



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20545-0001

February 27, 1996

10-5764

Mr. Bill Ferdinand
Manager, Radiation Safety, Licensing,
and Regulatory Affairs
Rio Algom Mining Corp.
6305 Waterford Blvd., Suite 325
Oklahoma City, Oklahoma 73118

SUBJECT: AMENDMENT 7 TO SOURCE MATERIAL LICENSE SUA-1548 - APPROVAL OF
DEEP WELL INJECTION AS ALTERNATE WASTE DISPOSAL OPTION

Dear Mr. Ferdinand:

The U.S. Nuclear Regulatory Commission staff has completed its review of Rio Algom Mining Corp.'s (Rio Algom's) amendment request, as submitted by letter dated October 30, 1995, to allow deep well injection of process waste waters as an alternate waste disposal option at the Smith Ranch in-situ leach facility. The NRC staff determined, in accordance with 10 CFR 51.22, that preparation of an environmental assessment (EA) was necessary to document its review. The NRC staff issued a supplemental EA (Enclosure 1) to the public document file on February 11, 1996. In the EA, the NRC staff concluded that the environmental impacts associated with the proposed license amendment were not significant and that the proposed amendment was acceptable. A final finding of no significant impact (FONSI) was prepared in accordance with 10 CFR 51.32, and, on February 16, 1996, published in the Federal Register (Enclosure 2), providing notice of (1) the NRC's intent to issue the proposed license amendment, and (2) the availability of the EA to the public.

In addition to amending Source Material License SUA 1548 to reflect NRC acceptance of the proposed deep well injection amendment, the NRC staff is making an editorial change to reflect recent organizational changes within the NRC. Notifications and submittals should now be addressed to the Chief, Uranium Recovery Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards.

Therefore, pursuant to Title 10 of the Code of Federal Regulations, Part 40, Source Material License SUA-1548 is hereby amended by revising License Condition Nos. 9.1, 9.3, and 10.8. All other conditions of this license shall remain the same. The license (Enclosure 3) is being reissued to incorporate the above modification.

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B. Ferdinand

These changes to your license were discussed in a telephone conversation on February 20, 1996, between yourself and Mr. James Park, the NRC's Project Manager for the Smith Ranch facility. If you have any questions concerning this letter or the enclosures, please contact Mr. Park at (301) 415-6699.

Sincerely,

(Original signed by Daniel M. Gillen for)

Joseph J. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 40-8964
SUA-1548, Amendment No. 7
Case Closed: L51321

enclosures: / stated (3)

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SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
FOR
RIO ALGOM MINING CORP.'S
SMITH RANCH IN-SITU LEACH MINING FACILITY
CONVERSE COUNTY, WYOMING

IN CONSIDERATION OF AN AMENDMENT TO
NRC SOURCE MATERIAL LICENSE SUA-1548

PREPARED BY

THE U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF WASTE MANAGEMENT
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

1.0 INTRODUCTION

1.1 Background

On March 12, 1992, the NRC issued to Rio Algom Mining Corp. (Rio Algom) an NRC Source Material License, SUA-1548, for commercial-scale uranium recovery operations at Rio Algom's Smith Ranch in-situ leach (ISL) facility in Converse County, Wyoming. The NRC noticed in the *Federal Register*, on January 3, 1992, a Final Finding of No Significant Impact (FONSI) concerning the issuance of SUA-1548 to Rio Algom, with NRC's review of Rio Algom's license application documented in an [Environmental] Assessment (EA), issued on January 10, 1992.

Since the issuance of SUA-1548, Rio Algom has deferred commercial-scale operations at the Smith Ranch facility due to the depressed market for uranium. However, Rio Algom has indicated that it plans to commence such operations in the Fall of 1997.

1.2 Proposed Action

By letter dated October 30, 1995, Rio Algom requested NRC approval of deep well injection as an alternate disposal option for process waste waters to be produced at its Smith Ranch facility.

1.3 Review Scope

In accordance with Title 10, Code of Federal Regulations, Part 51, the supplemental EA for this licensing action serves to: (1) present information and analysis for determining whether to issue a Finding of No Significant Impact or to prepare an environmental impact statement (EIS); (2) fulfill the NRC's compliance with the National Environmental Policy Act when no EIS is necessary; and (3) facilitate preparation of an EIS when one is necessary. Should the NRC issue a Finding of No Significant Impact, no EIS would be prepared and the commercial source material license, or amendment thereof, would be granted subject to operating conditions contained in the existing source and byproduct material license.

