

**MATERIALS LICENSE**

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.

Licensee	
1. Western Nuclear, Inc.	3. License Number SUA-56, Amendment 98
2. 2801 Youngfield Street, Suite 340 Golden, Colorado 80401 [Applicable Amendment: 34, 52, 92, 96]	4. Expiration Date <small>Until terminated (Applicable Amendments: 31, 32, 41)</small>
	5. Docket No. 40-1162 Reference No.

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| <p>6. Byproduct Source, and/or Special Nuclear Material<br/><br/>Natural Uranium</p> | <p>7. Chemical and/or Physical Form<br/><br/>Any</p> | <p>8. Maximum amount that Licensee May Possess at Any One Time Under This License<br/><br/>Unlimited</p> |
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9. The licensee is hereby authorized to possess byproduct material in the form of uranium waste tailings generated by the licensee's past milling operations authorized under SUA-56.  
[Applicable Amendments: 32, 46, 58]
10. Authorized Places of Use: The licensee's uranium milling facilities located approximately two miles north of Jeffrey City, Wyoming.  
[Applicable Amendments 46, 50, 60, 82]
11. DELETED by Amendment No. 49.
12. DELETED by Amendment No. 49.
13. DELETED by Amendment No. 49.
14. DELETED by Amendment No. 49.
15. DELETED by Amendment No. 49.
16. DELETED by Amendment No. 54.
17. DELETED by Amendment No. 33.
18. DELETED by Amendment No. 49.
19. DELETED by Amendment No. 56.

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20. DELETED by Amendment No. 49.
21. DELETED by Amendment No. 56.
22. DELETED by Amendment No. 54.
23. DELETED by Amendment No. 33.
24. The licensee shall collect surface water samples from the Sweetwater River at the following five locations: 1) upstream of the proposed long-term care boundary near the western boundary of Section 3, township 29 N and range 92 W; 2) in a sharp meander directly upstream of well JJ-1R (SR-A); 3) approximately 3,000 river feet downstream of SR-A in riffle section (SR-B); 4) in tight meander downstream of Site, approximately 1,600 river feet upstream of diversion dam, in Section 31, township 30 N and range 91 W; 5) downstream of proposed long-term care boundary in Section 5, township 29 N and range 91 W. Samples shall be collected at the same sampling frequency and for the same constituents [excluding static water level] as required under LC No. 74.A for the first 12 wells. The data obtained from this monitoring program shall be reported semiannually to the NRC in accordance with requirements of 10 CFR 40.65.
- [Applicable Amendments: 26, 28, 30, 44, 49, 56A, 84, 89, 98]
25. The licensee shall conduct a quality assurance program as contained in their submittal dated March 25, 1981. In addition, the licensee shall be required to document the results and recommendations of each annual audit of the environmental monitoring program. Any requested changes to the "Environmental Monitoring Manual" submitted on March 23, 1981, as revised by letters dated March 27, 1991, January 28 and March 11, 1992, shall be in the form of a license amendment.
- [Applicable Amendments: 49, 63]
26. DELETED by Amendment No. 49.
27. DELETED by Amendment No. 92.
28. DELETED by Amendment No. 87.
29. 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 and 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.

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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 December 30 of each year. 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, changes in engineering plans, 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. The basis for the cost estimate is the NRC approved reclamation/decommissioning plan or NRC approved revisions to the plan. The previously provided guidance entitled "Recommended Outline for Site Specific Reclamation and Stabilization Cost Estimates" outlines the minimum considerations used by the NRC in the review of site closure cost estimates. Reclamation/decommissioning plans and annual updates should follow this outline.

Western Nuclear's currently approved surety, a Parent Company Guarantee, issued by Phelps Dodge Corporation on April 8, 2004, committing Phelps Dodge Corporation, among other things, to take certain actions in the event the licensee fails to fulfill its decommissioning or financial assurance obligations, shall be continuously maintained in accordance with the recitals of the Parent Company Guarantee in an amount no less than \$12,279,018 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: 24, 45, 53, 64, 66, 70, 72, 76, 85P, 93, 94, 95, 97]

30. DELETED by Amendment No. 69.
31. DELETED by Amendment No. 46.
32. A. DELETED by Amendment No. 56.  
B. DELETED by Amendment No. 50.
33. DELETED By Amendment No. 88
34. In order to ensure that no disturbance of cultural resources occurs in the future, the licensee shall have an archeological and historical artifact survey of areas of its property, not previously surveyed, performed prior to their disturbance, including borrow areas to be used for reclamation cover. These surveys must be submitted to the NRC and no such disturbance shall occur until the licensee has received authorization from the NRC to proceed.

