

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.

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| Licensee 1. Western Nuclear, Inc. 2. 2801 Youngfield Street, Suite 340 Golden, Colorado 80401 [Applicable Amendments: 34, 52, 92, 96] | | 3. License Number SUA-56, Amendment 108 4. Expiration Date Until terminated (Applicable Amendments: 31, 32, 41) 5. Docket No.: 40-1162 Reference No. |
| 6. Byproduct Source, and/or Special Nuclear Material Natural Uranium | 7. Chemical and/or Physical Form Any | 8. Maximum amount that Licensee May Possess at Any One Time Under This License Unlimited |
| 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. | | |

Enclosure

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19. DELETED by Amendment No. 56.
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 adequate to cover the estimated decommissioning and reclamation costs consistent with 10 CFR 40, Appendix A, Criteria 9 and 10. Costs will include work undertaken by a third party for the decommissioning and decontamination of the mill and mill site for the reclamation of any tailings or waste disposal areas, for ground-water restoration as warranted, and for the long-term surveillance fee.

When the NRC approves a revised decommissioning and reclamation plan, the licensee shall submit for NRC review and approval, a proposed revision to the financial surety arrangement if estimated costs of

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the new plan exceed the amount of the existing surety. The licensee shall have a revised surety approved by the NRC in effect not later than three (3) months after the NRC approves a revised plan.

10 CFR Part 40, Appendix A, Criteria 9 and 10 require that annual updates to the surety amount be submitted to the NRC at least 3 months prior to December 30 each year. If NRC approval of a proposed revision to the surety is not completed thirty (30) days prior to the expiration date of the existing surety arrangement, the licensee shall extend the existing surety arrangement for one (1) year.

Annual updates or revisions shall include a breakdown of the cost estimates with adjustments for inflation and the basis for the cost estimates. The basis for the cost estimate is the NRC approved reclamation/decommissioning plan or NRC-approved revisions to the plan. The licensee shall maintain a contingency fee of at least fifteen (15) percent of the total cost estimate and the licensee must identify any changes in the engineering plans, or to activities performed at the site, and to any conditions that affect estimated costs for site closure.

If the surety is authorized to be held by the State of Wyoming, the licensee shall provide the NRC with all surety-related correspondence submitted to the State of Wyoming, a copy of the Wyoming's surety review, and the final Wyoming-approved surety arrangement. The licensee shall also ensure that if the surety is held by the State of Wyoming, the surety expressly identifies the NRC's portion of the surety.

Western Nuclear's NRC-approved financial assurance arrangement includes a surety, the surety bond issued by Westchester Fire and Insurance Company, and a standby trust agreement that is accessible to the NRC. The total NRC portion of the financial assurance amount shall be no less than \$1,132,374.00. The financial assurance shall be continuously maintained until a replacement is authorized by the NRC so as to ensure compliance with 10 CFR Part 40, Appendix A, Criterion 9 and 10.

[Applicable Amendments: 24, 45, 53, 64, 66, 70, 72, 76, 85P, 93, 94, 95, 97, 100, 101, 102, 103, 104, 105, 106, 107]

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.

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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 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

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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 Amendments: 49, 87]

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 Is 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.

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58. DELETED by Amendment No. 37.
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 Wells 5 and 21:

aluminum = 37 mg/L, antimony = 0.006 mg/L, arsenic = 0.05 mg/L, beryllium = 0.01 mg/L, cadmium = 0.01 mg/L, fluoride = 4 mg/L, lead = 0.05 mg/L, nickel = 0.05 mg/L, selenium = 0.05 mg/L, thallium = 0.002 mg/L, and thorium-230 = 0.95 pCi/L.

- C. Comply with the following alternate concentration limits in the northwest valley at point of compliance Well 5, with background being recognized in Well 15:

ammonia = 0.61 mg/L, manganese = 225 mg/L, molybdenum = 0.66 mg/L, nitrate = 317 mg/L, radium-226 and -228 = 7.2 pCi/L, and natural uranium = 4.8 mg/L.

Comply with the following alternate concentration limits in the southwest valley at point of compliance Well 21, with background being recognized in Well 15:

ammonia = 0.84 mg/L, manganese = 35 mg/L, molybdenum = 0.22 mg/L, nitrate = 70.7 mg/L, radium-226 and -228 = 19.9 pCi/L, and natural uranium = 3.4 mg/L.

[Applicable Amendments: 25, 27, 36, 39, 40, 44, 48, 51, 56, 58, 61, 62, 67, 69A, 79, 89, 98, 99, 105]

- D. Comply with the following ground water trigger levels at the point of exposure:

Trigger Levels for the Split Rock aquifer: ammonia = 0.5 mg/L, manganese = 0.73 mg/L, molybdenum = 0.18 mg/L, nitrate = 10 mg/L, radium-226 and -228 = 5.0 pCi/L, and natural uranium = 0.087 mg/L or 0.3 mg/L for SWAB-32.

Trigger Levels for flood-plain aquifer: ammonia = 0.5 mg/L, manganese = 2.39 mg/L, molybdenum = 0.18 mg/L, nitrate = 10 mg/L, radium-226 and -228 = 5.0 pCi/L, and natural uranium = 0.044 mg/L.

- E. Comply with the following surface water trigger levels at the point of exposure:

ammonia = 0.5 mg/L, manganese = 0.05 mg/L, molybdenum = 0.18 mg/L, nitrate = 10 mg/L, radium-226 and -228 = 5.0 pCi/L, and natural uranium = 0.03 mg/L.

- F. DELETED by Amendment No. 105.

[Applicable Amendments: 25, 27, 36, 39, 40, 44, 48, 51, 56, 58, 61, 62, 67, 69A, 79, 99, 105]

- G. DELETED by Amendment No. 105.

[Applicable Amendments: 92, 99, 100, 102, 105]

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: 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, Mail Stop T-8-F5, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

[Applicable Amendments: 73, 95, 100]

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Date: 10/4/2016

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

