REQUEST FOR TECHNICAL ASSISTANCE

DATE: 9-3-91

TO: John E. Glenn, Ph.D., Chief, Medical, Academic, and Commercial Use Safety Branch, NMSS

FROM: Ronald R. Bellamy, Ph.D., Chief, Nuclear Materials Safety and Safeguards Branch, Region I

LICENSEE: Heritage Minerals, Inc. LICENSE NO.: SMB-1541

____ Control No. ____ (enclosed)

____ Letter dated ____ (enclosed)

____ Suggested change in licensing procedure (enclosed)

X Other (see remarks)

Problem/Issue:

Action Required:

Alternatives Considered:

Recommended Alternative:

Remarks: See Attached Memo

Regional Reviewer: Betsy Ullrich
Reviewer Code: 0-5
Reviewer Phone No.: FTS 346-5040

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License No. SMB-1541
Docket No. 040-08980
Control No. 114515

MEMORANDUM FOR: John E. Glenn, Chief
Medical, Academic and Commercial USC
Safety Branch, NMSS

FROM: John D. Kinneman, Chief
Nuclear Materials Safety Section B

SUBJECT: HERITAGE MINERALS, INC., DISPOSAL PLAN FOR MONAZITE
(TECHNICAL ASSISTANCE REQUEST)

Heritage Minerals, Inc. discontinued operations in July 1990, and state they have decontaminated their building and equipment in accordance with their license. They estimate that 695 cubic yards of monazite rich sand remain on site. This monazite sand contains about 2,000 picocuries of thorium-232 per gram (based on analysis for actinium-228) and a dry density of the dry monazite sand is approximately 2.7 grams per cubic centimeter.

Heritage proposes in their letter dated February 28, 1991 that this sand be remixed with the estimated 102,500 cubic yards of processed sand located in the salvage storage, recycled tailings, and original new feed areas (also known as the blue and gray areas, after the coloring of maps they have previously submitted). The sand in these areas has an average concentration of 112 picocuries thorium-232 per gram and an average density of 1.5 grams per cubic centimeter. This processed sand is less than 0.05 percent source material by weight and is not licensed by the NRC.

The monazite sand resulted from separation of the monazite rich sands from previously processed sand from subsurface deposits. The licensee has been unable to sell the monazite sand and proposes on-site disposal by mixing it with the other sand tailings. The licensee intends to also submit a proposal to the State of New Jersey Department of Environmental Protection to place a deed restriction on the property, cover the sand with a layer of soil, and use the area as a golf course. This approach will dispose of both the NRC licensed sand and the sand of much lower thorium concentration about which NJDEP is concerned.

We see these alternatives:

1. Reject the proposal out of hand. "Dilution is no solution to pollution";

2. Request that the licensee submit the information required by 10 CFR 20.302;

3. Permit the activity with appropriate controls on the final concentration.

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Region I favors the third option. The monazite sand came from the sand which the licensee proposes as a diluent. The final concentration in the 102,000 cubic yards will be increased by about 15 picocuries per gram to about 130 picocuries per gram. While this does not meet the Branch Technical Position, it is not different from the situation at the beginning of plant life.

We would appreciate policy guidance on this matter.

John D. Kinneman, Chief
Nuclear Materials Safety Section B
Division of Radiation Safety
and Safeguards

Enclosure: Letter dated February 28, 1991

bcc: Region I Docket Room (w/concurrences)

RI:DRSS RI:DRSS
Ulrich/bh/cmm Kinneman
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