May 18, 2000

Ms. Denise Gruben
Environmental Quality Specialist
Michigan Department of Natural Resources
Office of Litigation
P. O. Box 30028
Lansing, MI 48909

SUBJECT: NRC INSPECTION REPORT 040-09015/2000001(DNMS)

Dear Ms. Gruben:

This refers to the routine safety inspection conducted at 2370 Two-Mile Road, Bay County, Michigan, by Ed Kulzer and Peter Lee of this office on May 11, 2000. The inspectors were accompanied by Sherry Lewis and Sam Nalluswami from the NRC Office of Nuclear Materials Safety and Safeguards.

The inspection was an examination of waste burial cell characterization activities being conducted on site as described in your Characterization Plan submitted to Headquarters during our meeting of August 24, 1999. Within these areas, the inspection consisted of a review of required training records, lab results, and a tour of your facility.

No violations of NRC requirements were identified during the course of this inspection.

The characterization work to date has created 326 holes through the clay cap down to the bottom of the cell. These holes have punctured buried drums potentially releasing of liquids (spent solvents, oils, and others) and increasing the probability of waste migration. Leachate within and outside of the cell needs to be monitored to identify any waste migration and to prevent its spread into the nearby water table.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be placed in the NRC Public Electronic Reading Room (PERR) link at the NRC home page, namely >http://www.nrc.gov/NRC/ADAMS/index.html.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/RA/

Bruce L. Jorgensen, Chief
Decommissioning Branch

Docket No. 040-09015
License No. SUC-01581

cc: D. Minnaar, Chief, Michigan Department of
Environmental Quality

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APPENDIX A

MATERIALS DECOMMISSIONING INSPECTION FIELD NOTES
FOR FACILITIES NEEDING SIGNIFICANT DECOMMISSIONING EFFORT

Region III

Inspection Report No.2000001 License No. SUC-01581 Docket No. 040-09015
Licensee (Name & Address)
MDNR Licensee Contact: D. Gruben
Telephone No. 517-335-4036 Last Amendment No.
Date of Amendment
Program Code
Date of Last Inspection
Date of This Inspection 5/11/00
Date of Next Inspection

Type of Inspection: (x) Announced ( ) Unannounced
(X) Routine ( ) Special
( ) Initial Decomm. (x) Reinspection of Decomm.
Level of Inspection: (x) Normal ( ) Reduced ( ) Extended

Brief Description of Inspection Activities:

Conducting characterization activities.

Brief Description of Findings and Action:

No findings.

Summary of Findings and Action:

(X) No violations cited, clear NRC Form 591 or regional letter issued
( ) Violation(s), clear NRC Form 591 issued
( ) Violation(s), regional letter issued
( ) Followup on previous violations

Inspector:_____ Date_____
(Signature)

Approved:_____ Date_____

[Field notes are to be used by the inspector to assist with the performance of the inspection. Note that all areas indicated in the field notes are not required to be addressed during each inspection. However, for those areas not covered during the inspection, a notation ("Not Reviewed") should be made in each section where applicable. Additionally, all areas covered during the inspection should be documented in sufficient detail to describe what activities and/or records the inspector observed. The fieldnotes to the "Decommissioning Inspection Procedure for Materials Licensees" should be supplemented with: (1) the

applicable inspection procedures for operating facilities provided in the Inspection Procedure (IP) 87100 series; and (2) other written documentation of the inspection, as necessary.]

1. **SUMMARY OF DECOMMISSIONING STATUS**

The checklist below is intended to provide, in a written outline format, summary documentation of the status of the licensee's facility in the decommissioning process. This documentation will be filed as part of the inspection report. The inspector should use this information to develop each inspection plan(s) for the various stages of decommissioning, namely, before dismantlement, during dismantlement and site remediation, and after site remediation.

A. Licensee ceased operational program. (x) Y ( ) N
B. Required decommissioning financial assurance mechanisms in place. (x) Y ( ) N
C. Decommissioning Plan (DP) required. (x) Y ( ) N
D. Licensee final survey required. (x) Y () N
E. NRC confirmatory survey required. (X) Y () N
F. NRC closeout inspection required. (x) Y () N
G. Licensee doing decommissioning planning and preparation before dismantlement. (x) Y ( ) N
H. Licensee actively remediating site. () Y (x) N
I. Licensee completed site remediation. ( ) Y (x) N

Description of Facility Status:
Licensee is presently characterizing the extent of contamination on site.

