

**From:** [Paulson, Oscar \(RTE\)](#)  
**To:** [Webb, James](#)  
**Cc:** [Valdes, Jose](#)  
**Subject:** [External\_Sender] RE: License Renewal  
**Date:** Thursday, June 29, 2017 10:30:30 AM  
**Attachments:** [20170629072435651.pdf](#)

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James Webb/Jose Valdes:

The following:

- Attached please find the Adobe Acrobat Portable Document Format (\*.pdf) file *20170629072435651.pdf*
- It contains the following three (3) letters:
  - Letter dated April 12, 1983 from Minerals Exploration Company (MEC) regarding suspension of mill operations. This letter requests suspension of “...*selected environmental and effluent monitoring*...” during the period that uranium processing has been suspended and no effluents are released from the plant.
  - Letter dated June 10, 1983 from Minerals Exploration Company (MEC) requesting changes to Table C-3 *Environmental Monitoring Program*. This letter lists among other items to be discontinued, soils and sediment and vegetation monitoring. Regarding water monitoring, the letter lists only tailings impoundment liquid, unusual water discharge, groundwater – near tailings pond, and groundwater – potable water supply as the only water monitoring to be continued. .
  - Letter dated September 23, 1983 from the Nuclear Regulatory Commission (NRC) amending the license “... *in accordance with your submittals dated April 12 and June 10, 1983...*” with the caveats listed in the letter in the new License Condition 53.
- There apparently never was any requirement to perform surface water monitoring in the original license, only the requirement to monitor “...*unusual water discharge*...” License condition 43 on page 12 of the original license dated February 16, 1979 references “...*in-plant, environmental and effluent monitoring committed to in Section 5 of the licensee’s application...*”. The only water monitoring listed in Section 5, Table C-3 – *Environmental Monitoring Program* is tailings impoundment liquid, unusual water discharge, groundwater near the tailings impoundment and groundwater (potable water supply).

Oscar Paulson

Facility Supervisor  
Kennecott Uranium Company  
Sweetwater Uranium Project  
P.O. Box 1500  
42 Miles Northwest of Rawlins  
Rawlins, Wyoming 82301-1500

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Cellular: (307)-320-8758  
E-mail: [oscar.paulson@riotinto.com](mailto:oscar.paulson@riotinto.com)

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**From:** Webb, James [mailto:James.Webb@nrc.gov]  
**Sent:** Thursday, June 29, 2017 7:12 AM  
**To:** Paulson, Oscar (RTE)  
**Cc:** Valdes, Jose  
**Subject:** License Renewal

Oscar,

In your application (pg. 122), you indicated that during standby, surface water, soil, and vegetation were suspended and this was documented in a letter dated September 23, 1983 from the NRC. I would like to capture this in the SER. It does not mention sediment but perhaps you can clarify in an email along with a copy of the letter. If you have that letter, can you fax (or electronic email) a copy to me? I am not in the office today but I will be in the office tomorrow (Friday). I will put this letter (and your email) in ADAMS.

Jim

Minerals Exploration Company

Sweetwater Uranium Project

P.O. Box 1500, Rawlins, Wyoming 82301

Telephone: (307) 328-1476

**union**  
**MINERALS**

12 April 1983

Mr. R. Dale Smith, Director  
Uranium Recovery Field Office  
Mailstop 467-SS  
7915 Eastern Avenue  
Silver Springs, Maryland 20910

RE: Sweetwater Uranium Project  
Source Material License SUA 1350

Dear Mr. Smith:

On February 18, 1983, Union Oil Company of California announced that due to a construction delay of its customer's nuclear power plants, mining and milling activities at the Sweetwater Uranium Project would be suspended until the power plants are completed, or until economic conditions warrant. Current schedules call for placing the project in a safe and environmentally acceptable condition by late June 1983. Pursuant to this announcement, Minerals hereby requests an amendment to Source Materials License SUA-1350 for procedures placing the mill and tailings facilities in an environmentally acceptable condition and modifying the environmental and plant monitoring programs:

MILL OPERATING SUSPENSION

The following procedures will be used to place the mill and tailings disposal facility in a safe and environmentally sound condition:

ORE PAD

All mineralized material will be removed from the pad and run through the mill to tailings. Dust release from this area will be controlled by temporary seeding or by chemical dust suppressant.

MILL ORE CIRCUITS

Apron Feeder and Conveyor Belt - All ore material will be washed off accessible surfaces and selected areas will be treated to prevent corrosion. The conveyor belt will be painted to prevent deterioration.

R. Dale Smith  
SML SUA-1350

SAG Mill - All ore material and grinding media will be removed and the mill flushed to remove residue. The mill will be rotated for about a day every six months to maintain the bearings and selected surfaces will be treated to prevent corrosion.

Leach Tanks - The leach tanks will be cleaned and flushed of all process solutions and slurry, then either filled with water or treated to preserve the rubber liners.

CCD Thickeners - The CCD thickeners will be cleaned and flushed of all process solutions and slurry, then either filled with water or painted to preserve the rubber liners.

Boilers, Acid Room, and Other Miscellaneous Areas - All chemicals will be removed before tanks are flushed and sealed.

#### GENERAL MILL DECONTAMINATION PROCEDURES

Routine operational monitoring of the mill has not detected a contamination problem in any area of the mill except the yellowcake handling areas. General mill decontamination procedures will be conducted in all areas except the yellowcake area. Detailed decontamination procedures for the yellowcake area are shown below:

Following initial area cleaning and preparation, all areas of the mill will be thoroughly washed and spot contamination surveys will be conducted for removable and fixed contamination levels. As a guideline, areas where personnel could be exposed to contamination will be surveyed. Sufficient spot checks will be conducted in each area to assure decontamination in accordance with the U.S. Nuclear Regulatory Commission's Annex C, "Guidelines for Decontamination of Facilities and Equipment Prior to Unrestricted Use....". Survey procedures are contained in Appendix A. All surveys will be documented and available on the project for inspection.

#### MILL YELLOWCAKE CIRCUIT

Solvent Extraction - The organic carrier will be stripped and salvaged. The organic will retain uranium values of less than 10 ppm when removed. The SX tanks will be cleaned and contamination surveys will be run.

Precipitation - The yellowcake precipitators and YC thickener will be emptied, cleaned, and surveyed.

Centrifuge Deck - The centrifuge will be flushed with acid solution, cleaned, surveyed for contamination, and sealed in plastic sheeting.

Yellowcake Dryer - The dryer room floors, walls, and ceiling, along with all external dryer surfaces, will be decontaminated and surveyed. The dryer will be sealed in plastic sheeting and the door to the dryer room will be kept locked.

R. Dale Smith  
SML SUA-1350

Yellowcake Bin Room - The bin room floors, walls, and ceilings, along with the external bin surface, will be decontaminated and surveyed. The door to the bin room will be kept locked.

Yellowcake Packaging and Barrel Storage Room - All external surfaces will be decontaminated and surveyed. The packaging equipment will be sealed in plastic sheeting and entry doors will be kept locked.

#### GENERAL YELLOWCAKE AREA DECONTAMINATION PROCEDURES

General mill decontamination procedures will be followed in the yellowcake areas. If any area exhibits contamination in excess of Annex C limits, that area will be washed with cleaning agents and resurveyed. This procedure will be repeated until removable contamination levels are in accordance with Annex C limits. Isolated areas within the yellowcake processing area may exceed the Annex C limits for fixed contamination levels. These areas will be identified and access will be restricted.

#### TAILINGS DISPOSAL

Tailings Cell - The tailings cell will be filled to minimum freeboard depth with water to protect the liner from wind damage and to prevent drying of tailings material.

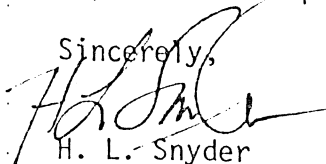
Inspections and Monitoring - The tailings cell will be inspected on a weekly basis and a record kept of these inspections. Ground water protection monitoring will continue as detailed in the following request for amendment.

#### ENVIRONMENTAL AND PLANT MONITORING

Minerals requests suspension of radiation health and selected environmental and effluent monitoring during the period that uranium processing has been suspended and no effluents are released from the plant. At the current time Minerals is anticipating a five year suspension of operation. All programs and monitoring that are suspended as a result of this amendment will be reinstituted at least 30 days prior to mill recommissioning. The Nuclear Regulatory Commission's Uranium Recovery field office will be notified at least 90 days prior to the anticipated date of mill recommissioning. The field office will be notified within 15 days of the actual date of mill recommissioning.

