

DEC 5 1977

FCRL:EGW
(04025)

Fansteel, Inc.
ATTN: Mr. James Pierret
Number 10 Tantalum Place
Muskogee, Oklahoma 60064

Gentlemen:

This refers to your letter dated December 6, 1976, and to a licensing visit of NRC personnel to your facilities on October 6, 1977. Personnel participating in the visit and discussions were: Mr. James Pierret and Mr. Thomas Carlile of Fansteel and Mr. Ted Johnson, Mr. Myron Fliegel, Mr. Rick Turnbull and Mr. Earl Wright of the NRC.

Our observation and discussions reveal the following problem areas associated with License No. SMB-911.

1. Waste retention and disposal.

The waste retention system in use at Fansteel's Muskogee site is an integral part of your license. Therefore, any change to the system requires the prior approval of NRC and the issuance of a license amendment to cover any modification. In our discussions, Mr. Pierret and Mr. Carlile pointed out that the new retention pond (#8) originally discussed in your application for renewal of License No. SMB-911 and more specifically in your letter of December 6, 1976, was intended for use as a holding pond for radioactive waste. However, in March 1977, the decision was made by Fansteel to use the pond only for non radioactive waste. Until the time of our site visit the Radioisotopes Licensing Branch personnel were under the impression that the construction of pond #8 was still under licensing review.

In order to properly document your license with respect to your waste retention system, we need:

- a. A description of the use you are making of pond #8 and the method used to verify that radioactive waste is not being discharged into pond #8 and thence to the Arkansas River.

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- b. During the course of our visit, we observed that ponds 1 and 2 contained radioactive waste and that the solid residues approached the embankment crest at depths closer than the state imposed minimum 3 feet freeboard. Such conditions when combined with concentrated heavy rainfall could lead to overtopping of the embankment and possible uncontrolled release of the radioactive materials. In addition, rills on the order of 1 ft. deep by 1 1/2 ft. wide that have resulted from moderate to severe erosion regularly dissect the embankment crest and slopes of both ponds. Such features increase the possibility of breaching the embankment and loss of residues. We request that you provide us with a description of the repairs accomplished to correct these problems and a description of the procedures you will follow to prevent the level of radioactive residue from exceeding the minimum 3 feet freeboard and your procedures for prompt detection and repair of any damage to pond embankments.
 - c. In our discussions Mr. Pierrat pointed out that Fansteel intends to construct a new pond in the near future to retain the radioactive residue. As stated above and at the time of our visit, this modification of your waste retention system will require NRC review and approval and an amendment to your license. At the time of our visit, we provided you with detailed guidance concerning our requirements for retention systems for radioactive waste. In view of the complexity and expense associated with a major modification of the type you discussed in our meeting, we suggest that, at your earliest convenience, you provide us a general description of your proposal and a time table for proceeding.
 - d. As we pointed out to you in our meeting the waste retention system is only a temporary expedient for management of radioactive waste. In this regard, we request that you provide us with a detailed description of your plan for ultimate disposition of all radioactive waste retained at your Muskogee facility. You should consider this in the light of the possible discontinuance of operations which generate radioactive waste and the return of the facility and land to its original condition. Enclosed for your information is an NRC Branch Position paper on Management of Uranium Mill Tailings.
2. Raw Material storage. Your Radiation Safety Manual dated May 5, 1975, an attachment to your letter dated June 6, 1975, describes your procedures for receipt and storage of raw materials containing uranium and thorium (e.g. storage of raw material in 55 gallon drums). Condition 13 of your license requires that you follow these procedures. At the time of our visit an estimated 19000 kg of uranium and thorium were stored out of doors in unprotected piles which were subject to potential wind and water erosion. This

method of storage does not appear to be authorized by your license. If you desire to have your license amended to cover another method of storage, we will need the following information:

- a. The quantity and physical form of the material.
- b. A detailed description of your assessment of the potential radiological hazards associated with outdoor storage including the potential for wind and water erosion, release of radon gas and external radiation levels from the bulk storage.
- c. A detailed description of the method(s) you propose for protecting against any hazards present as the result of your proposed storage procedures.

Sincerely,

Earl G. Wright
Radioisotopes Licensing Branch
Division of Fuel Cycle and
Material Safety

Enclosure:
Branch Position-Uranium
Mill Tailings Management

cc: Robert Everett
Region IV

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