2. **INSPECTION OF KEY DECOMMISSIONING ACTIVITIES**

The following is a generic checklist of major licensee activities occurring at various stages of decommissioning. From this generic checklist and from facility-specific activities you identify, develop the set of licensee activities to be inspected - for each individual inspection throughout the decommissioning process. Plan to inspect licensee activities that present potential high-risk conditions. Then apply the standard health and safety inspection areas in Section 3 of these fieldnotes (taken from the applicable 87100 series IP for the licensee's operational program) to the specific licensee decommissioning activities that are being inspected.

To complete the licensee activities checklist, the inspector will need to obtain information from the Licensing Project Manager, review the DP, make observations at the licensee's facility, review licensee records, take measurements and samples of contaminants, and undertake other investigative measures, to determine whether the licensee is meeting all regulatory and DP commitments for each decommissioning activity the licensee is performing.

A. LICENSEE ACTIVITIES INSPECTED BEFORE DISMANTLEMENT

1. Licensed material used during operations has been removed from site. ( ) Y (x) N
2. Facility license conditions are in place and met by licensee. (X) Y ( ) N
3. Site security and control of contaminated material being maintained in compliance with 10 CFR 20.1801 and 20.1802. (x) Y ( ) N 4. Support systems and

services (e.g., lighting, water supply) are in place. (x) Y ( ) N
5. Decommissioning schedules are consistent with timeliness requirements in 10 CFR 30.36, 40.42, and 70.38. (x) Y ( ) N
6. Licensee's recordkeeping is consistent with 10 CFR 30.35, 40.36, and 70.25. (x) Y ( ) N
7. Financial assurance requirements are being maintained in accordance with 10 CFR 30.35, 40.36, and 70.25. (x) Y ( ) N
8. Licensee is conducting site characterization in accordance with applicable radiation protection procedures. (X) Y () N
9. Construction of new site features (e.g., roads, rail spurs, staging areas, sediment control ponds) conforms to DP and does not compromise health and safety of workers and public. ( ) Y (x) N
10. Licensee activities conform to specific license conditions and licensee programs and procedures. (x) Y ( ) N
11. Other licensee activities: ( ) Y ( ) N

_____
_____

Basis for Findings:
Inspection of the site .

B. LICENSEE ACTIVITIES INSPECTED DURING DECONTAMINATION, DISMANTLEMENT, AND SITE REMEDIATION

1. Site security and control of contaminated material being maintained in compliance with 10 CFR Part 20. (X) Y ( ) N
2. Decontamination and dismantlement of structures are being performed consistent with DP and sound industry practice (structures include buildings, utilities, treatment lagoons, etc.). () Y (x) N

3. Decontamination and remediation of the following are being performed consistent with DP and sound industry practice:
a. Soil. () Y (x) N
b. Sediment. () Y ( ) N
c. Surface waters. ( ) Y ( ) N
d. Groundwater. ( ) Y ( ) N
e. Other mediums:
_____ ( ) Y ( ) N
_____

4. Licensee release and disposal of decommissioning wastes are consistent with DP and approved by NRC for:
a. Liquid wastes (e.g., groundwater, surface water, liquid from treatment ponds, process liquids). ( ) Y ( ) N
b. Solid wastes (e.g., building materials, process and other facility equipment, concrete rubble, soil). () Y (x) N
c. Other wastes: ( ) Y ( ) N

_____
_____

5. Temporary, on-site storage of low-level
radioactive wastes from decommissioning meets
license conditions and guidance in IP 84890. () Y (x) N
6. Packaging and shipment of radioactive waste
materials meet requirements in
40 CFR Parts 173-178 and 10 CFR Part 71. () Y ( ) N
7. Restoration of site - Licensee has restored site
to meet license conditions and NRC-approved plans.() Y ( ) N
8. Licensee survey of material and equipment for
free release sufficient to demonstrate compliance
with release criteria.
9. Other licensee activities: ( ) Y ( ) N _____
_____

Basis for Findings:
Inspection of site.

