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January 27, 2000

Mr. Charles W. Emeigh
Section Chief, Licensing Section
Licensing and International
Safeguards Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

Decommissioning Funding Plan Revision and
Response to Comments
Docket No. 40-7580
License SMB-911
Fansteel Inc.
Muskogee, Oklahoma

Dear Mr. Emeigh:

This submittal is in accordance with License No. SMB911 Condition No. 21 requiring Fansteel Inc. (Fansteel) to review and update their Decommissioning Funding Plan (DFP) every 13 months. In addition, this submittal is in response to your letter of August 18, 1999 addressed to Fansteel regarding comments on the DFP submitted in December 1998. Fansteel has reviewed the comments and has provided the following responses:

NRC Comment 1

The level of detail does not conform to guidance in NRC Regulatory Guide 3.66, "Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning under 10 CFR Parts 30, 40, 70, and 72." Without all the specific details and line items specified in Appendix F of RG 3.66, It is very difficult for staff to validate/verify costs. Please revise the cost estimate to be consistent with RG 3.66 or equivalent.

Fansteel Response to NRC Comment 1

The format of the DFP has been revised to reflect the format of Appendix F of Regulatory Guide 3.66.

NRC Comment 2

As discussed in the April 13 meeting, remediation of contaminated groundwater should be included in Fansteel's estimate.

Fansteel's Response to NRC Comment 2

It is estimated that it may take up to 30 years to remediate the affected groundwater. The first 13 years of remediation will be part of plant operations and, therefore, not included in the funding reserved for decommissioning. Costs for the remaining 17 years of groundwater remediation apply to the decommissioning and have been included in Section 2, Table 3, Line Item No. 6 of the DFP enclosed in Attachment 1. These costs are based on current known costs to operate the facility including a contingency.

NRC Comment 3

Certain labor rates have not been increased for 1998 to adjust for inflation, or for contractors used by NRC in the event Fansteel is unable to complete decommissioning. Fansteel should adjust these rates or provide a basis for no adjustment.

Fansteel Response to NRC Comment 3

Labor rates provided in recent revisions of the DFP and the attached revision reflect current labor rates for Fansteel's personnel and contractors currently performing work on site and, therefore, are adjusted for 1999.

NRC Comment 4

Fansteel uses a contingency factor of 10%, which is substantially lower than 25% as specified in RG 3.66. The cost estimate should be updated to include a contingency factor of 25%.

Fansteel Response to NRC Comment 4

Regulatory Guide 3.66, "Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR 30, 40, 70, and 72" references NUREG-1754, "Technology Safety, Costs of Decommissioning Reference Non-Fuel-Cycle Nuclear Facilities" for use in preparing decommissioning plans and DFPs. According to NUREG-1754, Section 4.2, Page 4-9, Item No. 8, a 25 percent contingency should be used to account for such things as work delays and unanticipated material and equipment costs. Section 4.2 of NUREG-1754 explains that a number of "key study bases" are established to provide guidance and useful background information for operators, regulators, and the designers of non-fuel-cycle nuclear facilities. However, the guidance recommends that the bases and assumptions (25 percent factor) used in the studies outlined in NUREG-1754 be carefully examined before they can be applied to a specific facility. Fansteel has used a 10 percent contingency factor in the past and has again used a factor less than 25 percent because it is believed that it is reasonable considering the DFP is based on well-defined environmental conditions at the site, unlike the case evaluations in NUREG 1754, as well as known labor rates and costs. The NRC has concurred with this position as indicated in the letter of March 24, 1998 stating that the DFP submitted in June 1994 and addendum submitted in March 1996, which reflected the 10 percent contingency, have been approved. However, due to several items being completed without utilizing any of the original contingency, the contingency factor now stands at 12.5 percent.

NRC Comment 5

The cost estimate should include any costs of any waste volume reduction processing, or include the costs of waste disposal without volume reduction. If revenues from the sale of processed wastes are assumed to defray operational costs, the licensee needs to provide a justification for its assumptions.

