

March 15, 1995

Mr. Steven C. Collins, Chief
Division of Radioactive Materials
Illinois Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

Dear Mr. Collins:

Enclosed are eleven additional old NRC terminated license files for your evaluation. These are files identified by Oak Ridge National Laboratory as having insufficient documentation to ensure confidence that proper site decommissioning was completed. While these cases identify only a lack of documentation, these formerly licensed sites have the potential to be contaminated with radioactive material. I have enclosed the Oak Ridge "Expert System License Evaluation Reports" with the license files.

After your initial reviews of the data are complete, and if you think it necessary, please contact Mr. Jim Lynch, State Agreements Officer, to arrange a meeting or conference call between IDNS and NRC staffs so that we may work together to investigate these sites. If you have any questions regarding this project, please contact me at (708) 829-9871 or Mr. Lynch at (708) 829-9818.

Sincerely,
Original Signed By

William G. Snell
Senior Radiation Specialist

Enclosure: As stated

cc w/encl: T. W. Ortziger, IDNS
C. D. Pederson, RIII
G. L. Shear, RIII
P. Lohaus, OSP

DOCUMENT NAME: A:\ILLORISE.LTR

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|--------|-----------------|---|------------------|---|--|--|--|--|
| OFFICE | RIII | C | RIII | E | | | | |
| NAME | Lynch <i>ML</i> | | Snell <i>WGS</i> | | | | | |
| DATE | 03/15/95 | | 03/16/95 | | | | | |

OFFICIAL RECORD COPY

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EXPERT SYSTEM LICENSE EVALUATION
REPORT FOR LICENSE C-05047

NAME OF LICENSEE: FANSTEEL METALLURGICAL CORPORATION
LISTED SITE: 2200 N. SHERIDAN ROAD, NORTH CHICAGO, ILLINOIS
--- TYPE OF ACTIVITY OR FACILITY: LABORATORY/RESEARCH

----- MATERIALS INFORMATION FOR THIS LICENSE -----

--Information on type and form of materials--
--Authorized Material-- --Form Authorized--

DEPLETED URANIUM

Loose or Any

AMOUNT OR ACTIVITY OF THOSE MATERIALS CONTRIBUTING TO INITIAL SCORE:

---Material-- -SLD/LOOSE-- POSS. LIMIT Unit -Score-

DEPLETED URANIUM LOOSE 20.00 LB NOT AVAIL OR 0

FINAL DECISION FOR LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:
ELIMINATED FROM CONSIDERATION FOR SITE CONTAMINATION
Reason for elimination: LOW SCORE OF MATERIALS

S E Q U E N C E O F R E C O R D E D R E A S O N I N G

1. The loose materials on this license were not significant, and the site was eliminated from consideration on this basis.

COMMENTS FOR LICENSE EVALUATION

- GENERAL COMMENTS ENTERED BY THE REVIEWER CONCERNING THE EVALUATION -
-- LICENSED AMOUNT OF URANIUM WAS 20 POUNDS BUT ACCORDING TO LETTER
-- DATED 3/13/61 ONLY 10 POUNDS WERE PROCURED. OF THAT AMOUNT
-- APPROXIMATELY 7.5 POUNDS STILL REMAINED. THE LICENSEE REQUESTED THAT
-- ACTIVITIES BE GENERALLY LICENSED. AEC STATED IN A LETTER DATED
-- 3/29/61 THAT ACTIVITIES MAY BE PERFORMED UNDER THE GENERAL LICENSE OF
-- SECTION 40.22, 10 CFR 40. THEREFORE THIS LICENSE WOULD NOT HAVE TO BE
-- RENEWED.

END OF COMMENTS FOR LICENSE EVALUATION

--- EXPERT SYSTEM EVALUATION WAS BASED ON THE ---
---- FOLLOWING INVENTORY RECORD ----

Docket Number: 40-05309

REGION RESPONSIBLE: III

LICENSEE NAME: FANSTEEL METALLURGICAL CORPORATION

STREET ADDRESS: 2200 N. SHERIDAN ROAD City: NORTH CHICAGO Zip: 6006

FIPS state code (principal operation): IL

Site used: 2200 N. SHERIDAN ROAD, NORTH CHICAGO, ILLINOIS

Disposition information present: NO DISPOSITION INFORMATION GIVEN

This license was listed as expired on 03/31/61

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file

The application contained some information on material use.

