

NUDOCs  
FOIA - 93-315

RESPONSE TYPE

 FINAL PARTIAL

DATE

JUL - 6 1993

DOCKET NUMBER(S) (if applicable)

RESPONSE TO FREEDOM OF  
INFORMATION ACT (FOIA) REQUEST

REQUESTER

John Darke

## PART I.—AGENCY RECORDS RELEASED OR NOT LOCATED (See checked boxes)

 No agency records subject to the request have been located. No additional agency records subject to the request have been located. Requested records are available through another public distribution program. See Comments section. Agency records subject to the request that are identified in Appendix(es) \_\_\_\_\_ are already available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC. Agency records subject to the request that are identified in Appendix(es) \_\_\_\_\_ are being made available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC, in a folder under this FOIA number. The nonproprietary version of the proposal(s) that you agreed to accept in a telephone conversation with a member of my staff is now being made available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC, in a folder under this FOIA number. Agency records subject to the request that are identified in Appendix(es) \_\_\_\_\_ may be inspected and copied at the NRC Local Public Document Room identified in the Comments section. Enclosed is information on how you may obtain access to and the charges for copying records located at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC. Agency records subject to the request are enclosed. Records subject to the request have been referred to another Federal agency(ies) for review and direct response to you. Fees \*

You will be billed by the NRC for fees totaling \$ \_\_\_\_\_.

You will receive a refund from the NRC in the amount of \$ \_\_\_\_\_.

In view of NRC's response to this request, no further action is being taken on appeal letter dated \_\_\_\_\_, No. \_\_\_\_\_.

## PART II. A.—INFORMATION WITHHELD FROM PUBLIC DISCLOSURE

 Certain information in the requested records is being withheld from public disclosure pursuant to the exemptions described in and for the reasons stated in Part II, B, C, and D. Any released portions of the documents for which only part of the record is being withheld are being made available for public inspection and copying in the NRC Public Document Room, 2120 L Street, N.W., Washington, DC in a folder under this FOIA number.

COMMENTS

The enclosed record is identified on the enclosed Appendix A. The staff informed us that the enclosed record received Regional Counsel concurrence by telephone. The memo includes a discussion of refined and processed ore. This discussion is the basis for the use of words "legal analysis from Regional Counsel" referred to in SECY-91-347. Also there is no reference to this "legal analysis" in the letter of August 12, 1987, to which you refer as category 2.

\*You are not being assessed processing fees since the minimal fee limit has not been exceeded.

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SIGNATURE, DIRECTOR, DIVISION OF FREEDOM OF INFORMATION AND PUBLICATIONS SERVICES

APPENDIX A  
RECORD RELEASED TO REQUESTER

NUMBER	DATE	DESCRIPTION
1.	7/30/87	Memorandum for Docket File No. 40-8905 from Garcia, re: Amendment No. 3 to Source Material License SUA-1473 for the Ambrosia Lake Mill (4 pages) (Category 1)

DISTRIBUTION

Docket File 40-8905  
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40-8905/PJG/87/07/15/0

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JUL 30 1987

URFO: PJG  
Docket No. 40-8905  
SUA-1473, Amendment No. 3  
04008905180E

MEMORANDUM FOR: Docket File No. 40-8905  
FROM: Pete J. Garcia, Project Manager  
Licensing Branch 2  
Uranium Recovery Field Office, Region IV  
SUBJECT: AMENDMENT NO. 3 TO SOURCE MATERIAL LICENSE SUA-1473  
FOR THE AMBROSIA LAKE MILL

Introduction

By letter dated March 31, 1987, Quivira Mining Company (Quivira) requested amendment of Source Material License SUA-1473 for the Ambrosia Lake Mill to authorize processing of alternate feed material. This material, which averages 0.61 percent uranium, is a residue generated during a yellowcake purification process at Sequoyah Fuels Corporation's UF<sub>6</sub> Conversion Plant at Gore, Oklahoma. Quivira provided additional information by letters dated July 15, 1987, to NRC, and June 9, 1987, to the New Mexico Environmental Improvement Division with a copy to NRC.

The proposed action is to authorize Quivira to process the alternate feed material from the Gore facility. A more complete description of the licensee's proposal and a summary of the staff's review is provided below.

Licensee Proposal

The licensee states that the alternate feed material in slurry form will be transported to the mill in DOT-approved tanker trucks. The slurry will be unloaded at a covered receiving station which will be constructed near the thickener circuit. The slurry will be pumped from the tanker trucks into thickener tanks. The location of the receiving station and

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the thickener tanks is shown on Figure 1 of the licensee's March 31 submittal.