The licensee is authorized to excavate material from the proposed reclamation borrow areas as designated in the licensee's approved reclamation plan, provided that protection of the cultural resources is managed in accordance with statements and representation contained in the licensee's

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letter dated March 30, 1992.

[Applicable Amendment: 71]

35. Before engaging in any project-related activity not evaluated by the NRC, the licensee shall prepare and record an environmental evaluation of such activity. When the evaluation indicates such activity may result in a significant adverse environmental impact that was not evaluated, or an impact greater than that evaluated in the environmental statement, the licensee shall provide a written evaluation of such activity and obtain prior approval of the NRC for the activity.

36. DELETED by Amendment No. 49.

37. The licensee is hereby exempted from the requirements of Section 20.203(e)(2) of 10 CFR Part 20, provided that all entrances to the restricted area are conspicuously posted in accordance with Section 20.203(e)(2) and with words, "Any area within this facility may contain radioactive material."

[Applicable Amendment: 49]

38. Mill tailings other than samples for research shall not be transferred from the site without specific prior approval of the NRC obtained through application for amendment of this license. The licensee shall maintain a permanent record of all transfers made under the provisions of this condition.

39. DELETED by Amendment No. 50.

40. DELETED by Amendment No. 49.

41. Release of equipment or packages from the restricted area shall be in accordance with the previously provided guidance entitled, "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.

42. The Radiation Safety Officer (RSO) shall perform an annual review of the radiation protection program for content and implementation. A copy of the annual review report shall be retained at the site and shall be available for NRC review.

[Applicable Amendments: 49, 87]

43. The results of sampling, analysis surveys and monitoring, the calibration of equipment, reports on inspections, and the additional conditions to this license, as well as 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.

[Applicable Amendment: 49, 87]

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44. Written procedures shall be established for site reclamation and monitoring activities to include personnel and environmental monitoring, and survey instrument calibrations. These procedures shall be reviewed and approved in writing by the Radiation Safety Officer (RSO) before implementation and whenever a change in procedure is proposed to ensure that proper radiation protection principles are being applied. In addition, the RSO 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 at the site facility.

[Applicable Amendments: 49, 56, 87]

45. DELETED by Amendment No. 49.

46. DELETED by Amendment No. 87.

47. DELETED by Amendment No. 49.

48. The Radiation Safety Office (RSO), who is responsible for the radiation safety aspects of the decommissioning, shall possess the minimum qualifications as specified in Section 2.4.1 of Regulatory Guide 8.31, "Information Relevant to Ensuring That Occupational Radiation Exposure at Uranium Mills Will Be As Low As Reasonably Achievable," until license termination.

[Applicable Amendments: 49, 50, 56, 87]

49. DELETED by Amendment No. 49.

50. DELETED by Amendment No. 49.

51. DELETED by Amendment No. 49.

52. DELETED by Amendment No. 49.

53. Radiation detection instruments shall be calibrated after repair and as recommended by the manufacturer or at intervals not to exceed six months, whichever is sooner.

