

JUL 05 1990

Docket No. 040-08980
Control No. 110418

SMB-1541

Heritage Minerals, Incorporated
ATTN: John F. Lord
Plant Manager
P. O. Box 12
Lakehurst, New Jersey 08527

Gentlemen:

This is in reference to your application dated March 6, 1989 for a source material license. Based on the available information, both that formally submitted by you and that presented and discussed in various meetings, we do not intend to prepare a formal Environmental Assessment regarding your application at this time. We reserve the right to prepare an Environmental Assessment or require preparation of an Environmental Report at any time.

In order to continue our review, we need the following additional information:

1. The NRC only has jurisdiction over processed material at your site; material which has resulted strictly from the mining or dredging of ore is not subject to NRC regulation. Therefore, in order to properly evaluate your plans to decommission your facility when your operation terminates, please provide a diagram or map which clearly shows all property owned by or otherwise under the control of Heritage. Then, as clearly as possible, mark the following areas:
 - Undisturbed;
 - Disturbed only by mining or dredging;
 - The plant site itself;
 - Areas where plant discharges or wastes have been placed. Distinguish between discharges from the current plant and former separation plants.

Provide a narrative justification for placing each location in a particular category.

Once we agree on the identification of each location, the NRC will only consider environmental effects in the plant area and areas where discharges or wastes have been and are in the future placed. Provide a plan for demonstrating or determining that these specific NRC regulated areas will meet Option 1 of the Branch Technical Position on Disposal or On-site Storage of Thorium or Uranium Wastes from Past Operations (46 FR 52061-63) at the end of facility life.

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As we understand your plan of operation, you expect to achieve this objective by processing all available material through the plant and by controlling discharges to the environment so that they meet the Branch Technical Position. Please confirm if this is your intention. If this accurately describes your plans, answer the other questions in this letter with that in mind. In order to issue a license we will need to find that you have an adequate program to identify and gather together all regulated material which does not meet the Branch Technical Position, process it and adequately control the resulting discharges so that they meet the Branch Technical Position.

2. Provide a detailed description of the site environment including (a) the plant and site with dimensions; (b) the plant location in relation to major highways; (c) any important conditions or features in the surrounding environment, such as lakes, ponds, residential areas, nearest residence, schools (If an aerial photo is available, please provide.); (d) land surface and ground water uses in the vicinity of the plant; and (e) a brief description of the geohydrology of the site.
3. Provide a complete history of operations at the site, such as when mining began, when plant operation began, etc.
4. Describe the current ownership of all land involved. Describe future expected land uses.
5. Based on previous discussions we understand you plan to request that a pond be released under Option 2. Describe the location of this pond and provide a detailed justification for this proposal.
6. Describe the operational process in detail. We are aware that much information has been provided in this area, but need an up-to-date, complete and organized version. The description should include a flow-chart of the plant operation and the layout of the facility, buildings, equipment, operational rates, tailings storage area, and liquid and tailings discharge area.
7. Describe the facilities and equipment (e.g., processing equipment, storage areas) to be made available at each location where radioactive material will be used. A diagram should be submitted showing all locations of storage and use, the proximity of radiation sources to unrestricted areas, and other items related to radiation safety. Diagrams should be drawn to a specified scale, or dimensions should be indicated. Please indicate any areas which will require posting in accordance with 10 CFR 20.203(e)(2). A copy of 10 CFR 20 is enclosed for your information.
8. How long will the plant operation be? Describe your plans to process other sand piles in the area in the future.

9. Provide a detailed description of the wastes generated from the operation. This should include solid and liquid waste discharged and their locations and volumes discharged. Also describe how these wastes are handled and what is done with each.
10. Provide a program for monitoring liquid and solid waste streams. The program should include a detailed description of the method of sampling, frequency of sampling and analysis. The program should include action levels and reporting levels on analysis results. If there are any liquid waste retention ponds, a ground water sampling program should be developed and provided. This program should be adequate to demonstrate that effluents meet Option 1 of the Branch Technical Position.
11. Provide a plan for a radiological survey to characterize the plant site and waste areas and identify locations which are in excess of the Branch Technical Position. This plan should include measurements of background, existing pond water, sediment and sand. Identify on a map the locations where samples will be taken.
12. Provide a description of the routine survey program which will be implemented during plant operations, including the areas to be surveyed, the types and levels of radiation and contamination considered to be acceptable, the frequency of surveys, and provisions for maintaining records of surveys. The survey program may include: (a) radiation and contamination level surveys of processing, packing, and storage areas; (b) air monitoring for dusts and radon gas in the workplace; (c) sampling of effluent air and water released from the facility; (d) radiation level and contamination surveys in unrestricted areas including air monitoring and sampling of soil, surface waters, and ground water. Item 10.3 of RG 10.4 provides additional guidance.
13. It appears that airborne contamination in the form of dusts or radon gas may occur. Please describe your methods to assure that airborne radioactivity in work areas and effluents do not exceed the limits specified in 10 CFR 20.103 and 10 CFR 20.106 respectively.
14. Item 5 of your application did not include the maximum amount of material which will be possessed at any one time. The number requested should include the quantities of uranium and thorium you will possess as monazite sand, dry mill tailings, waste and any other form in use or storage at your facility except material which has never been processed through the plant. Please submit this quantity as the mass of contained source material, not the total weight of the substances. Item 5 of the enclosed Regulatory Guide 10.4 "Guide for the Preparation of Applications for Licenses of Process Source Material" (RG 10.4) may be of assistance. You should note that if the amount requested is greater than 450 kg (100 mCi) of thorium or 150 kg (100 mCi) of uranium or proportionate combination you will need to provide a complete decommissioning plan (see 10 CFR 40.36).

15. Item 6 of your application states that dry mill tailings will be sold and transferred to other licensees. Please confirm that all material containing source material will be transferred in accordance with the regulations described in 10 CFR 40.51.
16. In your application, you identify Mr. Tony V. Cuculic as your Radiation Safety Officer. Please describe this individual's formal training in the following areas:
 - a. Principles and practices of radiation protection.
 - b. Radioactivity measurements standardization and monitoring techniques and instruments.
 - c. Mathematics and calculations basic to the use and measurement of radioactivity.
 - d. Biological effects of radiation.

In addition, describe the specific isotopes the individual has handled, the maximum quantities of materials handled, where the experience was gained, the duration of the experience and the type of use.

17. Submit a description of the duties and responsibilities of your Radiation Safety Officer. The typical duties of a Radiation Safety Officer would be:
 - a. To ensure that the use of radioactive material is by or under the direct supervision of individuals specifically listed on your license.
 - b. To ensure that radiation safety surveys and monitoring programs, including environmental sampling, are performed.
 - c. To perform routine inspections of all locations where radioactive materials are used are stored.
 - d. To ensure that the terms and conditions of your license are met, and that all required records are maintained.
18. In your application, you didn't describe a training program for ancillary personnel (maintenance, security, etc.) and personnel involved in radionuclide work. Please describe a program that it will:
 - a. Be of sufficient scope to ensure that all personnel using radioactive materials receive proper notification and instruction in accordance with 19.12 of 10 CFR Part 19 (enclosed).
 - b. Provide for personnel to be properly instructed before assuming duties with, or in the vicinity of, radioactive materials with retraining as necessary.

The training given to each group should be commensurate with the duties and responsibilities of the group and need not be the same for each group.

We will continue our review upon receipt of this information. Please reply in duplicate to my attention at the Region I office and refer to Mail Control No. 110418.

We are willing to meet with you to discuss this letter, if you desire.

If we do not receive a reply from you within 30 calendar days from the date of this letter, we shall assume that you do not wish to pursue your application.

Sincerely,
Original Signed By:
John D. Kinneman

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

Enclosures:

1. 10 CFR Parts 19, 20 and 40
2. Regulatory Guide 10.4
3. 46 FR 52061-63

bcc:

M. Lamastra, NMSS
E. Shum, NMSS

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U1/rich/lmh

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