in place prior to initial receipt of byproduct, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18).</u></p> <p>Prior to fuel receipt for elements of the Fire Protection Program necessary to support receipt and storage of fuel on-site.</p> <p>Prior to initial fuel load for elements or the Fire Protection Program necessary to support fuel load and plant operation.</p>	<p><u>10 CFR 70.22(a)</u></p> <p>License Condition</p>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p><u>1. Receipt, Possession and Use of Byproduct, Source and Special Nuclear Material (SNM)</u></p> <p><u>2.B PROPOSED LICENSE CONDITION</u></p> <p><u>Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Luminant Generation Company LLC:</u></p> <p>(1) <u>Pursuant to Sections 103 and 185.b of the Act and 10 CFR Part 52, to construct, possess, use, and operate the facility at the designated location in accordance with the procedures and limitations set forth in this license;</u></p> <p>(2) (i) <u>Pursuant to the Act and 10 CFR Part 70, to receive and possess at any time, special nuclear material as reactor fuel in accordance with the limitations for storage and amounts required for reactor operation, described in the FSAR, as supplemented and amended;</u></p> <p>(ii) <u>Pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after the finding in Section 2.D.(3) of this license has been made, in accordance with the limitations for storage and amounts required for reactor operation, and described in the FSAR, as supplemented and amended;</u></p> <p>(3) (i) <u>Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, prior to the finding in Section 2.D.(3), such byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts that do not exceed the quantities in Schedule C of 10 CFR 30.72, and does not include uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total;</u></p> <p>(ii) <u>Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, after the finding in Section 2.D.(3), any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required.</u></p>	<p><u>Based on Model COL discussed with NRC and DCWGs on 2/26/2011 and 10 CFR 30, 40 and 70.</u></p> <p><u>Luminant response to RAI-198.</u></p> <p><u>NOTE: Numbering of license conditions based upon the Model COL discussed with the NRC and DCWGs on 2/26/2011.</u></p>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p>(4) <u>(i) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use prior to the finding in Section 2.D.(3), in amounts not exceeding those specified in Section 2.B.(3)(i) above, any byproduct, source, or special nuclear material that is (1) in unsealed form; (2) on foils or plated surfaces, or (3) sealed in glass, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components;</u></p> <p><u>(ii) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use, after the finding in Section 2.D.(3), in amounts as required, any byproduct, source, or special nuclear material without restriction as to chemical or physical form, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components; and</u></p> <p>(5) <u>Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.</u></p> <p><u>2D.(3) Nuclear Fuel Loading</u></p> <p><u>(i) The licensee shall notify the Director of the Office of New Reactors, or the Director's designee, that all ITAAC included in Appendix A to this license are complete.</u></p> <p><u>(ii) The licensee is authorized to load fuel into the reactor vessel after the Commission has found, in accordance with 10 CFR 52.103(g), that all the acceptance criteria in the ITAAC contained in Appendix A to this license are met.</u></p>	
<p><u>2.D(11) Operational Program Implementation</u></p> <p>The licensee shall implement the programs or portions of programs identified in the table in FSAR Table 13.4-201 with the "Implementation" of "License Condition" below on or before the associated milestones in FSAR Table 13.4-201.</p>	<p>COLA FSAR Table 13.4-201 Items 3, 5, 6, 8, 9, 10, 12, 15, 18, and 19.</p> <p><u>COLA FSAR Subsection 10.2.3.5</u></p> <p><u>Based on Model COL discussed with NRC and DCWGs on 2/26/2011. RAI 198 response issued 4/28/11.</u></p>
<p><u>2.D(14) Site-specific or License-specific Conditions</u></p> <p><u>(i) The plant-specific PTS evaluation of the as-procured reactor vessel material properties will be submitted to the NRC within 12 months following acceptance of the reactor vessel.</u></p>	<p>Answer to RAI 2353 (CP RAI #8) question 05.03.02-3 as provided in TXNB-09028 dated August 7, 2009.</p>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p><u>(ii) Prior to the full-participation exercise to be conducted in accordance with the requirements of Appendix E to 10 CFR Part 50, Luminant shall establish Letters of Agreement with the following entities:</u></p> <p><u>a. Governors Division of Emergency Management (GDEM), Texas Department of Public Safety</u></p> <p><u>b. Texas Department of State Health Services</u></p> <p><u>c. Hood County Judge</u></p> <p><u>d. Somervell County Judge</u></p> <p><u>These Letters of Agreement will identify the specific nature of arrangements in support of emergency preparedness for operation of the proposed new nuclear units and certify the agency's concurrence with the emergency action levels described in Comanche Peak Units 3 & 4 Combined License Application Emergency Plan Procedure, "Assessment of Emergency Action Levels, Emergency Classification and Plan Activation."</u></p>	<p><u>Answer to RAI 3295 (CP RAI #70) question 13.03-1 and RAI 3327 (CP RAI #78) questions 13.03-2 and 13.03-8.</u></p>
<p><u>(iii) The licensee shall submit a fully developed set of site-specific Emergency Action Levels (EALs) to the NRC in accordance with NEI 99-01, Revision 5, with few differences or deviations. The fully developed site-specific EAL scheme shall be submitted to the NRC for confirmation at least 180 days prior to initial fuel load.</u></p>	<p><u>Answer to RAI 3295 (CP RAI #70) question 13.03-1 and RAI 3327 (CP RAI #78) questions 13.03-2 and 13.03-8.</u></p>
<p><u>(iv) Prior to commencing construction and throughout the term of the license, the Licensees shall implement the Comanche Peak provisions of the Nuclear Power Plant Units 3 and 4, Negation Action Plan dated December 15, 2010 relating to the terms of Amended and Restated Limited liability Company Agreement (LLC Agreement) for CPNPC and Luminant's authority pursuant to the Construction and Operating Services Agreement (COSA). The provisions of Section 5.1(g) of the LLC Agreement and Section Section 2.1.2 of the COSA relating to authority regarding safety and security issues may not be modified in any material respect without first giving 30 days prior written notice to the Director, Office of Nuclear Reactor Regulation.</u></p>	<p><u>COLA Part 1, Administrative and Financial Information, RAI response issued: 10/14/2010</u></p>

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Operational Programs to be implemented per License Condition above:

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Program Title	Milestone
Environmental Qualification Program	Prior to Initial Fuel Load

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Program Title	Milestone
Reactor Vessel Material Surveillance Program	Prior to Initial Criticality
Preservice Testing Program	Prior to Initial Fuel Load
Fire Protection Program	<p>Prior to fuel receipt for elements of the Fire Protection Program necessary to support receipt and storage of fuel on site.</p> <p>Prior to initial fuel load for elements of the Fire Protection Program necessary to support fuel load and plant operation.</p>
Process and Effluent Monitoring and Sampling Program — Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Offsite Dose Calculation Manual	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Radiological Environmental Monitoring Program	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Process Control Program	Prior to receipt of radioactive material on site
Radiation Protection Program	<p>Prior to initial receipt of by-product, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18) for those elements of the Radiation Protection (RP) Program necessary to support such receipt</p> <p>Prior to fuel receipt for those elements of the RP Program necessary to support receipt and storage of fuel on site.</p> <p>Prior to fuel load for those elements of the RP Program necessary to support fuel load and plant operation</p> <p>Prior to first shipment of radioactive waste for those elements of the RP Program necessary to support shipment of radioactive waste.</p>
Reactor Operator Training Program	18 months prior to scheduled fuel load.

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Program Title	Milestone
Security Program—Physical Security Program	Prior to receipt of fuel on site.
Security Program—Safeguards Contingency Program	Prior to receipt of fuel on site.
Security Program—Training and Qualification Program	Prior to receipt of fuel on site.
Motor Operated Valve Testing	Prior to initial fuel load.
Initial Test Program	Prior to the first construction test for the Construction Test Program. Prior to the first preoperational test for the Preoperational Test Program. Prior to initial fuel loading for the Startup Test Program.
Fitness for Duty Program—Construction Mgt & Oversight personnel	Prior to on site construction of safety or security related SSCs.
Fitness for Duty Program—Construction Workers & first Line Supv.	Prior to on site construction of safety or security related SSCs.
Fitness for Duty Program—Operations Phase Program	Prior to fuel receipt

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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.: CP RAI #198

QUESTIONS Related to Standard License Conditions for 10 CFR Parts 10, 30, 40 and 70

DATE OF RAI ISSUE: 1/14/2011

QUESTION NO.: 2

As part of its response to this RAI, Luminant is requested to provide information on the specific Parts 30, 40 and 70 licenses being requested and sufficient information in the COLA, Part 2, FSAR that demonstrates compliance with the applicable portions of 10 CFR Parts 30, 40 and 70. For example, in the COLA, Part 2, FSAR Chapter 1, Luminant may provide a subsection or a chart that informs the NRC staff of the locations within the COLA, Part 2, FSAR, where it describes how Luminant has addressed the applicable requirements of 10 CFR Parts 30, 40 and 70, for example radiation protection, emergency preparedness, security, non-licensed plant staff training, and fire protection program elements that will be in place prior to receipt of the byproduct, source, or SNM authorized by the proposed license in paragraph 1, above.

ANSWER:

Luminant has added to a new paragraph to FSAR Subsection 1.9.6 that describes where the applicable requirements of 10 CFR 30, 40, 70, 73 and 74 are discussed in the FSAR. These specific program and implementation elements are located in Subsections 12.2.1.1.10, 13.5.2.2, and 13.6, and in Tables 1.9-220 and 13.4-201. Table 13.4-201 specifically identifies milestone completion and required elements of these programs prior to receipt of byproduct, source or SNM.

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 1.9-3, 1.9-41, 12.2-3, 13.4-5, 13.4-6, 13.4-7, 13.4-9, 13.4-12, 13.5-7, and 13.6-1.

Impact on S-COLA

This response is considered standard.

Impact on DCD

None.

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

and 4 design not included in the design certification. Evaluations of those items are presented in Table 1.9-220. Information from these documents is taken from NRC Bulletins and NRC Generic Letters as of December 12, 2007. The table contains columns for the generic issue document (including number, title, and date), language excerpted from the document that communicates the substance of the issue, CPNPP Units 3 and 4 Comments on applicability, and references to the relevant subject matter in the CPNPP Units 3 and 4 FSAR.

1.9.6 Combined License Information

Replace the content of DCD Subsection 1.9.6 with the following.

CP COL 1.9(1) **1.9(1) Conformance with regulatory guidance**

This COL item is addressed in Section 1.9, Subsections 1.9.1 through 1.9.4, and Tables 1.9-201 through 1.9-220.

The applicable requirements of 10 CFR 30, 40, 70, 73 and 74 regarding emergency protection and preparedness, security, non-licensed staff training and fire protection program elements that will be in place prior to receipt of byproduct, source or special nuclear material are located in Subsections 12.2.1.1.10, 13.5.2.2, 13.6, and Tables 1.9-220 and 13.4-201.

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

CP COL 1.9(1)

Table 1.9-220

Evaluations of NRC Generic Communications Issued Since March 2007 Revision of NUREG-0800

Document	Excerpts from Document	CPNPP Units 3 and 4 Comment	CPNPP Units 3 and 4 FSAR References	
<p>NRC Bulletin 2007-01: Security Officer Attentiveness December 12, 2007</p>	<p>Requested Action:</p> <ol style="list-style-type: none"> 1. How do you identify, report, and document human performance issues involving inattentiveness, especially complicity among licensee security personnel including security contractors and subcontractors. 2. How do you ensure that all employees and contractors report security concerns and any perceived security conditions that reduce the safety or security of a licensee facility? How do you ensure that staff is aware that there is no retaliation for self-reporting of inattentiveness or complicity or for reporting others? 3. How do you ensure that managers and supervisors provide oversight of BOP adherence to ensure there is no complicity to circumvent the program or failure to report wrongdoing or careless disregard of the regulations? 4. What are the results of any self-assessments performed within the last 2 years associated with the items above? Specifically, what do you do to assess the effectiveness of your employee access authorization program? 5. How do you assess the effectiveness of your oversight of contractors and subcontractors? 	<p>This Bulletin is addressed to operating license holders and as such is not immediately applicable to the proposed CPNPP Units 3 and 4. CPNPP Units 3 and 4, however, does address the issue of security officer attentiveness in the Security Plan and related security training plans.</p>	<p>Not applicable for FSAR, but related material is found in the Security Plan and related security training plans.</p>	
<p><u>NRC Bulletin 2005-01: Material Control and Accounting at Reactors and Wet Spent Fuel Storage Facilities</u></p>	<p><u>"Exempt from Public Disclosure in accordance with 10 CFR 2.390.</u></p>	<p><u>This bulletin is addressed in the Special Nuclear Material (SNM) Material Control and Accounting (MC&A) Program description.</u></p>	<p><u>Table 13.4-201 Subsection 13.5.2.2 addresses plant procedure implementation of the SNM MC&A Program.</u></p>	<p>RCOL2_198 _2 RCOL2_198 _6b</p>

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

procedures comply with 10 CFR Parts 19 and 20 to assure that occupational doses associated with the control and use of these materials are maintained ALARA.

