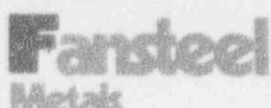


40-7580



number ten tantalum place muskogee, oklahoma 74401

November 10, 1994

Mr. Amar Datta
Licensing Section 2
Licensing Branch
Div. of Fuel Cycle Safety &
Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

REF: Docket 40-7580
License SMB-911

Dear Mr. Datta:

Fansteel is in receipt of your letter of October 10
referencing "Preliminary Review of Fansteel's Decommission-
ing Plan and Decommissioning Funding Plan (TAC No. L30705)".
The comments are addressed categorically herein.

Should you have any questions, please feel free to contact
me at any time.

Sincerely,

JOHN J. HUNTER
Corp. Mgr., Process Eng. &
Facilities Construction

JJH/bsm

attach.

cc: D. Orlando, NRC
K. R. Garrity
M. J. Mocniak
R. M. McEntee

9411250232 941110
PDR ADDCK 04007580
C PDR

NFO1

NUCLEAR REGULATORY COMMISSION STAFF COMMENTS
REGARDING FANSTEEL'S DECOMMISSIONING AND
DECOMMISSIONING FUNDING PLAN

NRC COMMENT 1: The Decommissioning Plan states that Fansteel intends to dispose of radioactively contaminated soil in an engineered on-site disposal facility developed in accordance with NRC's 1981 Branch Technical Position entitled, "Disposal or On-site Storage of Thorium or Uranium Wastes From Past Operations" (1981 BTP). The 1981 BTP contemplated only limited circumstances in which on-site disposal of uranium or thorium would be approved by the Nuclear Regulatory Commission. Currently NRC is only considering those applications for on-site disposal made in accordance with Option 1 or 2 of the uranium or thorium in the site soil to less than 10 pCi/gm. Soil meeting this concentration would be considered acceptable for unrestricted use without restrictions on the method of burial. Option 2 of the 1981 BTP limits the concentration of thorium in the waste, which would be buried under prescribed conditions, to 50 pCi/gm. These conditions include, but are not limited to stabilization of the waste and a minimum burial depth of 4 feet below the surface. However, because of the relatively high exposures associated with the human intrusion scenario involving Option 2 for thorium, the proposed use of that Option would require the preparation of an Environmental Impact Statement. Further, because of the potential for ^{222}Rn emanations, burial of natural uranium greater than 10 pCi/gm is not allowed under Option 2. Because the pond residues contain natural uranium, it is not clear how Fansteel plans to develop an engineered on-site disposal facility that would meet the 1981 BTP Option 2 criteria. The Decommissioning Plan states that an application for the development of the on-site disposal facility in accordance with 10 CFR 20.302 will be submitted in the future. If Fansteel wants to continue to propose to dispose of waste containing thorium or uranium in excess of 10 pCi/gm in an on-site disposal facility, it will have to submit an Environmental Report (ER) in accordance with 10 CFR Part 51 in addition to the requirements of 10 CFR Part 20.2002 (Please note that 10 CFR 20.2002 replaced 10 CFR Part 20.302 on January 1, 1994). NRC staff will use the ER as the basis for preparing an Environmental Impact Statement.

Because the on-site disposal of natural uranium is not currently contemplated under Option 2, the Decommissioning Plan and Decommissioning Funding

Plan will need to be revised to reflect that on-site burial of contaminated material may not be considered as part of the decommissioning of the facility. If the on-site disposal facility is approved by NRC in the future the Decommissioning Plan and Decommissioning Funding Plan may be revised to reflect the lower cost at that time.

FANSTEEL
RESPONSE 1:

Fansteel, Inc. (Fansteel) has expended significant resources to characterize the extent of radiological and chemical contamination at its Muskogee, Oklahoma facility. The radiological and chemical characterization are documented in our Remedial Assessment Report dated December 1993. Based on this information, Fansteel identified and evaluated potential decommissioning alternatives for cost, effectiveness, and practicality. The results of this evaluation provided the basis for our proposed approach documented in the decommissioning Plan. As stated in the Decommissioning Plan, Fansteel has concluded that decommissioning the Muskogee, Oklahoma facility to meet local, state and federal guidelines for achieving unrestricted use is neither practical nor possible given the extent of radiological and chemical contamination and the cost associated with taking contaminated material off site. Therefore, an on-site remedy that includes deed restrictions appears to be the only financially viable and practical alternative. It is our understanding that the U.S. Environmental Protection Agency (USEPA) previously has approved site remediation plans utilizing on-site stabilization of radioactive contaminated soil with continuing land use restriction and that associated risk analyses found this remediation strategy to be protective of the public health and the environment.

