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EXXON COAL and MINERALS COMPANY

POST OFFICE BOX 1314 • HOUSTON, TEXAS 77251-1314

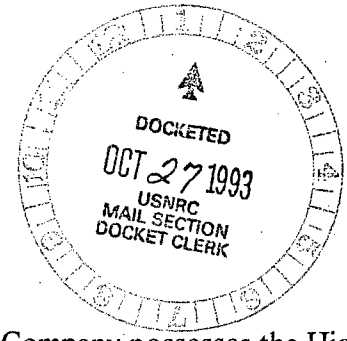
ENVIRONMENTAL AFFAIRS & SAFETY

JAMES D. PATTON
Manager

October 21, 1993

License No. SUA-1139
Docket No. 40-8102

Mr. Ramon E. Hall, Director
Nuclear Regulatory Commission
Region IV
Uranium Recovery Field Office
P.O. Box 25325
Denver, CO 80225



Dear Mr. Hall:

Exxon Corporation c/o Exxon Coal and Minerals Company possesses the Highland uranium tailings basin under License No. SUA-1139. The purpose of this letter is to solicit comments on a plan to gain NRC approval to end seepage recovery around the tailings basin.

Attached is an outline for NRC comment of a license amendment application to allow seepage recovery to end without setting Alternate Concentration Limits (ACLs). Continuation of seepage recovery is preventing Exxon from completing final surface reclamation of the tailings basin. Continued seepage recovery is without merit because the wells can not recover water at a significant rate due to the low ground water levels and most of the potentially hazardous constituents now meet the current standards and are not being affected by the pumping. Furthermore, there is no significant potential for exposure to potentially hazardous constituents at concentrations that remain above the standards before natural processes will reduce these concentrations.

The following discussion summarizes the history of the tailings seepage and the corrective action program that would be elaborated in the application.

Tailings disposal began in October 1972. Atomic Energy Commission license No. SUA-1139 issued October 5, 1972 authorized this activity. An Environmental Impact Statement (EIS) was issued in 1973. It addressed the expected seepage impacts. Operations were approved with the understanding that seepage from the basin would occur, but the impacts would be limited in area in a location with an extremely low

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population density. Tailings disposal ended in 1984 and by 1989 the tailings basin had been largely reclaimed.

In 1986 the NRC sampled and analyzed the tailings basin liquid for organic, inorganic and radioactive constituents. The analyses found sufficient concentrations of some inorganic elements and radionuclides that these might be potentially hazardous constituents. In 1988 Exxon completed a formal leak detection program that confirmed the basin seeped liquid into the uppermost aquifer. This was as designed, as reviewed in the EIS and as seen in the previous monitoring. In 1988 Exxon completed an initial compliance monitoring program to measure potentially hazardous constituents at wells placed at NRC approved Points of Compliance (POC).

After NRC reviewed the compliance monitoring data, the agency amended the license in 1988 to include ground water protection standards for the potentially hazardous constituents. The NRC also placed a requirement in the license to develop a corrective action plan due to exceedance of some of the ground water protection standards.

In 1989 Exxon submitted a corrective action plan. This included reducing future seepage from the basin through surface reclamation and allowing natural processes to mitigate the seepage to achieve the standards. This was essentially the plan envisioned in the EIS. Exxon provided information that showed that no practicable technology could achieve the license standards sooner than could be achieved by natural processes. In this context practicable technology means corrective actions that are technically feasible, do not have unreasonable costs, do not require the commitment of resources out of proportion to the benefits to be achieved and can be completed successfully in a reasonable amount of time. Exxon proposed ACLs that were protective of human health and the environment at potential Points of Exposure (POE) and were As Low As Reasonably Achievable (ALARA). ALARA limits were established at essentially the then current highest concentrations measured at the POCs.

In a letter dated July 3, 1989, NRC advised Exxon that NRC did not approve the ACLs and instructed Exxon to prepare another corrective action plan. NRC maintained that, "Selective pumping of wells with elevated levels of hazardous constituents will reduce hazardous constituent concentrations in the aquifer." NRC also stated "...with reasonable efforts, considerable improvement in the future ground-water quality can be accomplished at the site. Due to this, we are unable to approve your request for alternate concentration limits at this time." Finally, NRC stated, "Following operation of your corrective action program and based upon the monitoring gained during its operation, an alternate concentration limit proposal would be appropriate."

Exxon proposed pumping from five wells in the area of the highest concentrations of potentially hazardous constituents and disposing of the water into an evaporation pond. NRC approved this plan and deferred approving of the ACLs pending a demonstration through pumping of what the resulting ALARA concentrations would be.

