

AUG 23 1982

DISTRIBUTION
 Docket File 40-8380
 PDR
 WMUR r/f
 WMUR w/f
 WM w/f
 NMSS r/f
 NRC Region IV
 KLKalman
 JJLinehan
 DEMartin
 HJPettengill
 RAScarano
 REBrowning
 JBMartin
 BFisher

WMUR:KLG
 Docket No. 40-8380
 04008380140E

MEMORANDUM FOR: Docket File No. 40-8380

FROM: Kenneth L. Kalman
 Operating Facility Section I
 Uranium Recovery Licensing Branch

SUBJECT: REVIEW OF ROCKY MOUNTAIN ENERGY COMPANY'S (RMEC'S)
 SURETY INSTRUMENT AND ENSUING AMENDMENT OF LICENSE
 CONDITION 37 OF SOURCE MATERIAL LICENSE SUA-1228,
 AMENDMENT NO. 3.

In accordance with requirements of License Condition No. 37 of Source Material License SUA-1228, RMEC submitted a copy of the Reclamation Performance Bond posted with the Wyoming Department of Environmental Quality (WDEQ) along with an estimate of the reclamation costs for the Nine Mile Lake ISL Test Site. In a telephone conversation on May 25, 1982, RMEC's Michael Neumann provided revisions of these costs. These revisions are noted on the attachment to this memorandum entitled "1980 Estimate of Reclamation Costs, Nine Mile Lake ISL Test Site".

Surface Reclamation

RMEC's revised estimates of surface reclamation costs were compared to costs listed in the final Generic Environmental Impact Statement (FGEIS) and to estimates accepted by WDEQ for other in-situ facilities; Cleveland Cliffs Iron Company - Collins Draw, Uranerz - Ruth Project and Uranium Resources Incorporated - North Platte.

The revised estimates of surface reclamation and their comparisons with the FGEIS and other sources of cost estimates are discussed below:

- 1) Although the 1980 estimate covered the cost of reclaiming three evaporation ponds, the largest of these, a 27-acre pond was never constructed. Therefore, the revised estimate is based on reclaiming only 9 acres of land. This caused the reduction in costs 1 to 4 listed under surface reclamation of the evaporation ponds.

20077

OFFICE : WMUR : WMUR : : : : : 40-8380/k1k/82/08/02/0

NAME : KLKalman:ag : JJLinehan : : : : : :

DATE : 8/ /82 : 8/ /82 : : : : : :

AUG 23 1982

D:\008380140E

- 2 -

- 2) RMEC's estimate of \$0.85/yd³ for sludge excavation was in line with the FGEIS cost estimate of \$0.83/yd³, assuming the use of a scraper and drag line, and the Means 1982 Building Construction Cost Data estimate of \$0.82/yd³ using a front-end loader. On the other hand, RMEC did not include the cost of hauling the sludge 80 miles to the Bear Creek site for disposal. RMEC estimates 24,546 tons of sludge will have to be moved and estimates the cost of hauling it to be \$0.10/ton/mile which brings the total cost of excavating and hauling up to \$216,168.00. In comparison, the FGEIS shows the hauling cost to be \$0.22/ton/mile, but this is based on a shorter haul. However, RMEC's estimate is in line with the Wyoming State Highway Department and the Means 1982 Building Construction Cost Data estimates showing that a haul of this nature would cost \$0.09 - \$0.10/ton/mile.
- 3) No estimate was given for revegetating Pattern 1 because it has already been seeded twice and RMEC does not believe any further seeding to be necessary. RMEC estimates a revegetation cost of \$500 per acre for patterns 2, 3, and 4 which is in line with the NRC staff's estimate of \$450.00 per acre for a single seeding. The staff believes that a single seeding with an appropriate mixture of seed and soil conditioner should provide adequate revegetation.

Although the costs for revegetation of miscellaneous areas listed are not directly comparable, due to the way the costs are itemized and inherent differences between projects, general comparisons were made with other projects. For example, RMEC estimated the cost of revegetating miscellaneous sites such as roads and parking areas at a total cost of \$11,900.00 for a 24.8 acre area or an average cost of \$480.00 per acre. RMEC's estimate is generally in line with the Uranerz estimate, which for similar activities, averaged \$550.00 per acre. Based on comparisons of this nature the staff concluded that RMEC's estimates were generally within line of other cost estimates. In addition, this cost of \$480.00 per acre compares well with the staff's estimate of \$450.00 per acre.

- 4) These revisions cause the total affected area to drop to 43.9 acres and the cost of reclaiming the surface of this area to increase to \$231,718.00.

Decommissioning

RMEC's estimate of \$59,900.00 for decommissioning was generally within range of cost estimates independently developed by the NRC staff. For

OFC :	WMUR	:	WMUR	:	:	:	:	:	40-8380/k1k/82/08/02/0
----	----	----	----	----	----	----	----	----	----
NAME :	KLK:alman:ag	:	JJ:Linehan	:	:	:	:	:	:
----	----	----	----	----	----	----	----	----	----
DATE :	8/ /82	:	8/ /82	:	:	:	:	:	:

AUG 23 1982

04008380140E

- 4 -

hand, pursuant to WDEQ's disapproval of deducting the salvage value of the reverse osmosis equipment RMEC has added the formerly deducted value of \$33,000.00 back into its estimate.

Conclusions and Recommendations

RMEC is currently bonded for \$498,660.00. Based on RMEC's cost revisions the total cost of reclamation would be \$291,618.00. Restoration of Patterns 3 and 4 has not yet been officially approved by WDEQ or the NRC, hence the \$158,230.00 cost of restoration should not yet be eliminated. This increases the total cost to \$449,848.00. On the other hand, since RMEC has already made the capital expenditure for reverse osmosis equipment (\$35,000.00) and the water pre-treatment equipment (\$10,000.00), \$45,000.00 can be deducted from the total cost which would then be reduced to \$404,848.00. Adding the customary 20% contingency (approximately \$81,000.00) the total cost would be \$485,848.00 which is below the bonded amount of \$498,660.00.