Fansteel appreciates that the Nuclear Regulatory Commission (NRC) Site Decommissioning Management Plan (SDMP) current policy only considers on-site disposal alternatives for soils containing uranium and thorium if the conditions of Options 1 or 2 of the NRC's 1981 Branch Technical Position (BTP) entitled "Disposal or On-site Storage of Thorium or Uranium Waste from Past Operations" are met. However, based on the natural uranium concentrations found in soils at the Muskogee, Oklahoma facility, it does not appear Fansteel can meet the conditions of BTP Options 1 or 2 for on-site disposal to achieve unrestricted use. Although BTP Options 1 or 2 are currently the only on-site disposal options under consideration by the NRC, it is Fansteel's understanding that Options 3, 4 and 5 can be

acceptable options for a licensee if the only financially viable alternative is an on-site remedy and the NRC approves a licensee's request for exemption from the NRC's unrestricted use requirement. It is also our understanding that the proposed revisions to 10 CFR 20 would offer another alternative to off-site disposal by designating a portion of the site for restricted access with attendant long-term surveillance provisions.

Fansteel is in the process of developing an exemption request from NRC regulations in accordance with 10 Code of Federal Regulations (CFR) 40.14(a) and applying to the NRC for approval of procedures to dispose of licensed material on site in accordance with 10 CFR Part 20.2002. The exemption request pertains to NRC regulations requiring that residual radiological contamination be reduced to levels that allow the site to be released for unrestricted use. A supplement to our existing environmental report will also be submitted with our application. Fansteel estimates completion of these documents by May 1, 1995.

In summary, the cost estimates for off-site disposal of contaminated soil documented in Appendix A of the Decommissioning Plan makes the possibility of achieving unrestricted use of the Fansteel site, using current decommissioning standards, unrealistic. Fansteel does not expect this situation to change in the foreseeable future since additional facilities are not expected to be licensed to accept low-level radioactive material before the end of the decade; however, if NRC recently proposed standards are adopted and if additional LLW disposal sites become available, cleanup to the new standards may be feasible by the time Fansteel completes processing. Therefore, Fansteel requests that revisions to the Decommissioning Plan and Decommissioning Funding Plan to eliminate the proposed on-site disposal option be deferred until Fansteel has had the opportunity to submit the above referenced exemption request and the NRC has had the opportunity to review that request.

NRC COMMENT 2: The Decommissioning Plan states that the criteria that will be used to determine if radiologically contaminated soil has been remediated to levels that are acceptable for unrestricted use are 10 pCi/gm of any combination of uranium or thorium in the first 6 inches of soil and 30 pCi/gm of any combination of uranium or thorium six inches or greater below the

soil surface. NRC's decommissioning criteria for naturally occurring uranium and thorium are 10 pCi/gm, regardless of the depth of the contaminated soil layer. The Decommissioning Plan and Decommissioning Funding Plan will need to be revised to reflect that NRC does not currently approve fractionating residual radioactive material levels in soil.

FANSTEEL
RESPONSE 2:

The surface contamination criterion of 10 picocuries per gram proposed by Fansteel is taken verbatim from the Option 1 standards of the BTP of the NRC and is equal to that set by the USEPA for Radium-226 and its decay products (5 picocuries per gram). The proposed subsurface criterion for radioactive contamination of 30 picocuries per gram is also based on the USEPA criterion for Radium-226 in soil or residual materials from uranium mill sites (15 picocuries per gram). The USEPA criterion (40 CFR 192) stipulates not more than 5 picocuries per gram of radium shall remain in surface materials and that not more than 15 picocuries per gram of radium shall remain in subsurface materials. These concentrations are assumed by the UPEPA to be sufficiently low such that postulated exposure scenarios pose no significant risk to the public. Based on radionuclide distribution of approximately 1 to 1 for uranium and thorium in residual material and unprocessed ores at the Fansteel facility, and assumptions that decay products are in equilibrium with the parent radionuclides and that both Radon-220 and Radon-222 are equivalent health risks, the USEPA limit of 15 picocuries per gram for subsurface materials corresponds to a total uranium plus thorium concentration of 30 picocuries per gram. The USEPA has approved site remediation plans utilizing the higher subsurface concentration levels and has found it to be protective of the public health and the environment.