2.0 SITE CHARACTERISTICS

The Smith Ranch ISL facility is located in Converse County, Wyoming, approximately 20 miles north of the town of Douglas, Wyoming, on the Ross Road. All facility locations, site characteristics, and land use remain unchanged since Rio Algom was initially authorized to operate the uranium recovery project. These characteristics were reviewed by NRC and documented in its original EA, issued on January 10, 1992.

3.0 OPERATIONS

By license condition in SUA-1548, Rio Algom is approved for commercial operations not to exceed an average monthly processing flow rate of 6000 gallons per minute (gpm), exclusive of restoration flow.

Currently, Rio Algom is required by SUA-1548 to return all liquid effluents from commercial operations to the uranium recovery process circuit or to discharge them to solution evaporation ponds. Additionally, Rio Algom is required by SUA-1548 to dispose of solid waste byproduct material at an NRC-approved byproduct disposal facility.

4.0 ENVIRONMENTAL EFFECTS

By this proposed action, Rio Algom is seeking to employ deep well injection to dispose of various process waste streams, including: process wash down waters, eluate solutions, sandfilter backwash water, wash water from yellowcake decant, brine concentrate from reverse osmosis, and ion exchange screening wash waters. These process wastes would be injected at an average of 150 gpm, from an injection well drilled to a total depth of 10,100 feet below surface. The wastes would be injected into permeable portions of three Cretaceous-aged formations: the Parkman, Teapot, and Teckla sandstones, at depths below surface ranging from 8700 to 9600 feet. Due to high levels of total dissolved solids, groundwater in these formations has been designated by the State of Wyoming, Department of Environmental Quality (WDEQ), as Class VI water (unsuitable for use).

Because the Smith Ranch facility is not currently operating, Rio Algom estimated the composite solution's composition. Rio Algom provided anticipated ranges in concentrations of the principal chemical constituents present in the solution, with the values reflecting normal operating conditions, and the maximum for each constituent based on contributions from individual process streams. For example, Rio Algom estimated that the solution would contain uranium (as U_3O_8) at a concentration between 1.0 milligrams per liter (mg/l) and 50 mg/l, and radium-226 between 0 mg/l and 1000 mg/l. Measurable concentrations of ammonia, sodium, sulfate, and chloride, among other constituents, are also anticipated. The ranges in concentration of constituents identified by Rio Algom are comparable to concentrations allowed by the NRC at other ISL facilities employing deep well disposal of process fluids.

The NRC staff limited its analysis to a review of the radiological aspects of the proposed action, in accordance with 10 CFR 20.2002. To avoid duplication of review efforts with the State of Wyoming, the NRC staff relied on the State's analysis of the suitability of the proposed aquifers as injection zones. The WDEQ, on September 29, 1995, granted an Underground Injection Control (UIC) permit to Rio Algom for the construction and operation of a Class I injection well at the Smith Ranch ISL facility.

Based on the nature of the proposed action, the NRC staff considers the potential impacts to the general environment and offsite individuals to be negligible for the following reasons:

- (1) Under the State of Wyoming's groundwater classification system, the groundwater in the formations to be impacted is considered to be Class VI (unsuitable for use);

- (2) The risk of exposure to the general public from the injected fluids is negligible due to the depth below surface at which process fluids will be injected (approximately 8700 to 9600 feet);
- (3) Rio Algom will be continuously monitoring the disposal well to detect and minimize a potential spill on the surface and thereby preclude the release of effluent to the unrestricted environment;
- (4) Rio Algom's radiation protection program in place at the Smith Ranch facility will adequately minimize potential exposures to as low as is reasonably achievable (ALARA); and
- (5) At the end of the disposal well's useful life, the disposal well system will be abandoned in accordance with the requirements of Rio Algom's Class I injection well permit with the WDEQ.

Therefore, the NRC staff finds that the proposed action is in accordance with 10 CFR 20.2002 and with the NRC "Staff Technical Position on Effluent Disposal at Licensed Uranium Recovery Facilities" (60 FR 27993; May 26, 1995).