Based upon the above cited considerations, the staff has concluded that the amount bonded for the Nine Mile Lake ISL Test Site is adequate and recommends that RMEC's surety be accepted and that License Condition No. 37 be amended as follows:

- 37. The licensee shall maintain a surety to cover all groundwater restoration and all reclamation and decommissioning, including the cost of offsite disposal of radioactive solid process or evaporation pond residues and a decontamination survey. Surety arrangements covering the cost of restoration of the Nine Mile Lake ISL Test Site and the costs of decontamination, decommissioning, and reclamation of above-grade facilities shall be provided by Wyoming DEQ Bond No. 4330515. The licensee shall only conduct restoration and reclamation operations at the Nine Mile Lake ISL Test Site, unless otherwise authorized by prior amendment of this condition. At least ninety (90) days prior to the expiration date of existing Wyoming DEQ Bond No. 4330515 or of any subsequent sureties, or any revision to existing surety arrangements, the licensee shall submit a copy of the proposed new surety or revision, and supporting documentation providing a detailed basis for the covered restoration, reclamation, and decommissioning costs, to the NRC Uranium Recovery Licensing Branch for review and approval. Surety arrangements shall be updated at least annually to account for inflation.

OFC :	WMUR	:	WMUR	:	:	:	:	:	40-8380/k1k/82/08/02/0
NAME :	KLKalman:ag	:	JJLinehan	:	:	:	:	:	:
DATE :	8/ /82	:	8/ /82	:	:	:	:	:	:

AUG 23 1982

04008380140E

- 5 -

This amendment has been discussed with RMEC's Michael Neumann, who was in accord.

181

Kenneth L. Kalman
Operating Facility Section I
Uranium Recovery Licensing Branch
Division of Waste Management

181

Approved By:

John J. Linehan, Section Leader
Operating Facility Section I
Uranium Recovery Licensing Branch

Enclosure:

Case Closed: 04008380140E

OFC	: WMUR	: WMUR	:	:	:	:	: 40-8380/k1k/82/08/02/0
NAME	: KLKalman:ag	: JJLinehan	:	:	:	:	:
DATE	: 8/20/82	: 8/20/82	:	:	:	:	:

1980 ESTIMATE OF RECLAMATION COSTS
NINE MILE LAKE ISL TEST SITE

I. Surface Reclamation - Disturbed Areas

	<u>Cost/Acre</u>	<u>Acres</u>	<u>Total Cost</u>
A. Evaporation Ponds¹			
1. Backfill & contouring	1430	9 36	72570.00 \$51480.00 12870.
2. Ripping & chiseling	30	9 36	270.00 900.00 270.
3. Topsoil replacement	240	9 36	8640.00 2160.
4. Revegetation (mulching, seeding, fertilizing)	500	9 36	18000.00 4500.
5. Sludge Haulage (includes .85/yd ³ 10¢/ton/mile to move 24,546 tons 80 miles to Bear Creek ²)	121000 yd ³	121000 16,928 36	102850.00/96368.
Total Affected Area		36	181870.00 216,168.0
B. Wollfields - Revegetation			
1. Pattern II	500	1.3	650.00
2. Pattern III	500	3.0	1500.00
3. Pattern IV	500	3.0	1500.00
Total Affected Area		10.1	3650.00
C. Miscellaneous - Revegetation			
1. Plant site	500	0.3	150.00
2. Roads, parking area	500	4.0	1500.00
3. Office site	500	0.5	250.00
4. Topsoil stockpiles	500	15.0	7500.00
5. Borrow & disturbed areas	500	5.0	2500.00
Total Affected Area		24.8	11900.00
TOTAL		76.9 43.9	197420.00 231,718.0

¹Includes old evaporation pond (six acres), new treated water reservoir (three acres), proposed cell of commercial evaporation reservoir (27-acres)

II. Subsurface Restoration - Pattern III²

	<u>Total Cost</u>
A. Reverse Osmosis (R.O.) Equipment	\$35000.00
B. Water Pre-Treatment Equipment	10000.00
C. Sample Analysis - \$315/sample x 36 samples	11340.00
D. Chemical Reagents	3300.00
E. Labor, Operating, Overhead Costs	<u>57500.00</u>
Subtotal	117140.00

III. Subsurface Restoration - Pattern IV³

A. Sample Analysis	11340.00
B. Chemical Reagents	1000.00
C. Labor, Operating, Overhead Costs	<u>28750.00</u>
Subtotal	41090.00

TOTAL 158230.00

RMEC wanted to eliminate this

IV. Decommissioning Costs

A. Equipment Removal, Decontamination	22000.00
B. Well Abandonment	
1. Pattern wells - 66 @ \$500/well	33000.00
2. Baseline wells - 16 @ \$250/well	4000.00
3. Pond monitor wells - 18 @ \$50/well	<u>900.00</u>
Subtotal	59900.00

C. Salvage Value

1. R.O. circuit	<i>DEQ didn't</i> (30000.00)
2. Process equipment	<i>allow salvage</i> <u>(8000.00)</u>
Subtotal	<i>value</i> (38000.00)

TOTAL ~~21900.00~~
59900.00

² Assumes 6-month restoration period

³ Assumes 3-month restoration period

V. Total Reclamation Costs

A. Surface Reclamation	231718.00	197420.00
B. Subsurface Restoration	0.00	158230.00
C. Decommissioning	<u>59900.00</u>	<u>21900.00</u>

GRAND TOTAL 291,618.00 ~~\$377550.00~~