In the event that subsurface soils containing no more than 30 picocuries per gram fail to achieve the other standards required by 40 CFR 192, the materials will be excavated and the areas remediated without regard to the stated limit of 30 picocuries per gram total uranium and thorium. The Fansteel Decommissioning Funding Plan has allocated additional funds as "contingency costs" to address the potential impact of having to excavate and treat additional contaminated material.

NRC COMMENT 3: The decommissioning Plan states that Fansteel intends to mix radioactively contaminated soil with uncontaminated soil in order to dilute the radionuclide concentrations in the contaminated soil to levels that are acceptable for unrestricted use. NRC does not permit NRC licensees to mix contaminated and uncontaminated soils in order to reach NRC's limits for unrestricted use. The Decommissioning Plan and Decommissioning Funding Plan will need to be revised to reflect the requirement to dispose of soil exhibiting radioactive material contamination in excess of NRC's unrestricted use criteria in a licensed low-level radioactive waste disposal facility.

FANSTEEL
RESPONSE #3:

Fansteel does not intend to intentionally mix radioactively contaminated soil with uncontaminated soil to dilute radionuclide concentrations. Fansteel understands that the intentional blending of contaminated soils to reach the NRC limits for unrestricted use is not permitted. References in the Decommissioning Plan to soil mixing refer to unavoidable incorporation of uncontaminated soils with contaminated soils during the excavation process to remove isolated pockets of subsurface contamination.

NRC COMMENT 4: The Decommissioning Plan states that chemical contamination at the Muskogee, OK facility will not need to be remediated because NRC does not have unrestricted use criteria for chemically contaminated soil. While NRC does not have regulatory responsibility for remediation of chemical contamination at NRC-licensed sites, NRC does require that all licensed operations, including decommissioning, be conducted in accordance with all other applicable local, State or Federal requirements. As such, while NRC is not responsible for ensuring that Fansteel remediates the chemically contaminated soil or groundwater, NRC does expect that Fansteel will remediate chemical contamination to those levels specified by the appropriate regulatory authority for those contaminants. NRC staff has contacted the Oklahoma Department of Environmental Quality (ODEQ) to discuss with them the remediation of your facility and to determine what criteria ODEQ will use to determine whether chemical contamination at the site has been sufficiently remediated. Further, the Decommissioning Plan must identify which wastes are mixed wastes. The Decommissioning Funding Plan will need to be revised to reflect these changes.

FANSTEEL
RESPONSE 4:

It was not Fansteel's intention for the Decommissioning Plan to imply that chemical contamination at the Muskogee, Oklahoma facility will not need to be remediated because the NRC does not have unrestricted use criteria for chemically contaminated soil. Fansteel fully recognizes and expects to address chemical contamination concerns in accordance with all applicable local, state and federal requirements.

Fansteel has been in contact with the Oklahoma Department of Environmental Quality (OKDEQ) to discuss the status of activities at the Muskogee, Oklahoma facility. It is clear that the OKDEQ will be involved in determining whether chemical contamination at the site has been sufficiently remediated. Fansteel will continue to work with the OKDEQ to assure their acceptance of any proposals for on-site disposal of radioactive materials or establishment of a permanently restricted area on site.

Fansteel has not identified any hazardous wastes at the site which would require classification as hazardous materials under RCRA. Since there are no hazardous wastes, the definition of mixed wastes would not be applicable.

NRC COMMENT 5: Fansteel indicated that they plan to provide financial assurance for the decommissioning of their Muskogee, OK facility by self guaranteeing the costs of the decommissioning. To use the self guarantee financial assurance mechanism, Fansteel must provide the information indicated in Appendix C to 10 CFR Part 30 "Criteria Relating to the Use of Financial Tests and Self Guarantees for Providing Reasonable Assurance of Funds for Decommissioning." A submittal for self guarantee should include all of the financial documents discussed in Appendix C. In addition, Fansteel must demonstrate a bond rating of at least "A". Inquiries to Standard and Poors, and Moodys, did not reveal any bond rating for Fansteel. Fansteel must clarify and demonstrate that it has satisfied all of the criteria outlined in Appendix C to Part 30. If Fansteel cannot satisfy the Appendix C criteria, an alternative financial assurance mechanism must be provided.

FANSTEEL
RESPONSE 5:

There are two issues relating to the Decommissioning Funding Plan. First is the decommissioning cost

estimate, which is directly related to the amount of money to be assured. Second is the type of financial mechanism employed to assure the availability of sufficient funds to decommission the licensed facility. These issues are discussed in the following sections.

