



UNITED STATES

NUCLEAR REGULATORY COMMISSION

REGION IV

URANIUM RECOVERY FIELD OFFICE
BOX 25325
DENVER, COLORADO 80225

MAR 25 1994

Docket No. 40-8905
SUA-1473, Amendment No. 29

Quivira Mining Company
ATTN: Mr. Bill Ferdinand, Manager
Radiation Safety, Licensing
and Regulatory Affairs
6305 Waterford Blvd., Suite 325
Oklahoma City, Oklahoma 73118

Dear Mr. Ferdinand:

We have completed our review of your January 7, 1994, license amendment request in which you proposed revisions to the erosion protection design of the approved reclamation plan.

The requested amendment includes a new rock source to be used for obtaining erosion protection materials, a change in the erosion protection design of the tops of Ponds 1 and 2, a change to the gradation requirements for the approved rock having a median stone diameter D_{50} of 1.0 inch, and a proposal to use larger rock than required on the embankment out slopes

In addition to the revisions you requested, we noted that License Condition No. 4 indicates that the license expiration date is 1976. Prior to the transfer of regulatory authority from the State to the NRC in 1986, Quivira submitted a renewal application to the State of New Mexico. This application was placed in a timely renewal status by the State of New Mexico. The license currently does not authorize operations at the site. We are therefore revising License Condition No. 4 to be consistent with the corresponding conditions for other sites not in operation by stating that the license shall remain in effect until terminated by the NRC.

An environmental assessment for this action is not required since this action is categorically excluded under 10 CFR 51.22 (c)(11) and an environmental report from the licensee is not required by 10 CFR 51.60 (b)(2). Therefore, based on our review of the information provided and pursuant to 10 CFR Part 40, we are amending License Condition Nos. 4 and 37 of Source Material License SUA-1473 to read as follows:

4. Until terminated
[Applicable Amendments: 29]

37. The licensee shall reclaim the disposal area as stated in the September 24, 1990, and January 7, 1994, submittals as supplemented by the following conditions. Though recognized as conservative, these conditions were assumed when evaluating the acceptability of the

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MAR 25 1994

reclamation plan as submitted, and are identified pending submittal of acceptable design alternatives. Justification for any design alternatives must be submitted for NRC review and approval prior to implementation.

- A. The radon barrier shall be constructed as specified in the licensee's September 28, 1990, submittal. Prior to placement of any material onto the interim cover, the procedure defined in the licensee's October 4, 1990, submittal for establishing the integrity of the in-place material must be performed.
- B. DELETED by Amendment No. 19.
- C. The relocated contaminated material shall be placed in lifts not to exceed 12 inches and compacted to at least 90 percent of the maximum standard dry density after a stable work base has been established.
- D. In place density and moisture, laboratory compaction, soil classification, and rock quality testing shall be performed in accordance with the licensee's September 24, 1990, submittal. If test procedures other than the sand cone test or oven dry moisture are used in the construction quality control, procedures that will be used to establish correlation between the tests must be submitted for NRC review and approval prior to implementation.
- E. A detailed cover design for Ponds 11-21 must be submitted for NRC review and approval. All contaminated materials in Pond 3 that are not covered by the reclaimed Pond 1 outslope shall be relocated to Pond 2 unless an erosion protection plan is submitted for NRC review and approval.
- F. The settlement survey data shall be submitted for NRC review and approval prior to placement of the radon barrier on the interim cover.
- G. The fresh water dam (mill reservoir) must be breached during final reclamation activities.
- H. Settlement monuments shall consist of a steel bar welded to a 1-foot square steel plate, or equivalent, placed at least 3 feet below the surface.
- I. The fill associated with the Pond 1 spillway shall be constructed to the same specifications and quality control program as the radon barrier material.
- J. If a rock source other than the Homestake Quarry is selected, the licensee shall submit the results of durability tests as outlined

in the Final Staff Technical Position on Design of Erosion Protection, August 1990, for NRC review and approval prior to placement of any of the material.

- K. All riprap shall be placed in a manner that prevents segregation of the material. The material placed shall be reasonably well graded and shall be within the following gradation specifications.

D₅₀ = 1.0"

<u>Sieve Size</u>	<u>Percent Passing (by weight)</u>
3 inch	100
2 inch	70-100
1 inch	25-55
$\frac{3}{4}$ inch	15-40
$\frac{1}{2}$ inch	0-25

D₅₀ = 3.2"

<u>Sieve Size</u>	<u>Percent Passing (by weight)</u>
6 inch	100
5 inch	78-100
4 inch	35-100
3 inch	12-45
2 inch	0-20

D₅₀ = 7.7"

<u>Sieve Size</u>	<u>Percent Passing (by weight)</u>
13 inch	100
12 inch	80-100
10 inch	49-100
8 inch	26-54
6 inch	7-32
4 inch	0-13

- L. A minimum 6-inch bedding layer with a D₅₀ of 1 inch shall be placed under all riprap on the disposal area having a D₅₀ of 2 inches or larger.

The bedding material shall be reasonably well graded to prevent migration of the base material into the riprap. The quality of the bedding material shall be equivalent to that of the riprap.

- M. A riprap filled toe trench shall be placed on the west side of Pond 2 where the existing steep slopes transition onto the flatter surface of Pond 2.

The licensee shall submit a proposed design of the trench for NRC review and approval prior to construction.

MAR 25 1994

- N. The spillway riprap shall be extended 45 feet onto the top of Pond 1 to prevent erosion.
- O. Riprap with a D_{50} of 1 inch shall be placed in all areas of the South Diversion Ditch which are not excavated in rock.
- P. As an alternative to the erosion protection design of the top surfaces of Ponds 1 and 2, which was approved in Amendment No. 13, the licensee may use a 3-inch layer of riprap having a minimum median stone diameter (D_{50}) of 1-inch.

[Applicable Amendments: 18, 19, 29]

All other license conditions shall remain the same. The license is being reissued to incorporate the above revisions. These revisions were discussed and agreed to in a telephone conversation between you and Ray Gonzales of this office on March 25, 1994.

Sincerely,



Ramon E. Hall
Director

Enclosure:
Source Material License SUA-1473

cc:
A. Gebeau, Quivira
B. Garcia, RCPD, NM
E. Montoya, NMED