

**MATERIALS LICENSE**

**Amendment No. 52**

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and the applicable parts of Title 10, Code of Federal Regulations, Chapter I, Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 39, 40, 51, 70, and 71, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<b>Licensee</b>			
1.	Anadarko Petroleum Corporation [Amendment 52]	3.	License Number SUA-1310
2.	Bear Creek Uranium Company Minerals Department P.O. Box 1330 Houston, Texas 77251-1330 Attn: Don Ballard [Amendment 52]	4.	Expiration Date Until NRC determines site reclamation is adequate [Applicable Amendment: 16]
		5.	Docket or Reference Number 40-8452
6.	Byproduct, Source, and/or Special Nuclear Material: Uranium	7.	Chemical and/or Physical Form: Any
		8.	Maximum Amount that Licensee May Possess at Any One Time Under This License: Unlimited

9. Authorized place of use: The licensee's facilities located in Converse County, Wyoming.

[Applicable Amendments: 21]

10. The licensee is hereby authorized to possess byproduct material in the form of uranium waste tailings and other byproduct wastes generated from past operations at the site.

[Applicable Amendments: 14]

11. For use in accordance with statements, representations, and conditions contained in the licensee's submittal dated August 15, 1988, except where superseded by license conditions below.

Whenever the word "will" is used in the above referenced document, it shall denote a requirement.

[Applicable Amendments: 12, 21]

12. DELETED by Amendment No. 14.

13. DELETED by Amendment No. 14.

14. The licensee is hereby exempted from the requirements of Section 20.203(e)(2) of 10 CFR 20, provided that the restricted area is conspicuously posted. The restricted area is defined in the BCUC submittal dated March 16, 2000, as all of Section 16, T38N, R73W, 6<sup>th</sup> p.m., the S/2 Section 9, T38N, R73W, 6<sup>th</sup> p.m., the S/2 SW/4 NE/4 Section 9, T38N, R73W, 6<sup>th</sup> p.m., and S/2 SE/4 NE/4 Section 9, T38N, R73W, 6<sup>th</sup> p.m.

[Applicable Amendments: 21, 43]

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15. The results of sampling, analyses, surveys and monitoring; the results of calibration of equipment; reports on audits and inspections; all meetings and training courses required by this license; and any subsequent reviews, investigations, and corrective actions, shall be documented. Unless otherwise specified in NRC regulations, all such documentation shall be maintained for a period of at least 5 years.
16. DELETED by Amendment No. 14.
17. DELETED by Amendment No. 21.
18. Release of equipment or packages from the restricted area shall be in accordance with the NRC report, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct or Source Materials," dated September 1984.
- [Applicable Amendments: 31]
19. DELETED by Amendment No. 24.
20. DELETED by Amendment No. 24.
21. The licensee shall conduct an annual survey of land use (private residences, grazing areas, private and public potable water and agricultural wells, and non-residential structures and uses) in the area within two kilometers of any portion of the restricted area boundary and submit a report of this survey to the Deputy Director, Decommissioning and Uranium Recovery Licensing Directorate, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs, Washington, DC 20555, Mail Stop T-8F5, or by express delivery to 11545 Rockville Pike, Rockville, Maryland 20852-2738. This report shall indicate any differences in land use from that described in the last report.
- [Applicable Amendments: 24, 31, 50]
22. DELETED by Amendment No. 24.
23. DELETED by Amendment No. 14.

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24. The licensee shall immediately notify the NRC, Operations Center (301-816-5100), by telephone, of any failure to the tailings dam or tailings discharge and solution return system which results in a release of radioactive material and/or of any unusual conditions which if not corrected could lead to such a failure. This requirement is in addition to the requirements of 10 CFR 20 [Applicable Amendments: 31]
25. Before engaging in any activity not previously assessed by the NRC, the licensee shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not assessed or that is greater than that assessed, the licensee shall provide a written evaluation of such activities and obtain prior approval of the NRC in the form of a license amendment.
26. DELETED by Amendment No. 14.
27. The licensee shall maintain an NRC-approved financial surety arrangement, consistent with 10 CFR 40, Appendix A, Criteria 9 and 10, adequate to cover the estimated costs, if accomplished by a third party, for decommissioning and decontamination of the mill site, for reclamation of any tailings or waste disposal areas, ground-water restoration as warranted and the long-term surveillance fee. Within 3 months of NRC approval of a revised reclamation/decommissioning plan, the licensee shall submit, for NRC review and approval, a proposed revision to the financial surety arrangement if estimated costs in the newly approved plan exceed the amount covered in the existing financial surety. The revised surety shall then be in effect within 3 months of written NRC approval.

Annual updates to the surety amount, required by 10 CFR 40, Appendix A, Criteria 9 and 10, shall be submitted to the NRC at least 3 months prior to the anniversary date which is designated as January 30. If the NRC has not approved a proposed revision to the surety coverage 30 days prior to the expiration date of the existing surety arrangement, the licensee shall extend the existing surety arrangement for 1 year. Along with each proposed revision or annual update, the licensee shall submit supporting documentation showing a breakdown of the costs and the basis for the cost estimates with adjustments for inflation, maintenance of a minimum 15 percent contingency fee, activities performed, and any other conditions affecting estimated costs for site closure. The licensee shall also provide the NRC with all surety related correspondence submitted to the State, a copy of the State's surety review and the final approved surety arrangement. The licensee shall also ensure that the surety, where authorized to be held by the State, expressly identifies the NRC portion of the surety and covers the water sample analyses to confirm decontamination and the transfer of the long-term surveillance fee to the U.S. General Treasury.