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During the period prior to the implementation of the Emergency Plan (in preparation for the initial fuel loading following the 52.103(g) finding), no specific materials related emergency plan will be necessary because:

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- a. No byproduct material will be received, possessed, or used in a physical form that is "in unsealed form, on foils or plated sources, or sealed in glass," that exceeds the quantities in Schedule C in 10 CFR 30.72, and
- b. The source material to be received, possessed, or used does not involve uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total.

No 10 CFR Part 40 specifically licensed source material, including natural uranium, depleted uranium, and uranium hexafluoride, will be received, possessed, or used prior to initial fuel loading.

12.2.3 Combined License Information

Replace the content of DCD Subsection 12.2.3 with the following.

CP COL 12.2(1) **12.2(1) Additional sources**

This COL item is addressed in Subsection 12.2.1.1.10.

CP COL 12.2(2) **12.2(2) Additional storage space and radwaste facilities**
STD COL 12.2(2)

CTS-01140

This COL item is addressed in Subsection 12.2.1.1.10 and Section 12.5.

CP COL 12.2(3) **12.2(3) Radiation Protection Program provisions for limiting the radiation levels of the RWSAT and PMWTs.**

DCD_12.02-
29

This COL item is addressed in Section 12.5.

CP COL 12.2(4) **12.2(4) Ensuring the radioactivity concentration in the RWSAT and PMWTs remain under the levels described in the DCD.**

This COL item is addressed in Section 12.5.

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

STDOP COL
13.4(1)

Table 13.4-201 (Sheet 5 of 11)

CTS-01140

Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
9.	Process and Effluent Monitoring and Sampling Program				
	• Radiological Effluent Technical Specifications/ Standard	10 CFR 20.1301 and 20.1302 10 CFR 50.34a	11.5	Receipt of radioactive material on-site	License Condition
	• Radiological Effluent Controls	10 CFR 50.36a 10 CFR 50, Appendix I, section II and IV			
	• Offsite Dose Calculation manual	Same as above	11.5	Receipt of radioactive material on-site	License Condition
	• Radiological Environmental Monitoring Program	Same as above	11.5	Receipt of radioactive material on-site	License Condition
	• Process Control Program	Same as above	11.4	Receipt of radioactive material on-site	License Condition
10.	Radiation Protection Program	10 CFR 20.1101 <u>10 CFR 20.1801</u> <u>10 CFR 20.1802</u> <u>10 CFR 20.1906</u>	12.5	Prior to initial receipt of by-product, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18) for those elements of the Radiation Protection (RP) Program necessary to support such receipt	License Condition

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RCOL2_13.0
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RCOL2_13.0
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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 2, FSAR**

STDOP COL
13.4(1)

Table 13.4-201 (Sheet 6 of 11)

CTS-01140

Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
	<ul style="list-style-type: none"> <u>Ground Water Monitoring Program</u> 	<u>10 CFR 20.1406</u>	<u>12.5</u>	Prior to fuel receipt for those elements of the RP Program necessary to support receipt and storage of fuel on-site Prior to fuel load for those elements of the RP Program necessary to support fuel load and plant operation Prior to first shipment of radioactive waste for those elements of the RP Program necessary to support shipment of radioactive waste <u>Prior to fuel load</u>	<u>License Condition</u>
11.	Non licensed Plant Staff Training Program <u>For elements of Fire Protection Program, Security Program and Radiation Protection Program prior to full program implementation.</u>	<u>10 CFR 50.120</u> <u>10 CFR 52.78</u> <u>10 CFR 70.22</u>	<u>13.2.42</u>	18 months prior to scheduled fuel load <u>Prior to implementation of the program elements</u>	<u>10 CFR 50.120(b)</u> <u>10 CFR 70.22 (a)</u>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
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STD/CP COL
13.4(1)
STD COL 13.6(1)

Table 13.4-201 (Sheet 8 of 11)

| CTS-01140

Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation		
				Milestone	Requirement	
15.	Security Program	10 CFR 50.34(c)				
	<ul style="list-style-type: none"> <u>Controlled Access Area for SNM Physical Protection Program of new fuel prior to implementation of the Physical Security Program and Protected Area per 10 CFR 73.55.</u> 	10 CFR 73.1 10 CFR 73.67	13.6	Prior to initial receipt of special nuclear material (controlled access area)	License Condition	RCOL2_198_2 and RCOL2_198_5a-5c
	<ul style="list-style-type: none"> Cyber Security Program 	10 CFR 73.54	13.6	Prior to receipt of fuel on-site in the protected area	License Condition	RCOL2_13.0 4-5
	<ul style="list-style-type: none"> Physical Security Program 	10 CFR 73.55 10 CFR 73.56 10 CFR 73.57	13.6	Prior to receipt of fuel on-site in the protected area	License Condition	RCOL2_13.0 6.01-4 CTS-01140
	<ul style="list-style-type: none"> Safeguards Contingency Program 	10 CFR 50.34(d) 10 CFR 73, Appendix C	13.6	Prior to receipt of fuel on-site in the protected area	License Condition	RCOL2_13.0 6.01-4 CTS-01140
	<ul style="list-style-type: none"> Training and Qualification Program 	10 CFR 73, Appendix B	13.6	Prior to receipt of fuel on-site in the protected area	License Condition	RCOL2_13.0 6.01-4 CTS-01140

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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13.4(1)

Table 13.4-201 (Sheet 11 of 11)

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Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
	<u>FFD Program for Operation</u>	<u>10 CFR 26.4(a) and (b)</u>	<u>13.7</u>	<u>Prior to the earlier of:</u> <u>Licensee's receipt of fuel assemblies onsite or</u> <u>Establishment of a protected area or</u> <u>The 10 CFR 52.103(g) finding</u>	<u>10 CFR 26, Subparts A-H, N, and O, except for individuals listed in § 26.4(b), who are not subject to §§ 26.205-209</u>
<u>21.</u>	<u>Epoxy Coatings Program</u>	<u>10 CFR 20.1406, RG 1.54</u>	<u>6.1.2, 11.2, 11.4</u>	<u>Prior to plant start-up</u>	<u>10 CFR 20.1406 and RG 1.54</u>
<u>22.</u>	<u>Special Nuclear Material Control and Accounting Program</u>	<u>10 CFR 74 Subpart B (§§ 74.11 - 74.19, excluding 74.17)</u>	<u>13.5.2.2</u>	<u>Prior to receipt of special nuclear material</u>	<u>License Condition</u>

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Comanche Peak Nuclear Power Plant, Units 3 & 4
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as appropriate, to vital areas within the station. Information concerning specific design features and administrative provisions of the security plan is accorded limited distribution on a need-to-know basis.

- Procedures address periodic assessment of the Control Room Habitability System's material condition, configuration controls, safety analyses and operating and maintenance procedures in accordance with the guidance in RG 1.196. RCOL2_06.0
4-8
- A material control and accounting system consisting of SNM accounting procedures is utilized to delineate the requirements, responsibilities, and methods of SNM control from the time SNM is received until it is shipped from the plant. These procedures provide detailed steps for SNM shipping and receiving, inventory, accounting, and preparing records and reports. The SNM Material Control and Accounting (MC&A) Program description is submitted to the Nuclear Regulatory Commission as a separate licensing basis document in Part 11. RCOL2_198
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13.5.3 Combined License Information

Replace the content of DCD Subsection 13.5.3 with the following.

- STD COL 13.5(1) **13.5(1) Administrative procedures**
This COL item is addressed in Subsection 13.5 through 13.5.1.2.
- 13.5(2) Deleted from the DCD.**
- STD COL 13.5(3) **13.5(3) Procedures performed by licensed operators in the control room**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(4) **13.5(4) Different classifications of procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(5) **13.5(5) Program for developing operating procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(6) **13.5(6) Program for developing and implementing emergency operating procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(7) **13.5(7) Classifications of maintenance and other operating procedures**
This COL item is addressed in Subsection 13.5.2.2.

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

13.6 SECURITY

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

STD COL 13.6(1) Replace the first paragraph in DCD Subsection 13.6 with the following:

The comprehensive physical security program is addressed in the Security Plan. RCOL2_13.0
The Security Plan consists of the physical security plan, training and qualification 6.01-1
plan, the safeguards contingency plan. The Security Plan (provided in Combined CTS-01140
License Application Part 8) and Cyber Security Plan are submitted to the NRC as RCOL2_13.0
~~separate licensing documents~~ to fulfill the requirements of 10 CFR 52.79(a)(35) 6.01-7
and 10 CFR 52.79(a)(36). The Security Plan and Cyber Security Plan meet the
requirements contained in 10 CFR 26 and 10 CFR 73 and will be maintained in
accordance with the requirements of 10 CFR 52.98. The Security Plan is
categorized as security safeguards Information and is withheld from public
disclosure pursuant to 10 CFR 73.21.

Special Nuclear Material (SNM) Physical Protection Program RCOL2_198
The Special Nuclear Material (SNM) Physical Protection Program describes the _2_and
10 CFR Part 70 required protection program in effect for the period of time during RCOL2_198
which new fuel as SNM is received and stored in a controlled access area (CAA) _5a-5c
in accordance with the requirements of 10 CFR 73.67. RCOL2_198
_6a

CP COL 13.6(2) **13.6.1 Physical Security – Combined License**

Replace the content of DCD Subsection 13.6.1 with the following:

As stated above, the Security Plan and the Cyber Security Plan are submitted to
the NRC ~~as separate licensing documents~~ to fulfill the requirements of 10 CFR RCOL2_13.0
52.79(a)(35) and 10 CFR 52.79(a)(36). The site specific physical security 6.01-7
features and capabilities that are beyond the scope of the certified standard plant
design are described in the CPNPP Units 3 and 4 physical security plan (PSP)
(Ref. 13.06-201), Appendix A of the High Assurance Evaluation Assessment (Ref. RCOL2_13.0
13.06-7) and in Section 13.6.2 below. 6.01-6

CP COL 13.6(2) **13.6.2 US-APWR Physical Security**

Replace the second paragraph of DCD Subsection 13.6.2 with the following two
paragraphs:

[(SRI)]

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.: CP RAI #198

QUESTIONS Related to Standard License Conditions for 10 CFR Parts 10, 30, 40 and 70

DATE OF RAI ISSUE: 1/14/2011

QUESTION NO.: 3

The following questions are part of the NRC staff's review of the CPNPP, COLA, Part 5, Emergency Planning, as it relates to Luminant's request for Licenses Issued Under Parts 30 and 40.

- A. Identify the physical form of the byproduct material that will be received, possessed, or used at CPNPP, Units 3 and 4. If the byproduct material is in unsealed form, on foils or plated sources, or sealed in glass, does it exceed the quantities in Schedule C of 10 CFR 30.72? If the quantities exceed Schedule C, provide either an evaluation showing that the maximum dose to a person offsite would be less than one rem dose equivalent or five rems to the thyroid(10 CFR 30.32(1)(2)) or provide an emergency plan that meets the requirements of 10 CFR 30.32(i)(3). If compliance through the requirements of 10 CFR 30.32(i)(3) is chosen, address how the implementation of the emergency plan prior to the receipt of byproduct material will be accomplished and reflect his implementation in FSAR, Table 13.4-201, "Operational Programs Required by NRC Regulation and Program Implementation."
 - B. In accordance with 10 CFR 40.31(j)(1), does the request for a Part 40 license involve authorization to receive, possess, or use uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total? If either of the above quantities is exceeded, provide either an evaluation showing that the maximum intake of uranium by a member of the public due to a release would not exceed two milligrams (see 10 CFR 40.31(j)(2)) or an emergency plan for responding to the radiological hazards of an accidental release of source material and to any associated chemical hazards related to the material. Refer to 10 CFR 40.31(j)(3).
-

ANSWER:

- A. Information related to radiation sources containing byproduct material, including their purpose, storage, and security, is provided in FSAR Section 12.2. No byproduct material of a physical form that is "in unsealed form, on foils or plated sources, or sealed in glass," that exceeds the quantities in Schedule C of 10 CFR 30.72 will be received, possessed, or used at CPNPP Units 3 and 4 prior to initial fuel loading. An emergency plan that meets the requirements of 10 CFR 30.32(i)(3) is not required because the quantities do not exceed Schedule C.

- B. The request for a Part 40 license does not involve authorization to receive, possess, or use uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total prior to initial fuel loading. Since these quantities are not exceeded, an emergency plan in accordance with 10 CFR 40.31 (j)(1) for responding to the radiological hazards of an accidental release of source material and to any associated chemical hazards related to the material is not required.

A specific commitment addressing these limitations during the period prior to the implementation of the Emergency Plant (prior to the initial fuel loading and following the 52.103(g) finding) is included FSAR Subsection 12.2.1.1.10. License conditions to control these restrictions have been proposed in Part 10 of the COL application.

Impact on R-COLA

See attached marked-up FSAR Revision 1 page 12.2-3 and COLA Part 10 marked-up pages 4, 5, 6, 7, and 8.

Impact on S-COLA

This response is considered standard.

Impact on DCD

None.

Comanche Peak Nuclear Power Plant, Units 3 & 4
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procedures comply with 10 CFR Parts 19 and 20 to assure that occupational doses associated with the control and use of these materials are maintained ALARA.

