

May 25, 2005

NEF#05-026

ATTN: Document Control Desk
Director
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Louisiana Energy Services, L. P.
National Enrichment Facility
NRC Docket No. 70-3103

Subject: Factual Information Comments Regarding Draft Safety Evaluation Report for the National Enrichment Facility

- References:
1. Letter NEF#03-003 dated December 12, 2003, from E. J. Ferland (Louisiana Energy Services, L. P.) to Directors, Office of Nuclear Material Safety and Safeguards and the Division of Facilities and Security (NRC) regarding "Applications for a Material License Under 10 CFR 70, Domestic licensing of special nuclear material, 10 CFR 40, Domestic licensing of source material, and 10 CFR 30, Rules of general applicability to domestic licensing of byproduct material, and for a Facility Clearance Under 10 CFR 95, Facility security clearance and safeguarding of national security information and restricted data"
 2. Letter dated May 20, 2005, from J. R. Strosnider (NRC) to R. Krich (Louisiana Energy Services) regarding "Draft Safety Evaluation Report for the Louisiana Services National Enrichment Facility – Factual Information Review"

By letter dated December 12, 2003 (Reference 1), E. J. Ferland of Louisiana Energy Services (LES), L. P., submitted to the NRC applications for the licenses necessary to authorize construction and operation of a gas centrifuge uranium enrichment facility. To document their review of the safety and safeguards evaluation of the applications for licenses, the NRC has prepared a Safety Evaluation Report for this proposed facility. The Reference 2 letter provided a draft of the Safety Evaluation Report for the National Enrichment Facility and requested LES to conduct a factual information review and provide the results within seven days of the date of the letter (i.e., by May 27, 2005).

LES representatives have reviewed this draft report and, in general, find it to be a comprehensive and objective assessment of the safety and safeguards impacts of the National Enrichment Facility. However, some minor inaccuracies were identified during this review. These inaccuracies are identified in the Enclosure, "LES Comments Regarding Factual Information in the Draft Safety Evaluation Report for the National Enrichment Facility."

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If you have any questions or need additional information, please contact me at 630-657-2813.

Respectfully,

Daniel B. Gunn for

R. M. Krich
Vice President – Licensing, Safety, and Nuclear Engineering

Enclosure:

LES Comments Regarding Factual Information in the Draft Safety Evaluation Report for the
National Enrichment Facility

cc: T.C. Johnson, NRC Project Manager

ENCLOSURE

**LES Comments Regarding Factual Information in the
Draft Safety Evaluation Report for the
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**LES Comments Regarding Factual Information in the
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1. Cover page – The title of the NUREG should be revised to be consistent with the location of the National Enrichment Facility (NEF). The NEF will be located in Lea County, New Mexico, not Eunice, New Mexico. Therefore, the title should read as follows.

“Safety Evaluation Report for the National Enrichment Facility in Lea County, New Mexico”
2. Abstract, page iii, first paragraph, fifth and sixth lines – To be consistent with the proposed location of the NEF, the sentence
“LES proposes that the gas centrifuge uranium enrichment facility be located in Eunice, New Mexico”
should be revised to read as follows
“LES proposes that the gas centrifuge uranium enrichment facility be located in Lea County, New Mexico, near the city of Eunice, New Mexico.”
3. Executive Summary, page ES-1, first paragraph, fifth and sixth lines – To be consistent with the proposed location of the NEF, the phrase
“LES proposes that the gas centrifuge uranium enrichment facility be located in Eunice, New Mexico, and...”
should be revised to read as follows
“LES proposes that the gas centrifuge uranium enrichment facility be located in Lea County, New Mexico, and...”
4. Section 1.1.3, page 1-3, first paragraph, fifth line – The phrase
“...USEC Privatization Act of 1995”
should be revised to read as follows
“...USEC Privatization Act of 1996.”
5. Section 1.2.3.3.2, page 1-8, first paragraph – This paragraph should be updated to reflect that additional contracts accounting for more than 70% of the facility's first 10 years of production have been signed since December 3, 2003.
6. Section 1.2.3.5, page 1-8, third sentence – To be consistent with Safety Analysis Report (SAR) commitments in Table 1.2-1, this sentence should be revised to reflect that feed cylinders that have been used to transport/store recycled uranium must be decontaminated before being allowed on the NEF site. This change was incorporated into the SAR in Revision 2, dated July 2004.
7. Table 1.2-1, page 1-9 – To be consistent with commitments in SAR Table 1.2-1, this Table should be revised to address the commitments reflected in Note 1 to SAR Table 1.2-1. This note was incorporated into the SAR in Revision 2, dated July 2004.
8. Section 1.2.4, page 1-11, third line – In SAR Section 1.2.5, the requested exemption is only for exemption from certain provisions of 10 CFR 40.36 and 10 CFR 70.25. No exemption is requested from the requirements of 10 CFR 30. To be consistent with the requested exemption reflected in SAR Section 1.2.5, the phrase
“...decommissioning funding that meets the requirements of 10 CFR 30.11, 10 CFR 40.14, and 10 CFR 70.17”