Fansteel Response to NRC Comment 5

The principal activity allowed under Fansteel's current license is residue processing. This is a commercial venture and, therefore, not a decommissioning activity. Although volume reduction will occur as a consequence of reprocessing, volume reduction is not the primary purpose.

In addition, Fansteel would also like to point out that the NRC recognized the commercial nature of the reprocessing activities. In the March 25, 1997 License Amendment, the NRC states the following:

> "The NRC staff has determined that it is environmentally beneficial and cost-effective to begin the process the WIP [residue] materials to recover the residual metal values. With reprocessing, the staff has reasonable assurance that the licensee had provided adequate financial assurance for decommissioning. The $4.5 million LOC [Letter of Credit] represents a reasonably large financial assurance, which should cover the expense of decontamination, decommissioning, radiation surveys, and waste disposal of reprocessing residue at a license facility."

The $4.5 million estimate has been updated since the December 1998 submittal to reflect changes and up-to-date cost information. A copy of the revised DFP in the format specified in Regulatory Guide 3.66 is provided in Attachment 1 to this letter.

In conclusion, as can be seen from the cost estimates provided, the DFP does not total to an amount greater than the Letter of Credit amount of $4,456,460. If you have any questions regarding the information presented, please do not hesitate to call.

Sincerely,

M. J. Mocniak
Vice President & General Counsel

MJM:bd

Enclosures

cc: Heather Astwood, NRC

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Attachment 1

Attachment 1
Decommissioning Funding Plan
Fansteel Inc.
Muskogee, Oklahoma
January 2000

Included in this Decommissioning Funding Plan is the following information:

- Cost Estimating Tables, Appendix F, Pages F-1 through F-6, Reg Guide 3.66 "Standard Format and Content of Financial Assurance Mechanisms for Decommissioning under Parts 30, 40, 70, and 72."
- Footnotes applicable to each page, F-1 through F-6, of Cost Estimating Tables.
- Table 2A – Additional Unit Cost for Worker Information.
- Final Cost Summary – Summarizes the subtotals of Cost Estimating Tables No. 1 through 10.

APPENDIX F

COST ESTIMATING TABLES

1. Planning and Preparation

Table 1

Task	Supervisor	~~Work Days~~ MAN-HOURS Foreman	H.P.	Clerical	Total	Total Cost
1. Preparation of Documentation for Regulatory Agencies	16	NA	16	160	432(1)	24,800
2. Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.36(c)(2), 40.42(c)(2), or 70.38(c)(2)*	16	NA	8	96	200(2)	11,240
3. Development of Work Plans	60	60	80	120	800(3)	53,100
4. Procuring of Special Equipment	10				10	1,000(4)
5. Staff Training					200(5)	5,200
6. Characterization of Radiological Condition of the Facility (Including soil and tailings analysis or groundwater analysis, if applicable)	160	320	80	160	2000(6)	83,400
7. Other	160	240	240	640	2160(7)	239,600(8)
8. Total	412	620	424	1176	5802	418,340

* For assistance in preparation of cost estimate for 10 CFR Part 72, consult NRC Office of Nuclear Material Safety and Safeguards.

APPENDIX F (Continued)
COST ESTIMATING TABLES

Table 2 (1)

Position	Unit Cost for Workers: Basic Salaries ~~($/yr)~~ $/hour	Overhead Rate (%)	Worker Cost/~~year~~ hour
Supervisor	60	67 %	100
Foreman	44 (AVG)	51 % (AVG)	67 (AVG)
Craftsman	—	—	—
Technician	23 (AVG)	56 % (AVG)	35 (AVG)
Health Physicist	45	67 %	75
Laborer	14	40 %	20
Clerical	19 (AVG.)	51 % (AVG)	30 (AVG)
Other - Technical	40	62 %	65

2. Decontamination and/or Dismantling of Radioactive Facility Components*

	No.	Dimensions		No.	Dimensions
Glove Boxes	NA	(m^3)	Amount of Floor Space	—	6624 (m^2)
Fume Hood	4	(m^3)	Ventilation Ductwork	—	100 (m)
Hot Cells	NA	(m^3)	Amount of Wall Space	—	(m^2)
Lab Benches	4	(m)	Other - Soil Excavation	—	14150 m^3
Sink and Drain	4	(m)			

Table 3 (2)

Task	Supervisor	Foreman	Technicians	H.P.	Craftsmen	Laborer	Total ~~Work Days~~ Man-hours	Total Cost
1. Decon/Dismantle Major Components and/or Processing and Storage Tanks	160	160	320	80	—	1280	2320 (3)	65,600
2. Decon/Dismantle Laboratories, Fume Hoods, Glove Boxes, Benches, etc.	20	40	80	20	—	160	360 (4)	11,200

*Indicate whether component is to be decontaminated to unrestricted release levels or packaged and disposed of at a low-level waste site.

APPENDIX F (Continued)
COST ESTIMATING TABLES

Table 3 (continued)

~~Work Days~~ Man-hours

Task	Supervisor	Foreman	Technicians	H.P.	Craftsmen	Laborer	Total	Total Cost
3. Decon/Dismantle Waste Areas	NA							
- Radwaste Areas								
- Scrap Recovery Areas								
- Other								
4. Decon/Dismantle Service Facilities	20	40	160	40	—	160	460 (1)	15,400
- Maintenance Shop								
- Decontamination Areas								
- Ventilation Systems								
- Other								
5. Decon/Dismantle Waste Treatment Facilities and Storage Areas on the Site (Including exhume and package contaminated soil and tailings, if any)	240	1000	1000	320	—	2400	5440 (2)	173,000
- Fluoride Lagoons								
- Nitrate Lagoons								
- CaF2 Waste Recovery								
- Ground Water Restoration								
- Other								

Note: Excavate soil and move to storage for processing and placement into containment cell.

APPENDIX F (Continued)
COST ESTIMATING TABLES

Table 3 (continued)

~~Work Days~~ Man-hours

Task	Supervisor	Foreman	Technicians	H.P.	Craftsmen	Laborer	Total	Total Cost
6. Monitor for compliance, reclean and remonitor, if necessary	20	80	240	60	—	990	1590 (1)	150,000 (2)
7. Other (e.g., contractor fees)							0	15,000 (3)

Table 4

Equipment/Supply	Quantity	Cost
Mixing Unit		80,000
Equipment Maintenance		19,200
Cleaning Materials		2,100

3. Packaging, Shipping, and Disposal of Radioactive Wastes

Table 5

Waste Type	Volume (m^3)	No. of Containers	Type of Containers	Unit Cost of Container	Cost of Container
Sludge	41.6	200	Steel drum	12	2400
Equipment	113.3	2	25 yd^3 Intermodal	650	1300
Total					3700

Table 6

Distance Shipped	1000	(miles)
Unit cost for shipment	1	($/mile/truckload)
Additional charges		
Overweight		($/mile)
Surcharges		($/mile)

Waste Type	No. of Shipments	Unit Cost for Shipping	Distance Shipped	Surcharge	Transportation Cost
Sludge	3	1	1000	—	3000
Equipment	2	1	1000	—	2000
Total					5000

APPENDIX F (Continued)
COST ESTIMATING TABLES

Table 7

	Sludge	Equipment		Soil
Burial Charges	900	540	($/m^3)	121
Surcharges				
Per container	—	—	($)	—
Disposal	—	—	($/m^3)	—

Waste Type	Burial Volume	Unit Cost of Burial	Surcharge	Burial Cost
Sludge	41.6	900		37440
Equipment	113.3	540		61182
Soil	19,496	121		2,359,016
Total				2,457,638

4. Restoration of Contaminated Areas on Facility Ground

Table 8(1)

Task	Supervisor	~~Work Days~~ Man-hours Foreman	H.P.	Clerical	Total	Total Cost
Backfill and Restore Site	90	40	40	80	1130(2)	65,500

5. Final Radiation Survey

Table 9(3)

Task	Supervisor	~~Work Days~~ Man-hours Foreman	H.P.	Clerical	Total	Total Cost
	160	—	320	320	2080(4)	116,000(5)
Total						116,000

6. Site Stabilization, Long-Term Surveillance (if applicable)

Table 10

Task	Supervisor	~~Work Days~~ Man-hours Foreman	H.P.	Clerical	Total	Total Cost
Groundwater Monitoring					2(1)	800(2)
Reporting	2		4		6	800(3)
Grass Mowing	4			8	84(4)	2000(5)
Fence Repair				lump sum		1200
Cell Cover Repair				lump sum		1,000
Environmental Consultant	2				22(6)	1,500(7)

Total 7,300 per year

Note: To cover $7,300 per year costs, a cash bond with a 2% yield would be required in the amount of $365,000.

