



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 1, 1999

Mr. Michael L. Griffin
Manager of Environmental and Regulatory Affairs
Crow Butte Resources, Inc.
86 Crow Butte Road
P.O. Box 169
Crawford, NE 69339-0169

SUBJECT: COMPLETION OF REVIEW OF REQUESTED AMENDMENT TO SOURCE
MATERIAL LICENSE SUA-1534, CROW BUTTE URANIUM PROJECT,
NEBRASKA, DENIAL OF AMENDMENT REQUEST

Dear Mr. Griffin:

U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the request from Crow Butte Resources, Inc. to amend Source Material License SUA-1534, submitted by letter dated October 21, 1998. The request proposes revision of license condition 11.3 to discontinue quarterly sampling for natural uranium and radium 226 in all monitor and private wells within one km of the well fields. In place of the discontinued analysis, Crow Butte Resources, Inc. proposes to analyze the quarterly samples from these wells for the five excursion indicators (chloride, sodium, sulfate, conductivity, and total alkalinity). This letter and its enclosure (Technical Evaluation Report) document the results of NRC staff's review of the amendment request.

Based on its review, the staff concludes that the licensee's request to amend License Condition 11.3 is denied. An applicant for a license amendment who is issued a notice of denial has a right, under 10 CFR 2.103(b)(2), to demand a hearing to dispute the notice of denial. You have twenty (20) days from the date of this letter to dispute the findings of this denial.

If Crow Butte Resources, Inc. wishes to amend License Condition 11.3, it should reapply and explain how the proposed amendment addresses the relevant requirements of 10 CFR 20. If you have any questions concerning this subject, please contact the NRC Project Manager, Mr. William Ford, at (301) 415-6630.

Sincerely,

A handwritten signature in cursive script, reading "Charlotte Abrams for".

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

Docket No. 40-8934
License No. SUA-1534

Enclosure: As stated

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TECHNICAL EVALUATION REPORT

DATE: January 13, 1999

DOCKET NO.: 40-8943

LICENSE NO. SUA-1534

LICENSEE: Crow Butte Resources, Inc.

FACILITY: Crawford, Nebraska

PROJECT MANAGER: William Ford

TECHNICAL REVIEWERS: William Ford, John Lusher, and Duane Schmidt

SUMMARY AND CONCLUSIONS:

In a letter dated October 21, 1998, Crow Butte Resources, Inc. requested changes to License Condition 11.3 to allow discontinuation of quarterly sampling of all monitor and private wells within one km of the well fields for natural uranium and radium-226. In place of the discontinued analysis, Crow Butte Resources, Inc. proposes to analyze the quarterly samples from these wells for the five excursion indicators (chloride, sodium, sulfate, conductivity, and total alkalinity). This Technical Evaluation Report documents the results of Nuclear Regulatory Commission (NRC) staff's review of the amendment request.

Based upon information provided by the licensee, NRC staff denies the license amendment request. The staff's decision is based upon the requirements of 10 CFR 20 which require that surveys (e.g. operational environmental monitoring) be made to demonstrate compliance with dose limits to individual members of the public.

DESCRIPTION OF LICENSEE'S AMENDMENT REQUEST:

License Condition 11.3 requires the licensee to "*establish and conduct an effluent and environmental monitoring program in accordance with the program submitted by letter dated July 28, 1997.*" The July 28, 1997, letter commits to quarterly sampling of ground water for natural uranium and radium-226 from each water supply well within 1 km of the well field area and each monitor well within the well field.

The amendment request proposes revision of License Condition 11.3 so that quarterly sampling of all monitor wells and all private wells within one km of the well fields for natural uranium and

Enclosure

radium 226 is discontinued. In place of the discontinued analysis, Crow Butte Resources, Inc. proposes to analyze the quarterly samples for the five excursion indicators (chloride, sodium, sulfate, conductivity, and total alkalinity).

