

March 7, 2001

Donna Wichers, General Manager
COGEMA Mining, Inc.
935 Pendell Boulevard
P.O. Box 730
Mills, WY 82644

SUBJECT: COGEMA 'S OPTIONS FOR COMPLIANCE - SURFACE DISCHARGE OF RESTORATION FLUID; SOURCE MATERIAL LICENSE SUA-1341

Dear Ms Wichers:

The U.S. Nuclear Regulatory Commission (NRC) has reviewed COGEMA Mining, Inc's (COGEMA) request (electronic mail dated August 23, 2000) for clarification on the regulation of effluent surface discharge from its In-Situ Leach facilities for which they have a National Pollutant Discharge Elimination Standards (NPDES) permit. The NRC staff understands that, at the Irigaray and Christensen Ranch facilities (Source Material license SUA-1341), COGEMA has been intermittently discharging restoration fluid (after removing some uranium, dissolved solids, and radium) into Willow Creek, which is dry more than half the year. This discharge has been done under an U.S. Environmental Protection Agency (EPA) NPDES permit issued by the State of Wyoming. The NRC Commission decision (Staff Requirement Memorandum for SECY 99-013) on July 26, 2000, stated that all liquid effluents at in-situ leach uranium recovery facilities are 11e.(2) byproduct material. This revised policy was to be effective immediately.

The revised NRC policy means that COGEMA must now demonstrate that the Willow Creek discharge points meet NRC soil release criteria for byproduct material. More importantly, it means that the restoration discharge fluid that met EPA standards for release of uranium (2 mg/l monthly), may now exceed the 10 CFR Part 20, Appendix B, Table 2 annual effluent concentration limit for uranium (0.44 mg/l) for one of the discharge points.

In a phone call December 15, 2000, you indicated that COGEMA will need to discharge effluent for at least 4 years to complete restoration of the well fields at the two facilities. You identified operational options for dealing with the restoration fluid now that it is 11e.2 byproduct material, but indicated that the options are very expensive. The options were (1) a new deep injection well costing approximately one million dollars, (2) an evaporation pond of the needed capacity costing about two million dollars, and (3) a reduction in restoration rate, which would extend the restoration period by 5 years and add three million dollars to the restoration cost. You requested regulatory options for meeting effluent release criteria.

According to 10 CFR 20.1302(a), licensees must demonstrate that effluents released to unrestricted areas comply with the public dose limit in §20.1301. One method for this demonstration is to meet the conservative values in Table 2 of Part 20 Appendix B, plus the external dose limits in §20.1302(a)(2)(ii). The Part 20 Appendix B effluent limits would be compared to the total annual activity discharged divided by the total annual effluent flow rate. Since the two discharge points are to the same creek channel, the annual average concentration at the two points could be used. However, COGEMA should be aware of the

March 7, 2001

application of the "unity" rule (sum of ratios) to mixtures of radionuclides as described in Notes 2 and 4 of Appendix B. The "as low as is reasonably achievable" principle would also apply.

The second method of demonstrating compliance is measurement or calculation of the total effective dose equivalent to the individual most likely to receive the highest dose from the effluent and from other licensed operations. Several dose assessment codes are acceptable for the calculations and reasonably conservative parameter values should be used, based on expected/likely conditions.

Please provide the required demonstration of compliance by July of this year. If you have any questions concerning this letter, please contact Elaine Brummett, the NRC project manager for the Irigaray and Christensen Ranch facilities, at (301) 415-6606 or by e-mail to esb@nrc.gov. In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC PUBLIC Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electron Reading Room).

Sincerely,

/RA/

Philip Ting, Chief
Fuel Cycle Licensing Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Safety and Safeguards

Docket No: 40-8502
SUA-1341

cc: G. Mooney, WDEQ - District III
R. Poyser, COGEMA

March 7, 2001

application of the "unity" rule (sum of ratios) to mixtures of radionuclides as described in Notes 2 and 4 of Appendix B. The "as low as is reasonably achievable" principle would also apply.

The second method of demonstrating compliance is measurement or calculation of the total effective dose equivalent to the individual most likely to receive the highest dose from the effluent and from other licensed operations. Several dose assessment codes are acceptable for the calculations and reasonably conservative parameter values should be used, based on expected/likely conditions.

Please provide the required demonstration of compliance by July of this year. If you have any questions concerning this letter, please contact Elaine Brummett, the NRC project manager for the Irigaray and Christensen Ranch facilities, at (301) 415-6606 or by e-mail to esb@nrc.gov. In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC PUBLIC Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electron Reading Room).

Sincerely,
/RA/

Philip Ting, Chief
Fuel Cycle Licensing Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

Docket No: 40-8502
SUA-1341, Amendment No. 4

cc: G. Mooney, WDEQ-LQD
R. Poyser, COGEMA

DISTRIBUTION: BSpitzberg, RIV FCLBr/f ACNW

DOCUMENT NAME: C:\COGEMA's Options for Compli~.wpd
Accession No. ML

OFC	FCLB		FCLB		OGC		FCLB	
NAME	EBrummett		DGillen		STreby		PTing	
DATE	1/31/01		2/1/01		3/5/01		3/7/01	