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should be revised to read as follows

“...decommissioning funding that meets the requirements of 10 CFR 40.14, and 10 CFR 70.17.”

This change was incorporated into the SAR in Revision 6, dated May 2005.

9. Section 1.3.3.1.1, page 1-11, first paragraph, fifth and sixth lines – For consistency with Environmental Report (ER) Section 3.3.2.1, the phrase

“the groundwater table at the site is 61 to 67 m (200 to 220 ft) below ground surface”

should be revised to read as follows

“the groundwater table at the site is 65 to 68 m (221 to 222 ft) below ground surface”

This change was incorporated in Revision 2, dated July 2004.

10. Section 1.3.3.4.1.1, page 1-19, second paragraph, last sentence – Clarification of the sentence should be provided since the sentence does not currently consider the nine hydrogeological borings that encountered the Chinle at a slightly different range.

The sentence

“Beneath the Gatuna Formation, the Chinle claystone, a hard and highly plastic clay, was encountered at depths from 10.7 to 12.2 m (35 to 40 ft)”

should be revised to read as follows

“Beneath the Gatuna Formation, the Chinle claystone, a hard and highly plastic clay, was encountered in the geotechnical borings at depths from 10.7 to 12.2 m (35 to 40 ft).”

11. Section 1.2.2.4.1.2, page 1-21, second paragraph, seventh line – The phrase

“...slightly to the east of the ...”

should be revised to read as follows

“...slightly to the west of the ...”

12. Section 1.3.3.4.3, page 1-22, first full paragraph, third and fourth lines – To reflect the location of commitments, the phrase

“The applicant committed in its “ISA Summary” to perform additional geotechnical investigations...”

should be revised to

“The applicant committed in its “ISA Summary” and the SAR to perform additional geotechnical investigations...”

The associated commitments in the ISA Summary were duplicated in SAR Section 3.3 in Revision 5, dated May 2005.

13. Section 1.3.3.4.4, page 1-22, first paragraph, fifth and sixth lines – To reflect the location of the commitments, the phrase

“The applicant committed in its “ISA Summary” that the settlement and differential settlement...”

should be revised to read as follows

“The applicant committed in its “ISA Summary” and the SAR that the settlement and differential settlement...”

The associated commitments in the ISA Summary were duplicated in SAR Section 3.3 in Revision 5, dated May 2005.

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14. Section 1.3.3.5, page 1-22, third paragraph, sixth line – At the present time, LES has collected a total of four water samples for the one well as reflected in Note (k) to ER Table 3.4-3. As such, the sentence
“No perched water systems in the alluvial deposits were found, although one well produced a single water sample, because of limited groundwater occurrence”
should be revised to read as follows
“No perched water systems in the alluvial deposits were found, although one well produced water samples, because of limited groundwater occurrence”
Note (k) to ER Table 3.4-3 was added in Revision 4, dated April 2005.
15. Section 2.3.1, page 2-6, third paragraph, first and second sentences – The Safeguards Manager is stated as reporting to the Uranium Management Manager. However, this was revised in Revision 2 of the SAR and the FNMCP, dated July 2004. The Safeguards Manager will report to the Health, Safety and Environment (HS&E) Manager. The sentences should be revised to read as follows.