5.0 ALTERNATIVES

The action that the NRC is considering is approval of an amendment request to a source material license issued pursuant to 10 CFR Part 40. The alternatives available to the NRC are:

- Approve the license amendment request; or
- Deny the request.

Based on its review of the request, the NRC staff has concluded that there are no significant environmental impacts associated with the proposed action. Therefore, alternatives with equal or greater impacts need not be evaluated.

The principal alternative to the proposed action would be to deny the requested action. Based on its review the NRC staff has determined that the environmental impacts of the proposed action and the alternative action (i.e., denial of the request) are similar. Therefore, there is no need to further evaluate alternatives to the proposed action.

6.0 SUMMARY AND CONCLUSIONS

Based on an evaluation of Rio Algom's amendment request, the NRC has determined that the proper action is to issue a Finding of No Significant Impact (FONSI) in the *Federal Register*. The following statements support the FONSI and summarize the conclusions resulting from the environmental assessment:

- (1) Due to the characteristics of the affected aquifers and the depths at which process fluids will be injected, and because disposal well

operation will be continuously monitored, the potential radiological impacts to the general public are negligible;

- (2) The concentrations of liquid effluents to be disposed are within the range of concentrations previously approved by the NRC for other ISL facilities employing deep well disposal;
- (3) At the end of its useful life, the disposal well system will be abandoned in accordance with the requirements of Rio Algom's Class I injection well permit with the WDEQ.

7.0 CONSULTATION AND SOURCE INFORMATION

In preparing the environmental assessment, the NRC staff consulted with the State of Wyoming, Department of Environmental Quality. In a telephone conversation on February 5, 1996, Mr. Robert Lucht, UIC Program Supervisor, Water Quality Division of the WDEQ, stated that the WDEQ had no objections to the conclusions reached in this Environmental Assessment.

Information reviewed by the NRC staff for this licensing action was provided by Rio Algom's submittal of October 30, 1995. This information included Rio Algom's July 1995 "Application for State of Wyoming Underground Injection Control Permit - Class I Non-Hazardous Injection Well."

These TS changes will not increase the probability or consequences of accidents, no changes are being made in the types of any effluent that may be released off site, and there is no significant increase in the allowable individual or cumulative occupational radiation exposure. Therefore, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed TS amendments.

With regard to potential nonradiological impacts, the proposed amendments involve features located entirely within the restricted area as defined in 10 CFR Part 20. They do not affect nonradiological plant effluents and have no other environmental impact. Therefore, the Commission concludes that there are no significant nonradiological impacts associated with the proposed amendments.

Alternatives to the Proposed Action

Since the Commission has concluded there is no measurable environmental impact associated with the proposed amendments, any alternatives with equal or greater environmental impact need not be evaluated. The principal alternative to this action would be to deny the amendment request. Such action would not reduce the environmental impacts of plant operations.

Alternative Use of Resources

This action does not involve the use of resources not previously considered in connection with the Nuclear Regulatory Commission's Final Environmental Statement dated December 1972, related to the operation of the Zion Nuclear Power Station, Units 1 and 2.

Agencies and Persons Consulted

In accordance with its stated policy, on January 5, 1996, the NRC staff consulted with the Illinois State Official, Mr. Frank Niziolek, Head, Reactor Safety Section, Division of Engineering, Illinois Department of Nuclear Safety; regarding the environmental impact of the proposed action. The State official had no comments.

Finding of No Significant Impact

Based upon the foregoing environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact

statement for the proposed amendments.

For further details with respect to this action, see the licensee's letter dated November 3, 1995, as supplemented on November 22, 1995, which are available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Waukegan Public Library, 128 N. County Street, Waukegan, Illinois 60085.

Dated at Rockville, Maryland, this 9th day of February 1996.

