

Return to: WMUR 461-55
Docket 40-8697
PDR

Distribution: 301

JUN 24 1981

✓ Docket file
PDR
IE HQ (2)
Mill file
WMUR c/f
WMUR r/f
WM r/f
NMSS r/f
FWRoss
JJLinehan
DEMartin
HJPettengill
REBrowning
JBMartin
BPFisher

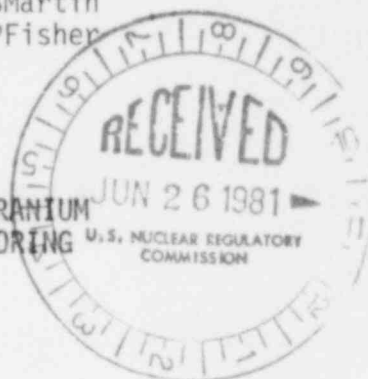
WMUR:FWR
Docket No. 40-8697

MEMORANDUM FOR: Ross A. Scarano, Chief
Uranium Recovery Licensing Branch

THRU: John J. Linehan, Section Leader
Operating Facilities Section I
Uranium Recovery Licensing Branch

FROM: Frederick W. Ross
Operating Facilities Section I
Uranium Recovery Licensing Branch

SUBJECT: ROCKY MOUNTAIN ENERGY COMPANY'S RENO CREEK URANIUM
SOLUTION MINE QUARTERLY AND SEMIANNUAL MONITORING
REPORTS
(DOCKET NO. 40-8697)



BACKGROUND:

Rocky Mountain Energy Company (RMEC), licensed since September 30, 1978, is conducting research and development in-situ uranium leach mining on a 40 acre project site located at Reno Creek, Campbell County, Wyoming. The initial five spot configuration consists of a recovery well and four injector wells spaced 40 feet apart. Excursions are monitored by six additional wells, four in the ore zone and one in the overlying and underlying aquifers.

Shortly after beginning acid injection in February, 1979, circulation problems developed from gypsum scaling and well screen and filter plugging by a fungus growth. Due to these problems, the pattern was never fully mined, and in November, 1979, leaching was terminated and restoration begun.

Restoration procedures have been to run production fluid through a restoration circuit and solids separator. The solids underflow is discharged to the evaporation pond and the overflow reinjected into the pattern. Production and injection wells are periodically treated to reduce injection pressures and improve flow rates. According to RMEC,

OFFICE	8107280013	810624					
SURNAME	PDR	ADOCK	04008697				
DATE	4/25						
	C	PDR					

pattern water quality, although continuing to improve, may not be restorable to background conditions, which is the restoration goal in their license. Presently, RMEC will renegotiate pattern I restoration goals and criteria with the Wyoming DEQ.

In July, 1980, RMEC was issued a license amendment allowing a change in lixiviant to sodium bicarbonate from sulfuric acid and shortly after a second 50 foot radius six spot pattern was completed. Leaching began on October 1, 1980, and was successful enough to deplete the pattern of uranium by mid-December.

Restoration of Pattern II began on December 22, 1980, with the reinjection of R.O. treated water. In February, an ion exchange circuit was added eventually eliminating the need for treatment by R.O. By March 13, 1981, ion concentration levels became too low to be further reduced by either R.O. or I.X. and a groundwater sweep was begun. RMEC is planning to discontinue the sweep shortly, since no further improvement in water quality is occurring. In fact, RMEC suggests that oxygenated water brought in by the sweep may be mobilizing some trace metals.

On April 3, 1981, RMEC filed a post-restoration monitoring plan with the NRC pursuant to Condition 14 of the Source Material License.

REVIEW OF QUARTERLY MONITORING REPORTS

I have reviewed the Quarterly Reports for July-September, 1980 and October-December, 1980, and find them deficient in the presentation of excursion control monitor well data. The only monitor well data presented are four excursion control parameters from a round of samples taken near the end of each quarter. License Condition No. 15 requires that monitor wells be sampled for excursion parameters biweekly and for a full suite quarterly, although License Condition No. 29, governing quarterly reports, does not specify that all monitor well data be presented. Nevertheless, to properly evaluate operations at the site, all monitor well data should be included in the quarterly reports.

Apart from the deficiency discussed above, the quarterly reports are complete and accurate and in compliance with conditions of the license. In summary, both test patterns are in restoration, no excursions have occurred based on the data presented in the reports (reporting of excursions is required by license) and a post-restoration monitoring plan for Pattern II has been submitted for NRC approval.

REVIEW OF SEMI-ANNUAL MONITORING REPORT

I have reviewed the Semi-annual Effluent Monitoring Report for July-December, 1980 and find it complete and accurate and in compliance with

OF. ICE ▶						
SURNAME ▶						
DATE ▶						

JUN 24 1981

Ross A. Scarano

- 3 -

conditions of the license. In summary, levels of radioactive emissions around the site are reported to be well within maximum permissible concentrations.

PROPOSED COURSE OF ACTION

To better enable the NRC staff to evaluate operations at the Reno Creek Facility, it is proposed that RMEC be asked to furnish all excursion control monitor well data, required by License Condition No. 15, for the past two quarters and that the license be amended to require the submittal of this data in all future quarterly reports.

In light of the problems that occurred in Pattern I with use of an acid lixiviant, RMEC believes that restoration to background levels, as defined and established by criteria in the license and supportive attachments to the application, is highly unlikely. It is proposed, if new restoration goals and criteria are determined by the DEQ and if requested by RMEC, that the NRC consider amendment of the license establishing new goals and criteria for Pattern I. Pattern II restoration goals and criteria, as established by License Condition No. 33, and providing for the return of Pattern II water to preinjection background levels for all parameters (32), will remain unchanged. It is also proposed that NRC approve a Pattern II post-restoration monitoring plan similar to the one submitted on April 3, 1981, pursuant to License Condition No. 14 and that the license be amended to include such a plan.

Original signed by

Frederick W. Ross
Operating Facilities Section I
Uranium Recovery Licensing Branch
Division of Waste Management

Cases Closed: 04008697M01E
M02E
M03E

OFFICE	WMUR	WMUR					
SURNAME	FWRoss	Bullinan					
DATE	6/27/81	6/27/81					