“The Safeguards Manager reports to the HS&E Manager and has the responsibility for ensuring proper implementation of the FNMCP. This position is separate from, and independent, of Operations, Technical Services and Human Resources departments, to ensure definite division between the safeguards group and other departments.”
16. Section 2.3.2, page 2-8, first paragraph, fifth through seventh lines – For consistency with SAR Section 2.3.7, the sentence
“This mechanism involves giving employees that feel safety and quality is being compromised the responsibility and right to “stop work” to ensure work is returned to safe conditions.”
should be revised to read as follows
“This mechanism involves giving employees that feel safety and quality is being compromised the responsibility and right to initiate the “stop work” process to ensure work is returned to safe conditions.”
17. Section 3.3.1.1.3.1, page 3-15, last paragraph – Clarification of this paragraph should be provided since it states that the design-basis tornado (i.e., equivalent to a F-3 tornado, as reflected in the second paragraph of this section) was of greater intensity than all reported tornadoes that have occurred in Lea County. However, the second paragraph in Section 3.3.1.1.3.1 (on page 3-14) notes that an F-3 tornado occurred in Lea County on May 17, 1954.
18. Section 3.3.1.1.3.2, page 3-16, fourth paragraph, second sentence – The description of the design-basis straight-line wind speed should be expanded to note that all safety-significant structures will be designed to withstand this wind. The remaining areas of the plant will be designed to the 50-year return period wind as described in draft Safety Evaluation Report (SER) Section 3.3.1.2.2.2. As such, the sentence
“The applicant chose the speed of a wind with an annual probability of 1.0×10^{-5} for the design-basis straight-line wind speed for the proposed facility”
should be revised to read as follows
“The applicant chose the speed of a wind with an annual probability of 1.0×10^{-5} for the design-basis straight-line wind speed for all safety significant structures of the proposed facility.”

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19. Section 3.3.1.1.4, page 3-18, third paragraph, last sentence – At the present time, LES has collected a total of four water samples for the one well as reflected in Note (k) to ER Table 3.4-3. As such, the sentence
“No perched water systems in the alluvial deposits were found, although one well produced a single water sample, because of limited groundwater occurrence”
should be revised to read as follows
“No perched water systems in the alluvial deposits were found, although one well produced water samples, because of limited groundwater occurrence”
Note (k) to ER Table 3.4-3 was added in Revision 4, dated April 2005.
20. Section 3.3.1.1.4, page 3-19, fifth paragraph, third line – The phrase
“...from Eunice municipal supplies...”
should be revised to read as follows
“...from Eunice and Hobbs municipal supplies...”
21. Section 3.3.1.1.5.1, page 3-20, first full paragraph, sixth sentence – To be consistent with ISA Summary Section 3.2.5.1, the sentence
“The top of the Permian section is approximately 232 m (760 ft) below ground surface”
should be revised to read as follows
“The top of the Permian section is approximately 434 m (1425 ft) below ground surface.”
This change was incorporated in Revision 2, dated July 2004.
22. Section 3.3.1.1.5.1, page 3-20, first full paragraph, last sentence – Clarification of the sentence should be provided since the sentence does not currently consider the nine hydrogeological borings that encountered the Chinle at a slightly different range.
The sentence
“Beneath the Gatuna Formation, the Chinle claystone, a hard and highly plastic clay, was encountered at depths from 10.7 to 12.2 m (35 to 40 ft)”
should be revised to read as follows
“Beneath the Gatuna Formation, the Chinle claystone, a hard and highly plastic clay, was encountered in the geotechnical borings at depths from 10.7 to 12.2 m (35 to 40 ft).”
23. Section 3.3.1.1.5.1, page 3-21, fifth paragraph, seventh line – The phrase
“...slightly to the east of the ...”
should be revised to read as follows
“...slightly to the west of the ...”
24. Section 3.3.1.1.5.1, page 3-23, first full paragraph, third sentence – Clarification should be provided regarding the determination of the thickness of the sands (10.7 to 12.2 m (35 to 40 ft)). Specifically, the determination of the thickness of the sands is based on the five-geotechnical borings.
25. Section 3.3.1.1.5.1, page 3-23, second full paragraph, third and fourth lines – Reference is made that the ASCE Standard Seismic Design Criteria (ASCE, 2003). This standard has now been published as ASCE 43-05.

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26. Section 3.3.1.2.1, page 3-26, second paragraph, first line, second sentence – For consistency with the SAR and ISA Summary, the phrase
“Each cascade hall...”
should be revised to read as follows
“Each Separations Building Module...”
27. Section 3.3.1.2.2.1, page 3-26, first paragraph, first and second lines – To reflect the location of the commitments, the sentence
“A list of codes and standards for the structural design of the proposed facility are provided in Section 3.3.2.1 of the SAR (LES, 2005a)”
should be revised to read as follows
“A list of codes and standards for the structural design of the proposed facility are provided in Section 3.3.2.1 of the ISA Summary (LES 2005b) and Section 3.3 of the SAR (LES, 2005a).”
Section 3.3.2.1 of the SAR was moved to the ISA Summary in Revision 3, dated September 2004. These commitments to codes and standards in the ISA Summary were duplicated in SAR Section 3.3 in Revision 5, dated May 2005.
28. Section 3.3.1.3, pages 3-32 and 3-33, ten occurrences – To be consistent with the NEF License Application and ISA Summary, all references to cylinders should be revised from “Mark” to “Type,” e.g., “Mark 48Y or 48X cylinders” should be “Type 48Y or 48X cylinders.”
29. Section 3.3.1.3, page 3-33, fourth full paragraph, last sentence – To be consistent with the requirements of ANSI N14.1, the sentence
“All Type 30B cylinders are required to meet ANSI N14.1 (ANSI, 1995) requirements, which include cylinder design and testing to 400 psi.”
should be revised to read as follows.
“All Type 30B cylinders are required to meet ANSI N14.1 (ANSI, 1995) requirements, which include cylinder design pressure of 200 psig and testing to 400 psig.”
30. Section 3.3.1.3, page 3-33, fifth full paragraph, last sentence – To reflect the location of the commitments, the sentence
“However, codes and standards are identified in “ISA Summary” Table 3.5-1 (LES, 2005b)”
should be revised to read as follows
“However, codes and standards are identified in “ISA Summary” Table 3.5-1 (LES, 2005b) and SAR Table 3.3-8 (LES, 2005a).”
The commitments to codes and standards in the ISA Summary were duplicated in SAR Section 3.3 in Revision 5, dated May 2005.
31. Section 3.3.1.3, page 3-36, first paragraph under subheading Human Factors, last sentence – To reflect the location of the detailed description of the CAAS, the sentence
“The applicant describes the Control Room in ISA Summary, Section 3.3.1.2.2.17 (LES, 2005b), and Central Control System in “ISA Summary” Section 3.5.9.2.1 (LES 2005b), the Communication and Alarm Annunciation System in ISA Summary, Section 3.5.7 (LES, 2005b), and the CAAS in SAR, Section 5.3 (LES, 2005a)”

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should be revised to read as follows

“The applicant describes the Control Room in “ISA Summary,” Section 3.3.1.2.2.17 (LES, 2005b), and Central Control System in “ISA Summary,” Section 3.5.9.2.1 (LES 2005b), the Communication and Alarm Annunciation System in “ISA Summary,” Section 3.5.7 (LES, 2005b), and the CAAS in SAR, Section 5.3 (LES, 2005a), and “ISA Summary,” Section 3.1.5 (LES, 2005b).”

The detailed description of the CAAS was moved to the ISA Summary in Revision 3, dated September 2004.

32. Section 3.3.3.1.3, page 3-41, first paragraph – To be consistent with SAR 3.0.3, a new sentence should be added after the existing third sentence. The new sentence should read as follows.

“Incident investigations are conducted within the LES Correction Action Program.”

33. Section 3.3.3.2.2.2, page 3-46, first paragraph under the subheading Quantitative Standards for Chemical Consequences, fourth line – The sentence addresses the use of ERPGs and AEGLs. However, LES did not use ERPGs to define chemical dose consequences categories. It is recommended that this sentence be clarified. LES used AEGLs and NUREG-1391 as reflected in draft Safety Evaluation Report Section 6.3.3.

34. Section 3.3.3.2.3, page 3-49, first paragraph, first line – To be consistent with the SAR, the phrase

“In SAR Sections 3.3 through 3.5...”

should be revised to read as follows

“In SAR Sections 3.3.1 through 3.3.5...”