Since 1989 the correction action program has recovered over 10 million gallons of water. Pumping one of the wells was discontinued soon after it began, with NRC concurrence, because water recovery at this well was insignificant. Declining water levels have reduced pumping to an average total rate of about four gallons per minute from the other four wells. Only two of the wells are still capable of producing over 500 gallons per day.

Since pumping began nearly four years ago there has been a significant decline in most of the potentially hazardous constituent concentrations so that most constituents nearly always fall below the license standards. We believe this improvement is from natural processes as the improvement has been selective. The water quality measurements of major non-hazardous constituents remain nearly the same as four years ago.

The nickel, uranium and radium concentrations remain above the current standards at some of the wells. The ALARA concentrations of these constituents through seepage recovery have been demonstrated. As previous Exxon reports have shown, the concentrations of these three constituents will not significantly affect any POE. These earlier reports describe the natural processes that have improved most of the potentially hazardous constituent concentrations already and will restore the nickel, uranium and radium concentrations to background conditions after ground water levels are restored to natural levels.

As you know, the NRC 10 CFR Part 40 Appendix A regulations promulgated November 13, 1987 include three bases for ground water protection standards. These are EPA drinking water standards, background concentrations, and ACLs. NRC conducted seminars on ACLs in October of 1988 and December of 1991. The NRC has also reviewed a December, 1992 Staff Technical Position on ACLs that gives detailed guidance on preparation and review of ACL applications. However, we understand this Staff Technical Position has not been approved by the NRC and the agency will not review ACL applications until a position is approved.

NRC approval of a license amendment application as described in the attached outline would allow Exxon to end seepage recovery without setting ACLs. Ground water monitoring would continue for a time to document the absence of adverse trends after pumping ceases. When this stabilization monitoring is completed, the pumping facilities and monitor wells would be decommissioned. Final tailings basin reclamation could then be completed.

Please feel free to call David M. Range at (713) 978-5438 if you have any questions on this letter.

Yours truly,

c: D. M. Range

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OUTLINE OF APPLICATION

Cover Letter

- Identification of Licensee and Purpose of Letter
- License Amendment Request
  - Amend Certain Ground Water Protection Standards to Recognize Background Data
  - Delete Requirement to Operate Current Corrective Action Plan
  - Incorporate in License by Reference a Stabilization Monitoring Plan and a Decommissioning Plan for Corrective Action Facilities and Monitor Wells
- Reference to Attached Report in Support of Amendment Request
- Phone Contact for Questions

Report

Executive Summary

- History of Project and Licensing
- History of Tailings Seepage
- Points of Compliance (POC) and Points of Exposure (POE)
- Current Ground Water Protection Standards
- Revised Ground Water Protection Standards Recognizing Background Data
- Progress of Correction Action Program
- Stabilization Monitoring (Post Seepage Recovery Monitoring Program)
- Decommissioning of Correction Action Facilities and Monitor Wells

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   - History of Project and Licensing (Summary of History Submitted by Exxon May 1,1989 and Update)

   1.2 Facility Description (Summary of description in "Supporting Information to License Amendment Response" by Water, Waste and Land, Inc. (WWL, May 1989))

- Tailings Basin Description and History
- History of Tailings Seepage
- Points of Compliance (POC) and Points of Exposure (POE)

1.3 Extent of Ground Water Contamination

- Geology, Hydrology (Summary of description in WWL, May 1989)
- Leak Detection, Compliance Monitoring (Summary of description in WWL, May 1989)
- Current Conditions (Update of WWL, May 1989)

1.4 Current Ground Water Protection Standards

- License Condition 33B
- Actual Background Concentrations versus License Condition 33B
- Proposed Adjustments to License Condition 33B for Background Concentrations

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- Tailings and Tailings Liquor

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3.2 Correction Action Costs (Summary of Information In WWL, May 1989)

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3.4 Results of Correction Action Program

- Summary Water Levels and Potentially Hazardous Constituent Concentrations from 1989 - 1993

- Potentially Hazardous Constituent As Low As Reasonably Achievable

3.5 Expected Timing for Natural Mitigation to Meet All License Standards (as Adjusted for Background Data) (Summary of Information In WWL, May 1989)

4. Decommissioning Seepage Recovery System

   - Discontinue Seepage Recovery
   - Stabilization Monitoring Period
   - Decommissioning Seepage Recovery System
     + Evaporation Pond
     + Wells, Power System

5. References

6. Appendix and Supporting Information

   - Exxon Letter of May 1, 1989

   - "Supporting Information to License Amendment Response" by Water, Waste and Land, Inc. May, 1989.

   - Water Quality Data 1988 - 1993, Water Recovery Data, Well Water Level Data

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