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During the period prior to the implementation of the Emergency Plan (in preparation for the initial fuel loading following the 52.103(g) finding), no specific materials related emergency plan will be necessary because:

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- a. No byproduct material will be received, possessed, or used in a physical form that is "in unsealed form, on foils or plated sources, or sealed in glass." that exceeds the quantities in Schedule C in 10 CFR 30.72, and
- b. The source material to be received, possessed, or used does not involve uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total.

No 10 CFR Part 40 specifically licensed source material, including natural uranium, depleted uranium, and uranium hexafluoride, will be received, possessed, or used prior to initial fuel loading.

12.2.3 Combined License Information

Replace the content of DCD Subsection 12.2.3 with the following.

CP COL 12.2(1) **12.2(1) Additional sources**

This COL item is addressed in Subsection 12.2.1.1.10.

CP COL 12.2(2) **12.2(2) Additional storage space and radwaste facilities**
STD COL 12.2(2)

CTS-01140

This COL item is addressed in Subsection 12.2.1.1.10 and Section 12.5.

CP COL 12.2(3) **12.2(3) Radiation Protection Program provisions for limiting the radiation levels of the RWSAT and PMWTs.**

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This COL item is addressed in Section 12.5.

CP COL 12.2(4) **12.2(4) Ensuring the radioactivity concentration in the RWSAT and PMWTs remain under the levels described in the DCD.**

This COL item is addressed in Section 12.5.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p><u>1. Receipt, Possession and Use of Byproduct, Source and Special Nuclear Material (SNM)</u></p> <p><u>2.B PROPOSED LICENSE CONDITION</u></p> <p><u>Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Luminant Generation Company LLC:</u></p> <p>(1) <u>Pursuant to Sections 103 and 185.b of the Act and 10 CFR Part 52, to construct, possess, use, and operate the facility at the designated location in accordance with the procedures and limitations set forth in this license;</u></p> <p>(2) (i) <u>Pursuant to the Act and 10 CFR Part 70, to receive and possess at any time, special nuclear material as reactor fuel in accordance with the limitations for storage and amounts required for reactor operation, described in the FSAR, as supplemented and amended;</u></p> <p>(ii) <u>Pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after the finding in Section 2.D.(3) of this license has been made, in accordance with the limitations for storage and amounts required for reactor operation, and described in the FSAR, as supplemented and amended;</u></p> <p>(3) (i) <u>Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, prior to the finding in Section 2.D.(3), such byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts that do not exceed the quantities in Schedule C of 10 CFR 30.72, and does not include uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total;</u></p> <p>(ii) <u>Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, after the finding in Section 2.D.(3), any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required.</u></p>	<p><u>Based on Model COL discussed with NRC and DCWGs on 2/26/2011 and 10 CFR 30, 40 and 70.</u></p> <p><u>Luminant response to RAI-198.</u></p> <p><u>NOTE: Numbering of license conditions based upon the Model COL discussed with the NRC and DCWGs on 2/26/2011.</u></p>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p>(4) <u>(i) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use prior to the finding in Section 2.D.(3), in amounts not exceeding those specified in Section 2.B.(3)(i) above, any byproduct, source, or special nuclear material that is (1) in unsealed form; (2) on foils or plated surfaces, or (3) sealed in glass, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components;</u></p> <p><u>(ii) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use, after the finding in Section 2.D.(3), in amounts as required, any byproduct, source, or special nuclear material without restriction as to chemical or physical form, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components; and</u></p> <p>(5) <u>Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.</u></p> <p><u>2D.(3) Nuclear Fuel Loading</u></p> <p><u>(i) The licensee shall notify the Director of the Office of New Reactors, or the Director's designee, that all ITAAC included in Appendix A to this license are complete.</u></p> <p><u>(ii) The licensee is authorized to load fuel into the reactor vessel after the Commission has found, in accordance with 10 CFR 52.103(g), that all the acceptance criteria in the ITAAC contained in Appendix A to this license are met.</u></p>	
<p><u>2.D(11) Operational Program Implementation</u></p> <p>The licensee shall implement the programs or portions of programs identified in the table in FSAR Table 13.4-201 with the "Implementation" of "License Condition" below on or before the associated milestones in FSAR Table 13.4-201.</p>	<p>COLA FSAR Table 13.4-201 Items 3, 5, 6, 8, 9, 10, 12, 15, 18, and 19.</p> <p><u>COLA FSAR Subsection 10.2.3.5</u></p> <p><u>Based on Model COL discussed with NRC and DCWGs on 2/26/2011. RAI 198 response issued 4/28/11.</u></p>
<p><u>2.D(14) Site-specific or License-specific Conditions</u></p> <p><u>(i) The plant-specific PTS evaluation of the as-procured reactor vessel material properties will be submitted to the NRC within 12 months following acceptance of the reactor vessel.</u></p>	<p>Answer to RAI 2353 (CP RAI #8) question 05.03.02-3 as provided in TXNB-09028 dated August 7, 2009.</p>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p><u>(ii) Prior to the full-participation exercise to be conducted in accordance with the requirements of Appendix E to 10 CFR Part 50, Luminant shall establish Letters of Agreement with the following entities:</u></p> <p><u>a. Governors Division of Emergency Management (GDEM), Texas Department of Public Safety</u></p> <p><u>b. Texas Department of State Health Services</u></p> <p><u>c. Hood County Judge</u></p> <p><u>d. Somervell County Judge</u></p> <p><u>These Letters of Agreement will identify the specific nature of arrangements in support of emergency preparedness for operation of the proposed new nuclear units and certify the agency's concurrence with the emergency action levels described in Comanche Peak Units 3 & 4 Combined License Application Emergency Plan Procedure, "Assessment of Emergency Action Levels, Emergency Classification and Plan Activation."</u></p>	<p><u>Answer to RAI 3295 (CP RAI #70) question 13.03-1 and RAI 3327 (CP RAI #78) questions 13.03-2 and 13.03-8.</u></p>
<p><u>(iii) The licensee shall submit a fully developed set of site-specific Emergency Action Levels (EALs) to the NRC in accordance with NEI 99-01, Revision 5, with few differences or deviations. The fully developed site-specific EAL scheme shall be submitted to the NRC for confirmation at least 180 days prior to initial fuel load.</u></p>	<p><u>Answer to RAI 3295 (CP RAI #70) question 13.03-1 and RAI 3327 (CP RAI #78) questions 13.03-2 and 13.03-8.</u></p>
<p><u>(iv) Prior to commencing construction and throughout the term of the license, the Licensees shall implement the Comanche Peak provisions of the Nuclear Power Plant Units 3 and 4, Negation Action Plan dated December 15, 2010 relating to the terms of Amended and Restated Limited liability Company Agreement (LLC Agreement) for CPNPC and Luminant's authority pursuant to the Construction and Operating Services Agreement (COSA). The provisions of Section 5.1(g) of the LLC Agreement and Section Section 2.1.2 of the COSA relating to authority regarding safety and security issues may not be modified in any material respect without first giving 30 days prior written notice to the Director, Office of Nuclear Reactor Regulation.</u></p>	<p><u>COLA Part 1, Administrative and Financial Information, RAI response issued: 10/14/2010</u></p>

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Operational Programs to be implemented per License Condition above:

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Program Title	Milestone
Environmental Qualification Program	Prior to Initial Fuel Load

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Program Title	Milestone
Reactor Vessel Material Surveillance Program	Prior to Initial Criticality
Preservice Testing Program	Prior to Initial Fuel Load
Fire Protection Program	<p>Prior to fuel receipt for elements of the Fire Protection Program necessary to support receipt and storage of fuel on site.</p> <p>Prior to initial fuel load for elements of the Fire Protection Program necessary to support fuel load and plant operation.</p>
Process and Effluent Monitoring and Sampling Program — Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Offsite Dose Calculation Manual	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Radiological Environmental Monitoring Program	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Process Control Program	Prior to receipt of radioactive material on site
Radiation Protection Program	<p>Prior to initial receipt of by-product, source, or special nuclear materials (excluding Exempt Qualities as described in 10 CFR 30.18) for those elements of the Radiation Protection (RP) Program necessary to support such receipt</p> <p>Prior to fuel receipt for those elements of the RP Program necessary to support receipt and storage of fuel on site.</p> <p>Prior to fuel load for those elements of the RP Program necessary to support fuel load and plant operation</p> <p>Prior to first shipment of radioactive waste for those elements of the RP Program necessary to support shipment of radioactive waste.</p>
Reactor Operator Training Program	18 months prior to scheduled fuel load.

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Program Title	Milestone
Security Program—Physical Security Program	Prior to receipt of fuel on site.
Security Program—Safeguards Contingency Program	Prior to receipt of fuel on site.
Security Program—Training and Qualification Program	Prior to receipt of fuel on site.
Motor Operated Valve Testing	Prior to initial fuel load.
Initial Test Program	Prior to the first construction test for the Construction Test Program. Prior to the first preoperational test for the Preoperational Test Program. Prior to initial fuel loading for the Startup Test Program.
Fitness for Duty Program—Construction Mgt & Oversight personnel	Prior to on site construction of safety or security related SSCs.
Fitness for Duty Program—Construction Workers & first Line Supv.	Prior to on site construction of safety or security related SSCs.
Fitness for Duty Program—Operations Phase Program	Prior to fuel receipt

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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.: CP RAI #198

QUESTIONS Related to Standard License Conditions for 10 CFR Parts 10, 30, 40 and 70

DATE OF RAI ISSUE: 1/14/2011

QUESTION NO.: 4

Part 1, Section 1.0, Introduction (Page 7 : Describe specific types of sources, byproducts, and SNM, the chemical or physical form, and the maximum amount at any one time for the requested material licenses under 10 CFR Parts 30, 40, and 70. Provide specific material information in accordance with requirements for 10 CFR 30.32, 10 CFR 40.31, and 10 CFR 70.21 and 10 CFR 70.22. For the requested Part 70 material license, identify the category or class of SNM (Category I - strategic, Category II - moderate strategic significance, Category III - low strategic significance) for the requested license based on the types, form, enrichment, and maximum total quantities of SNM.

Regulatory Basis for Question 4:

The regulatory requirements for issuing byproduct, source, and SNM licenses are described in 10 CFR Parts 30, 40, and 70. In Part 1, Section 1, the applicant stated that "...[i]n addition, special nuclear material licenses, by-product material licenses, and source material licenses as required for construction and operation are requested." In order to receive, possess, and use byproduct, source, and SNM, the applicant is required to provide specific descriptions of the nuclear materials to include the types, chemical or physical form, enrichment, and the maximum quantities, in accordance with the applicable requirements of 10 CFR Parts 30, 40, and 70 for the requested material licenses. 10 CFR 30.32 and 10 CFR 40.31, for license of byproduct and source material, requires the applicant to include specific information of nuclear material requested and their use or purpose. 10 CFR 70.22(a)(4) requires specific descriptions of the nuclear materials to include the name, amount, chemical or physical form, enrichment, and the maximum quantities for the SNM license requested. The specific information provides the material categorization of SNM in accordance with 10 CFR Part 73, "Physical Protection of Plants and Materials," and Part 74, "Material Control and Accounting of Special Nuclear Material," which determines the security and material control and accounting requirements that must be met by the applicant.

ANSWER:

Information related to radiation sources containing byproduct, source, and SNM, including their purpose, storage, and security, is provided in FSAR Section 12.2. As stated in Question 3 regarding 10 CFR 30.32 and 10 CFR 40.31, no byproduct material will be received, possessed, or used at CPNPP Units 3 and 4 of a physical form that is "in unsealed form, on foils or plated sources, or sealed in glass, that exceeds the

quantities in Schedule C of 10 CFR 30.72" prior to initial fuel loading. Additionally, the Part 40 license does not involve authorization to receive, possess, or use uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total prior to initial fuel loading.

All non-irradiated SNM for CPNPP Units 3 and 4 is identified as Category III, SNM of low strategic significance, as defined in 10 CFR 74.4. No SNM at the facility will exceed a U-235 isotope enrichment of 10 percent. The SNM at the facility will not include enriched uranium or plutonium for which a criticality accident alarm system is required, uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total, or in excess of 2 curies of plutonium in unsealed form or on foils or plated sources. The quantity of SNM will be documented, controlled, and communicated to the NRC as required by 10 CFR 74.13, 10 CFR 74.15, and 10 CFR 74.19.

Impact on R-COLA

None.

Impact on S-COLA

None; this response is site-specific.