TECHNICAL EVALUATION:

Crow Butte Resources, Inc. samples monitor wells (perimeter, shallow aquifer, and evaporation pond) quarterly for natural uranium and radium-226. Crow Butte Resources, Inc. believes that quarterly sampling for these analytes is unnecessary, because the purpose of groundwater sampling is early detect of excursions from the well fields. Crow Butte Resources, Inc. points out that uranium and radium are not good indicators of excursions. Therefore, Crow Butte Resources, Inc. proposes to discontinue quarterly sampling for natural uranium and radium-226 of all monitor wells and all private wells within one km of the well fields. Instead the wells would be monitored for the five excursion indicators (chloride, sodium, sulfate, conductivity, and total alkalinity). This would result in less sampling for the licensee, because license conditions 10.4 and 11.2 require that all designated perimeter and upper aquifer monitor wells shall be sampled and tested no more than 14 days apart for the five excursion indicators. This means that the 14 day sampling of monitor wells would satisfy the quarterly sampling requirement of License Condition 11.3.

License Conditions 10.4 and 11.2 were written to satisfy NRC obligations under the National Environmental Policy Act of 1969 (NEPA) as interpreted by the courts. NEPA requires NRC to mitigate radiological and non radiological environmental impacts resulting from Agency actions, to the extent possible, through its licensing.

Whereas, License Condition 11.3 addresses regulatory requirements described in 10 CFR Part 20, Subparts D and F (10 CFR 20.1302 and 10 CFR 20.1501, in particular). These Subparts require surveys (e.g. operational environmental monitoring) be made to demonstrate compliance with dose limits to individual members of the public.

As described on pages 5-33 to 5-35 of NUREG 1569 (NRC, 1997), it is acceptable to the NRC staff if the environmental monitoring program is consistent with Regulatory Guide 4.14, Sections 1.1 and 2.1 (NRC, 1980).

Section 2.1.2 (page 4.14-4) of Regulatory Guide 4.14 describes operational groundwater monitoring programs that are acceptable to the NRC staff. It states that:

Samples of ground water should be collected from at least three sampling wells located hydrologically down gradient from the tailings area and from one background well located hydrologically up gradient. The samples should be collected monthly through the first year of operation and quarterly thereafter from the same downslope and background wells that were used for preoperational samples.

Samples should be collected at least quarterly from each well within two kilometers of the tailings area that is or could be used for drinking water, watering of livestock, or crop irrigation.

Furthermore, Section 2.2 (page 4.14-5) states that:

Water samples should be analyzed for natural uranium, thorium-230, radium-226, polonium-210, and lead-210. Ground-water samples from sources not expected to be used as drinking water should be analyzed for dissolved radionuclides. Ground-water samples from sources that could be used as drinking water for humans or livestock and all surface water samples should be analyzed separately for dissolved and suspended radionuclides. These results should be used to determine radionuclide concentrations for ground water and natural bodies of water.

Regulatory Guide 4.14 also provides guidance on sampling methods, lower limits of detection, and monitoring requirements for air, vegetation, food, fish, soil and surface water.

Since the justification for the amendment request does not address the requirements of 10 CFR 20, the amendment request to License Condition 11.3 is denied.

Summary

As discussed above, the staff denies the request to amend License Condition 11.3 of License SUA-1534. The staff suggests that if Crow Butte Resources, Inc. wishes to amend license condition 11.3, it should reapply and explain how the proposed amendment addresses the relevant requirements of 10 CFR 20.

Environmental Impact Evaluation

Denial of this amendment request will not result in increased environmental impacts.

References Cited

U.S. Nuclear Regulatory Commission, 1980, "Radiological Effluent and Environmental Monitoring at Uranium Mills", Revision 1, Regulatory Guide 4.14, Washington, DC: U.S. Nuclear Regulatory Commission, Office of Standards Development.

U.S. Nuclear Regulatory Commission, 1997, "Draft Standard Review Plan for In Situ Leach Uranium Extraction License Applications", NUREG-1569.

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Based on its review, the staff concludes that the licensee's request to amend license condition 11.3 is denied. An applicant for a license amendment who is issued a notice of denial has a right, under 10 CFR 2.103(b)(2), to demand a hearing to dispute the notice of denial. You have twenty (20) days from the date of this letter to dispute the findings of these denials.

It is suggested that if Crow Butte Resources, Inc. wishes to amend license condition 11.3, it should reapply and explain how the proposed amendment addresses the relevant requirements of 10 CFR 20. If you have any questions concerning this subject, please contact the NRC Project Manager, Mr. William Ford, at (301) 415-6630.

Sincerely,

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

Docket No. 40-8934
License No. SUA-1534
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Case Closed: L51746

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[C. Abrams for]

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