35. Section 3.3.3.2.4, page 3-49, first paragraph, first sentence – To be consistent with the ISA Summary, the sentence

“ISA Summary, Table 3.8-1 (LES, 2005b), list all IROFS identified in “ISA Summary” Section 3.4 and 3.5 (LES, 2005b)”

should be revised to read as follows

“ISA Summary, Table 3.8-1 (LES, 2005b), list all IROFS identified in “ISA Summary” Section 3.7 (LES, 2005b).”

36. Section 3.3.3.2.4, page 3-50, third paragraph, fifth sentence – Historical failure data have been used to support some of the indices in ISA Summary Table 3.7-1 as reflected in ISA Summary Section 3.1.1.4 and SAR Section 3.3.1. For consistency, the sentence

“Because historical failure data was not used to derive the indices in “ISA Summary” Table 3.7-1, once the facility is operating, failure data will be trended and the impact of this failure data on the values assumed in the ISA will be evaluated to validate those assumptions”

should be revised to read as follows

“Because historical failure data were not used to derive all of the indices in “ISA Summary” Table 3.7-1, once the facility is operating, failure data will be trended and the impact of this failure data on the values assumed in the ISA will be evaluated to validate those assumptions.”

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37. Section 3.3.3.2.4, page 3-50, third paragraph, last sentence – For consistency with the SAR, the phrase
“In conjunction with the applicant’s management of change program, ...”
should be revised to read as follows
“In conjunction with the applicant’s configuration management program, ...”
38. Section 3.3.3.3.1, page 3-51, first paragraph, first sentence – For consistency with the HAZOPs performed for the NEF ISA, the sentence
“The applicant’s ISA uses the HAZOP method for identifying the hazards for Uranium Hexafluoride (UF₆) process systems and the Technical Services Building systems”
should be revised to read as follows
“The applicant’s ISA uses the HAZOP method for identifying the hazards for Uranium Hexafluoride (UF₆) process systems, the Technical Services Building systems, the Centrifuge Assembly Building systems, and the Uranium Byproduct Storage Pad.”
39. Section 3.3.3.3.1, page 3-52, first paragraph, tenth line – For consistency with the ISA Summary, the reference to
“ISA Summary” Tables 3.7-1 through 3.7-5”
should be revised to read as follows
“ISA Summary” Tables 3.7-1 through 3.7-4.”
40. Section 5.3.4.2, page 5-8, under minimum requirements for a Criticality Safety Engineer related to NCS – To be consistent with SAR Section 5.1.5, the education requirements of item 1 (i.e., Bachelor’s degree (or equivalent) in an engineering or scientific field) should be deleted. The education requirements in item 1 are adequately addressed by the existing item 2 education requirements (i.e., Bachelor of Science or Bachelor of Arts degree in science or engineering).
41. Section 5.3.5, page 5-10, fifth paragraph, third through fifth lines – For consistency with SAR Section 11.2, the phrase
“for new procedures, or work activities that involve or could affect uranium on site, which require preparation and approval of an NCS Evaluation (and, if required, an NCS Analysis)”
should be revised to read as follows
“for new procedures or work activities that involve or could affect uranium on site, an NCS Evaluation (and, if required, an NCS Analysis) prepared and approved.”
42. Section 5.3.6.1, page 5-20, ninth bullet
Section 5.3.6.3, page 5-29, third bullet
Section 5.5, page 5-37, second reference

To be consistent with commitments reflected in SAR Chapter 5, the references to ANSI/ANS-8.7 should refer to the 1998 version and not the 1987 version of ANSI/ANS-8.7 (e.g., ANSI/ANS-8.7 (ANSI/ANS, 1998)).
43. Section 5.3.6.5.1.1, page 5-32, third bullet – For consistency with the ISA Summary, accident sequence PB3-2 should be added to the list of Group 4 sequences.

