December 6, 1976

Nuclear Regulatory Commission
Washington
D. C. 20555

Attention Radioisotopes Licensing Branch

Reference Source Material License SMB-911
dated February 18, 1976; NRC
docket or reference No. 040-07580

Gentlemen:

We wish to provide you with the following information which will modify and supplement information set forth in our letters to you of January 15, 1976, and May 21, 1976. References herein to previous letters to you are intended also to include our letters of October 25, 1974; June 6, 1975; and October 3, 1975.

1. a) Fansteel has determined that liner material known as Shelter-Rite XR-5, No. 8130 (referred to herein as XR-5,8130) is superior in waste residue retention qualities in comparison with liner material DuPont LD-3110 (referred to herein as 3110). Liner material XR-5,8130 is technically described as follows: a vinyl-coated polyester fabric having a weight of approximately 30 ounces per square yard.

   b) Attached hereto is a statement showing the results of tests of the retention qualities of liner material XR-5,8130; XR-5,8124; and 3110. This statement is a copy of a test report prepared by the testing laboratory of Rockwell International - Tulsa Division dated November 1, 1976. A copy of Rockwell's report dated June 30, 1976 is also attached. This report sets forth the test procedures used by Rockwell. We believe that these tests are fully representative of prospective actual service conditions. In the test data specimens identified as 8124 refer to a liner material which is similar to XR-5,8130 and has a fabric weight of approximately 24 ounces per square yard rather than 30 ounces per square yard. The reference to sample TPL 76-1060 refers to 3110 liner material.

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c) As a consequence of our findings from these test data, Fansteel has selected liner material XR-5,8130 for installation in the retention basin. Data obtained by Fansteel from Rockwell concerning earlier tests performed on 3110 material showed wear characteristics which were not acceptable to Fansteel. Hence, Fansteel engaged in further studies of various liner materials. Fansteel was aided in its selection of a suitable liner material by a statement dated January 1, 1976, of preliminary test data supplied by the manufacturer of XR-5,8130, namely, Shelter-Rite of Millerburgh, Ohio, and the written advisory statement of an independent consultant, Mr. J. B. Sevart, President of Advance Technology, Inc. of Wichita, Kansas. Copies of the statements of Shelter-Rite and Sevart are supplied herewith.

2. Fansteel is now constructing a retention basin in accordance with the procedure and design stated in our prior letters to you subject to the following modifications:

a) The earthen embankment surrounding the basin will be approximately 15 feet in width measured at the top.

b) The interior and exterior sides of the embankment will have a slope of 2:1.

c) The earth which forms the bottom of the basin will be graded so as to create a slight pitch toward the center of the basin. A 2-inch layer of sand will be placed over the earth which forms the bottom of the basin.

d) The exterior side and the top of the embankment will have vegetation planted thereon so as to inhibit erosion of the earth.

3. Liner material XR-5,8130 will be fabricated and installed in the retention basin by firms thoroughly familiar with such work. Installation will be made with the procedure set forth in our prior letters to you subject to the following modifications:

a) A monitoring system consisting of a slotted pipe placed in a "P" gravel trench will be installed beneath the liner and connected to a sump pump for use in testing underground water for contamination.

b) A vent system will be included in the liner installation to prevent any water or air pressure build-up beneath the liner.

4. For the purpose of receiving waste residues, splash pads will be situated upon the liner at appropriate places in the retention basin. This will serve to minimize the likelihood of damage to the liner when waste residues are being placed in the retention basin. Waste residues will be stored in the retention basin in a manner so that in the event recovery operations are later instituted for valuable minerals contained in the waste residues, the recovery operations will not disturb or damage the liner. This will avoid the need for installing a protective layer of sand for the liner.

Very truly yours,

FANSTEEL INC.

J. G. Duggan

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Attachments