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.: CP RAI #198

QUESTIONS Related to Standard License Conditions for 10 CFR Parts 10, 30, 40 and 70

DATE OF RAI ISSUE: 1/14/2011

QUESTION NO.: 5

Part 1, Section 1.0, Introduction (Page 7) and Part 2, FSAR, Section 13.4, Operational Programs, Table 13.4-201 (Pages 13.4-1 to 13.4-4): Describe the physical protection and management controls for how nuclear material will be protected in accordance with the applicable requirements for 10 CFR Parts 30, 40, and 70, for the licenses to receive a title to, own, acquire, deliver, receive, possess, use, and/or transfer specific SNM types, form, enrichment, and quantities requested. Provide descriptions in accordance with the applicable requirements of 10 CFR 70.22, "Contents of applications," and 10 CFR 70.32, "Conditions of licenses." Provide the following information, if the applicant plans to credit the proposed physical protection system and programs described for the operations of the nuclear power plant, to demonstrate compliance with the regulatory requirements of 10 CFR Parts 30, 40, and 70:

- a. State clearly whether the applicant plans to take credit for the physical protection system and management controls (including organization, procedures, processes, etc.) provided by the security plans and the conduct of operations described for a nuclear power plant to also satisfy the requirements of 10 CFR 70 (including the requirement for a physical security plan). Identify and provide detailed descriptions of all specific portions of the Physical Security Plan, Training and Qualifications, and/or the Safeguards Contingency Plan submitted under Part 52 of the COLA that will be credited and describe how they will meet requirements of 10 CFR 73 that are applicable to the Part 40 and 70 material license.
- b. Describe how the applicant's request for a material licenses pursuant to 10 CFR 40 and 10 CFR 70, will meet the requirements of 10 CFR 40.31(m) and 10 CFR 70.22(1) for the protection of safeguards information in accordance with 10 CFR 73.21 and 10 CFR 73.22.
- c. Confirm that the proposed license condition to fully implement the security programs under 10 CFR 73.55 "prior to receipt of fuel onsite," will provide assurance that the requirements for satisfying the requirements 10 CFR 70 for a material license will be available for inspection and verification prior to implementation and will be implemented prior receipt of SNM. Provide a revision to Part 2, Section 13.4, Operational Programs, Table 13.4-201, Operational Programs Required by NRC Regulations and Program Implementation, Item 15 (Page 13.4-6), to include the milestone for implementing specific security (e.g., 10 CFR 73.67 for a Category III material license, etc.) requirements for a 10 CFR 70 material license.

- d. Luminant is requested to submit an exemption from the requirements of 10 CFR 70.22(b) since the exception provided in this regulation does not apply to Part 52 COL applicants.

Regulatory Basis for Question 5:

The applicant requested, in Part 1, Section 1, a material license to possess and use SNM and must adequately address physical protection and safeguards requirements in accordance with 10 CFR 70 to receive, possess, and use SNM. The information submitted for the COL does not specifically address how regulatory requirements for a material license pursuant to Part 70 will be met, including whether the applicant plans to credit the management controls, systems, processes, and organization described in security plans (Part 8 of the COLA) for operation of a nuclear power plant under 10 CFR Part 52. Also, the applicant has not indicated when specific required programs, systems, and management controls for physical protection and safeguards for a Part 70 material license will be implemented.

The regulatory requirements for physical protection of SNM pursuant to 10 CFR 70, assuming the applicant's material license requested only low or moderate strategic significance SNM, includes the following: 10 CFR 70.22(k) which requires an applicant to include a physical security plan that demonstrates how the applicant plans to meet the requirements of paragraphs (d), (e), (f), and (g) of 10 CFR 73.67 and retain records of the security plan.

In addition, 10 CFR 70(1) requires protection of Safeguards Information in accordance with the requirements in 10 CFR 73.21 and 10 CFR 73.22, or 10 CFR 73.23, as applicable. The regulatory requirements of 10 CFR 70 provides exceptions for the possession or use of this material in operations of a nuclear reactor licensed pursuant to 10 CFR 50.

However, the regulatory requirement of 10 CFR 70.22(b) does not provide an exception for a Part 52 combined license for construction and operation of a nuclear power plant, which does not distinguish between the possession and use of a material licensed during operation of a nuclear power plant and the possession and use of byproduct, source, or SNM (e.g., handling and storage of fuel assemblies) before completion of construction or prior to operating a nuclear power plant. The issuance of a material license, pursuant to 10 CFR Parts 30, 40, and 70, requires that an applicant demonstrate that the applicable requirements will be met for the possession and use of licensed material, independent of or prior to operation of a nuclear reactor, and clearly establish when the security systems and management controls required will be fully implemented.

The applicant's proposed license conditions to implement the reactor security programs prior to receipt of fuel on-site must include those required by 10 CFR 73 and 10 CFR 74 for a Part 70 material license. These license conditions, indicating milestones, did not address the implementation of safeguards requirements of 10 CFR 74 prior to the receipt of SNM. A proposed license condition must be specific and include appropriate milestones to adequately address and provide assurance of both security and safeguards requirements applicable to a Part 70 material license will be implemented prior to the possession of licensed material.

ANSWER:

- a.-c. In accordance with the provisions of 10 CFR 73.55(a)(4), applicants for an operating license under the provisions of 10 CFR 50 or 10 CFR 52, must implement the requirements of 10 CFR 73.55 before fuel is allowed onsite (protected area). Fuel is expected to arrive several months before the planned fuel load date because of the logistics needed to inspect the fuel and check out all the needed systems leading up to fuel load. Completion of the physical security systems that create multiple barriers for gaining access are some of the last systems to be completed due

to construction sequences and may not be fully operational when fuel is initially received on site. The physical protection program objectives applied to initial fuel load are focused on minimizing the possibility of theft of SNM and locating and recovering misplaced SNM.

Physical protection of SNM of moderate or low strategic significance at a fixed site (nuclear plant sites) and while SNM is in transit is required by 10 CFR 73.67. The general performance objectives of 10 CFR 73.67 are consistent with the risk of theft or inadvertent loss of SNM that must be mitigated when new fuel is received and stored at the nuclear plant site. Consequently, the requirements of the applicable sub-subsections of 10 CFR 73.67 will be followed during the period of time beginning with the receipt inspection of the new fuel and concluding with the implementation of the 10 CFR 73.55 physical security program.

As a result, Table 13.4-201, Item 15 has been revised to clarify the implementation requirements for the physical protection program applicable to SNM prior to declaration of an operable protected area (PA). Specifically, the physical protection program will now reference 10 CFR 73.67 as the source of the requirement with an implementation milestone of prior to receipt of SNM onsite, and this area will be described as the "controlled access area (CAA)". This clarification is consistent with the security requirements of 10 CFR 73.67 prior to the transition to the security requirements of 10 CFR 73.55. This program is designated to be implemented by license condition and will be controlled by the proposed license condition in Part 10 regarding the implementation of operational programs. Additionally, FSAR Subsection 12.2.1.1.10 has been revised to state that no 10 CFR 40 source material, including natural uranium, depleted uranium, and uranium hexafluoride, will be received, possessed, or used prior to initial fuel loading. Therefore, the provisions of 10 CFR 40.31(m) do not apply.

The terms and conditions of 10 CFR 30.34 for byproduct material will be implemented through the provisions for secure storage and positive control of licensed radioactive materials (e.g., check sources and calibration sources) as specified in 10 CFR 20.1801 and 20.1802. The byproduct material regulations will be implemented in accordance with the Radiation Protection Program described in FSAR Section 12.5 using NEI 07-03A "Generic FSAR Template Guidance for Radiation Protection Program Description."

Luminant is developing an SNM Physical Protection Program description that provides the 10 CFR 70 licensing basis applicable to implementing the 10 CFR 73.67(d), (e), (f), and (g) requirements in the time period beginning prior to the receipt of SNM and ending with the declaration of an operational PA. The fixed-site SNM requirements of 10 CFR 73.67(d) that are addressed in the program description are applicable to SNM of moderate strategic significance and conservatively bound the requirements of SNM of low strategic significance that will be received as new fuel at US-APWR plants. This program description is addressed in FSAR Section 13.6, which has been revised to state that an SNM Physical Protection Program in accordance with 10 CFR 70 will be in effect for the period of the time during which new fuel SNM is received and stored in the CAA in accordance with the requirements of 10 CFR 73.67. A separate SGI letter will be forthcoming that provides the SNM Physical Protection Program during the time the requirements 10 CFR 73.67 are in effect. This description of the SNM Physical Protection Program will be provided by December 31, 2011.

New fuel will be received and stored in the CAA, which is entirely encompassed by the boundary of the proposed PA. Upon declaration of an operational PA, the remaining requirements of 10 CFR 73.55 will be implemented, and the PA will be established and declared operational prior to fuel load.

Luminant has also added an SNM Physical Protection License Condition in Part 10 of the COL that addresses when the boundary for physical protection of new fuel as SNM is required to be

extended from the CAA in accordance with the requirements of 10 CFR 73.67 to the operational PA in accordance with the requirements of 10 CFR 73.55. The implementation of this license condition is described in Table 13.4-201, Item 15.

- d. The exemption from 10 CFR Part 70.22(b) is described in response to Question 6c and is contained in COL Part 7 Exemption Summary.

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 12.2-3, 13.4-6, 13.4-7, 13.4-9, 13.4-12, 13.5-7, 13.6-1; and COLA Part 10 pages 4, 5, 6, 7, and 8.

Impact on S-COLA

This response is considered standard.

Impact on DCD

None.

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procedures comply with 10 CFR Parts 19 and 20 to assure that occupational doses associated with the control and use of these materials are maintained ALARA.

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During the period prior to the implementation of the Emergency Plan (in preparation for the initial fuel loading following the 52.103(g) finding), no specific materials related emergency plan will be necessary because:

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- a. No byproduct material will be received, possessed, or used in a physical form that is "in unsealed form, on foils or plated sources, or sealed in glass," that exceeds the quantities in Schedule C in 10 CFR 30.72, and
- b. The source material to be received, possessed, or used does not involve uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total.

No 10 CFR Part 40 specifically licensed source material, including natural uranium, depleted uranium, and uranium hexafluoride, will be received, possessed, or used prior to initial fuel loading.

12.2.3 Combined License Information

Replace the content of DCD Subsection 12.2.3 with the following.

CP COL 12.2(1) **12.2(1) Additional sources**

This COL item is addressed in Subsection 12.2.1.1.10.

CP COL 12.2(2) **12.2(2) Additional storage space and radwaste facilities**
STD COL 12.2(2)

CTS-01140

This COL item is addressed in Subsection 12.2.1.1.10 and Section 12.5.

CP COL 12.2(3) **12.2(3) Radiation Protection Program provisions for limiting the radiation levels of the RWSAT and PMWTs.**

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29

This COL item is addressed in Section 12.5.

CP COL 12.2(4) **12.2(4) Ensuring the radioactivity concentration in the RWSAT and PMWTs remain under the levels described in the DCD.**

This COL item is addressed in Section 12.5.

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STDOP COL
13.4(1)

Table 13.4-201 (Sheet 5 of 11)

CTS-01140

Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
9.	Process and Effluent Monitoring and Sampling Program				
	• Radiological Effluent Technical Specifications/ Standard	10 CFR 20.1301 and 20.1302 10 CFR 50.34a	11.5	Receipt of radioactive material on-site	License Condition
	• Radiological Effluent Controls	10 CFR 50.36a 10 CFR 50, Appendix I, section II and IV			
	• Offsite Dose Calculation manual	Same as above	11.5	Receipt of radioactive material on-site	License Condition
	• Radiological Environmental Monitoring Program	Same as above	11.5	Receipt of radioactive material on-site	License Condition
	• Process Control Program	Same as above	11.4	Receipt of radioactive material on-site	License Condition
10.	Radiation Protection Program	10 CFR 20.1101 <u>10 CFR 20.1801</u> <u>10 CFR 20.1802</u> <u>10 CFR 20.1906</u>	12.5	Prior to initial receipt of by-product, source, or special nuclear materials (excluding Exempt Qualities <u>Quantities</u> as described in 10 CFR 30.18) for those elements of the Radiation Protection (RP) Program necessary to support such receipt	License Condition

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
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STDOP COL
13.4(1)

Table 13.4-201 (Sheet 6 of 11)

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Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
	<ul style="list-style-type: none"> <u>Ground Water Monitoring Program</u> 	<u>10 CFR 20.1406</u>	<u>12.5</u>	Prior to fuel receipt for those elements of the RP Program necessary to support receipt and storage of fuel on-site Prior to fuel load for those elements of the RP Program necessary to support fuel load and plant operation Prior to first shipment of radioactive waste for those elements of the RP Program necessary to support shipment of radioactive waste <u>Prior to fuel load</u>	<u>License Condition</u>
11.	Non licensed Plant Staff Training Program <u>For elements of Fire Protection Program, Security Program and Radiation Protection Program prior to full program implementation.</u>	10 CFR 50.120 10 CFR 52.78 <u>10 CFR 70.22</u>	<u>13.2.42</u>	18 months prior to scheduled fuel load <u>Prior to implementation of the program elements</u>	10 CFR 50.120(b) <u>10 CFR 70.22 (a)</u>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
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Table 13.4-201 (Sheet 8 of 11)

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STDCP COL
13.4(1)
STD COL 13.6(1)

Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation		
				Milestone	Requirement	
15.	Security Program	10 CFR 50.34(c)				
	• <u>Controlled Access Area for SNM Physical Protection Program of new fuel prior to implementation of the Physical Security Program and Protected Area per 10 CFR 73.55.</u>	<u>10 CFR 73.1</u> <u>10 CFR 73.67</u>	<u>13.6</u>	<u>Prior to initial receipt of special nuclear material (controlled access area)</u>	<u>License Condition</u>	RCOL2_198_2 and RCOL2_198_5a-5c
	• Cyber Security Program	10 CFR 73.54	13.6	Prior to receipt of fuel on-site <u>in the protected area</u>	License Condition	RCOL2_13.0 4-5 RCOL2_13.0 6.01-4
	• Physical Security Program	10 CFR 73.55 10 CFR 73.56 10 CFR 73.57	13.6	Prior to receipt of fuel on-site <u>in the protected area</u>	License Condition	CTS-01140 RCOL2_13.0 6.01-4
	• Safeguards Contingency Program	10 CFR 50.34(d) 10 CFR 73, Appendix C	13.6	Prior to receipt of fuel on-site <u>in the protected area</u>	License Condition	RCOL2_13.0 6.01-4 CTS-01140
	• Training and Qualification Program	10 CFR 73, Appendix B	13.6	Prior to receipt of fuel on-site <u>in the protected area</u>	License Condition	RCOL2_13.0 6.01-4 CTS-01140

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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STDCP COL
13.4(1)

Table 13.4-201 (Sheet 11 of 11)

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Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
	<u>FFD Program for Operation</u>	<u>10 CFR 26.4(a) and (b)</u>	<u>13.7</u>	<u>Prior to the earlier of:</u> <u>Licensee's receipt of fuel assemblies onsite or</u> <u>Establishment of a protected area or</u> <u>The 10 CFR 52.103(g) finding</u>	<u>10 CFR 26, Subparts A-H, N, and O, except for individuals listed in § 26.4(b), who are not subject to §§ 26.205-209</u>
<u>21.</u>	<u>Epoxy Coatings Program</u>	<u>10 CFR 20.1406, RG 1.54</u>	<u>6.1.2, 11.2, 11.4</u>	<u>Prior to plant start-up</u>	<u>10 CFR 20.1406 and RG 1.54</u>
<u>22.</u>	<u>Special Nuclear Material Control and Accounting Program</u>	<u>10 CFR 74 Subpart B (§§ 74.11 - 74.19, excluding 74.17)</u>	<u>13.5.2.2</u>	<u>Prior to receipt of special nuclear material</u>	<u>License Condition</u>

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Comanche Peak Nuclear Power Plant, Units 3 & 4
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as appropriate, to vital areas within the station. Information concerning specific design features and administrative provisions of the security plan is accorded limited distribution on a need-to-know basis.

- Procedures address periodic assessment of the Control Room Habitability System's material condition, configuration controls, safety analyses and operating and maintenance procedures in accordance with the guidance in RG 1.196. RCOL2_06.0
4-8
- A material control and accounting system consisting of SNM accounting procedures is utilized to delineate the requirements, responsibilities, and methods of SNM control from the time SNM is received until it is shipped from the plant. These procedures provide detailed steps for SNM shipping and receiving, inventory, accounting, and preparing records and reports. The SNM Material Control and Accounting (MC&A) Program description is submitted to the Nuclear Regulatory Commission as a separate licensing basis document in Part 11. RCOL2_198
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13.5.3 Combined License Information

Replace the content of DCD Subsection 13.5.3 with the following.

- STD COL 13.5(1) **13.5(1) Administrative procedures**
This COL item is addressed in Subsection 13.5 through 13.5.1.2.
- 13.5(2) Deleted from the DCD.**
- STD COL 13.5(3) **13.5(3) Procedures performed by licensed operators in the control room**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(4) **13.5(4) Different classifications of procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(5) **13.5(5) Program for developing operating procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(6) **13.5(6) Program for developing and implementing emergency operating procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(7) **13.5(7) Classifications of maintenance and other operating procedures**
This COL item is addressed in Subsection 13.5.2.2.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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13.6 SECURITY

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

STD COL 13.6(1) Replace the first paragraph in DCD Subsection 13.6 with the following:

The comprehensive physical security program is addressed in the Security Plan. The Security Plan consists of the physical security plan, training and qualification plan, the safeguards contingency plan. The Security Plan (provided in Combined License Application Part 8) and Cyber Security Plan are submitted to the NRC as ~~separate licensing documents~~ to fulfill the requirements of 10 CFR 52.79(a)(35) and 10 CFR 52.79(a)(36). The Security Plan and Cyber Security Plan meet the requirements contained in 10 CFR 26 and 10 CFR 73 and will be maintained in accordance with the requirements of 10 CFR 52.98. The Security Plan is categorized as security safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21.

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Special Nuclear Material (SNM) Physical Protection Program

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The Special Nuclear Material (SNM) Physical Protection Program describes the 10 CFR Part 70 required protection program in effect for the period of time during which new fuel as SNM is received and stored in a controlled access area (CAA) in accordance with the requirements of 10 CFR 73.67.

CP COL 13.6(2) **13.6.1 Physical Security – Combined License**

Replace the content of DCD Subsection 13.6.1 with the following:

As stated above, the Security Plan and the Cyber Security Plan are submitted to the NRC ~~as separate licensing documents~~ to fulfill the requirements of 10 CFR 52.79(a)(35) and 10 CFR 52.79(a)(36). The site specific physical security features and capabilities that are beyond the scope of the certified standard plant design are described in the CPNPP Units 3 and 4 physical security plan (PSP) (Ref. 13.06-201), Appendix A of the High Assurance Evaluation Assessment (Ref. 13.06-7) and in Section 13.6.2 below.

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6.01-6

CP COL 13.6(2) **13.6.2 US-APWR Physical Security**

Replace the second paragraph of DCD Subsection 13.6.2 with the following two paragraphs:

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(SRI)

**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p><u>1. Receipt, Possession and Use of Byproduct, Source and Special Nuclear Material (SNM)</u></p> <p><u>2.B PROPOSED LICENSE CONDITION</u></p> <p><u>Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Luminant Generation Company LLC:</u></p> <p>(1) <u>Pursuant to Sections 103 and 185.b of the Act and 10 CFR Part 52, to construct, possess, use, and operate the facility at the designated location in accordance with the procedures and limitations set forth in this license;</u></p> <p>(2) (i) <u>Pursuant to the Act and 10 CFR Part 70, to receive and possess at any time, special nuclear material as reactor fuel in accordance with the limitations for storage and amounts required for reactor operation, described in the FSAR, as supplemented and amended;</u></p> <p>(ii) <u>Pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after the finding in Section 2.D.(3) of this license has been made, in accordance with the limitations for storage and amounts required for reactor operation, and described in the FSAR, as supplemented and amended;</u></p> <p>(3) (i) <u>Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, prior to the finding in Section 2.D.(3), such byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts that do not exceed the quantities in Schedule C of 10 CFR 30.72, and does not include uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total;</u></p> <p>(ii) <u>Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, after the finding in Section 2.D.(3), any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required.</u></p>	<p><u>Based on Model COL discussed with NRC and DCWGs on 2/26/2011 and 10 CFR 30, 40 and 70.</u></p> <p><u>Luminant response to RAI-198.</u></p> <p><u>NOTE: Numbering of license conditions based upon the Model COL discussed with the NRC and DCWGs on 2/26/2011.</u></p>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p>(4) <u>(i) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use prior to the finding in Section 2.D.(3), in amounts not exceeding those specified in Section 2.B.(3)(i) above, any byproduct, source, or special nuclear material that is (1) in unsealed form; (2) on foils or plated surfaces, or (3) sealed in glass, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components;</u></p> <p><u>(ii) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use, after the finding in Section 2.D.(3), in amounts as required, any byproduct, source, or special nuclear material without restriction as to chemical or physical form, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components; and</u></p> <p>(5) <u>Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.</u></p> <p><u>2D.(3) Nuclear Fuel Loading</u></p> <p><u>(i) The licensee shall notify the Director of the Office of New Reactors, or the Director's designee, that all ITAAC included in Appendix A to this license are complete.</u></p> <p><u>(ii) The licensee is authorized to load fuel into the reactor vessel after the Commission has found, in accordance with 10 CFR 52.103(g), that all the acceptance criteria in the ITAAC contained in Appendix A to this license are met.</u></p>	
<p><u>2.D(11) Operational Program Implementation</u></p> <p>The licensee shall implement the programs or portions of programs identified in the table in FSAR Table 13.4-201 with the "Implementation" of "License Condition" below on or before the associated milestones in FSAR Table 13.4-201.</p>	<p>COLA FSAR Table 13.4-201 Items 3, 5, 6, 8, 9, 10, 12, 15, 18, and 19.</p> <p><u>COLA FSAR Subsection 10.2.3.5</u></p> <p><u>Based on Model COL discussed with NRC and DCWGs on 2/26/2011. RAI 198 response issued 4/28/11.</u></p>
<p><u>2.D(14) Site-specific or License-specific Conditions</u></p> <p><u>(i) The plant-specific PTS evaluation of the as-procured reactor vessel material properties will be submitted to the NRC within 12 months following acceptance of the reactor vessel.</u></p>	<p>Answer to RAI 2353 (CP RAI #8) question 05.03.02-3 as provided in TXNB-09028 dated August 7, 2009.</p>

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
COL Application
Part 10 - ITAAC and Proposed License Conditions**

Proposed License Condition	Source
<p><u>(ii) Prior to the full-participation exercise to be conducted in accordance with the requirements of Appendix E to 10, CFR Part 50, Luminant shall establish Letters of Agreement with the following entities:</u></p> <p><u>a. Governors Division of Emergency Management (GDEM), Texas Department of Public Safety</u></p> <p><u>b. Texas Department of State Health Services</u></p> <p><u>c. Hood County Judge</u></p> <p><u>d. Somervell County Judge</u></p> <p><u>These Letters of Agreement will identify the specific nature of arrangements in support of emergency preparedness for operation of the proposed new nuclear units and certify the agency's concurrence with the emergency action levels described in Comanche Peak Units 3 & 4 Combined License Application Emergency Plan Procedure, "Assessment of Emergency Action Levels, Emergency Classification and Plan Activation."</u></p>	<p><u>Answer to RAI 3295 (CP RAI #70) question 13.03-1 and RAI 3327 (CP RAI #78) questions 13.03-2 and 13.03-8.</u></p>
<p><u>(iii) The licensee shall submit a fully developed set of site-specific Emergency Action Levels (EALs) to the NRC in accordance with NEI 99-01, Revision 5, with few differences or deviations. The fully developed site-specific EAL scheme shall be submitted to the NRC for confirmation at least 180 days prior to initial fuel load.</u></p>	<p><u>Answer to RAI 3295 (CP RAI #70) question 13.03-1 and RAI 3327 (CP RAI #78) questions 13.03-2 and 13.03-8.</u></p>
<p><u>(iv) Prior to commencing construction and throughout the term of the license, the Licensees shall implement the Comanche Peak provisions of the Nuclear Power Plant Units 3 and 4, Negation Action Plan dated December 15, 2010 relating to the terms of Amended and Restated Limited liability Company Agreement (LLC Agreement) for CPNPC and Luminant's authority pursuant to the Construction and Operating Services Agreement (COSA). The provisions of Section 5.1(g) of the LLC Agreement and Section Section 2.1.2 of the COSA relating to authority regarding safety and security issues may not be modified in any material respect without first giving 30 days prior written notice to the Director, Office of Nuclear Reactor Regulation.</u></p>	<p><u>COLA Part 1, Administrative and Financial Information, RAI response issued: 10/14/2010</u></p>

RCOL2_13.0
3-1
RCOL2_13.0
3-2
RCOL2_13.0
3-8

RCOL2_13.0
3-1 S01
RCOL2_13.0
3-1 S02

RCOL1_10-1
4-10

Operational Programs to be implemented per License Condition above:

RCOL2_198
_1a, 3b,
5a-5c

Program Title	Milestone
Environmental Qualification Program	Prior to Initial Fuel Load

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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Program Title	Milestone
Reactor Vessel Material Surveillance Program	Prior to Initial Criticality
Preservice Testing Program	Prior to Initial Fuel Load
Fire Protection Program	<p>Prior to fuel receipt for elements of the Fire Protection Program necessary to support receipt and storage of fuel on site.</p> <p>Prior to initial fuel load for elements of the Fire Protection Program necessary to support fuel load and plant operation.</p>
Process and Effluent Monitoring and Sampling Program — Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Offsite Dose Calculation Manual	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Radiological Environmental Monitoring Program	Prior to receipt of radioactive material on site
Process and Effluent Monitoring and Sampling Program — Process Control Program	Prior to receipt of radioactive material on site
Radiation Protection Program	<p>Prior to initial receipt of by-product, source, or special nuclear materials (excluding Exempt Qualities as described in 10 CFR 30.18) for these elements of the Radiation Protection (RP) Program necessary to support such receipt</p> <p>Prior to fuel receipt for these elements of the RP Program necessary to support receipt and storage of fuel on site.</p> <p>Prior to fuel load for these elements of the RP Program necessary to support fuel load and plant operation</p> <p>Prior to first shipment of radioactive waste for these elements of the RP Program necessary to support shipment of radioactive waste.</p>
Reactor Operator Training Program	18 months prior to scheduled fuel load.