Specifically, Minerals requests a modification of the license requirements as contained in Table 1. As can be seen, monitoring of the tailings impoundment will continue during the period of suspension.

Sincerely,



H. L. Snyder

Safety and Environmental Administrator

$$\text{Total Contaminations (dpm/100cm}^2\text{)} = \frac{\text{cpm} \times 100}{\text{EFF} \times C}$$

Where: cpm = Instrument count rate in counts per minute  
EFF = Efficiency of the detector-counter system  
C = Active counting area of detector

### Removable Contamination

Smears for removable contamination should be obtained in the same areas as instrument surveys. A sufficient number of smears should be obtained to adequately assess removable surface contamination levels.

Smears should be obtained in the following manner:

1. Attach a "Nu-Con" smear or equivalent to its holder, being careful not to contaminate the smear.
2. Using moderate pressure, wipe an area of approximately 300cm<sup>2</sup> (7" x 7"), with care being taken not to wipe back and forth over the same area more than once. An "S" shape wipe is recommended. Record pertinent data on the smear holder.
3. Using a properly calibrated laboratory instrument, determine the total alpha counts on the sample swipe.
4. Record measurement results on the survey data sheet.
5. Determine surface alpha contamination levels using the following formula:

$$\text{Removable Contamination (dpm/100cm}^2\text{)} = \frac{\text{cpm}_s - \text{cpm}_b}{\text{EFF} \times 3}$$

Where: cpm<sub>s</sub> = Counts per minute of swipe sample.  
cpm<sub>b</sub> = Background counts per minute.  
EFF = Efficiency of the detector-counter system.

NOTE: "Background counts per minute" is determined by counting a blank swipe several times in the same detector-counter system as the sample swipe will be counted. Background counts are subtracted from the sample swipe count as stated in the formula, however, the result cannot be zero. Background will determine the lowest detectable level (conservatively taken as 2 times background).

$$\text{CCD} = \frac{2 (\text{cpm}_b)}{\text{EFF} \times 3}$$

Accuracy is indicated for any number of counts according to the following formula:

$$\text{Deviations} \pm 2\sqrt{N} \quad \text{For 95\% confidence level.}$$

Where N = Total number of counts, regardless of time.

Action Levels

If contamination levels exceed the following limits (as set forth in USNRC Annex C guidelines), the area will be recleaned and resurveyed to determine again the extent of contamination. Any equipment that cannot be decontaminated will not be released.

Maximum Surface Contamination Levels

|                 |                                |
|-----------------|--------------------------------|
| Average (total) | 5,000 dpm/100 cm <sup>2</sup>  |
| Maximum (total) | 15,000 dpm/100 cm <sup>2</sup> |
| Removable       | 1,000 dpm/100 cm <sup>2</sup>  |

REF: USNRC, Annex C, November 1976  
Sweetwater Project Application for Source Materials License,  
Page 5-20.

Minerals Exploration Company

Sweetwater Uranium Project

P.O. Box 1500, Rawlins, Wyoming 82301

Telephone: (307) 328-1476



10 June 1983

R. Dale Smith  
Director  
USNRC Uranium Recovery Field Office  
Region IV  
P.O. Box 25325  
Denver, CO 80225(0325)

RE: SWEETWATER URANIUM PROJECT  
SOURCE MATERIAL LICENSE SUA-1350

Dear Mr. Smith:

Please replace Table 1 in our submittal of 12 April 1983 with the attached Table 1 dated 10 June 1983. Please note changes made to items 2 and 7.

We appreciate the cooperation of Pete Garcia in processing this request.

Sincerely,

MINERALS EXPLORATION COMPANY

A handwritten signature in cursive script, appearing to read "Thomas J. Klein".

T. J. Klein  
Environmental Supervisor

TJK:ss

cc: C. Z. Hill  
G. D. Bennett  
DEQ/Lander (2)