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44. Section 5.3.6.5.1.1, page 5-33, second bullet – For consistency with the ISA Summary, accident sequence DS2-1 should be added to the list of Group 9 sequences.
45. Section 5.4, page 5-37, item 7 – For consistency with SAR Chapter 3 and the ISA Summary, this item should be revised to read as follows.
- “The applicant has adequately demonstrated that failure of safe-by-design features of components for NCS are highly unlikely, as required by the regulations.
46. Section 6.3.3, page 6-7, second paragraph, second sentence – To be consistent with the ISA, the sentence
- “Many source term values are in the classified portion of the ISA”
- should be revised to read as follows
- “Many source term values are in the proprietary portion of the ISA.”
47. Section 7.3.1, page 7-2, under the subheading Storage and Handling of UF₆, last sentence – The smoke detection interlock with the ventilation system discussed in this sentence is only applicable to the Ventilated Room of the Technical Services Building (TSB). Therefore, the sentence should be revised to include this clarification or deleted since the information under this subheading does not address the TSB.
48. Section 7.3.1, page 7-3, under the subheading Combustible Material Hazards, first bullet – Silicone oil in the UF₆ handling area and the blending and liquid sampling area is contained in the heater/chiller units associated with each trap, not in the traps. Also, traps in the UF₆ handling area, and their associated heater/chiller units, are arranged in groups of two units side-by-side (8 total units, i.e., 4 pairs). The 9 m separation is between the pairs. As such, for consistency with the ISA Summary, the bullet should be revised to read as follows.
- “Silicone oil in the UF₆ handling area and the blending and liquid sampling area is contained within heater/chiller units associated with the cold traps, with each unit containing approximately 72 L (19 gal) of oil. Some units are paired but each pair is located at least 9 m (30 ft) from any adjacent unit. The staff considers this distance to be sufficient to limit the potential involvement in a fire to one pair of cold trap heater/chiller units.”
49. Section 7.2.5, page 7-6, first paragraph, first sentence – For consistency with the ISA Summary, the sentence
- “The Process Services Area contains the gas transport equipment, the Product Take-Off System, the Tails Take-Off System, and the Contingency Dump System”
- should be revised to read as follows
- “The Process Services Area contains the gas transport equipment (i.e., the piping to the Product Take-Off System and the piping to the Tails Take-Off System) and the Contingency Dump System.”

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50. Section 7.3.2.2, page 7-7, first paragraph, second sentence – For consistency with the ISA, the sentence
“In the TSB, fires were postulated in the Solid Waste Collection Room, the Decontamination Workshop, the Ventilated Room, and the Chemical Laboratory Sample Storage Room”
should be revised to read as follows
“In the TSB, fires were postulated in all uranic material areas and IROFS were found to be needed for the Solid Waste Collection Room, the Decontamination Workshop, the Ventilated Room, and the Chemical Laboratory Sample Storage Room.”
51. Section 7.3.2.7, page 7-8, third paragraph, fourth line – For consistency with the accident sequence being described, the reference to
“ventilated room”
should be revised to read as follows
“Sample Storage room.”
52. Section 7.3.2.8, page 7-9, first paragraph, second and third sentences – For consistency with the ISA, the phrases
“...formed by 500 L (132 gal) of diesel fuel contained in the truck. The heat transfer from the pool fire was ...”
should be revised to read as follows
“...formed by 500 L (132 gal) of diesel fuel contained in the truck along with other truck combustibles. The heat transfer from the equivalent pool fire was...”
53. Section 7.3.4.3, page 7-12, first paragraph, fourth sentence – For consistency with SAR Section 7.5.1.7, the sentence
“Fire-detector and manual-pull station alarm circuits are also on separate panels”
should be revised to read as follows
“Fire-detector and manual-pull station alarm circuits are also on separate modules.”
54. Section 7.3.4.4, page 7-15, first paragraph, second and third lines – The Hobbs Fire Department roster is made up of compensated personnel. Therefore, the phrase
“and a roster of about 70 volunteers”
should be revised to read as follows
“and a roster of about 70 paid personnel.”
55. Section 7.5, pages 7-15 and 7-16 – Several of the references to versions of the NFPA standards are not consistent with the versions of the standards committed to in the SAR. For consistency, these standards should be revised as follows.

The reference to NFPA 12 should be to the 1993 version.
The reference to NFPA 600 should be to the 1996 version.
The reference to NFPA 10 should be to the 1994 version.
The reference to NFPA 13 should be to the 1996 version.
The reference to NFPA 72 should be to the 1996 version.
The reference to NFPA 20 should be to the 1996 version.
The reference to NFPA 22 should be to the 1996 version.
The reference to NFPA 2001 should be to the 1996 version.