A flow diagram of the process to be utilized to recover the uranium is shown on Figure 2 of the July 15 submittal. The slurry will be washed in the thickeners. The thickened slurry will then be fed into leach tanks for addition of sulfuric acid. This step will be identical to the normal mill process step with the exception that an oxidant will not be required due to the ferric iron content of the slurry. The remaining major process steps consist of solvent extraction and precipitation. The text of the licensee submittal indicates that the precipitated yellowcake may be kept in slurry form or dried. However, Figure 2 of the July 15 submittal indicates that the yellowcake will be left in slurry form. The wash solution, along with barren raffinate solution from the solvent extraction process step, will be pumped directly to synthetically-lined evaporation ponds. Tailings will be discharged into Tailings Impoundment 2.

Quivira estimates that approximately 16,000 tons of residue will be shipped to the Ambrosia Lake Mill for processing. The results of chemical and radiological analyses of the alternate feed material and the wash water are shown on Tables 1, 2, and 3 of the licensee's March 31 submittal. A table showing the composition of the raffinate solution and the solution in the evaporation ponds is provided in the June 9 submittal.

Finally, Quivira proposed no changes to their existing in-plant radiation safety program. Quivira states that the existing programs are adequate to evaluate radiological impacts and states that existing operating procedures will be followed for all aspects of the radiation safety program.

Staff Evaluation

The staff reviewed the licensee's proposal to determine whether it would result in a significant impact to the environment or the current tailings management, environmental monitoring, and radiation safety programs.

As stated previously, Quivira estimates that approximately 16,000 tons of residue will be processed at the mill. This amount constitutes only 3 days of milling at the mill's rated capacity of 6,500 tons per day. Further, the tailings impoundment system at the Ambrosia Lake Mill currently contains more than 33 million tons of tailings. The additional

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material will therefore constitute a miniscule percentage of the final volume of tailings resulting from operations at the Ambrosia Lake sites and will not have a significant impact on the capacity or final reclamation of the tailings disposal system.

Quivira states that the residue wash water and the barren raffinate solution will be pumped to lined evaporation ponds. The solid residue resulting from the uranium extraction process, which will be repulped using mine water or solutions resulting from processing regular ores for pumping to the unlined tailings pond, will contain only the insoluble component of the constituents comprising the residue. The effect on seepage from tailings pond 2 should therefore be minimal. A comparison of the evaporation pond solution with the wash and raffinate solutions shows that the solutions are very similar. The only constituent which is present in significantly higher concentrations in the alternate feed process solutions is nitrate (NO<sub>3</sub>). A review of the ground-water monitoring program currently in effect for the evaporation ponds indicates that NO<sub>3</sub> is included in the list of parameters for sample analysis. In addition, no evidence of seepage has been detected to date from any of the lined ponds to be used for evaporation. The staff concludes that the processing of the alternate feed material will not impact the ground-water programs currently in effect for the Ambrosia Lake Mill.

The licensee has not proposed changes to the radiation safety program already in effect at the Ambrosia Lake Mill. Since the feed material will be handled exclusively in a wet form, no increase in airborne radioactivity is expected. The staff concludes that the mill's existing radiological monitoring program and operating procedures will be adequate to determine and minimize worker exposures resulting from the proposed activity.

Conclusions

Section 40.4(a-1) defines byproduct materials as "the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content." Section 40.4 does not provide a definition for the singular term "ore." It does, however, provide a definition for "unrefined and unprocessed ore," which means "ore in its natural form prior to any processing." The "feed material" (itself source material) that Quivira proposes to reprocess is very similar to conventional ore. However, it does not constitute an "unrefined and unprocessed ore." Thus, it is logical and

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consistent with the public health, safety and welfare purposes of the Uranium Mill tailings Radiation Control Act of 1978, as well as the Commission's implementing regulations, to conversely treat such material as refined and processed ore. Such ore will be reprocessed for its more refined source material content and the resulting tailings or wastes will therefore be byproduct material which is subject to Commission regulation. To hold differently would be to hold to an interpretation that would leave the resultant tailings from the reprocessed feed material as unregulated material. Such an interpretation would be contrary to the clear intent of the Mill Tailings Act.

The staff therefore recommends that Source Material License SUA-1473 be amended to authorize processing of the alternate feed material from the Gore facility by adding License Condition No. 31 to read as follows:

- 31. The licensee is authorized to process alternate feed material from Sequoyah Fuels Corporation's Gore, Oklahoma facility in accordance with the submittals dated March 31 and July 15, 1987.

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Pete J. Garcia, Project Manager  
Licensing Branch 2  
Uranium Recovery Field Office  
Region IV

Approved by:

*151*

Harry J. Pettengill, Chief  
Licensing Branch 2  
Uranium Recovery Field Office, Region IV

Case Closed: 04008905180E

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