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RCOL2_13.0
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RCOL2_198
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**Comanche Peak Nuclear Power Plant, Units 3 & 4
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Program Title	Milestone
Security Program—Physical Security Program	Prior to receipt of fuel on site.
Security Program—Safeguards Contingency Program	Prior to receipt of fuel on site.
Security Program—Training and Qualification Program	Prior to receipt of fuel on site.
Motor Operated Valve Testing	Prior to initial fuel load.
Initial Test Program	Prior to the first construction test for the Construction Test Program. Prior to the first preoperational test for the Preoperational Test Program. Prior to initial fuel loading for the Startup Test Program.
Fitness for Duty Program—Construction Mgt & Oversight personnel	Prior to on site construction of safety or security related SSCs.
Fitness for Duty Program—Construction Workers & first Line Supv.	Prior to on site construction of safety or security related SSCs.
Fitness for Duty Program—Operations Phase Program	Prior to fuel receipt

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5a-5c

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NONE-3

RCOL2_10.0
2.03-2

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.: CP RAI #198

QUESTIONS Related to Standard License Conditions for 10 CFR Parts 10, 30, 40 and 70

DATE OF RAI ISSUE: 1/14/2011

QUESTION NO.: 6

Part 1 Section 1.0 Introduction (Page 7) and Part 2, Section 13.4, Operational Programs, Table 13.4-201 (Pages 13.4-1 to 13.4-4); The applicant is requested to comply with the requirements of 10 CFR 70.22(b) for addressing material control and accounting of SNM by providing descriptions of how the applicable requirements for material accounting and controls under 10 CFR 74 will be met for the possession and storage of SNM during construction and prior to the operation of the nuclear power plant.

- a. In addition, Luminant is requested to implement the following license condition in order to clearly establish a milestone for implementing material control and accounting requirements of 10 CFR 74, Subparts A and B prior to receipt of fuel, consistent and concurrently with the proposed license condition for implementing the security programs (i.e., physical protection) requirements of 10 CFR 73.

"Prior to initial receipt of special nuclear materials onsite, the licensee shall implement the Material Control and Accounting of Special Nuclear Program."

- b. Luminant is also requested to revise COLA, Part 2, FSAR, Section 1.9, "Conformance with Regulatory Criteria," Table 1.9-220, "Evaluation of NRC Generic Communications Issued since March 2007 Revision of NUREG-0800, "to include NRC Bulletin 2005-01, "Material Control and Accounting at Reactors and Wet Spent Fuel Storage Facilities." In addition, Luminant is requested to provide a response to this bulletin for the COLA.
- c. Luminant is requested to submit an exemption from the requirements of 10 CFR 74.31, 74.41, and 74.51 since the exceptions provided in these regulations do not apply to Part 52 COL applicants.

Regulatory Basis for Question 6:

Title 10 CFR 70.22(b) states that "Each application for a license to possess special nuclear material, to possess equipment capable of enriching uranium, to operate an uranium enrichment facility, to possess and use at any one time and location special nuclear material in a quantity exceeding one effective kilogram, except for applications for use as sealed sources and for those uses involved in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter and those involved in a waste disposal operation, must contain a full description of the applicant's program for control and

accounting of such special nuclear material or enrichment equipment that will be in the applicant's possession under license to show how compliance with the requirements of 74.31, 74.33, 74.41, or 74.51 of this chapter, as applicable, will be accomplished."

However, the regulatory requirement of 10 CFR 70 does not provide an exception for a Part 52 combined license for construction and operation of a nuclear power plant, which does not distinguish between the possession and use of a material license issued prior to an operating nuclear power plant and the possession and the use of byproduct, source, or SNM (e.g., handling and storage of fuel assemblies) before completion of construction or any time prior to and during operation of the nuclear power plant. If appropriate, an applicant may apply the requirements for operating reactors in accordance with 10 CFR 74 Subpart B and describe additional requirements that would satisfy the applicable requirements of 10 CFR 74 for a material license pursuant to 10 CFR 70.22(b) and 70.32(c)(1).

ANSWER:

- a. Luminant does not believe that a separate license condition is necessary to implement an SNM material control and accounting requirement in accordance with 10 CFR 74 Subpart A and B based on the following:
- Table 13.4-201, Item 22 has been added which identifies the implementation of an SNM Control and Accounting (SNMC&A) Program which identifies the Program Source as 10 CFR 74, Subpart B (74.11 - 74.19, excluding 74.17), a milestone completion of prior to receipt of special nuclear material, and an Implementation Requirement of a License Condition. The proposed license condition in COLA Part 10 for the implementation of Operational Programs provides the license condition suggested by the question.
 - Section 13.6 has been revised to discuss the SNM Physical Protection Program that is utilized to delineate the requirements, responsibilities, and methods of SNM control from the time SNM is received until it is shipped from the plant.
 - A new bullet in FSAR Subsection 13.5.2.2 has been added to address the procedures for the SNMC&A Program. These procedures provide detailed steps for SNM shipping and receiving, inventory, accounting, and preparing records and reports. The SNMC&A Program description is submitted to the NRC as a separate licensing basis document in COLA Part 11 (attached).
 - COLA Part 11 now contains an enclosure entitled: Special Nuclear Material (SNM) Control and Accounting (MC&A) Program Description. The MC&A Program establishes guidelines for control of and accounting for SNM at Comanche Peak Units 3 and 4 in accordance with 10 CFR 74 Subpart B. The criteria prescribed in the MC&A Program are applicable to SNM and various material mixtures containing SNM. Generally, the SNM involved is plutonium, U-233, or uranium enriched in the isotope U-235. SNM is typically in the form of pellets encapsulated in fuel rods. Criteria are established for the SNM control and accounting system, including criteria for receipt, internal control, physical inventory, and shipment of SNM. In addition to the information provided in the program description, the following CPNPP Units 3 and 4 licensing basis documents provide the regulatory basis that describes how the applicable requirements for material control and accounting defined in 10 CFR 74 will be met:
 - Information related to amounts of SNM as reactor fuel required for reactor operation is provided in FSAR Section 4.1.
 - Information related to storage of SNM as reactor fuel is provided in FSAR Section 9.1.

- Information related to the organizational structure for Comanche Peak Units 3 and 4, including those responsible for SNM material control and accounting, is provided in FSAR Section 13.1.
- Information related to training of personnel, including those responsible for SNM material control and accounting, is provided in FSAR Section 13.2.
- Information related to implementation of this SNM MC&A Program is provided in FSAR Table 13.4-201
- Information related to plant procedures, including those used to control SNM, is provided in FSAR Section 13.5.
- Information related to security program elements for control of SNM is provided in FSAR Section 13.6.

Thus, a license condition to implement this program is unwarranted based on the information provided in these FSAR sections and the SNM M&CA Program description in COLA Part 11.

- b. FSAR Table 1.9-220 has been revised to include compliance to NRC Bulletin 2005-01. A response to this bulletin will be forthcoming in separate letter as it contains SGI. Anticipated submittal is prior to December 31, 2011.
- c. In accordance with the provisions of 10 CFR 52.7, 50.12, 70.17(a) and 74.7, Luminant is requesting an exemption from the requirements of 10 CFR 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 for CPNPP Units 3 and 4. Section 70.22(b) requires an application for a license for SNM to contain a full description of the applicant's program for material control and accounting of SNM under 10 CFR 74.31, 74.33, 74.41, and 74.51. Section 70.32(c) requires a license authorizing the use of SNM to contain and be subject to a condition requiring the licensee to maintain and follow an SNM control and accounting program, measurement control program, and other material control procedures, including the corresponding records management requirements. However, 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 contain exceptions for nuclear reactors licensed under 10 CFR Part 50. The regulations applicable to the MC&A of SNM for nuclear reactors licensed under 10 CFR Part 50 are provided in 10 CFR 74, Subpart B (74.11 through 74.19, excluding 74.17). The purpose of this exemption request is to seek a similar exception for CPNPP Units 3 and 4 under 10 CFR Part 52, such that the same regulations are applied to the SNM MC&A program for CPNPP Units 3 and 4 as are applied to nuclear reactors licensed under 10 CFR Part 50.

Luminant is providing Part 7 to the COLA, which describes the basis, background, provisions for granting an exemption from the requirements of 10 CFR 70.22(b), 70.32(c), 74.31, 74.41, and 74.51, an environmental assessment of the exemption, and the conclusions reached.

Impact on R-COLA

See attached marked-up FSAR Revision 1 pages 1.9-3, 1.9-41, 13.4-12, 13.5-7, 13.6-1; COLA Part 7 (Cover sheet and pages 1-1, 1-2 and 1-3); and COLA Part 11 (Cover sheet and the Special Nuclear Material (SNM) Control and Accounting (MC&A) Program Description: Cover and pages MC&A-1 through MC&A-9)

Impact on S-COLA

This response is considered standard.

Impact on DCD

None.

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

and 4 design not included in the design certification. Evaluations of those items are presented in Table 1.9-220. Information from these documents is taken from NRC Bulletins and NRC Generic Letters as of December 12, 2007. The table contains columns for the generic issue document (including number, title, and date), language excerpted from the document that communicates the substance of the issue, CPNPP Units 3 and 4 Comments on applicability, and references to the relevant subject matter in the CPNPP Units 3 and 4 FSAR.

1.9.6 Combined License Information

Replace the content of DCD Subsection 1.9.6 with the following.

CP COL 1.9(1) **1.9(1) Conformance with regulatory guidance**

This COL item is addressed in Section 1.9, Subsections 1.9.1 through 1.9.4, and Tables 1.9-201 through 1.9-220.

The applicable requirements of 10 CFR 30, 40, 70, 73 and 74 regarding emergency protection and preparedness, security, non-licensed staff training and fire protection program elements that will be in place prior to receipt of byproduct source or special nuclear material are located in Subsections 12.2.1.1.10, 13.5.2.2, 13.6, and Tables 1.9-220 and 13.4-201.

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**Comanche Peak Nuclear Power Plant, Units 3 & 4
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CP COL 1.9(1)

Table 1.9-220

Evaluations of NRC Generic Communications Issued Since March 2007 Revision of NUREG-0800

Document	Excerpts from Document	CPNPP Units 3 and 4 Comment	CPNPP Units 3 and 4 FSAR References	
<p>NRC Bulletin 2007-01: Security Officer Attentiveness December 12, 2007</p>	<p>Requested Action:</p> <p>1. How do you identify, report, and document human performance issues involving inattentiveness, especially complicity among licensee security personnel including security contractors and subcontractors.</p> <p>2. How do you ensure that all employees and contractors report security concerns and any perceived security conditions that reduce the safety or security of a licensee facility? How do you ensure that staff is aware that there is no retaliation for self-reporting of inattentiveness or complicity or for reporting others?</p> <p>3. How do you ensure that managers and supervisors provide oversight of BOP adherence to ensure there is no complicity to circumvent the program or failure to report wrongdoing or careless disregard of the regulations?</p> <p>4. What are the results of any self-assessments performed within the last 2 years associated with the items above? Specifically, what do you do to assess the effectiveness of your employee access authorization program?</p> <p>5. How do you assess the effectiveness of your oversight of contractors and subcontractors?</p>	<p>This Bulletin is addressed to operating license holders and as such is not immediately applicable to the proposed CPNPP Units 3 and 4. CPNPP Units 3 and 4, however, does address the issue of security officer attentiveness in the Security Plan and related security training plans.</p>	<p>Not applicable for FSAR, but related material is found in the Security Plan and related security training plans.</p>	
<p><u>NRC Bulletin 2005-01: Material Control and Accounting at Reactors and Wet Spent Fuel Storage Facilities</u></p>	<p><u>"Exempt from Public Disclosure in accordance with 10 CFR 2.390.</u></p>	<p><u>This bulletin is addressed in the Special Nuclear Material (SNM) Material Control and Accounting (MC&A) Program description.</u></p>	<p><u>Table 13.4-201 Subsection 13.5.2.2 addresses plant procedure implementation of the SNM MC&A Program.</u></p>	<p>RCOL2_198 _2 RCOL2_198 _6b</p>

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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STDCP COL
13.4(1)

Table 13.4-201 (Sheet 11 of 11)

CTS-01140

Operational Programs Required by NRC Regulation and Program Implementation

Item	Program Title	Program Source (Required By)	FSAR (SRP) Section	Implementation	
				Milestone	Requirement
	<u>FFD Program for Operation</u>	<u>10 CFR 26.4(a) and (b)</u>	<u>13.7</u>	<u>Prior to the earlier of:</u> <u>Licensee's receipt of fuel assemblies onsite or</u> <u>Establishment of a protected area or</u> <u>The 10 CFR 52.103(g) finding</u>	<u>10 CFR 26, Subparts A-H, N, and O, except for individuals listed in § 26.4(b), who are not subject to §§ 26.205-209</u>
<u>21.</u>	<u>Epoxy Coatings Program</u>	<u>10 CFR 20.1406, RG 1.54</u>	<u>6.1.2, 11.2, 11.4</u>	<u>Prior to plant start-up</u>	<u>10 CFR 20.1406 and RG 1.54</u>
<u>22.</u>	<u>Special Nuclear Material Control and Accounting Program</u>	<u>10 CFR 74 Subpart B (§§ 74.11 - 74.19, excluding 74.17)</u>	<u>13.5.2.2</u>	<u>Prior to receipt of special nuclear material</u>	<u>License Condition</u>

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RCOL2_ 11.0
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RCOL2_ 198
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RCOL2_ 198
_5a-5c
RCOL2_ 198_6a

Comanche Peak Nuclear Power Plant, Units 3 & 4
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as appropriate, to vital areas within the station. Information concerning specific design features and administrative provisions of the security plan is accorded limited distribution on a need-to-know basis.