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Bear Creek's currently approved surety shall be continuously maintained in an amount no less than \$950,000 for the purpose of complying with 10 CFR 40, Appendix A, Criterion 9 and 10, until a replacement is authorized by the NRC.

[Applicable Amendments: 10, 19, 30, 31, 38, 40, 42, 43, 44, 46, 47, 48, 49, 50]

- 28. Prior to termination of this license, the licensee shall provide for transfer of title to byproduct material and land, including any interests therein (other than land owned by the United States or the State of Wyoming), which is used for the disposal of such byproduct material or is essential to ensure the long term stability of such disposal site to the United States or the State of Wyoming, at the State's option.
- 29. DELETED by Amendment No. 21.
- 30. DELETED by Amendment No. 21.
- 31. DELETED by Amendment No. 25.
- 32. DELETED by Amendment No. 34.
- 33. Written procedures shall be established for site reclamation, personnel and environmental monitoring, and survey instrument calibrations. These procedures shall be reviewed and approved in writing by the RSO/EC before implementation and whenever a change in procedure is proposed to ensure that proper radiation protection principles are being applied. In addition, the RSO/EC shall perform a documented review of all existing site procedures at least annually. An up-to-date copy of each written procedure shall be kept by the RSO/EC.

[Applicable Amendments: 21, 43]

- 34. DELETED by Amendment No. 21.
- 35. DELETED by Amendment No. 12.
- 36. DELETED by Amendment No. 43.

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37. The RSO/EC shall have the following education, training, and experience:

- A. Education: A bachelor's degree in the physical sciences or engineering from an accredited college or university.
- B. General Experience: One (1) year of supervisory experience and one (1) year of experience in a uranium mill or related industry.
- C. Health Physics Experience: One (1) year of work experience in applied health physics, radiation protection, industrial hygiene, or similar work. This experience shall involve actually working with radiation detection measurement equipment rather than only administrative or "desk" work.
- D. DELETED by Amendment No. 21.
- E. Specialized knowledge: A thorough knowledge of the proper application and use of all health physics equipment used in the uranium milling industry, the chemical and analytical procedures used for radiological sampling and monitoring, and the methods used to calculate personnel exposure to uranium and its daughters.

If the individual selected for the RSO position does not meet the educational requirements specified above, but possesses prior work experience in radiation safety, the licensee may consider two (2) years of radiation safety work experience as a substitute for each year of the college level educational requirements. If the RSO possesses a graduate level degree, with major emphasis in the area of radiation safety, the above specialized training requirement may be waived.

[Applicable Amendments: 21]

- 38. DELETED by Amendment No. 14.
- 39. DELETED by Amendment No. 12.
- 40. DELETED by Amendment No. 43.
- 41. DELETED by Amendment No. 21.

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42. DELETED by Amendment No. 21.
43. The licensee shall follow the lower limits of detection (LLD) contained in the NRC report, "Lower Limits of Detection (LLD) for Sample Analysis," for the analysis of samples collected pursuant to the Environmental Monitoring Program of this license. [Applicable Amendments: 31]
44. DELETED by Amendment No. 45.
45. DELETED by Amendment No. 21.
46. DELETED by Amendment No. 21.
47. DELETED by Amendment No. 51
48. DELETED by Amendments 13 and 39.
49. The licensee shall complete site reclamation in accordance with the approved reclamation plan and the groundwater corrective action plan as authorized by License Conditions 44 and 47, respectively, in accordance with the following schedules:
- A. To ensure timely compliance with target completion dates established in the Memorandum of Understanding with the Environmental Protection Agency (56FR 55432, October 25, 1991), the licensee shall complete reclamation to control radon emissions as expeditiously as practicable, considering technological feasibility, in accordance with the following schedule:
- (1) Windblown tailings retrieval and placement on the pile - Completed.
  - (2) Placement of the interim cover to decrease the potential for tailings dispersal and erosion - Completed.
  - (3) Placement of the final radon barrier designed and constructed to limit radon emissions to an average flux of no more than 20 pCi/m<sup>2</sup>/s above background:
- For tailings pile surface areas not covered by evaporation ponds constructed as part of the groundwater corrective action program - Completed.
- For the total tailings pile surface after evaporation pond removal - Completed.

[Applicable Amendment: 41]

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B. Reclamation, to ensure required longevity of the covered tailings and groundwater protection, shall be completed as expeditiously as is reasonably achievable, in accordance with the following target dates for completion.

(1) Placement of erosion protection as part of reclamation to comply with Criterion 6 of appendix of 10 CFR Part 40 - Completed.

(2) Projected completion of groundwater corrective actions to meet performance objectives specified in the groundwater corrective action plan - Completed.

[Applicable Amendment: 41, 43]

C. DELETED by Amendment No. 43.

D. DELETED by Amendment No. 43.

FOR THE NUCLEAR REGULATORY COMMISSION

Dated: 1/19/2016 By: /RA/

John R. Tappert, Director  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards