

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, 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.

Licensee

1. Umetco Minerals Corporation

2. Post Office Box 787
Blanding, Utah 84511

3. License number

SUA-1358, Amendment No. 29

4. Expiration date March 31, 1985

5. Docket or
Reference No. 40-86816. 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 previous milling operations.
10. Authorized place of use: The licensee's uranium ore buying and milling facilities located in San Juan County, near Blanding, Utah.
11. The authorized use shall be for the purposes only of maintaining the facility in a standby mode with associated monitoring and maintenance work required to keep the facility in a safe operating condition. The licensee shall possess only residual radioactive material in the form of contamination of process equipment and facilities and uranium waste tailings generated by previous milling activities.
12. The licensee is hereby exempted from requirements of Section 20.203(e)(2) of 10 CFR Part 20 for areas within the mill, provided that all entrances to the mill are conspicuously posted in accordance with Section 20.203(3)(2) and with the words, "Any area within this mill may contain radioactive material."
13. Eating and/or smoking shall be allowed in control rooms, offices, or designated eating areas only.
14. Release of equipment or packages from the restricted area shall be in accordance with Attachment 1, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated September 1984.
15. The licensee shall implement a program to minimize dispersal of dust from blowing tailings and the ore piles by water sprinkling or other dust suppression

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techniques, unless a documented weekly inspection indicates that the moisture content of the material and/or weather conditions are controlling dusting. This program shall include the use of written operating procedures that specify the use of specific dust control methods for all conditions. The effectiveness of the control methods used shall be evaluated weekly by means of documented tailings and ore pile storage area inspections.

16. The licensee shall not make any changes to the present tailings retention system without specific prior approval of the NRC, Uranium Recovery Field Office, in the form of a license amendment.
17. Mill tailings other than samples for research shall not be transferred from the site without specific prior approval of the NRC obtained through applications for amendment of this license. The licensee shall maintain a permanent record of all transfers made under the provisions of this condition.
18. The licensee shall comply with the following regarding operation and maintenance of the tailings retention system:
 - a. Maintain a minimum freeboard of 5 feet in tailings cells 2 and 3, and a minimum freeboard of 3.5 feet in the Cell 1-initial evaporation pond.
 - b. The licensee shall conduct and document at least one inspection of the tailings embankment per day and shall immediately notify the Uranium Recovery Field Office, USNRC, Denver, Colorado 80225, by telephone of any failure in the dam retention system or tailings discharge 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.
 - c. Insure that programs for inspection and monitoring of dam safety are conducted and evaluated by an experienced professional engineer. The professional engineer should insure that all field inspectors are capable of recognizing signs of possible distress or abnormalities. A summary report of the results of the regularly scheduled inspections shall be submitted annually to the NRC, Uranium Recovery Field Office, P.O. Box 25325, Denver, Colorado 80225. The report shall bear the seal of the professional engineer.
19. The licensee shall stabilize and reclaim the tailings disposal areas as follows:
 - a. A reclamation cover on the top of the tailings areas sloped at approximately 180:1 and consisting of 9 feet of soil and 2 feet of rock erosion protection.
 - b. Reclamation cover side slopes of 6:1 that consist of 9 feet of soil and 4 feet of rock erosion protection.

The reclamation plan specific to the status of the tailings disposal areas as of September 1983, shall be in accordance with the drawing transmitted by letter

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dated August 26, 1984, from EFN to NRC. Prior to operations resulting in an extent of tailings disposal that would necessitate revision of the plan depicted by this drawing, the licensee shall provide for NRC review and approval a revised specific reclamation plan.

Prior to the termination of this license, the licensee shall submit for NRC review, detailed plans for decontamination, dismantling, and removing or burying all buildings, machinery, process vessels, and other structures, and cleanup, regrading and revegetation of the mill site. This detailed plan shall include data from radiation surveys taken at the site and plans for any mitigating measures that may be required as a result of these surveys.

20. Notwithstanding the limitations on the materials that may be disposed of in the tailings impoundment as described in Section 4.3 of the White Mesa license application, the licensee shall be allowed to dispose within the tailings impoundment area any wastes contaminated by authorized uranium recovery or tailings disposal operations at the White Mesa site in accordance with their letter dated May 21, 1982. The licensee is also authorized to dispose of contaminated soil and low-grade ore from Plateau Resources Limited's Blanding, Utah, Ore Buying Station in the tailings disposal area. The licensee shall not dispose of any empty or partially filled containers or barrels that could create a void in the tailings upon future collapse or disintegration. Notwithstanding statements to the contrary, the licensee shall submit to the USNRC, Uranium Recovery Field Office, for review and approval in the form of a license amendment, a detailed analysis prior to disposal of any wastes in the tailings impoundment other than those authorized by this condition.
21. The licensee shall at all times maintain NRC-approved financial surety to cover all costs for decommissioning, decontamination and site reclamation until this license is terminated by the NRC. For a period of one (1) year from the issuance date of this license, surety shall be in the form of a parent company guarantee (Union Carbide Corporation) as submitted by letter dated November 12, 1984, with the following exceptions:
 - a. Notwithstanding paragraph 11 of Exhibit A and Attachment A of the above-referenced submittal letter, should the licensee not remain a wholly-owned subsidiary of Union Carbide Corporation, or should Union Carbide Corporation request cancellation of the guarantee and should NRC concur on such request, NRC shall require the licensee to submit, within 60 days after notifying the NRC of such divestiture or request for cancellation, an irrevocable letter of credit, a bond, or other financial arrangement acceptable to the NRC, in the amount of the then current cost estimate for decontamination, decommissioning and reclamation of the mill facility. The parent company guarantee shall remain in effect until acceptable replacement financial arrangements have been submitted by the licensee and approved by the NRC.

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- b. Six months from the issuance of this license, the licensee shall submit to the NRC, Uranium Recovery Field Office, an updated SEC, Form 100.

Acceptance of a parent company guarantee beyond this initial one (1) year period will require additional NRC review of the licensee's financial situation and revised costs related to tailings reclamation and mill site decommissioning. This additional information shall be submitted to the NRC, Uranium Recovery Field Office, at least 90 days prior to expiration of the parent company guarantee.

22. The licensee shall conduct an annual land use survey (grazing, residences, wells, etc.) in the area within 5 miles of the mill and submit a report of this survey annually to the NRC, Uranium Recovery Field Office, Denver, Colorado 80225. This report shall indicate any differences in land use from that described in Energy Fuels Nuclear's Environmental Report (January 1978) and supplements or the previous annual report. This report shall be submitted by August 1 of each year.

23. The licensee shall avoid by project design where feasible, the archeological sites designated "contributing" in Attachment 2. Sites that will ultimately be located within 100 feet of the perimeter of the reclaimed tailings impoundment area are considered unavoidable and shall be recovered through archeological excavation.

Additionally, the licensee shall conduct such testing as is required to enable the Commission to determine if those sites designated as "Undetermined" in Attachment 2 and located within 100 feet of present or known future construction areas are of such significance to warrant their redesignation as "contributing." In all cases, such testing shall be completed before any aspect of the undertaking affects a site.

The licensee shall recover through archeological excavation all "contributing" sites listed in Attachment 2 which are located in or within 100 feet of borrow areas, stockpile areas or construction areas. Data recovery fieldwork at each site meeting these criteria shall be completed prior to the start of any project related disturbance within 100 feet of the site, but analysis and report preparation need not be complete.

24. Archeological contractors shall be approved in writing by the Commission. The Commission will consult with the SHPO regarding the qualifications of all archeological contractors and the quality of the laboratory facilities they will use. The Commission will approve an archeological contractor who meets the minimum standards for a principal investigator set forth in 36 CFR Part 66, Appendix C, and whose qualifications are found acceptable by the SHPO.
25. The licensee shall maintain a management control program which shall include written operating procedures, reviewed and approved by the Radiation Safety Officer, for all aspects of mill operations, including the radiation safety program and the environmental monitoring and control program. Approval by the RSO will be indicated by the signature of the RSO on the procedure.

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26. Within 90 days of issuance of this license, the licensee shall submit to the NRC, Uranium Recovery Field Office, for review and approval, specifications for a quality assurance program which shall meet or exceed that described in Regulatory Guide 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment."
27. The licensee shall perform the environmental monitoring program summarized in Appendix G of the Energy Fuels Nuclear application, included as Attachment 3 of this license, with the following exceptions:
- During the period of mill shutdown, the licensee shall not be required to perform stack sampling.
 - The licensee shall continue to collect meteorological data.
 - The ground-water monitoring program summarized in Appendix G of the Energy Fuels Nuclear application is amended as follows:

Groundwater Sample Collection

Groundwater Sample Testing

Number	Well Location	Method & Frequency	Type & Frequency
9	One deep cross-gradient east, one deep cross-gradient west, two shallow cross-gradient west, three deep down-gradient in Cell 3 dike, one deep down-gradient in Cell 4 dike, one deep far down-gradient.	Grab Quarterly	Testing frequencies and parameters to be tested shall be in accordance with Table 2 (Chemical Parameter Monitoring Schedule, Recommended Operational Phase Ground-water Program) presented in the November 30, 1981 D'Appolonia report transmitted by Energy Fuels Nuclear letter dated December 3, 1981, with the exception that Chloride and Uranium shall be added to the list of parameters tested quarterly. This table is included as Attachment 4 of this license.
1	Control location up-gradient (not influenced by tailings seepage).	Grab Quarterly	
Each Well	Each well used for drinking water or watering livestock or crops within 2 km of tailings cells.	Grab Quarterly	

The licensee shall follow the lower limits of detection (LLD) contained in Regulatory Guide 4.14 for the analysis of samples collected, pursuant to the Environmental Monitoring Program.

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If the licensee wishes to use other LLDs, such LLDs shall be submitted to the NRC, Uranium Recovery Field Office, P.O. Box 25325, Denver, Colorado 80225, for NRC review and approval, prior to implementation.

28. The results of the effluent and environmental monitoring program required by this license shall be reported in accordance with 10 CFR Part 40, Section 40.65. The report should include a discussion of anomalous data, trends or unusual releases. A copy of the report shall be sent directly to the NRC, Uranium Recovery Field Office, Denver, Colorado 80225, within 90 days following the end of each reporting period.
29. The results of sampling, analyses, surveys and monitoring, calibration of equipment, reports on audits and inspections, and all meetings and training courses, 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.
30. The licensee shall perform the in-plant radiation protection program as described in Section 5.0 of the Energy Fuels Nuclear application. In-plant airborne particulate sampling shall be performed under conditions typical of employee exposures. A record of the state of operation and maintenance of process and effluent control equipment and ventilation conditions at the time of sampling shall be documented. Any proposed revisions to the radiation safety program shall be submitted to the NRC for review and approval prior to implementation.
31. The licensee shall maintain a radiation safety staff who meet the qualifications and have the responsibilities and authorities described in Regulatory Guide 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposure at Uranium Mills Will Be As Low As Reasonably Achievable." Qualifications of proposed radiation safety personnel shall be submitted to the NRC for review and approval within 90 days of issuance of this license.
32. The licensee shall perform a formal ~~seniannual~~ ALARA audit. A detailed written audit report prepared by the Internal Audit Committee shall be submitted for review and action to an executive of at least vice-president rank who has authority over mill operation and management. A copy of the audit report shall be sent to the NRC, Uranium Recovery Field Office, P.O. Box 25325, Denver, Colorado 80225, within 90 days after the end of each reporting period. The primary purpose of the audit is to evaluate the overall effectiveness of the mill ALARA program. The audit report shall include a summarization of the following operational data:
 1. Exposure records (external and time-weighted calculations).
 2. Bioassay results.
 3. Documented reports of daily, weekly and monthly inspections by the radiation safety staff.
 4. Training program activities.

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5. Radiation safety meeting records.
6. In-plant radiological survey and sampling data.
7. Environmental radiological effluent and monitoring data.
8. Reports on radiation overexposures submitted to USNRC, Mine Safety and Health Administration (MSHA), or the State.
9. Reviews of operating and monitoring procedures completed during this time period.
10. Review of Special Work Permits (SWPs) which required that additional radiological monitoring and sampling be performed.

The audit report shall specifically discuss the following:

1. Trends in personnel exposures for identifiable categories of workers and types of operational activities.
2. Trends in radiological effluents.
3. The performance of exposure and effluent control equipment, whether it is being properly used, maintained, and inspected.
4. Recommendations on ways to further reduce personnel exposures and effluent releases of uranium and its daughters.

The Internal Audit Committee shall, as a minimum, consist of the Radiation Safety Officer, a representative from the corporate licensing staff, and a representative from mill management.

33. The licensee shall implement a ground water detection monitoring program to ensure compliance to 40 CFR 192.32(a)(2) which includes the following elements:
 - a. The licensee shall monitor at the point of compliance and background wells for the following indicator parameters: Arsenic, Selenium and pH. The licensee shall utilize analytical techniques capable of providing lower limits of detection of 0.005 mg/l and 0.001 mg/l for arsenic and selenium, respectively. Measurements of pH shall be reported to the nearest 1/10 standard unit.
 - b. The determination of compliance shall be based on sampling Well Nos. 2 and 3.
 - c. The determination of background levels for the parameters specified in subsection (a) shall be defined by sampling Well No. 1.
 - d. The licensee shall sample for those parameters specified in subsection (a) above at those wells designated in subsections (b) and (c) on a monthly basis for a period of one (1) year and at least twice annually thereafter. The first monthly sample shall be taken within 30 days of the date of this Order. All semiannual samples shall be taken at least four months apart.
 - e. The licensee shall, within 60 days of collection of the last of the twelve monthly samples, propose for USNRC review and approval in the form of a license amendment background levels for indicator parameters and a statistical

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procedure for identifying significant changes (95% confidence level) between data from the wells specified in subsections (b) and (c).

- f. The licensee shall report the data required by subsection (d) semiannually along with those data required by License Condition No. 28 in accordance to the reporting format, Attachment No. 3 to SUA-1358, "Sample Format for Reporting Detection Monitoring Data." These monitoring requirements are in addition to the requirements specified in License Condition No. 27.
- g. The licensee shall report at least annually in accordance to reporting requirements specified in subsection (f) the rate and direction of ground water flow under the tailings impoundment.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Dated: JUL 19 1985

BY

/s/
R. Dale Smith, Director
Uranium Recovery Field Office
Region IV

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