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56. Section 9.3.1.1, page 9-4, first paragraph, fourth line
Section 9.3.1.3, page 9-6, second paragraph, seventh line

The dose to the maximum exposed member of the public at the controlled area boundary resulting from the Treated Effluent Evaporative Basin is quoted as 0.17 μ Sv (0.017 mrem) per year based on ER Section 8.7. These values appear to be in error since ER Section 8.7, in the fifth paragraph, indicates that the resulting annual dose resulting from the Treated Effluent Evaporative Basin is 1.7×10^{-5} mSv (1.7×10^{-3} mrem). The ER values are a factor of 10 lower than currently stated in the draft SER. The draft SER should be revised to be consistent with the referenced section of the ER.

57. Section 9.3.1.1, page 9-3, second paragraph, third sentence
Section 9.3.1.1, page 9-4, third paragraph
Section 9.3.2.1, page 9-11, first paragraph

The draft SER states, in these sections on radiological effluent monitoring, that the proposed corrective action levels are divided into three priority levels:

1. The sample parameter is 3 times the normal background level;
2. The sample parameter exceeds any of the existing administrative limits; and
3. The sample parameter exceeds any regulatory limit.

The draft SER provides a reference for these action levels back to Section 6.2.8 of the ER, which in fact only refers to physiochemical monitoring, not radiological monitoring. ER Section 6.1.1 (page 6.1-2, second full paragraph) indicates that for radiological effluent monitoring administrative action levels will be sufficiently low so as to permit implementation of corrective actions before regulatory limits are exceeded. As such, the listed priority levels 2 and 3 are considered to be appropriate. However, a specific reference to "3 times background" to define a priority level has not been made for radiological monitoring. Each radiological monitoring channel lowest alarm point will be established based on expected conditions in service, and may include small multiples of natural background or normal operating conditions (e.g., 3 times background) as appropriate. These alarm points will be determined during final design.

58. Section 9.3.1.2, page 9-5, first paragraph, third line – For consistency with ISA Summary Section 3.4.9.2, the efficiency of the activated charcoal filter for the TSB GEVS should be revised from "99.9%" to "99%." This change was incorporated in Revision 4, dated April 2005.
59. Section 9.3.1.2, page 9-5, second paragraph, fourth line – For consistency with ISA Summary Section 3.4.9.1, the efficiency of the activated charcoal filter for the Separations Building GEVS should be revised from "99.9%" to "99%." This change was incorporated in Revision 4, dated April 2005.
60. Section 9.3.1.2, page 9-5, fourth paragraph, fourth line – For consistency with ISA Summary Section 3.4.10.3, the efficiency of the activated charcoal filter for the Centrifuge Test and Post Mortem Facilities Exhaust Filtration System should be

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revised from "99.9%" to "99%." This change was incorporated in Revision 4, dated April 2005.

61. Table 9.3-1, page 9-9, for the UF₆ Handling Area, under the heading "No. of Air-Handling Units (Capacity, each)" – For consistency with ISA Summary Section 3.5.1.1.6, the capacity of the air handling units should be revised from "(100%)" to "(33%)."

62. Section 9.3.2.2, page 9-11, first paragraph, third line – The phrase "...compliance with air effluent limits..." should be revised to read as follows
"...compliance with liquid effluent limits..."

63. Section 9.3.2.2, page 9-11, fourth paragraph, first and second sentences
Section 9.3.2.2, page 9-12, first paragraph

To be consistent with the NEF design and Radiological Environmental Monitoring Program, the sentences

"The stormwater retention ponds for the site have the potential to contain small amounts of radioactivity as a result of runoff from the UBC Storage Pad. Therefore, the applicant proposes to include sampling and analysis of water and sediment from these ponds in the Radiological Environmental Monitoring Program"

should be revised as follows

"The UBC Storage Pad stormwater retention pond for the site has the potential to contain small amounts of radioactivity as a result of runoff from the UBC Storage Pad. The applicant proposes to include sampling and analysis of water and sediment from each of the ponds in the Radiological Environmental Monitoring Program."

