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Docket 40-8380
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UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
URANIUM RECOVERY FIELD OFFICE
BOX 26325
DENVER, COLORADO 80225

NOV 23 1982

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Docket No. 40-8380
04008380150E

MEMORANDUM FOR: Docket File No. 40-8380

FROM: Kenneth L. Kalman
Uranium Recovery Field Office
Region IV

SUBJECT: REVIEW OF ROCKY MOUNTAIN ENERGY COMPANY (RMEC)
SECOND QUARTERLY REPORT (APRIL 1 - JUNE 30, 1982)
NINE MILE LAKE SITE

Program Status

All four well patterns were inactive during the second quarter. The only activities at the patterns consisted of monthly sampling of selected wells. As discussed in the review of the first quarterly report, RMEC will soon be submitting restoration reports for all four patterns. Stabilization monitoring has been completed at Patterns 1, 2, and 4. Six months of restoration monitoring of Pattern 3 was completed on February 1, 1982 and the six-month stabilization monitoring period for the pattern was completed on August 1, 1982. Although they have a current NPDES permit, RMEC reported that there were no surface discharges during this quarter.

Groundwater Quality Data

Groundwater quality at Pattern 1 exceeded the highest value of the pattern baseline range for conductivity, calcium, chloride, magnesium, sodium, sulfate, TDS and radium-226 by more than one hundred percent. On the other hand, groundwater quality at the other three patterns was within baseline ranges or close to baseline ranges. Also, there were no excursions during the reporting period. Groundwater quality will be reviewed in greater detail when RMEC submits its final Nine Mile Lake restoration report in September.

Air Quality Data

Due to lengthy lab turnaround times, RMEC generally submits its in-plant and environmental radiometric air particulate data one calendar quarter behind

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schedule. Hence, the data presented in this second quarterly report was actually collected during the first quarter of 1982. Review of this data indicated the values for radon-226, thorium-230 and uranium-238 to be less than one percent of the applicable 10 CFR 20 MPC's. Radon gas and radon daughter samples taken at in-plant and environmental locations were also found to be well below the applicable 10 CFR 20 MPC's.

External radiation was reported for 15 of 17 required sites, including both in-plant and wellfield areas. Two other sampling sites, located at Pattern 1, and the reverse osmosis feed tank were not reported for the second quarter because the TLD badges were lost. RMEC has replaced these badges and will include data from them in the next quarterly report.

NRC staff has determined that RMEC has been incorrectly calculating the dosimetry at these sampling sites. RMEC should be subtracting the measurements at the control site from the measurements recorded at the other sampling sites to provide an actual measurement of exposure received at the sampling site during the quarter. Instead, RMEC has been reporting area dosimetry in terms of mrem/week as computed by Eberline. The error arises because Eberline bases its computation on the length of time that the badges have been out of Eberline's lab. Therefore, Eberline is averaging the exposure the badge received while in transit and awaiting placement along with the exposure that the badge actually received at the sampling site. This problem was discussed with RMEC's Michael Neumann who then provided the correct data by telephone conversation. Mr. Neumann agreed to send a copy of the Eberline lab report to back-up the data he reported. He also agreed to attach the lab reports to future quarterly report submittals and will use the revised method to provide the area dosimetry in units of mrem/quarter.

NRC staff review of the data provided by Mr. Neumann showed worker exposure at all sites to be well under the 1250 mrem/quarter limit imposed by 10 CFR 20. For example, Mr. Neumann reported the control value to be 36 mrem/quarter and the site of highest exposure to be at the charcoal columns where 2876 mrem/quarter were measured. The other sites measured only 29.5 to 69.2 mrem/quarter. Nevertheless after subtracting the control (36 mrem/quarter) from the measurement at the charcoal columns (2876 mrem/quarter), the actual quarterly exposure at the columns becomes 2840 mrem/quarter. Based on an average 40 hour-work week, worker exposure is only 24 percent of the actual quarterly exposure. Therefore, even if a worker stood at the charcoal columns for a full 40-hours per week, he would only have received 681.6 mrem/quarter, or about half of the 1250 mrem/quarter limit. In view of the below limit exposure levels reported during this and in previous quarterly reports, the

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staff concluded that there is no need to raise concern regarding the two TLD badges that were lost during this reporting period.

Reservoir Data

As required, reservoirs A and B were sampled in April, May and June for all parameters listed in Schedule F of RMEC's September 25, 1982 submittal entitled "Radiation Sampling and Monitoring - ISL Facilities".

Alpha Survey

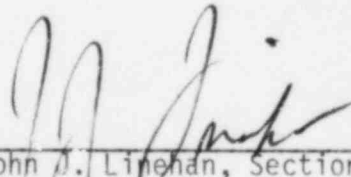
Data indicated all samples taken to be between 10 to 40 percent of the 1000 dpm/100 cm² removable alpha action level imposed by License Condition No. 17. No detectable concentrations were reported for the main office.

Summary and Follow-up Actions

NRC staff will await Mr. Neumann's submittal of the Eberline lab report that was used to provide the area dosimetry data for this review. Mr. Neumann has agreed to enclose these lab reports with future quarterly reports on the Nine Mile Lake site as well as reporting area dosimetry in terms of mrem/quarter. NRC staff, under separate case number, will be reviewing groundwater quality at this site. All required data, except for data from the two lost TLD badges was submitted. The badges were replaced and will be included in the next quarterly report. No other follow-up actions are required as a result of this review.

Kenneth L. Kalman
Kenneth L. Kalman
Uranium Recovery Field Office
Region IV

Approved By:


John J. Linehan, Section Chief
Uranium Recovery Field Office
Region IV

Case Closed: 04008380150E