



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOV 21 1980

WMUR:JLK
Docket No. 40-8084
SUA-1119, Amendment No. 4

LPDR
RECEIVED DISTRIBUTION
SERVICES UNIT
DEC 5 PM 3 04

Rio Algom Corporation
ATTN: Mr. M. D. Lawton
Mine Manager
P.O. Box 610
Moab, Utah 84532

Gentlemen:

Pursuant to Title 10, Code of Federal Regulations, Part 40, Source Material License No. SUA-1119 is hereby amended by revising Condition No. 14 and adding a new Condition No. 36 to read as follows:

14. The licensee shall require workers in "airborne radioactivity areas", as defined in 10 CFR 20.203(d), to wear protective clothing such as coveralls and boots or shoe covers. Workers that package yellowcake shall be provided with gloves. Before leaving the restricted area any worker that entered an "airborne radioactivity area" shall either shower and/or monitor their face and hands using a calibrated alpha survey instrument. Where alpha monitoring is used, exclusive of showering, the monitoring results shall be documented and maintained on file. In addition, the licensee shall perform spot surveys for alpha contamination at least quarterly on workers leaving the mill.

Alpha contamination on skin or clothes for either of the above surveys greater than 1000 dpm/100 cm² shall be cause for an investigation by the radiation safety staff.

36. The licensee shall submit the following to the Uranium Recovery Licensing Branch, United States Nuclear Regulatory Commission, Washington, D.C. 20555 by December 15, 1980 for NRC review and approval:

- A. Complete specifications for an operational effluent and environmental monitoring program that includes all of the elements specified in Enclosure A to Amendment No. 4.
- B. Complete specifications for a quality assurance program that includes all of the elements recommended in U.S. NRC Regulatory Guide 4.15, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment".

8012160 287

C

10961

- C. A detailed topographic map(s) showing all sample collection locations and all of the following within 5 miles (8 km) of any portion of the restricted area boundary: private residences, grazing areas, private and public potable water and agricultural wells, milk cattle, and nonresidential structures and uses.

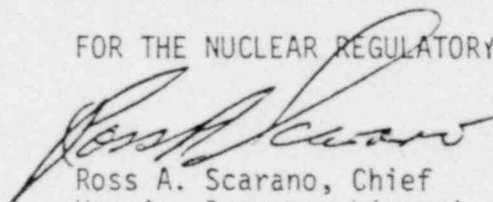
The environmental program required by Item A shall be fully implemented by February 1, 1981, at which time the environmental monitoring required by Condition No. 18 will no longer be required.

All other conditions of this license shall remain the same.

The above conditions were discussed in a November 20, 1980 telephone conversation between your Mr. Pattison and Mr. Kotsch of my staff.

The effect of this amendment is to modify your effluent and environmental monitoring program and to make one minor revision to your Radiation Safety Program as described in two letters from your Mr. M.D. Lawton to Mr. L.C. Rouse, dated September 13, 1978 and October 2, 1978. The above modifications to your existing environmental monitoring program are necessary since your existing program does not meet our existing requirements, as outlined in Regulatory Guide 4.14, which are needed for us to accurately assess the impacts of your ongoing operations and compliance with ALARA, 10 CFR 20, and the EPA standard of 25 mrem/yr (40 CFR 190).

FOR THE NUCLEAR REGULATORY COMMISSION



Ross A. Scarano, Chief
Uranium Recovery Licensing Branch
Division of Waste Management

Enclosures: A & B

cc: Senator Garn (ATTN: Ms. Justine Davis)
Senator Hatch

Enclosure A

Rio Algom Radiological Effluent and Environmental Monitoring Program

1. Stack sampling

A. Yellowcake scrubber and yellowcake dust filter stacks.

1. Quarterly, isokinetic samples.
2. Analyze for U-natural, Th-230, Ra-226, and Pb-210.
3. Stack flow measurements quarterly.

B. Transfer house, crusher house, and headframe stacks.

1. Semiannual, representative grab samples.
2. Analyze for U-natural, Th-230, Ra-226, and Pb-210.
3. Stack flow measurements semiannually.

2. Air particulate sampling

A. Three samples at or near site boundaries and in different sectors that have the highest predicted concentrations of air particulates.

B. One sampler upwind to serve as a control sample representative of background levels of radioactivity.

C. Samplers at the nearest occupied residences: Redd Ranch and Wilcox Ranch.

For each:

Continuous sampling.

Quarterly composite and analysis by location of weekly samples.

Analyze for U-natural, Th-230, Ra-226, and Pb-210.

3. Radon sampling

Five locations - same as air particulate samples except for Redd Ranch. Sampling should be continuous or as a minimum at least one week per month. The type (not manufacturer) of radon sampler must be approved by the NRC.

Wind speed and direction information, by week, for correlation with radon sampling, unless sampling is continuous at all locations.

4. Ground Water

- A. Four tailings monitor wells: MW-1, MW-2, MW-3, and MW-4.
- B. Four drill hole wells: H-71, H-48, H-54, and H-56.
- C. One well near northwest point on property boundary.
- D. One well near western point on property boundary.

For each:

- Quarterly pumped sample and analysis.
- Analyze for dissolved U-natural, Th-230, Ra-226, Pb-210, and Po-210.
- Analyze for non-radiological constituents as stated in Enclosure B.

5. Surface Water

- A. Four surface water sampling sites shown on Plate 9 of Dames & Moore "Report of Preliminary Tailings Management Study-Lisbon Valley Mine Tailings Disposal System", January 18, 1980.
 - 1. SS-1 and SS-2 on West Coyote Creek
 - 2. SS-3 on the ditch to Redd Reservoir
 - 3. SS-7, Redd Reservoir
- B. One surface water sample at drainage located approximately 1000 feet south of the lower tailings pond.

For each:

- Quarterly grab sample and analysis.
- Analyze for dissolved and total U-natural, Th-230, Ra-226, Pb-210, and Po-210.

6. Vegetation

- A. Three grazing areas downwind of mill.
- B. One upwind of site.

For each:

- Grab sample three times during the grazing season.
- Analyze for Ra-226 and Pb-210.

7. Soil

- A. Three site boundary locations, same as for air particulate samples.
- B. One location at upwind background site.
- C. One location at Wilcox Ranch.

For each:

- Annual grab sample.
- Analyze for U-natural, Ra-226 and Pb-210.

8. Sediments

- A. Same as for surface water samples.

For each:

- Annual grab sample.
- Analyze for U-natural, Th-230, Ra-226 and Pb-210.

9. Direct Radiation

- A. Three site boundary locations, same as for air particulate samples.
- B. One location of upwind background site.
- C. One location at Wilcox Ranch.

For each:

- Quarterly change and reading of dosimeter.

- 10. The lower limits of detection for analysis of samples collected in this monitoring program shall meet the LLD's listed in Regulatory Guide 4.14, "Radiological Effluent and Environmental Monitoring at Uranium Mills".

Enclosure B

CHEMICALS TO BE ANALYZED IN GROUND WATER

Alkalinity (CaCO_3)	Nitrate
Boron	Selenium
Calcium	Sodium
Chloride	Sulfate
Manganese	Total dissolved solids
Magnesium	