

REQUEST FOR ADDITIONAL INFORMATION
RELATED TO THE STANDARD LICENSE CONDITIONS FOR
TITLE 10 OF THE CODE OF FEDERAL REGULATIONS, PARTS 30, 40, AND 70
FOR THE COMBINED LICENSE APPLICATION FOR
COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4

In Part 1 of its Combined License Application (COLA), Revision 1, dated November 20, 2009, Luminant Generation Company, LLC. (Luminant), requested authorization to receive, possess, and use at any time such quantities of source, byproduct, and special nuclear material (SNM) in accordance with the U.S. Nuclear Regulatory Commission (NRC) regulations in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material," Part 40, "Domestic Licensing of Source Material," and Part 70, "Domestic Licensing of Special Nuclear Material." As part of the NRC staff's review of the Comanche Peak Nuclear Power Plant (CPNPP), Units 3 and 4, COLA, the NRC staff is examining Luminant's request to receive, possess, and use source byproduct, and SNM in accordance with 10 CFR Parts 30, 40, and 70. The NRC staff is issuing this Request for Additional Information (RAI) to ensure that Luminant provides sufficient information to support compliance with the applicable requirements of 10 CFR Parts 30, 40, and 70.

1. The NRC staff's memorandum (ML083030065), 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).
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.
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(i)(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 this 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).

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.

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(l) 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(l) 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.

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).