Decommissioning Cost Estimate - The amount of funds to be assured for decommissioning is a function of the decommissioning alternative. As described in the Decommissioning Plan, Fansteel proposes on-site disposal of some soils contaminated with low levels of natural uranium and thorium.

Fansteel acknowledges that the proposed levels of contamination to be disposed on-site exceed those of options 1 or 2 in the NRC's 1981 Branch Technical Position ("BTP"), but we believe that on-site disposal is the only viable alternative at this time. There is no available technology capable of decontaminating soils to option 1 or 2 levels, so the only way to achieve these residual radioactivity levels is to remove the contaminated soils and dispose of them at a licensed facility. Presently, there is only one disposal facility licensed to receive this type of material and the cost associated with transportation and disposal of the projected volumes of contaminated soil is extremely high. Accordingly, Fansteel considers it appropriate at this time to base decommissioning on our selected approach.

It is important to note that total facility decommissioning will not occur until the existing inventory of residues have been processed. This is expected to require 11 years, during which time the facility will be operating under NRC license. Projecting the costs for removal of radioactive contamination to unrestricted release levels using present decommissioning standards, off-site disposal costs and availability of off-site disposal capacity results in an artificially high cost estimate for decommissioning. Providing assurances for such costs would unduly burden Fansteel and jeopardize its ability to finance the WIP residue processing operation--the proceeds from which Fansteel plans to use to aid in defraying decommissioning costs.

During the period when WIP residues are being processed, several key regulatory issues which will influence the scope of decommissioning should be resolved. One of these is the establishment of decommissioning standards. In August, 1994, NRC proposed radiological criterion for decommissioning.

If these criteria are adopted, the acceptable levels of residual contamination correlating to the standard of 15 mrem/yr TEDE may be higher than the 10 pci/gm standard in the 1981 BTP. While the residue processing is occurring, the availability of off-site disposal facilities may also improve, and disposal costs may decrease as availability increases. These factors would reduce the volume of contaminated material requiring off-site disposal and/or the unit costs for off-site disposal, such that future implementation of an off-site disposal option might be economically feasible.

Fansteel believes it is reasonable and prudent to plan and fund a decommissioning program providing for on-site disposal of some contaminated materials. As the regulatory issues associated with facility decommissioning are resolved and actual site conditions remaining after WIP residue processing are determined, Fansteel will revise and update its decommissioning plan and funding plan accordingly.

Financial Assurance Mechanisms - Fansteel believes that its self-guarantee provides adequate assurance to the NRC that funds will be available to decommission the facility. Other than the bond rating criterion, Fansteel has satisfied all the elements for a self-guarantee as identified in Appendix C to 10 CFR 30. NRC regulations for self-guarantees require that the company's most recent bond rating by Moodys or Standard and Poors be rated "A" or higher. Fansteel has never issued bonds; thus, it has no bond rating. Accordingly, we believe that application of this criterion unfairly discriminates against companies, such as Fansteel, which are financially sound but which do not raise capital by issuing bonds.

Fansteel's self-guarantee demonstration exceeds NRC's criteria for parent-company guarantees. Because Fansteel's financial assurance demonstration provides greater assurance than a parent-company guarantee, we believe it is appropriate for NRC to accept this demonstration directly or under a specific exemption as provided for by 10 CFR 40.14(a).

As evidence that Fansteel's self-guarantee provides adequate assurance to the NRC, it is important to note that Fansteel's self-guarantee exceeds the standards for a parent-company guarantee. Fansteel has a Tangible Net Worth ("TNW") greater than \$10 million and greater than 10 times the decommissioning cost estimate; its assets in the

United States are greater than 10 times the decommissioning cost estimate; and it satisfies the financial ratios identified in 10 CFR 30 Appendix A. These criteria are more stringent than the criteria for a parent-company guarantee, which requires TNW and U.S. assets only six times greater than the decommissioning cost estimate.

It seems wholly incongruous that a level of financial assurance greater than that imposed on a parent guarantee would be inadequate because the company providing the assurance is the licensee, an entity subject to greater scrutiny and control by the NRC, and not the parent company. In either case, the amount of money being assured is the same and both mechanisms are otherwise acceptable means of providing adequate assurance of the availability of these funds. For these reasons, Fansteel believes the NRC should grant an exemption from the bond requirement and accept Fansteel's self-guarantee.