GENERAL INVENTORY RECORD COMMENTS:

LTR 3/29/61:ACTIVITIES CAN BE PERFORMED UNDER GENERAL LIC 40.22

JOB NUMBER: 1709 BOX NUMBER: 04

Date of last evaluation or revision: 05/31/94

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EXPERT SYSTEM LICENSE EVALUATION
REPORT FOR LICENSE SUB-00225

NAME OF LICENSEE: FANSTEEL METALLURGICAL CORPORATION
LISTED SITE: 2200 SHERIDAN ROAD AND NUMBER ONE TANTALUM PLACE, N. CHICAGO, IL
--- TYPE OF ACTIVITY OR FACILITY: MANUFACTURING

DESCRIPTION OF FIRST SITE AT WHICH SUB-00225 WAS USED
FANSTEEL MATAALLURGICAL CORP.
2200 SHERIDAN ROAD
NORTH CHICAGO, ILLINOIS

DESCRIPTION OF SECOND SITE AT WHICH SUB-00225 WAS USED
FANSTEEL MATAALLURGICAL CORP.
NUMBER ONE TANTALUM PLACE
NORTH CHICAGO, IL 60064

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

MATERIAL (URANIUM OXIDE) FOR USE AS HIGH TEMPERATURE INSULATION IN
SINTERING FURNACES. 250 POUNDS IS USED IN EACH FURNACE.

The final score for SITE CONTAMINATION is: 126

MATERIALS INFORMATION FOR THIS LICENSE

--Information on type and form of materials--

--Authorized Material--

--Form Authorized--

DEPLETED URANIUM

Loose or Any

AMOUNT OR ACTIVITY OF THOSE MATERIALS CONTRIBUTING TO INITIAL SCORE:

| ---Material-- | -SLD/LOOSE-- | POSS. LIMIT | Unit | -Score- |
|------------------|--------------|-------------|------|---------|
| DEPLETED URANIUM | LOOSE | 7000.00 | LB | 15.5 |

INITIAL SITE SCORE, based on LOOSE material possession limits: : 16

FINAL DECISION FOR LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:
HIGHEST PRIORITY FOR REVIEW

The final SCORE for SITE CONTAMINATION is: 126

SEQUENCE OF RECORDED REASONING

1. There was more than one identifiable site with this license. The final score will be the sum of the scores for the sites used under this license. Succeeding conclusions will indicate which site
2. Each site (or two groups) will be evaluated, with the assumption

that all materials authorized on the license could have been used at each site. The final score will be the sum of the site scores.

3. FIRST SITE: Possible building contamination, but fairly low likelihood or low level only. Score not changed.
4. The reviewer's judgment was that significant outdoor contamination was very unlikely to have occurred under this license at this site. Score=score*0.90
5. FIRST SITE: There was no evidence or reason to suspect the occurrence of NONROUTINE or EPISODIC releases to the environment or outdoors at this site. Score not changed.
6. FIRST SITE: There was significant use of glove boxes, hoods, or protective clothing. Change in score depends on reviewer response to subsequent questions.
7. FIRST SITE: Contaminated material was probably appropriately disposed of. Score not changed.
8. FIRST SITE: There was possible or limited generation of contaminated material from machinery used in the operation. Score=score*1.2.
9. FIRST SITE: Possible inappropriate disposal or abandonment of contaminated material from machinery (cloths, parts, etc). Score=score*1.1
10. FIRST SITE: There was evidence that solid waste was generated in the operation. Score=score*1.5
11. FIRST SITE: Contaminated solid waste generated by operation, but evidence indicates probable appropriate disposal. No change in score
12. FIRST SITE: There was limited generation of liquid waste in the operation. Score=score*1.2
13. FIRST SITE: Some possibility that contaminated liquid waste was inappropriately disposed of. Score=score*1.1
14. FIRST SITE: There was no available information indicating onsite disposal of material or waste at the site. Score not changed

15. FIRST SITE: There is evidence in the file indicating that turnover of the materials under this license was not frequent. This may be due to issuance of the license using limits applicable to a year or to the entire period of the license. Score=score*.8
16. FIRST SITE: There was either no documentation of materials disposition or the documentation was inadequate. Score=score*1.2
17. FIRST SITE: There was NO closeout survey for this site. Score multiplied by 1.8
18. FIRST SITE: There was NOT an NRC FINAL INSPECTION of the facility. Score not changed.
19. SECOND SITE: Possible building contamination, but fairly low likelihood or low level only. Score not changed.
20. The reviewer's judgment was that significant outdoor contamination was very unlikely to have occurred under this license at this site . Score=score*0.90
21. SECOND SITE: There was no evidence or reason to suspect the occurrence of NONROUTINE or EPISODIC releases to the environment or outdoors at this site. Score not changed.
22. SECOND SITE: There was significant use of glove boxes, hoods, or protective clothing. Change in score depends on reviewer response to subsequent questions.
23. SECOND SITE: Contaminated material was probably appropriately disposed of Score not changed.
24. SECOND SITE: There was possible or limited generation of contaminated material from machinery used in the operation. Score=score*1.2.
25. SECOND SITE: Possible inappropriate disposal or abandonment of contaminated material from machinery (cloths, parts, etc). Score=score*1.1
26. SECOND SITE: There was evidence that solid waste was generated in the operation. Score=score*1.5
27. SECOND SITE: Contaminated solid waste generated by operation, but evidence indicates probable appropriate disposal. No change

in score

28. SECOND SITE: There was limited generation of liquid waste in the operation. Score=score*1.2
29. SECOND SITE: Some possibility that contaminated liquid waste was inappropriately disposed of. Score=score*1.1
30. SECOND SITE: There was no available information indicating onsite disposal of material or waste at the site. Score not changed
31. SECOND SITE: There is evidence in the file indicating that turnover of the materials under this license was not frequent. This may be due to issuance of the license using limits applicable to a year or to the entire period of the license. Score=score*.8
32. SECOND SITE: There was either no documentation of materials disposition or the documentation was inadequate. Score=score*1.2
33. SECOND SITE: There was NO closeout survey for this site. Score multiplied by 1.8

COMMENTS FOR LICENSE EVALUATION

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

MATERIAL (URANIUM OXIDE) FOR USE AS HIGH TEMPERATURE INSULATION IN SINTERING FURNACES. 250 POUNDS IS USED IN EACH FURNACE.