For the Nuclear Regulatory Commission,
Clyde Y. Shiraki,
Project Manager, Project Directorate III-2,
Division of Reactor Projects—III/IV, Office of
Nuclear Reactor Regulation.
[FR Doc. 96-3550 Filed 2-15-96, 8:45 am]
BILLING CODE 7590-01-P

[Docket No. 40-8964]

Rio Algom Mining Corp.; Final Finding of No Significant Impact Notice of Opportunity for Hearing

AGENCY: Nuclear Regulatory Commission.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) proposes to amend NRC Source Material License SUA-1548 to allow the licensee, Rio Algom Mining Corp. (Rio Algom), to employ deep well disposal of process waste waters at its Smith Ranch in-situ leach facility as an alternate disposal option for these wastes. An Environmental Assessment was performed by the NRC staff in accordance with the requirements of 10 CFR Part 51. The conclusion of the Environmental Assessment is a Finding of No Significant Impact (FONSI) for the proposed licensing action.

FOR FURTHER INFORMATION CONTACT: Mr. James R. Park, Uranium Recovery Branch, Mail Stop TWFN 7-19, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Telephone 301/415-6699.

SUPPLEMENTARY INFORMATION:

Background

On March 12, 1992, the NRC issued to Rio Algom an NRC Source Material License, SUA-1548, for commercial-scale uranium recovery operations at Rio Algom's Smith Ranch in-situ leach (ISL) facility in Converse County, Wyoming.

The NRC review of Rio Algom's license application is documented in an

Environmental Assessment (EA), issued on January 10, 1992.

Since the issuance of SUA-1548, Rio Algom has deferred commercial-scale operations at the Smith Ranch facility due to the depressed market for uranium. However, Rio Algom has indicated that it plans to commence such operations in the Fall of 1997.

Summary of the Environmental Assessment

Identification of the Proposed Action

The proposed action is an amendment to SUA-1548 to allow Rio Algom to employ deep well injection as an alternate disposal option for process waste waters to be generated at its Smith Ranch ISL facility. The NRC staff's review was conducted in accordance with the requirements of 10 CFR 40.32 and 10 CFR 40.45.

Need for the Proposed Action

Rio Algom requested NRC approval of the proposed action to allow it to employ deep well injection in the disposal of process solutions from various waste streams that would be produced at the Smith Ranch facility. Currently, Rio Algom is required by NRC license to return all liquid effluents from commercial operations to the uranium recovery process circuit or to discharge them to solution evaporation ponds.

Environmental Impacts of the Proposed Action

By this proposed action, Rio Algom is seeking to employ deep well injection to dispose of a variety of process waste streams. These process wastes would be injected at an average of 150 gallons per minute from an injection well drilled to a total depth of 10,100 feet below surface. The wastes would be injected into permeable portions of the Parkman, Teapot, and Teckla formations, at depths below surface ranging from 8700 to 9600 feet. Due to high levels of total dissolved solids, groundwater in these formations has been designated by the State of Wyoming, Department of Environmental Quality (WDEQ), as Class VI water (unsuitable for use).

The Smith Ranch facility is not currently operating. As a result, Rio Algom provided anticipated ranges in concentration of the principal chemical species to be contained in the composite solution. The ranges in concentration of constituents identified by Rio Algom are comparable to concentrations allowed by the NRC at other ISL facilities employing deep well disposal of process fluids.

The NRC staff limited its analysis to a review of the radiological aspects of

the proposed action, in accordance with 10 CFR 20.2002. To avoid duplication of review efforts with the State of Wyoming, the NRC staff relied on the State's analysis of the suitability of the proposed aquifers as injection zones. The WDEQ, on September 29, 1995, granted an Underground Injection Control (UIC) permit to Rio Algom for the construction and operation of a Class I injection well at the Smith Ranch ISL facility.

Based on the nature of the proposed action, the NRC staff considers the potential impacts to the general environment and offsite individuals to be negligible for the following reasons:

(1) Under the State of Wyoming's groundwater classification system, the groundwater in the formations to be impacted is considered to be Class VI (unsuitable for use);

(2) The risk of exposure to the general public from the injected fluids is negligible due to the depth below surface at which process fluids will be injected (approximately 8700 to 9600 feet);

(3) Rio Algom will be continuously monitoring the disposal well to detect and minimize a potential spill on the surface and thereby preclude the release of effluent to the unrestricted environment;

(4) Rio Algom's radiation protection program in place at the Smith Ranch facility will adequately minimize potential exposures to as low as is reasonably achievable (ALARA); and

(5) At the end of the disposal well's useful life, the disposal well system will be abandoned in accordance with the requirements of Rio Algom's Class I injection well permit with the WDEQ.

Conclusion

The NRC staff concludes that approval of Rio Algom's amendment request to employ deep well disposal as an alternate waste disposal option at its ISL facility will not cause significant environmental impacts. The NRC staff also finds that the proposed action is in accordance with 10 CFR 20.2002 and with the NRC "Staff Technical Position on Effluent Disposal at Licensed Uranium Recovery Facilities" (60 FR 27993; May 26, 1995).

Alternatives to the Proposed Action

Since the NRC staff has concluded that there are no significant environmental impacts associated with the proposed action, any alternatives with equal or greater environmental impacts need not be evaluated. The principal alternative to the proposed action would be to deny the requested action. Since the environmental impacts

of the proposed action and this no-action alternative are similar, there is no need to further evaluate alternatives to the proposed action.

Agencies and Persons Consulted

The NRC staff consulted with the State of Wyoming, Department of Environmental Quality, in the development of the Environmental Assessment. In a telephone conversation on February 5, 1996, Mr. Robert Lucht, UIC Program Supervisor, Water Quality Division of the WDEQ, stated that the WDEQ had no objections to the conclusions reached in the Environmental Assessment.

Finding of No Significant Impact

The NRC staff has prepared an Environmental Assessment for the proposed amendment of NRC Source Material License SUA-1548. On the basis of this assessment, the NRC staff has concluded that the environmental impacts that may result from the proposed action would not be significant, and therefore, preparation of an Environmental Impact Statement is not warranted.

The Environmental Assessment and other documents related to this proposed action are available for public inspection and copying at the NRC Public Document Room, in the Gelman Building, 2120 L Street NW, Washington, DC 20555.

Notice of Opportunity for Hearing

The Commission hereby provides notice that this is a proceeding on an application for a licensing action falling within the scope of Subpart L, "Informal Hearing Procedures for Adjudications in Materials Licensing Proceedings, of the Commission's Rules of Practice for Domestic Licensing Proceedings in 10 CFR Part 2" (54 FR 8289). Pursuant to § 2.1205(a), any person whose interest may be affected by this proceeding may file a request for a hearing. In accordance with § 2.1205(c), a request for a hearing must be filed within thirty (30) days from the date of publication of this Federal Register notice. The request for a hearing must be filed with the Office of the Secretary either:

(1) By delivery to the Docketing and Service Branch of the Office of the Secretary at One White Flint North, 11555 Rockville Pike, Rockville, MD 20852; or

(2) By mail or telegram addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch.

Each request for a hearing must also be served, by delivering it personally or by mail to:

(1) The applicant, Rio Algom Mining Corp., 6305 Waterford Boulevard, Suite 325, Oklahoma City, OK, 73118;

(2) The NRC staff, by delivery to the Executive Director of Operations, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852, or by mail addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

In addition to meeting other applicable requirements of 10 CFR Part 2 of the Commission's regulations, a request for a hearing filed by a person other than an applicant must describe in detail:

(1) The interest of the requestor in the proceeding;

(2) How that interest may be affected by the results of the proceeding, including the reasons why the requestor should be permitted a hearing, with particular reference to the factors set out in § 2.1205(g);

(3) the requestor's areas of concern about the licensing activity that is the subject matter of the proceeding; and

(4) The circumstances establishing that the request for a hearing is timely in accordance with § 2.1205(c).

Any hearing that is requested and granted will be held in accordance with the Commission's Informal Hearing Procedures for Adjudications in Materials Licensing Proceedings in 10 CFR Part 2, Subpart L.

Dated at Rockville, Maryland, this 8th day of February 1996.

For the Nuclear Regulatory Commission,
Daniel M. Gillen,

Acting Chief, Uranium Recovery Branch,
Division of Waste Management, Office of
Nuclear Material Safety and Safeguards.

(FR Doc. 96-3551 Filed 2-15-96; 8:45 am)
BILLING CODE 7590-01-P

[Docket Nos. 60-338 and 60-339]

Virginia Electric and Power Company,
Old Dominion Electric Cooperative;
North Anna Power Station, Units 1 and
2 Environmental Assessment and
Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License Nos. 50-338 and 50-339, issued to Virginia Electric and Power Company et al., (the licensee), for operation of the North Anna Power Station, Units 1 and 2, located in Louisa County.