C. LICENSEE ACTIVITIES INSPECTED AFTER
COMPLETION OF SITE REMEDIATION

1. Licensee has submitted NRC Form 314 for
disposition of licensed material in
accordance with 10 CFR 30.36, 40.42, and 70.38. ( ) Y ( ) N

2. Licensee's final survey program is acceptable
(see Appendix B for inspection items for final
surveys). ( ) Y ( ) N
3. NRC confirmatory survey performed. ( ) Y (x) N
4. Site maintenance activities (if any, for restricted
use) conform to license conditions and
NRC-approved plans and are in place and functional. (X) Y ( ) N

5. Other licensee activities: ( ) Y ( ) N
_____
_____

Basis for Findings:

3. **INSPECTION OF STANDARD HEALTH AND SAFETY AREAS
FROM THE OPERATIONAL INSPECTION PROGRAM**

Identify the standard inspection areas (from the inspection program of the licensee's operational program) to be covered during each decommissioning inspection. [Inspection areas A through L below correspond to the typical inspection areas in the 87100 series IPs that are applicable to decommissioning.] Then identify the new activities within the standard inspection areas undertaken by the licensee during decommissioning. Some of the new activities given below, as well as any other activities the inspector identifies, should be considered inspection items under the general set of health and safety inspection areas used in the applicable 87100 series IP.

Minimum inspection areas for the initial decommissioning inspection: decommissioning organization (A.1); decommissioning activities in compliance with NRC-approved DP (A.2); licensee procedures for implementing the DP (A.3); Radiation Safety Committee (RSC) and Radiation Safety Officer (RSO) responsibilities (A.4); and the licensee's decommissioning training program (E.1).

A. GENERAL OVERVIEW

1. Describe the licensee's decommissioning organizational structure:
D. Gruben- Project Manager
no decommissioning work has started.

2. Licensee is performing decommissioning activities in compliance with its approved DP. ( ) Y ( ) N
4. Licensee has implemented procedures for the decommissioning activities identified in the DP. ( ) Y ( ) N
5. The RSC and RSO fulfill license requirements to deal with all decommissioning activities. ( ) Y ( ) N

Basis for Findings:
site inspection.

B. FACILITIES

1. Describe, from field observation, the licensee-identified facilities and outdoor areas to be decommissioned:
Field where waste was deposited.

2. The licensee's remediation plan includes all the contaminated facilities and areas on-site and off-site. ( ) Y ( ) N

3. All essential systems and services (e.g., electrical power, water supply, communications systems) are in place and functional for the planned decommissioning activities. (x) Y ( ) N 4. Licensee's emergency plan is in place and operative for the duration of decommissioning. ( ) Y ( ) N
5. For complex sites needing site characterization, describe the key site characterization activities to be performed by the licensee to determine the nature and extent of contamination:

6. Licensee's characterization activities performed in conformance with good industry practice. ( ) Y (x) N

Basis for Findings:
Hazardous waste site with drums of spent solvents and liquid waste and they have put over 325 probe hole through the clay cap and down to bottom of cell.

C. EQUIPMENT AND INSTRUMENTATION

1. Survey instruments are applicable to
contaminants of interest. ( ) Y ( ) N
2. Use of survey instruments appropriate for site. ( ) Y ( ) N

Basis for Findings:

D. MATERIALS

1. Radioactive materials licensed during operations
have been removed offsite; residual quantities
conform to license conditions. ( ) Y (x) N
2. Security and control of licensed materials,
including contaminated areas, is being maintained. (x) Y ( ) N

Basis for Findings:
Site inspection.

E. TRAINING

1. Licensee has developed training program for
new decommissioning activities
(e.g., demolition of structures, excavation
of soil); program is adequate. ( ) Y (x) N
2. Training program being effectively implemented. (x) Y ( ) N
Basis for Findings:
Training records have been checked and are in order.

F. AREA RADIATION SURVEYS AND CONTAMINATION CONTROL

1. Area surveys are being performed in
areas being decommissioned. ( ) Y ( ) N 2. Where active remediation (e.g., demolition of structures, excavation of soil) is being performed,
radiation levels in unrestricted areas do not exceed

2 mrem in any one hour. (x) Y ( ) N

Basis for Findings:
site inspection.

G. RADIATION PROTECTION

1. The licensee's approved health physics program
is being implemented in the field for new
decommissioning activities. ( ) Y (x) N
2. Site security and control of contaminated material
are in compliance with 10 CFR 20.1801 and 20.1802. (x) Y ( ) N

Basis for Findings:
Site inspection.

H. RADIOACTIVE WASTE MANAGEMENT/EFFLUENTS/ENVIRONMENTAL MONITORING

1. Offsite disposal of decommissioning wastes
conforms to free release criteria and
disposal site requirements. (X) Y ( ) N
2. All new effluent releases conform to DP
and applicable regulations. ( ) Y (x) N
3. The licensee's environmental monitoring program
is being implemented in conformance with the DP
and all applicable limits are being met. ( ) Y (x) N
4. Temporary storage/staging areas for radioactive wastes
from building demolition, equipment dismantlement,
soil excavation, etc., are adequately posted and
protected. ( ) Y ( ) N

Basis for Findings:
site inspection.