TABLE 1

|  | <u>Change Requested</u> |
|--|-------------------------|
| 1) Condition 31 - Weekly contamination surveys and daily inspection of mill by Operating Supervisor. | Suspend                 |
| 2) Condition 32 - Weekly inspection by Environmental Assistant.                                      | Suspend                 |
| 3) Condition 43 - Additional monitoring.   |                         |
| a. quarterly composite of air filters  | Suspend                 |
| b. pH on tailings liquid   | Continue                |
| c. 6-day sampling at background station  | Suspend                 |
| d. dissolved component groundwater analysis  | Continue                |
| e. one hour sampling for in plant particulate samples  | Suspend                 |
| 4) Condition 48 - Meteorologic correlation   | Suspend                 |
| 5) Section 3.3.2 - Scrubber manometer readings   | Suspend                 |
| 6) Section 7.4, Item 2 - Annual Review of Maintenance Training Program.                              | Suspend                 |
| 7) Section 7.5.1, Item 2 - Annual Review of Radiation Protection Training.                           | Suspend                 |
| 8) Section 5, Appendix C -   |                         |
| a. Table C-1, "In Plant Ambient Air Monitoring Program"  | Suspend                 |
| b. Table C-2, "Other In Plant Monitoring"  | Suspend                 |
| c. Table C-3, "Environmental Monitoring Program"   |                         |
| 1. tailings impoundment liquid   | Continue                |
| 2. unusual water discharge   | Continue                |
| 3. groundwater - near tailings pond  | Continue                |
| 4. groundwater - potable water supply  | Continue                |
| 5. air - particulate   | Suspend                 |
| 6. air - Radon 222   | Suspend                 |
| 7. meteorological  | Continue                |
| 8. Beta-Gamma (TLD)  | Suspend                 |
| 9. soils and sediment  | Suspend <sup>1</sup>    |
| 10. vegetation   | Suspend <sup>1</sup>    |
| 9) Table C-4, "Stack Monitoring Program"   | Suspend                 |

<sup>1</sup>One sample round will be taken following suspension of activities and one additional sample round will be taken immediately preceding start up.

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV  
URANIUM RECOVERY FIELD OFFICE  
BOX 25325  
DENVER, COLORADO 80225

SEP 23 1983

RECEIVED  
SEP 27 1983

URFO:PJG  
Docket No. 40-8584  
04008584281S  
SUA-1350, Amendment No. 12

Minerals Exploration Company  
ATTN: Mr. Chris Z. Hill  
Post Office Box 1500  
Rawlins, WY 82301

Gentlemen:

Pursuant to Title 10, Code of Federal Regulations, Part 40, and in accordance with your submittals dated April 12 and June 10, 1983, Source Material License SUA-1350 is hereby amended by adding Condition No. 53 to read as follows:

53. (a) Mill cleanup and decontamination for the period of mill shutdown shall be in accordance with the licensee's submittal dated April 12, 1983.
- (b) During the period of mill shutdown, specific requirements in Conditions No. 11, 31, 32, 43, and 48 shall be suspended as indicated on Table 1 of the licensee's submittal dated June 10, 1983, with the following exceptions:
- (1) The licensee shall take two in-plant air particulate samples semiannually, one in a representative section of the ore crushing and grinding area and one in a representative section of the yellowcake area. The samples shall be analyzed for U-nat and the results documented.
  - (2) Continuous air particulate and radon monitoring shall be performed at the restricted area boundary downwind of the tailings cell. Filters from the air particulate monitor shall be composited quarterly and analyzed for U-nat, Ra-226, and Th-230. TLD chips for the radon monitor shall be exchanged and read quarterly.

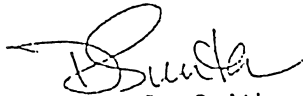
cc: CZH: 9/30/83

- (3) Background air particulate and radon monitoring as specified in Table C-3 of the licensee's revised submittal dated January 5, 1982 shall be resumed at least one year prior to resumption of operations. In addition, all programs and monitoring requirements suspended by License Condition 51(b) shall be resumed at least 30 days prior to resumption of milling operations.
- (c) During the period of mill shutdown, water other than that used for mill cleanup activities shall not be discharged into the tailings cell.
- (d) Prior to resuming operations, the licensee shall inspect all exposed portions of the liner and repair any damage. A report documenting the inspection and repair procedures shall be submitted to the Uranium Recovery Field Office, USNRC, at least 30 days prior to resumption of operations.
- (e) The licensee shall notify the Uranium Recovery Field Office, USNRC, in writing at least 90 days prior to resumption of operations.

All other conditions of this license shall remain the same.

The effect of this amendment is to reduce or suspend certain requirements of SUA-1350 during the period of suspended operations at the Sweetwater Mill. The issuance of this amendment was discussed via telecon between your Messrs. Klein and Hill and Mr. Pete Garcia of my staff on September 20, 1983.

FOR THE NUCLEAR REGULATORY COMMISSION

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