Reviewer's comments concerning potential TURNOVER OF MATERIALS MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL ON HAND AT ANY ONE TIME WAS 7000 POUNDS. THIS APPEARS TO HAVE BEEN THE AMOUNT WHICH LICENSEE MAY HAVE POSSESSED. THERE IS NO CERTIFICATE OF DISPOSITION IN THE FILE BUT LICENSEE STATED IN A LETTER DATED 10/13/71 THAT MATERIAL CURRENTLY ON HAND, APPROX. 2000 POUNDS OF DEPLETED URANIUM MIXED WITH TUNGSTEN METAL, ALUMINUM OXIDE, ZIRCONIUM OXIDE AND MICA, WOULD BE DISPOSED OF BY FEBRUARY 5, 1972. APPROXIMATE UO2 CONTENT WAS 85%.

Reviewer's comments concerning potential GENERATION OF WASTE EQUIPMENT AND PROTECTIVE CLOTHING USED WHEN HANDLING UO2 WERE WASHED IN SPECIAL FACILITIES AT THE PLANT. DISPOSAL OF LIQUID WASTE FROM WASHING OF EQUIPMENT AND CLOTHING WAS NOT ADDRESSED. SWEEPINGS AND UO2 NO LONGER SUITABLE FOR FURNACE USE WERE KEPT IN A SEALED CONTAINER FOR DISPOSAL. ACCORDING TO APPLICATION, APPROXIMATELY 1000 POUNDS OF WASTE WAS SHIPPED TO NUCLEAR ENGINEERING COMPANY, INC. OF MOREHEAD, KENTUCKY.

- GENERAL COMMENTS ENTERED BY THE REVIEWER CONCERNING THE EVALUATION -

--
-- IN NONE OF THE APPLICATIONS WAS A VENTILATION SYSTEM DESCRIBED.
-- SURVEYS WERE MADE EVERY MONTH AND IF A SPILL OCCURRED IMMEDIATELY.
-- RADIOLOGICAL SURVEY DATED AUGUST 12, 1964 SUGGESTED THAT A MINOR LEAK
-- SHOULD BE CHECKED IN FURNACE 4/2 BASED ON AIR SAMPLE AS WELL AS ON
-- WIPES. SINCE POWDERED MATERIAL WAS HANDLED LOOSE, SPILLAGE WHICH
-- MIGHT OCCUR WERE VACUUMED AND PREPARED FOR DISPOSAL AS WASTE.
--
-- PROTECTIVE EQUIPMENT AND CLOTHING WERE WASHED IN SPECIAL FACILITIES.
-- APPROXIMATELY 1000 POUNDS OF WASTE WAS SHIPPED TO NUCLEAR ENGINEERING
-- OF MOREHEAD, KENTUCKY A YEAR. IT IS NOT KNOWN IF THIS INCLUDED
-- FILTERS FROM RESPIRATORY AND UNWASHABLE CLOTHING. THE LICENSEE STATED
-- THAT SOURCE MATERIAL WOULD BE DISPOSED ON IN ACCORDANCE WITH AEC
-- REGULATIONS.
--

END OF COMMENTS FOR LICENSE EVALUATION

--- EXPERT SYSTEM EVALUATION WAS BASED ON THE ---
---- FOLLOWING INVENTORY RECORD ----

Docket Number: 40-05309

REGION RESPONSIBLE: III

LICENSEE NAME: FANSTEEL METALLURGICAL CORPORATION

STREET ADDRESS: 2200 SHERIDAN ROAD City: NORTH CHICAGO

FIPS state code (principal operation): IL

Site used: 2200 SHERIDAN ROAD AND NUMBER ONE TANTALUM PLACE, N. CHICAGO, IL

Disposition information present: NO DISPOSITION INFORMATION GIVEN

This license was listed as expired on 02/05/72

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file

The application had some information on waste disposal practices.

The application contained some information on material use.

Application contained some information of importance. See comments.

GENERAL INVENTORY RECORD COMMENTS:

APPL:WASTE IS TO BE SHIPPED TO NUCLEAR ENGINEERING CO., INC. OF KY

JOB NUMBER: 1709 BOX NUMBER: 04

OTHER LICENSE NUMBERS IN FILE: C-05047

Date of last evaluation or revision: 05/31/94