I. RECORDKEEPING FOR DECOMMISSIONING

1. Copies of the licensee's decommissioning
cost estimates and funding methods are on file. (X) Y ( ) N 2. Licensee has adequate records for decommissioning
activities performed (e.g., for decontamination and
dismantlement of structures; decontamination
and remediation of soil, sediment, surface waters,

groundwater; surveys of remediated facilities). ( ) Y (x) N
3. Licensee's financial assurance conforms
with the financial assurance requirements of
NRC-approved possession limits and NRC regulations. ( ) Y ( ) N
Basis for Findings:
site inspection.

J. TRANSPORTATION

1. Describe the licensee's program to package and
ship decommissioning waste materials:

2. Licensee's program meets all applicable
10 CFR and 49 CFR requirements for marking
labeling, placarding, and shipping paper
requirements for radioactive waste shipments. ( ) Y ( ) N

Basis for Findings:
No waste shipments made.

K. POSTING AND LABELING

1. All contaminated areas, waste processing areas,
and waste handling areas are posted in
conformance with regulations. (X) Y ( ) N
2. Packaged radioactive waste materials are
labeled in accordance with regulations. ( ) Y ( ) N

Basis for Findings:
no waste shipments made.

L. OCCUPATIONAL HEALTH AND SAFETY

1. Describe the occupational health and safety
observations made at the licensee's facilities:
no drilling was done while we were on site..

2. Licensee and Occupational Safety and Health

Administration were informed of occupational health and safety issues observed during the inspection. ( ) Y (x) N

Basis for Findings:

site inspection.

4. **VIOLATIONS, NON-CITED VIOLATIONS, FOLLOWUP ITEMS, AND OTHER ISSUES**

Briefly state (1) the requirements and (2) how and when the licensee violated the requirement. For non-cited violations, indicate why the violation was not cited. Briefly describe followup items and other issues.

END

APPENDIX B

FINAL SURVEY PROGRAM INSPECTION FIELD NOTES

1. **STATUS OF LICENSEE FINAL SURVEY**

A. Final survey report submitted to the NRC. ( ) Y (x) N
B. Previous inspection(s) of licensee final
survey program conducted. ( ) Y (x) N
C. Final survey report not submitted, licensee
final survey in progress. ( ) Y (x) N
D. Final survey plan submitted and approved by
NRC license reviewer. ( ) Y (x) N
Basis for Findings:
site inspection.

2. **INSPECTION AREAS FOR LICENSEE FINAL SURVEYS**

Notes:

(1) For facilities where an approved decommissioning plan (DP) is required, inspections should be made against commitments in the DP and the licensee's final survey plan (which would have been approved by the NRC license reviewer during license review). For facilities where a DP is not required, inspections should be made against NRC regulations, license conditions, and applicable guidance in NUREG/CR-5849.

(2) For facilities that require a significant decommissioning effort, all the inspection areas listed below should be inspected while the licensee's final survey program is in progress. For small, licensed facilities that do not require a significant decommissioning effort, only some of the inspection areas below may apply, and it may not be practicable to inspect these areas until after the licensee's final survey is completed and the licensee's final survey report has been submitted to NRC.

(3) Inspection of a licensee's final survey may include independent confirmatory measurements by the inspector or NRC contractor. The extent of the confirmatory measurements, and whether the use of an NRC contractor is warranted, depends on a number factors that are discussed in Section 2.C. In most cases, minimal confirmatory surveys should be sufficient.

(4) The inspector should identify which inspection areas listed below are performed during each inspection.

A. SITE CONDITIONS AT TIME OF LICENSEE FINAL SURVEY

1. Site has been decontaminated/remediated
in accordance with DP or site procedures. ( ) Y ( ) N
Basis for Findings:

site inspection.

B. LICENSEE FINAL SURVEY PLANS AND PROCEDURES

1. Contaminants:
a. Licensee has identified all potential
contaminants. () Y (x) N
b. Licensee has specified acceptable
release criteria. ( ) Y (x) N
c. Licensee has clearly documented the basis
for any alternate criteria, if applicable. (x) Y ( ) N

2. Organization and Responsibilities:
a. Survey program documented. (x) Y ( ) N
b. Survey staff responsibilities and
qualifications documented. (x) Y ( ) N
3. Quality Assurance/Quality Control:
a. Organization ( ) Y ( ) N
b. QA Program ( ) Y ( ) N
c. Operational Procedures ( ) Y ( ) N
d. Document Control/Records Management ( ) Y ( ) N
e. Equipment Maintenance and Control ( ) Y ( ) N
f. Audits and Corrective Action ( ) Y ( ) N
g. Independent third party measurement QC ( ) Y ( ) N
4. Laboratory analytical procedures, including
QA/QC, acceptable, and results adequately
documented. ( ) Y ( ) N
5. Field Survey Instrumentation:
a. Survey instrumentation is appropriate
for contaminants of interest and site
conditions. ( ) Y ( ) N
b. Licensee has properly calibrated survey
instrumentation. ( ) Y ( ) N
c. Instrument operational procedures adequate ( ) Y ( ) N

Basis for Findings:

8. Licensee is performing the survey in conformance with the approved survey plan (or regulations, applicable guidance in NUREG/CR-5849, and good industry practice, if NRC approval of a survey plan was not required):
a. All potentially contaminated locations on-site
and off-site have been properly classified as "affected" or "unaffected" areas. ( ) Y (x) N
b. "Survey Units" have been properly selected. (x) Y ( ) N
c. Background determination acceptable. (x) Y ( ) N
c. Number and location of measurements and samples
in each "survey unit" is acceptable. (x) Y ( ) N

d. Surface scan procedures and percent coverage acceptable. ( ) Y (x) N
e. Surface activity measurement procedures acceptable.
(1) Direct. ( ) Y (x) N
(2) Removable. ( ) Y ( ) N
f. Exposure rate measurement procedures acceptable. (x) Y ( ) N
g. Surveying and sampling of the following media conducted as appropriate:
(1) Soil and sediment, surface and subsurface. (x) Y ( ) N
(2) Groundwater. ( ) Y (x) N
(3) Surface water. ( ) Y ( ) N
(4) Buildings, interiors and exteriors. ( ) Y ( ) N
(5) Equipment and systems. ( ) Y ( ) N
(6) Grounds. ( ) Y ( ) N
(7) Other media: ( ) Y ( ) N

_____
_____

Basis for Findings:
site inspection.

9. Licensee's Final Survey report sufficient to demonstrate that release criteria have been met.

Note: The final survey report will, in general, not be available for review at the time of an "in-process" inspection of a final survey program. However, at the end of the survey project, after the final survey report has been submitted, the inspector should ensure that these areas have been reviewed by either the license reviewer or project manager. If questions remain as to whether these areas have been satisfied by the licensee, or the final survey report has not been reviewed, the areas listed below should be addressed during the inspection.

a. Survey results demonstrate, with 95% confidence, that average residual contamination in each "survey unit" is less than release criteria. ( ) Y ( ) N
b. Survey results demonstrate that the hot-spot criteria in NUREG/CR-5849 have been satisfied. ( ) Y ( ) N
c. Elevated survey results investigated by licensee. ( ) Y ( ) N
d. Unaffected "Survey Units" reclassified, as necessary, based on survey results. ( ) Y ( ) N
e. Survey report provides sufficient documentation of procedures and QA/QC. ( ) Y ( ) N
f. Survey report provides diagrams or other documentation identifying survey locations. ( ) Y ( ) N

Basis for Findings:

site inspection.

C. NRC CONFIRMATORY SURVEY

1. Evaluate whether a confirmatory survey is justified.

Yes

a. Significant, unresolved, weaknesses identified during the inspection of the licensee's final survey program. ( ) Y ( ) N

b. Repetitive violations. ( ) Y ( ) N

c. Significant public or Congressional interest. ( ) Y ( ) N d. Small site where an in-process inspection not practical. ( ) Y ( ) N

2. If a confirmatory survey is justified, determine if an NRC contractor should be used. Meeting one or more of the three criteria listed below will, in general, justify the use of a contractor.

a. Licensee's final survey involves unique or complex technical issues. (X) Y ( ) N b. Confirmatory survey is expected to require more than a man-week effort to complete field surveys and sampling. ( ) Y (x) N

c. Confirmatory survey is very high priority that cannot be completed by NRC staff in a timely manner. ( ) Y (x) N

NOTE: The NRC laboratory does not process samples requiring wet chemistry. For wet chemistry analyses, the contract laboratory will be used, regardless of whether the inspector or the contractor performs the confirmatory survey.

END