64. Table 9.3-3, page 9-14, for Groundwater samples, under the heading "No. of Sample Locations" – For consistency with ER Table 6.1-4, the number of sample locations should be revised from "2" to "5." This change was incorporated in Revision 4, dated April 2005.

65. Section 10.3.1.2, page 10-5, under the subheading "Sale/Salvage," first paragraph, fifth sentence – For consistency with SAR Section 10.1.6.6, the sentence "For security and convenience, these material will likely be smelted to standard ingots, then sold at market price" should be revised to address contaminated and uncontaminated material. The sentence should be replaced with the following.

"For security and convenience, the uncontaminated material will likely be smelted to standard ingots, then sold at market price. The contaminated material will be disposed of as low-level radioactive waste."

66. Section 10.3.1.9, page 10-11, second paragraph after number paragraphs, second line – The phrase "...did not reduce the estimate of depleted uranium based on a phased approach for startup operation..." should be changed to reflect the fact that the nominal 30-year case does account for the ramp-up of uranium byproduct

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generation during startup operation but does not account for the ramp-down as the facility is shut down.

67. Section 10.3.1.9, page 10-11, fourth paragraph after the numbered paragraphs – This paragraph should be clarified to reflect that the cost of disposal of the neutralized HF (i.e., CaF₂), \$0.02/kg U, was included in the estimate.
68. Section 11.3.1.3, page 11-5, second line, item (d) – For consistency with SAR Section 11.1.3, item (d)
“nuclear criticality safety evaluations”
should be revised to read as follows
“nuclear criticality safety evaluations and analyses.”
This change was incorporated in Revision 4, dated April 2005.
69. Section 11.3.3.2, page 11-12, first paragraph, second sentence – For consistency with SAR Section 11.3.2 and to clarify the relationship between Job Safety Analysis and Job Hazard Analysis, the sentence
“Furthermore, the applicant states that the employee’s will participate in Job Safety Analysis which will be used as part of on-the-job training, and will provide employees with skills required to safely conduct job activities”
should be revised to read as follows
“Furthermore, the applicant states that the employee’s will participate in Job Safety Analysis (also referred to as Job Hazard Analysis) which will be used as part of on-the-job training, and will provide employees with skills required to safely conduct job activities.”
70. Section 13.3.3, page 13-2, first paragraph, second line – For consistency with the Physical Security Plan, the reference to
“Technical Services Building”
should be revised to
“Administration Building.”
This change was incorporated in Revision 2, dated July 2004.
71. Section 13.3.4, page 13-2, first paragraph, fifth line – For consistency with the Physical Security Plan, the reference to
“security building”
should be revised to
“main site Security Building.”
72. Chapter 13, general – It should be clarified that the review of the Safeguards Contingency Plan and Guard Force Training and Qualification Plan was included as part of the NRC review of the Physical Security Plan.
73. Table A.1-1, page A-2, under the heading High-Consequence Events, fourth bullet – For consistency with Emergency Plan Table 3.1-1,
“Fires Involving Transient Combustibles”
should be revised to
“Fires Involving Excessive Transient Combustibles.”

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74. Section A.1.3, page A-5, first paragraph, last sentence – This sentence indicates that the threshold consequence values that define high- and intermediate-consequence events are described in Table A.1-3 and that these values are taken from the facility SAR. However, SAR Table 6.3-5 also includes high- and intermediate-consequence values for acute chemical exposure for worker (local), i.e., 40 mg uranium uptake and 10 mg uranium uptake, respectively. These values are derived from NUREG-1391 values for soluble uranium as described in SAR Section 6.3.2.1 and should be included in draft SER Table A.1-3. This change was incorporated into the SAR in Revision 4, dated April 2005.
75. Section A.2.3, page A-14, third paragraph – For consistency with the ISA Summary Table 3.7-3, the discussion of the worker consequences, associated with the Natural Phenomena Hazard – Earthquake, should be revised to address worker evacuation (IROFS39a). This change was incorporated in Revision 4, dated April 2005. Specifically, the following new sentence should be added after the existing second sentence.
- “However, for seismic events, the worker is assumed to evacuate the area of concern upon detection of a seismic event, which results in a reduced exposure time and an acceptable risk.”