54. DELETED by Amendment No. 49.

55. DELETED by Amendment No. 49.

56. DELETED by Amendment No. 49.

57. DELETED by Amendment No. 33.

58. DELETED by Amendment No. 37.

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59. DELETED by Amendment No. 49.
60. DELETED by Amendment No. 49.
61. DELETED by Amendment No. 49.
62. DELETED by Amendment No. 49.
63. DELETED by Amendment No. 56.
64. The licensee shall control grazing to the N and NNE of the tailings impoundment by maintaining cattle guards at each end of the rock outcrops along the north side of the restricted area fence, as indicated on map A, submitted by letter dated August 18, 1978 from G. Fletcher to J. Linehan.
65. DELETED by Amendment No. 49.
66. DELETED by Amendment No. 33.
67. DELETED by Amendment No. 33.
68. DELETED by Amendment No. 46.
69. DELETED by Amendment No. 46.
70. DELETED by Amendment No. 49.
71. DELETED by Amendment No. 49.
72. DELETED by Amendment No. 49.
73. DELETED by Amendment No. 54.
74. The licensee shall implement a compliance monitoring program containing the following:
- A. Sample wells JJ-1R, WN-39B, WN-41B, WN-42A, SWAB-1, SWAB-2, SWAB-4, SWAB-12, SWAB-22, SWAB-29, SWAB-31, and SWAB-32 semi-annually for uranium and sulfate and annually for aluminum, ammonia, antimony, arsenic, beryllium, cadmium, chloride, fluoride, lead, manganese, molybdenum, nickel, nitrate, pH, radium-226 and-228, selenium, sulfate, thallium, thorium-230, TDS, and uranium. Sample wells 1, 4R, 5, and 21 semi-annually for aluminum, ammonia, antimony, arsenic, beryllium, cadmium, chloride, fluoride, lead, manganese, molybdenum, nickel, nitrate, pH, radium-226 and-228, selenium, sulfate, thallium, thorium-230, TDS, and uranium. In addition, water levels shall be collected at all of the above wells for every sampling event.

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- B. Comply with the following ground-water protection standards at point of compliance Well No. 4 and 21, with background being recognized in Well No. 15:

beryllium = 0.05 mg/l, cadmium = 0.01 mg/l, chromium = 0.05 mg/l, lead = 0.05 mg/l, nickel = 0.05 mg/l, radium-226 and 228 = 5 pCi/l, selenium = 0.013 mg/l, thorium-230 = 0.95 pCi/l, and uranium = 0.16 mg/l.

- C. Implement a corrective action plan program that shall recover and evaporate between 6 and 15 million gallons of contaminated water based upon minimizing recharge to the tailings. This program shall be constructed as described in the August 31, and September 28, 1989, submittals as modified by the licensee's April 3, 1990, January 13, 1992, September 23, 1993, April 18, 1997, May 20, 1998, and July 2, 1999, submittals. All monitoring requirements for the corrective action program shall be those specified in LC No. 74.A. The objective of the program shall be to return the concentrations of beryllium, cadmium, nickel, radium-226 and 228, selenium, thorium-230, and uranium to the concentration limits specified in Subsection 74B above. A final Corrective Action Program Plan, which includes a complete site characterization, must be received by NRC by October 31, 1999.

[Applicable Amendments: 25, 27, 36, 39, 40, 44, 48, 51, 56, 58, 61, 62, 67, 69A, 79, 89, 98]

- D. The licensee shall submit by December 15 of each year, a review of the corrective action program and its effect on the aquifer.

[Applicable Amendments: 25, 27, 36, 39, 40, 44, 48, 51, 56, 58, 61, 62, 67, 69A, 79]

- E. The licensee shall reclaim the groundwater corrective action evaporation ponds in accordance with their February 7, 1994, report titled, "Western Nuclear, Inc. Split Rock Mill, Addendum A (February 7, 1994) to Revision 5 to the June 30, 1987, Uranium Tailings Reclamation Plan," with the following exception:

- 1 The preliminary radon attenuation barrier design for the Winter Storage Ponds (Area 2C, Figure 4, Drawing No. 91-225-E53 (Addendum A to Revision 5) consists of 6 inches of Cody Shale and 12 inches of Soil Borrow. This design is considered acceptable for estimating the surety amount. However, once the storage ponds are dismantled, the Licensee shall confirm the design and obtain NRC approval prior to placing the radon cover on the ponds. Reclamation to the Winter Storage Ponds shall be completed by the licensee within three years after cessation of use as determined by the NRC.

[Applicable Amendment: 92]

75. DELETED by Amendment No. 92.

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76. Notification to NRC under 10 CFR 20.2202, 10 CFR 40.60, and specific license conditions should be made as follows:

Required written notice to NRC under this license should be given to: Chief, Fuel Cycle Facilities Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

[Applicable Amendment: 73, 95]

FOR THE NUCLEAR REGULATORY COMMISSION

Date: 06/15/05

/RA/

Gary S. Janosko, Chief  
Fuel Cycle Facilities Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards