DEC 14 1961

DLR:DFK
Docket No. 40-6659

Petrotomics Company
P. O. Box 184
Casper, Wyoming

Attention: Mr. G. K. Coates
Mill Superintendent

Gentlemen:

This refers to your application dated October 10, 1961, for an AEC Source Material License.

In support of your application we require the following additional information:

1. The name, qualifications and experience of the person in your organization assigned the responsibility for radiation safety. In your application, you stated that the radiologist must have a BS degree and should have majored in biology, bacteriology, radiology or associated studies. Please describe the type and extent of minimum experience you will require.

2. A more detailed description of the area in which the mill is located, including the location and size of nearby inhabited areas, location and size of streams and rivers, locations of waterways into which waste may be discharged by seepage, sources of water supply for the mill and the downstream points of water intake for culinary and irrigation purposes.

3. A more detailed description of your liquid effluent survey program (assuming plant effluents reach subterranean or surface water supplies,) including the number, specific location and frequency of check samples and a step-by-step procedure for sample analysis of uranium, radium, and thorium-230.

4. A description of the design details of your tailings pond dam to contain the liquid material including drawings showing the planned layout; typical cross-sections of the dam, showing proposed design, and, if applicable, anticipated future extension. Embankment design should include information on dam

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heights, top width, side slopes, freeboard, seepage control, and protection of embankment surfaces, as well as foundation design. A design analysis of proposed embankment structures showing the nature of foundation materials, location of ground water, characteristics of fill, etc. This information should be supplemented by a discussion of construction methods and specifications. Also describe and submit an analysis of the conditions that might lead to accidental release of the waste, environmental effects of such release and outline your program (inspection and maintenance) in detail to prevent such an accidental occurrence.

5. A more detailed description of:

   a. Your reasons for not ventilating the primary and secondary crushing areas. Experience in other uranium mills indicates that concentrations of airborne radioactivity may exceed the limits in 10 CFR 20 in these areas even when the moisture content of the ore is high;

   b. Methods for controlling the moisture content of the ore; and

   c. Type, capacity and location of all dust collection and ventilation equipment used in the mill and a detailed analysis of the efficiency of the equipment as designed to control or prevent the release of airborne radioactivity.

6. Procedures and frequency for calibrating all radiation detection devices and a step-by-step procedure for airborne radioactivity survey sample analysis.

7. A drawing or floor plan of the plant processing area showing the specific location of all process and ventilation equipment.

8. A more detailed description of your proposed initial radiation survey program, the results of which will form the basis for a future sampling program. The initial survey program to cover a period of not less than six months should include: (a) the areas to be sampled, (b) the number of samples, BA and GA, in each area, (c) the frequency of conducting such surveys in each area, (d) the

expected occupancy rates in these areas and (c) an analysis of the adequacy of the program as related to the proposed operating conditions.

9. A description of mill discharge stacks including stack heights, method for controlling release of radioactive material, and methods (including frequency and sampling locations) for determining the concentration of radioactive material released to the environs.

10. A more detailed description of your method for determining exposure of employees to external radiation including:

    a. The characteristics of the Mk. Sepris Model 3C 129 survey instrument, including the types and ranges of radiation detected;

    b. Method for determining whether or not an employee exceeds 25% of the maximum permissible exposure.

11. A copy of the written radiological safety operating instructions supplied to employees. These instructions should include provisions for personal hygiene, including washing prior to eating or leaving the plant, instructions for wearing personnel monitoring devices, if required, and instructions for cleaning up dust spills within the plant.

12. If respirators are to be used in your program to control the exposures of personnel to within the limits specified in 10 CFR 20, an application for their use is to be submitted in accordance with Section 20.103 of 10 CFR 20.

Very truly yours,

Distribution:
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Compl.

Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Licensing and Regulation

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