- Procedures address periodic assessment of the Control Room Habitability System's material condition, configuration controls, safety analyses and operating and maintenance procedures in accordance with the guidance in RG 1.196. RCOL2_06.0
4-8
- A material control and accounting system consisting of SNM accounting procedures is utilized to delineate the requirements, responsibilities, and methods of SNM control from the time SNM is received until it is shipped from the plant. These procedures provide detailed steps for SNM shipping and receiving, inventory, accounting, and preparing records and reports. The SNM Material Control and Accounting (MC&A) Program description is submitted to the Nuclear Regulatory Commission as a separate licensing basis document in Part 11. RCOL2_198
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_6a

13.5.3 Combined License Information

Replace the content of DCD Subsection 13.5.3 with the following.

- STD COL 13.5(1) **13.5(1) Administrative procedures**
This COL item is addressed in Subsection 13.5 through 13.5.1.2.
- 13.5(2) Deleted from the DCD.**
- STD COL 13.5(3) **13.5(3) Procedures performed by licensed operators in the control room**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(4) **13.5(4) Different classifications of procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(5) **13.5(5) Program for developing operating procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(6) **13.5(6) Program for developing and implementing emergency operating procedures**
This COL item is addressed in Subsection 13.5.2 and 13.5.2.1.
- STD COL 13.5(7) **13.5(7) Classifications of maintenance and other operating procedures**
This COL item is addressed in Subsection 13.5.2.2.

**Comanche Peak Nuclear Power Plant, Units 3 & 4
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13.6 SECURITY

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

STD COL 13.6(1) Replace the first paragraph in DCD Subsection 13.6 with the following:

The comprehensive physical security program is addressed in the Security Plan. RCOL2_13.0
The Security Plan consists of the physical security plan, training and qualification 6.01-1
plan, the safeguards contingency plan. The Security Plan (provided in Combined CTS-01140
License Application Part 8) and Cyber Security Plan are submitted to the NRC as RCOL2_13.0
~~separate licensing documents~~ to fulfill the requirements of 10 CFR 52.79(a)(35) 6.01-7
and 10 CFR 52.79(a)(36). The Security Plan and Cyber Security Plan meet the
requirements contained in 10 CFR 26 and 10 CFR 73 and will be maintained in
accordance with the requirements of 10 CFR 52.98. The Security Plan is
categorized as security safeguards Information and is withheld from public
disclosure pursuant to 10 CFR 73.21.

Special Nuclear Material (SNM) Physical Protection Program RCOL2_198
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RCOL2_198
_6a

The Special Nuclear Material (SNM) Physical Protection Program describes the
10 CFR Part 70 required protection program in effect for the period of time during
which new fuel as SNM is received and stored in a controlled access area (CAA)
in accordance with the requirements of 10 CFR 73.67.

CP COL 13.6(2) **13.6.1 Physical Security – Combined License**

Replace the content of DCD Subsection 13.6.1 with the following:

As stated above, the Security Plan and the Cyber Security Plan are submitted to
the NRC ~~as separate licensing documents~~ to fulfill the requirements of 10 CFR RCOL2_13.0
52.79(a)(35) and 10 CFR 52.79(a)(36). The site specific physical security 6.01-7
features and capabilities that are beyond the scope of the certified standard plant
design are described in the CPNPP Units 3 and 4 physical security plan (PSP)
(Ref. 13.06-201), Appendix A of the High Assurance Evaluation Assessment (Ref. RCOL2_13.0
13.06-7) and in Section 13.6.2 below. 6.01-6

CP COL 13.6(2) **13.6.2 US-APWR Physical Security**

Replace the second paragraph of DCD Subsection 13.6.2 with the following two
paragraphs:

[

] (SRI)

**Comanche Peak Nuclear Power Plant
Units 3 and 4**

COL Application

Part 7

**Generic DCD Departures Report and Exemptions
Report**

~~(Not Used)~~

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Exemption 1:

Basis for Exemption from 10 CFR 50.71(e)(3)(iii)

In accordance with the provisions of 10 CFR §§ 52.7, 50.12, 70.17(a) and 74.7, Luminant Generation Company LLC (Luminant), hereby requests an exemption from the requirements of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 for Comanche Peak Nuclear Power Plant (CPNPP) Units 3 and 4. Section 70.22(b) requires an application for a license for special nuclear material (SNM) to contain a full description of the applicant's program for material control and accounting (MC&A) of special nuclear material under §§ 74.31, 74.33, 74.41, and 74.51. Section 70.32(c) requires a license authorizing the use of SNM to contain and be subject to a condition requiring the licensee to maintain and follow a SNM control and accounting program, measurement control program, and other material control procedures, including the corresponding records management requirements. However, §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 contain exceptions for nuclear reactors licensed under 10 CFR Part 50. The regulations applicable to the MC&A of SNM for nuclear reactors licensed under 10 CFR Part 50 are provided in 10 CFR Part 74, Subpart B, §§ 74.11 through 74.19, excluding § 74.17. The purpose of this exemption request is to seek a similar exception for CPNPP Units 3 and 4 under 10 CFR Part 52, such that the same regulations will be applied to the special nuclear material MC&A program for Comanche Peak Units 3 and 4 as nuclear reactors licensed under 10 CFR Part 50.

Background

Nuclear reactors licensed under Part 50 are explicitly excluded from the requirements of §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51. There is no technical or regulatory reason to treat nuclear reactors licensed under Part 52 differently than reactors licensed under Part 50 with respect to the MC&A provisions in 10 CFR Part 74. As indicated in the Statement of Considerations for 10 CFR § 52.0(b) (72 Fed. Reg. 49352, 49372, 49436 (Aug. 28, 2007)), applicants and licensees under Part 52 are subject to all of the applicable requirements in 10 CFR Chapter I, whether or not those provisions explicitly mention a Combined Operating License (COL) under 10 CFR Part 52. This regulation clearly indicates that plants licensed under Part 52 are to be treated no differently than plants licensed under Part 50 with respect to the substantive provisions in 10 CFR Chapter I (which includes Parts 70 and 74). Specifically, the exception for nuclear reactors licensed under Part 50, as contained in §§ 70.22(b), 70.32(c), 74.31, 74.41, or 74.51, should also be applied to reactors licensed under Part 52.

An exemption from the requirements of §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 would not mean that an MC&A program would be unnecessary or that the COL application would be silent regarding MC&A. To the contrary, the MC&A requirements in Subpart B to Part 74 would still apply to the COL just as they are to licenses issued under Part 50. Additionally, the application for CPNPP Units 3 and 4 will describe the MC&A program for satisfying Subpart B to Part 74.

Provisions for Granting an Exemption

Pursuant to 10 CFR § 52.7 and § 50.12, the NRC may grant an exemption from requirements contained in 10 CFR Parts 52 and 50 provided that the following conditions are satisfied:

1. The requested exemption is authorized by law;
2. The requested exemption will not present an undue risk to the public health and safety;
3. The requested exemption is consistent with the common defense and security; and
4. Special circumstances are present.

The criteria in § 50.12 encompass the criteria for an exemption in 10 CFR §§ 70.17(a) and 74.7, the specific exemption requirements for Parts 70 and 74, respectively. Therefore, by demonstrating that the exemption criteria in § 50.12 are satisfied, this request also demonstrates that the exemption criteria in §§ 52.7, 70.17(a) and 74.7 are satisfied. The four criteria are addressed below.

- 1) This exemption is consistent with the Atomic Energy Act or any other statute and is therefore authorized by law.
- 2) An exemption from the requirements of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 would not present an undue risk to public health and safety. The exemption would treat CPNPP Units 3 and 4 similarly to Part 50 license applicants, who are excluded from the regulations in question. Furthermore, the application for CPNPP Units 3 and 4 will contain a description of the Material Control and Accountability (MC&A) program for special nuclear material under Subpart B to Part 74. Therefore, the exemption from 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 would not present an undue risk to public health and safety.
- 3) An exemption from the requirements of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 would not be inconsistent with the common defense and security. The exemption would treat CPNPP Units 3 and 4 similarly to Part 50 license applicants, who are excluded from the regulations in question. Furthermore, the application for CPNPP Units 3 and 4 will contain a description of the MC&A program for CPNPP Units 3 and 4 under Subpart B to Part 74. Therefore, the exemption from §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 is consistent with the common defense and security.
- 4) The exemption request involves special circumstances under 10 CFR § 50.12(a)(2)(ii). This subsection defines special circumstances as when “[application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule].” Since the Commission determined that the requirements in

10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 are unnecessary for Part 50 applicants, those requirements are also unnecessary for Part 52 applicants.

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Environmental Assessment

The proposed action would exempt CPNPP Units 3 and 4 from the requirement of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 for Comanche Peak Units 3 and 4. Section 70.22(b) requires an application for a license for SNM to contain a full description of the applicant's program for MC&A of SNM under §§ 74.31, 74.33, 74.41, and 74.511. Section 70.32(c) requires a license authorizing the use of SNM to contain and be subject to a condition requiring the licensee to maintain and follow a SNM material control and accounting program, measurement control program, and other material control procedures, including the corresponding records management requirements. However, §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 contain exceptions for nuclear reactors licensed under 10 CFR Part 50. The regulations applicable to the MC&A of special nuclear material for nuclear reactors licensed under 10 CFR Part 50 are provided in 10 CFR Part 74, Subpart B, §§ 74.11 through 74.19, excluding § 74.17. The purpose of this exemption request is to seek a similar exception for Comanche Peak Units 3 and 4 under 10 CFR Part 52, such that the same regulations will be applied to the special nuclear material MC&A program for Comanche Peak Units 3 and 4 as nuclear reactors licensed under 10 CFR Part 50.

The proposed action will not result in any impact on the environment. The exemption would only clarify the applicability of the identified regulations and establish consistency between CPNPP Units 3 and 4 and the fleet of operating plants licensed under 10 CFR Part 50. Consequently, the exemption would not authorize any activity that could have an impact on the environment.

The only alternative to the proposed action would be not issuing the exemption (i.e., the "no action" alternative). This alternative would not accomplish the purpose of the proposed action (to clarify the applicability of the regulations and establish consistency). The "no action" alternative would not have a different environmental impact. Both the proposed action and the no action alternative would have no impact on the environment.

Conclusions

As demonstrated above, the exemption complies with the requirements of 10 CFR §§ 50.12, 52.7, 70.17, and 74.7. For these reasons, approval of the requested exemption is requested from the regulations of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51, as described herein.

Exemption Wording for COL

The facility is exempt from the requirements of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51.

Comanche Peak Nuclear Power Plant Units 3 and 4

COL Application

Part 11

COLA Enclosures

Revision 1

- **Quality Assurance Program Description (QAPD)**
- **Mitigative Strategies Report**
- **Special Nuclear Material (SNM) Control and Accounting (MC&A)
Program Description**
- **Special Nuclear Material Physical Protection Program**

Comanche Peak Units 3 and 4

**Special Nuclear Material (SNM) Control and Accounting
(MC&A) Program Description**

Revision 0

May 6, 2011

Comanche Peak Units 3 and 4

Special Nuclear Material (SNM) Control and Accounting (MC&A) Program Description

1. Scope

The MC&A Program establishes guidelines concerning control of and accounting for SNM at Comanche Peak Units 3 and 4 in accordance with Subpart B of 10 CFR Part 74.

The criteria prescribed in the MC&A Program are applicable to SNM and various material mixtures containing SNM. Generally, the SNM involved is plutonium, U-233, or uranium enriched in the isotope U-235. SNM is typically in the form of pellets encapsulated in fuel rods. Criteria are established for the SNM control and accounting system, including criteria for the receipt, internal control, physical inventory, and shipment of SNM.

In addition to the information provided in this program description, the following Comanche Peak Units 3 and 4 licensing basis documents provide the regulatory basis that describes how the applicable requirements for material control and accounting defined in 10 CFR 74 will be met:

- Information related to amounts of SNM as reactor fuel required for reactor operation is provided in FSAR Section 4.1.
- Information related to storage of SNM as reactor fuel is provided in FSAR Section 9.1.
- Information related to the organizational structure for Comanche Peak Units 3 and 4, including those responsible for SNM material control and accounting, is provided in FSAR Section 13.1.
- Information related to training of personnel, including those responsible for SNM material control and accounting, is provided in FSAR Section 13.2.
- Information related to implementation of this Special Nuclear MC&A Program is provided in FSAR Table 13.4-201
- Information related to plant procedures, including those used to control SNM, is provided in FSAR Section 13.5.

