

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, 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.

1. Licensee Atlantic Richfield Company [Applicable Amendments: 7, 14]		3. License Number SUA-1470, Amend. No. 34
2. Bluewater Mill P. O. Box 638 Grants, New Mexico 87020 [Applicable Amendments: 2, 7, 14]		4. Expiration Date Until NRC determines reclamation is adequate
6. Byproduct, Source, and/or Special Nuclear Material		5. Docket or Reference No. 40-8902
7. Chemical and/or Physical Form		8. Maximum Amount that Licensee May Possess at Any One Time Under This License

Uranium Byproducts

Any

Unlimited

9. Authorized place of use: The licensee's uranium milling facilities located near Grants, New Mexico.
10. The licensee is hereby authorized to possess byproduct material in the form of uranium waste tailings and other byproduct wastes generated by the licensee's past milling operations. The licensee is not authorized to produce uranium concentrate without a license amendment approved by the NRC. [Applicable Amendment: 25]
11. DELETED by Amendment 27.
12. The results of all effluent and environmental monitoring required by this license shall be reported in accordance with 10 CFR 40, Section 40.65 with copies of the report sent to the NRC. Monitoring data shall be reported in the format shown in Regulatory Guide 4.14 and enclosed as the attachment to SUA-1470 entitled, "Sample Format for Reporting Monitoring Data." [Applicable Amendment: 25]
13. 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 previously assessed or that is greater than that previously 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.
14. 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 New Mexico), 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 New Mexico, at the State's option.

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15. The licensee shall not make any changes to the present tailings retention system without specific prior approval of the NRC in the form in the form of a license amendment. [Applicable Amendment: 25]
16. The licensee shall implement an interim stabilization program for tailings as specified in Section A of the December 17, 1986, submittal and Items 1-4 of the submittal dated May 26, 1987 in response to the NRC letter dated April 27, 1987. This program shall include written operating procedures and shall prevent or minimize dispersal of blowing tailings to the extent reasonably achievable and in accordance to Criterion 8 of 10 CFR 40, Appendix A. The effectiveness of the control method used shall be evaluated weekly by means of a documented tailings area inspection, and corrective actions taken and documented in response to inspection findings. Corrective measures requiring more than 30 days to complete shall require the written approval of the NRC. [Applicable Amendment: 3]
17. The licensee is hereby exempted from the requirements of Section 20.1902(e) of 10 CFR 20 for areas within the mill, provided that all entrances to the restricted areas are conspicuously posted in accordance with Section 20.1902(e) and with the words, "Any area within this mill may contain radioactive material."
18. 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 subsequent reviews, investigations, and corrective actions, shall be documented. Unless otherwise specified in the NRC regulations all such documentation shall be maintained for a period of at least five (5) years.
19. The mill Radiation Safety Officer (RSO), who is responsible for radiation safety aspects of mill 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 Exposures at Uranium Mills will be As Low As is Reasonably Achievable."
20. Written procedures shall be established for nonoperational activities to include in-plant and environmental monitoring, bioassay analyses, and instrument calibrations. An up-to-date copy of each written procedure shall be kept in the environmental office, and main office building.

All written procedures for nonoperational activities shall be reviewed and approved in writing by the RSO before implementation and whenever an 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.
21. The licensee shall be required to use a Radiation Work Permit (RWP) for all work or nonroutine maintenance jobs where the potential for significant exposure to radioactive material exists and for which no standard written procedure already exists. The RWP shall be issued by

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the RSO or his designate, qualified by way of specialized radiation protection training, and shall at least describe the following:

- A. The scope of the work to be performed.
 - B. Any precautions necessary to reduce exposure to uranium and its daughters.
 - C. The supplemental radiological monitoring and sampling necessary prior to, during, and following completion of the work.
22. Occupational exposure calculations shall be performed and documented when applicable within 1 week of the end of the regulatory compliance period as specified in 10 CFR 20.1201(e). Routine airborne ore dust and yellowcake samples shall be analyzed when applicable in a timely manner to allow exposure calculations to be performed in accordance with this condition. Non-routine ore dust and yellowcake samples shall be analyzed and the results reviewed by the RSO within two working days after sample collection.
23. Mill tailings other than samples for research shall not be transferred from the site without specific prior approval of the NRC in the form of a license amendment. The licensee shall maintain a permanent record of all transfers made under the provisions of this condition.
24. All liquid effluents from mill decommissioning activities, with the exception of sanitary wastes, shall be discharged to the synthetically lined solar evaporation ponds.
25. The licensee shall maintain an NPC-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 the decontamination of the mill site, reclamation of any tailings or waste disposal areas, groundwater restoration of any tailings or waste disposal areas, groundwater restoration as warranted and the long-term surveillance fee.

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 November 15 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 expiration date of 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 basis for the cost estimate is the NRC approved reclamation/decommissioning plan or NRC approved revisions to the plan.

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- ARCO's currently approved surety instrument, Performance Bond No. U-8001407, issued by the Reliance Insurance Company and United Pacific Insurance Company in favor of the NRC, shall be continuously maintained in an amount no less than \$3,500,000 for the purposes of complying with 10 CFR 40, Appendix A, Criteria 9 and 10, until a replacement is authorized by the NRC. [Applicable Amendments: 11, 14, 17, 21, 25, 29]
26. Operation of evaporation ponds 1-A, 1-B, 2-A, 2-B, 3-A, 3-B and 3-C is authorized in accordance with submittals dated July 18, 1977 and September 29, 1977 for ponds 1-A and 1-B; August 1, 1978 for ponds 2A and 2B; and April 10, 1980 and May 2, 1980 for ponds 3A, 3B, and 3C.
27. DELETED by Amendment No. 27.
28. DELETED by Amendment No. 3.
29. DELETED by Amendment No. 3.
30. The licensee shall conduct an inspection of the tailings impoundment area using trained personnel at least once every 24 hours, excluding weekends and holidays.
31. The licensee shall decommission the Bluewater Uranium Mill in accordance with the decommissioning plan submitted by letter dated December 29, 1987, as revised by submittals dated August 9, September 26, and November 17, 1988; February 27 and June 16, 1989; March 6, 1990; and January 19, 1994. [Applicable Amendments: 8, 10, 15, 23]
32. The licensee shall implement the radiation safety and environmental monitoring programs specified in its letters dated February 20, 1995 and February 22, 1995. Notwithstanding the groundwater monitoring specified in Attachment 39 and revisions thereof, the licensee shall perform the compliance monitoring described in License Condition No. 34. Whenever the word "will" is used in the documents referenced above, it shall denote a requirement.
- [Applicable Amendments: 3, 25, 27]
33. The licensee shall conduct an annual survey of land use (grazing, residence, wells, etc.) in the area within two miles of the mill and submit a report of this survey annually to the NRC. This report shall indicate any differences in land use from that described in the licensee's previous annual report. The report shall be submitted by July 1 of each year. [Applicable Amendments: 3, 25]
34. The licensee shall implement a groundwater compliance monitoring program containing the following:
- A. Sample on a semiannual frequency, wells E(M), T(M) and F(M) for molybdenum, natural uranium and selenium, and wells S(SG), L(SG) and OBS#3 for natural uranium and selenium.

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- B. Comply with the following Alluvial aquifer groundwater protection standards (alternate concentration limits proposed in licensee submittal dated July 25, 1995) at point of compliance wells T(M) and F(M), with background being recognized in well E(M):

molybdenum = 0.10 mg/l, U-nat = 0.44 mg/l (300 pCi/l) and selenium = 0.05 mg/l.

Comply with the following San Andres aquifer groundwater protection standards (alternate concentration limits proposed in licensee submittal dated July 25, 1995) at point of compliance wells OBS#3 and S(SG), with background being recognized in well L(SG):

selenium = 0.05 mg/l and U-nat = 2.15 mg/l

- C. In the event the limits in Subsection (B) are exceeded, the licensee will propose a new corrective action program with the objective of returning concentrations of molybdenum, U-nat and selenium to the concentration limits specified in Subsection (B).

The licensee shall, on a semiannual frequency, submit a groundwater monitoring report as well as submit a corrective action program review, by December 31 of each year, that describes the progress towards attaining groundwater protection standards.

[Applicable Amendments: 4, 6, 7, 20, 30]

35. The licensee is authorized to dispose of byproduct waste from the Tucson Research Center in accordance with the submittal dated, August 24, 1989. In addition, the licensee shall comply with the following:

- A. Solid waste shall be disposed in trenches constructed in the main tailings pile. The licensee shall take steps to minimize void space in the disposed material.
- B. Empty drums shall be disposed in accordance with the decommissioning plan specified in Condition No. 31 of this license.
- C. All waste disposal shall be documented. [Applicable Amendment: 9]

36. The licensee shall reclaim the tailings disposal area as stated in their March 21, 1990 reclamation plan submittal as revised by submittals dated July 12, July 19, July 23, August 2, and August 8, 1990; November 25, 1991 (with the exception of Section 7.0); December 22, 1993; July 28 and August 31, 1994; March 6, May 15, May 25, June 2, June 6, June 16, and August 24, 1995. In addition, the licensee shall:

- A. Construct the radon barrier for the main tailings pile to minimum average thicknesses of 73 centimeters (cm) for the sands area, 30.5 cm for the mixed tailings area, and 73 cm for contaminated outcrops. The radon barrier will be a minimum thickness of 15 cm for the slimes area.

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- B. Submit for NRC review and approval the correlation of nuclear gauge to sand cone results prior to using the nuclear gauge for field construction control.
- C. Construct the radon barrier to a minimum thickness of 15.2 cm (6 inches) for the acid pile, and to an average thickness of 30.5 cm (1 foot) for the carbonate pile extension, and 152.6 cm (5 feet) for the main portion of the carbonate pile.
- D. Construct the outslope for the Northeast portion of the main tailings impoundment in accordance with Section 3 of the report submitted by letter dated December 22, 1993, with the exception that the radon barrier shall be constructed in accordance with Condition No. 36(A) of this license.

[Applicable Amendments: 11, 16, 22, 24, 28, 31, 32, 33, 34]

37. Notwithstanding the environmental sampling locations specified in Condition No. 32 of this license, the licensee shall perform air particulate, radon, soil, and vegetation sampling at the two locations listed below:

- A. The Berryhill House (background).
- B. A site which will monitor impacts at the nearest downwind residence.

This shall be accomplished by sampling at the nearest residence (existing site #102A) or at a location between the tailings pond and the residence. The licensee shall notify the NRC of any changes in the location of the sampling station used to satisfy this requirement.

In addition, radon monitoring shall be performed in accordance with the licensee's submittal dated September 5, 1991.

[Applicable Amendments: 12, 13, 27]

38. The licensee shall complete site reclamation in accordance with the approved reclamation plan and groundwater corrective action plan, as authorized by License Condition Nos. 36 and 34, 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 (56 FR 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 - August 31, 1992.
- (2) Placement of the interim cover to decrease the potential for

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tailings dispersal and erosion - August 31, 1992.

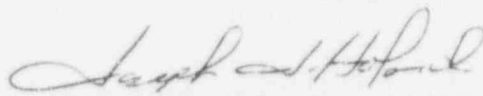
- (3) Placement of final radon barrier designed and constructed to limit radon emissions to an average flux of no more than 20 pCi/m²s above background - December 31, 1995.
- B. Reclamation, to ensure required longevity of the covered tailings and groundwater protection, shall be complete as expeditiously 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 A of 10 CFR Part 40 - December 31, 1995.
- (2) Projected completion of groundwater corrective actions to meet performance objectives specified in the groundwater corrective action plan - December 31, 1993.
- C. Any license amendment request to revise the completion dates specified in Section A must demonstrate that compliance was not technologically feasible (including inclement weather, litigation which compels delay to reclamation, or other factors beyond the control of the licensee).
- D. Any license amendment request to change the target dates in Section B above must address added risk to the public health and safety and the environment, with due consideration to the economic costs involved and other factors justifying the request such as delays caused by inclement weather, regulatory delays, litigation, and other factors beyond the control of licensee.

[Applicable Amendments: 19, 26]

FOR THE NUCLEAR REGULATORY COMMISSION

Date

Oct 30, 1996



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Office of Nuclear Material Safety
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