Attachment 1
Footnotes to Cost Estimating Tables
Decommissioning Funding Plan
Fansteel Inc.
Muskogee, Oklahoma
January 2000

Page F-1

(1) Includes 240 Technical man-hours.

(2) Includes 80 Technical man-hours.

(3) Includes 480 Technical man-hours.

(4) Fansteel will use self-owned, in-house equipment except for a Mixing Unit.

(5) Includes 160 Laborer man-hours and 40 Foreman man-hours.

(6) Includes 1,280 H. P. Tech man-hours.

(7) Includes 720 Technical man-hours and 160 Administrative Supervisor man-hours.

(8) Includes Environmental Assessment preparation which includes a lump sum estimate for Regulatory Agency costs.

Page F-2

(1) Rates used in Table 2 are contractor rates except where shown by (AVG) which denotes a combination of contractor and in-house Fansteel personnel. Table 2 was used in building the costs in Table 1 which was typically a technical effort. Table 2A (attached) shows contractor rates and Fansteel rates applied to the actual effort involved in implementing the technical plan. It is used in all other tables, except where noted.

(2) See attached Table 2A for man-hour rates used in Table 3.

(3) Includes 320 Clerical man-hours.

(4) Includes 40 Clerical man-hours.

Page F-3

(1) Includes 40 Clerical man-hours.

(2) Includes 480 Clerical man-hours.

Attachment 1
Footnotes to Cost Estimating Tables (cont.)
Decommissioning Funding Plan
Fansteel Inc.
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Page F-4

(1) Includes 200 Clerical man-hours.

(2) Includes Groundwater Treatment Plant operation for 17 years after reprocessing operation ceases.

(3) Includes $15,000 Laboratory Costs.

Page F-5

(1) See attached Table 2A for man-hour rates used in Table 8.

(2) Includes 800 Laborer man-hours, 80 Technical man-hours, and $35,000 for backfill materials.

(3) See Table 2 for man-hour rates used in Table 9.

(4) Includes 1,280 Rad Tech man-hours

(5) Includes $12,000 Laboratory costs.

Page F-6

(1) Includes 2 Rad Tech man-hours.

(2) Includes groundwater analysis. See Table 2A for man-hour rates.

(3) See Table 2 for man-hour rates.

(4) Includes 72 Laborer man-hours.

(5) See Table 2A for man-hour rates.

(6) Includes 20 Technical man-hours.

(7) See Table 2 for man-hour rates.

Attachment 1
Table 2A
Decommissioning Funding Plan
Fansteel Inc.
Muskogee, Oklahoma
January 2000

Table 2A

Position	Basic Salaries ($/hour)	Overhead Rate (%)	Worker Cost/Hour
Supervisor	40	50	60
Foreman	30	50	45
Health Physicist/PRSO	37	35	50
Laborer	14	35	20
Clerical	14	35	20
Health Physicist	45	67	75
Rad Technician	29	35	40

Table 2A is a combination of contractor and Fansteel rates applied to the actual effort involved in implementing the plan.

Attachment 1
Final Cost Summary
Decommissioning Funding Plan
Fansteel Inc.
Muskogee, Oklahoma
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Table No.	Subtotal
1	$418,340
2	NA
3	$430,200
4	$101,300
5	$3,700
6	$5,000
7	$2,457,638
8	$65,500
9	$116,000
10	$365,000
TOTAL	**$3,962,678**

Letter of Credit (LOC) Amount	**$4,456,460**
Difference (LOC – TOTAL)	**$493,782**
Contingency (Difference ÷ TOTAL)	**12.5 %**