2. Definitions

In this program description, the following definitions shall apply:

2.1. Book inventory (inventory of record). A master database or listing of all SNM currently possessed, reflecting the input of all material control records.

2.2. Fuel assembly. The grouping of fuel components combined as an integral unit for use in a nuclear reactor.

2.3. Fuel component. The smallest structurally discrete part of a fuel assembly that contains SNM. This is normally a fuel rod for intact components, but includes rod fragments, or pellets (or significant fraction thereof) if the rod structural integrity is not maintained.

2.4. Fuel component container. A container that provides protection to fuel components comparable to that afforded by an intact fuel assembly and that is held to the same accounting standards as a fuel assembly, in that the container has the following attributes:

- The container is specifically designed to contain rods/rod fragments;
- The container is stored in the fuel storage racks; and
- The use of specialized handling tools and equipment is required to access the SNM stored in the container.

2.5. Item. Fuel assembly, fuel component container, non-fuel SNM container, sealed container, reassembled reactor vessel, or a discrete piece of SNM (fuel or non-fuel) that is not stored in a container.

2.6. Item control area (ICA). A defined area within the access controlled area for which the SNM (fuel assemblies, fuel components, or non-fuel SNM) is maintained in such a way that, at any time, an item count and related SNM quantities can be obtained from the records for the SNM located within the area. ICAs have defined physical boundaries; these generally comprise fresh and irradiated fuel storage areas, including reactor vessels, spent fuel pools, and non-fuel SNM storage areas.

2.7. Item count (piece count). Visual verification that an item is in the location documented in the material control records. Verification of an item's identification number is not necessary for a piece count.

2.8. Material control records. Records of SNM receipt, internal transfer, reconstitution, acquisition, inventory, and shipment (including disposal).

2.9. Non-fuel SNM. Items containing SNM that are not intended for use as fuel, e.g., fission detectors.

2.10. Non-fuel SNM container. A container used to store non-fuel SNM items, which has the following attributes:

- The container is specifically designed or evaluated for storage of SNM;
- The container is stored in an area with controlled access; and
- The use of specialized handling tools and equipment is required to access the SNM stored in the container.

2.11. Physical inventory. Determined on a measured basis of the quantity of SNM on hand at a given time; a complete check of all material on hand. The methods of physical inventory and associated measurements will vary depending on the material to be inventoried and the process involved. The typical physical inventory at a power reactor plant consists of an item count (piece count) of SNM in each ICA.

2.12. Sealed container. Container storing SNM that has been sealed with a tamper-safing device or other mechanical means; e.g., welding.

2.13 Special nuclear material (SNM). Plutonium, U₂₃₃, uranium enriched in the isotope U-233 or in the isotope U-235, and any other material which the Nuclear Regulatory Commission (NRC), pursuant to the provisions of Section 51 of the Atomic Energy Act of 1954, as amended, determines to be SNM.

2.14 Tamper-safing. The use of a device on a container in a manner and at a time that ensures a clear indication of any violation of the integrity of the contents of the container.

3. Organizational Requirements

3.1. Delegation of Responsibilities and Authority

Material control functional and organizational relationships are set forth in writing in organizational directives, instructions, procedures, manuals, and other documents. Documentation includes position qualification requirements and definitions of authority, responsibilities, and duties. Activities involving handling, accounting, or control of SNM are verified by a second person. Specific assignments of responsibilities are prescribed for all facets of the SNM control system. Delegation of material control responsibilities and authority are in writing.

3.2 SNM Custodian

The SNM custodian is responsible for the performance of the functions that relate to the control of SNM.

3.3 Experience or Training

Personnel responsible for SNM control and accounting have experience or training applicable to their functions.

3.4 Accounting Group

The SNM accounting group maintains procedures for SNM in the plant's possession as required in 10 CFR 74.19(b).

3.5 Vendor/Contractor Oversight

A program is established to provide adequate oversight of vendors/contractors conducting activities involving handling, accounting, and control of SNM.

4. Material Control and Accounting Program

4.1. Procedures

Written procedures are prepared and maintained covering the SNM control and accounting system, as required in 10 CFR 74.19(b). These procedures shall address, as a minimum, the following topics:

- (1) Organization and personnel responsibilities and authorities;
- (2) Designation and description of ICAs;
- (3) Material control records and reporting;
- (4) Notification for events concerning SNM;
- (5) Receiving and shipping SNM;
- (6) Internal transfer of SNM;
- (7) Physical inventory of SNM;
- (8) SNM element and isotopic calculation method; and
- (9) Characterization and identification of items as SNM or non-SNM to preclude loss of control of SNM items.

4.2. Configuration Control

Provisions are made for written approval of revisions to the contents of the SNM material control and accounting procedures by the appropriate plant personnel.

4.3. Corrective Action Program

Discrepancies or program deficiencies are documented, investigated, reported, as required in 10 CFR 74.11 and 10 CFR 20.2201, and resolved using the plant corrective action program.

5. Input Control

5.1. Review of Fuel Supplier's Values

The fuel supplier reviews the adequacy of its material control and accounting system used in establishing the quantities and assays of SNM. In the event of a significant discrepancy between the fuel supplier's values for SNM quantities and assays and those determined by Comanche Peak, the cause of such discrepancies are investigated with the fuel supplier and the differences are resolved and reconciled expeditiously.

5.2. Receipt of SNM

For SNM received at the plant site, Comanche Peak:

- (1) Contacts the shipping vendor in the event the SNM does not arrive as scheduled; initiates an investigation and resolves, as required in 10 CFR 73.67 and 10 CFR 74.11;
- (2) Verifies the integrity of the shipping container and tamper-safing devices and resolves any problems identified, as required in 10 CFR 73.67 and 10 CFR 74.11;
- (3) Verifies that the quantity (item count) and unique identification numbers are in agreement with those indicated on the shipper's documents;
- (4) Takes appropriate steps to resolve and reconcile any differences in quantities or identification numbers, as required in 10 CFR 73.67 and 10 CFR 74.11; and
- (5) Notifies the regulatory body, as required in 10 CFR 73.67 and 10 CFR 74.11.

5.3. Documentation

The SNM custodian reports the receipt of each item containing SNM, by serial number or other unique identifier, to the accounting group. The receipt of SNM is documented in the material control records and the book inventory updated for the applicable ICA, as required in 10 CFR 74.19(a). A Nuclear Material Transaction Report is completed, as required in 10 CFR 74.15.

6. Internal Control

6.1. Unit of Control

Units of SNM that require control are the items defined in paragraph 2.6. Each of these units is identified in the material control records by its serial number or other unique identifier (e.g., a physical description of the item) and location, as required in 10 CFR 74.19(a).

6.2. Item Control Areas

ICAs are established for physical and administrative control of SNM. The number of ICAs is sufficient to establish control.

6.3. Internal Transfers

Transfers of SNM into, out of, or within an ICA are accomplished only upon written authorization of the SNM custodian or other individual(s) at the plant site responsible for the SNM program.

Written authorization is obtained prior to the movement. All transfers of SNM are documented using a material control record by the responsible person involved in each operation, and the book inventory is updated for the applicable ICA.

6.4. Non-SNM items

Non-SNM items stored with items containing SNM are clearly identified as such to preclude SNM items from being mistaken for non-SNM items.

6.5. Sealed containers

A container with a tamper-safing device can be treated as a single item for inventory purposes; however, before the container is closed and the tamper-safing device is installed, the contents are physically inventoried. If the contents of a sealed container are accessed, the contents will be physically re-inventoried or administrative procedures will be in place to establish the integrity of the contents before it can be treated as a single item for inventory purposes.

6.6. Damaged Cladding

Severe damage to cladding, where rod structural integrity has not been maintained, has the potential to result in inadvertent physical separation and dispersal of fuel components from the fuel rod. Upon visual identification of inadvertent physical separation, an estimate of the SNM quantity and an engineering judgment concerning the origin of the SNM will be made and documented. The amount of irretrievable or inadvertent loss will be reported, if the quantity is reportable, as required in 10 CFR 74.13. Methods used to estimate SNM quantities include, for example, engineering calculation, engineering judgment, physical measurement of length, destructive or non-destructive measurement, and count of the number of pellets retrieved or missing.

7. Physical Inventory

7.1. Conduct

Physical inventory is taken at intervals not to exceed 12 months, as required in 10 CFR 74.19(c). Physical inventory is conducted according to written inventory procedures, as required in 10 CFR 74.19(b).

7.2. Coverage

Physical inventory includes all SNM possessed under license and is conducted in all ICAs, including:

- (1) New fuel storage areas;
- (2) Irradiated fuel storage areas;

- (3) Reactors;
- (4) Areas containing non-fuel SNM.

7.3. Inventory Method

An item count is conducted of all SNM, as required in 10 CFR 74.19(c).

7.3.1. Assemblies and Fuel Component Containers

For fuel assemblies and fuel component containers, an item count is sufficient. If the contents of an assembly or a fuel component container are accessed, the contents are physically reinventoried before the assembly or container can be treated as a single item for inventory purposes.

7.3.2. Fuel Components

For fuel components that are not part of an intact assembly, physically captured in an assembly, stored in a sealed container, or stored in a fuel component container, each component is inventoried.

7.3.3. Sealed Containers

For sealed containers, verification of the integrity of the tamper-safing device is sufficient.

7.3.4. Reactor

Whenever fuel assemblies are loaded into a reactor, the unique identifier and location of each item is visually verified. When the reactor vessel is reassembled, the reactor is considered one item for inventory purposes.

7.3.5. Non-fuel SNM

For non-fuel SNM, the method of physical inventory depends on the method of storage and use:

- For installed components, verification is performed at the time of installation, and administrative procedures and controls are established so that records concerning the location and unique identity are accurate.
- For non-installed components stored in primary containment, administrative procedures and controls are established so that records concerning the location and unique identity are accurate when the reactor is at power, and verification is performed during refueling outages.

- For non-fuel SNM containers, item count of the containers is sufficient. If the contents of the container are accessed, the contents are physically re-inventoried or administrative procedures are in place to ensure the integrity of the contents before the container can be treated as a single item for inventory purposes.

7.4. Reconciliation and Resolution

The physical inventory is reconciled to the book inventory. Discrepancies between the physical inventory and the book inventory are investigated and addressed expeditiously. The book inventory shall be adjusted to agree with the result of the physical inventory.

7.5. Documentation

The results of the physical inventory of SNM are documented in the material control records of the applicable ICA and utilized as input to the isotopic calculations. A Material Balance Report and Physical Inventory Listing Report are completed, as required in 10 CFR 74.13.

8. SNM Calculations

8.1. Element and Isotopic Computations

Methods of computation are established and utilized for determining the total element and isotopic composition of SNM in irradiated nuclear fuel assemblies and fuel components. The computed values are the basis for shipment documents, as required in 10 CFR 74.15, and material status reports, as required in 10 CFR 74.13.

9. Output Control

9.1. Shipment

Procedures are established, as required by 10 CFR 74.19(b), to provide for:

- (1) Verification and recording of the serial number or unique identifier of each item containing SNM;
- (2) Recording of the quantities of SNM contained in each item;
- (3) Reporting the quantity of SNM shipped, if the quantity is reportable, as required in 10 CFR 74.15;
- (4) Verification of compliance with regulations, including licensing, transportation, and security requirements for shipment; and
- (5) Reporting the completion of each shipment to the accounting group

9.2. Documentation

The shipment of fuel assemblies, fuel components, or non-fuel SNM is documented in the material control records and the book inventory updated for the applicable ICA. Nuclear Material Transaction Reports are completed, as required in 10 CFR 74.15.

10. Records and Reports

Records are created and retained, as required in 10 CFR 74.19(a). The accounting records are the basis for the MC&A program. Quantitative data generated by calculations of changes in quantities and isotopic composition due to irradiation and decay are recorded and reported in accordance with Comanche Peak's recording and reporting procedures. The records and reports system include:

- (1) An accounting system for maintaining the book inventory;
- (2) Material control records maintained for each ICA;
- (3) Reconciliation of the results of physical inventories to the book inventory;
- (4) Recording the transfer of SNM into or out of each ICA;
- (5) Recording movement of SNM between locations within an ICA, for ICAs where locations have been established;
- (6) Recording the creation of items containing SNM, such as creation of a rod fragment;
- (7) Recording the estimated quantity and origin of SNM which has been inadvertently separated from fuel upon the discovery of the separation;
- (8) Reporting to the accounting group the transfer of SNM into, within, or out of an ICA, if applicable;
- (9) Perpetual inventory records of each ICA, including the serial number or other unique identifier and location of each item in the ICA that contains SNM;
- (10) Historical data of SNM in each nuclear fuel assembly, fuel component, or non-fuel SNM item while in Comanche Peak's possession; and
- (11) Retention as required in 10 CFR Part 74.

11. System Review and Assessment

Reviews of the SNM MC&A program are conducted periodically. The results of the reviews are documented and reported in accordance with the requirements of the quality assurance or self-assessment program.

12. Physical Security

Protection of SNM is in accordance with the requirements of 10 CFR 73.67 and the Comanche Peak Physical Security Plan.