

SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED: DOW Chemical Company Bay City, MI  REPORT NUMBER(S) 04000017/2002-001		2. NRC/REGIONAL OFFICE REGION III US NUCLEAR REGULATORY COMMISSION 801 WARRENVILLE ROAD LISLE IL 60532-4351	
3. DOCKET NUMBER(S) 04000017	4. LICENSE NUMBER(S) STB-00527	5. DATE(S) OF INSPECTION July 23, 2002	
6. INSPECTION PROCEDURES USED IP 87104	7. INSPECTION FOCUS AREAS Posting & Site Maintenance		

LICENSEE:

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- ☒ 1. Based on the inspection findings, no violations were identified.
- ☐ 2. Previous violation(s) closed.
- ☐ 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, NUREG-1600, to exercise discretion, were satisfied.

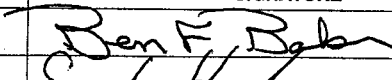
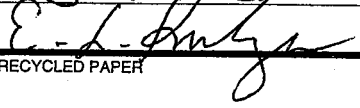
\_\_\_\_\_ non-cited violation(s) were discussed involving the following requirement(s):

\_\_\_\_\_

- ☐ 4. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.

STATEMENT OF CORRECTIVE ACTIONS

I hereby state that, within 30 days, the actions described by me to the Inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE	DATE
LICENSEE	BEN F. BAKER		07/23/2002
NRC INSPECTOR	Edward L. Kulzer	 664 8-1/02	07/23/2002

**MATERIALS DECOMMISSIONING INSPECTION FIELD NOTES FOR  
FACILITIES NEEDING SIGNIFICANT DECOMMISSIONING EFFORT**

Region III

Inspection Report No. 04000017/2002-001 License No. STB-00527 Docket No. 040-00017

Licensee (Name & Address)

DOW       Licensee Contact Ben Baker

Telephone No. 989-636-0787

Date of Last Inspection 8/14/2001

Date of This Inspection 7/23/2002

Date of Next Inspection 8/2003

Type of Inspection: (x) Announced ( ) Unannounced

(X) Routine ( ) Special

( ) Initial Decomm. (x) Reinspection of Decomm.

Level of Inspection: ( ) Normal ( ) Reduced ( ) Extended

Brief Description of Inspection Activities:

None since last inspection.

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

( ) Follow up on previous violations

Inspector: Edmund L. Kuhn Date 7/26/02  
(Signature)   
Approved:  Date 8-1-02

[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. ( ) Y (x) N
- E. NRC confirmatory survey required. ( ) Y (x) N

F. NRC closeout inspection required. ( ) Y (x) 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 amending license and reviewing decommissioning options.

## **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. ( ) Y (x) 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 found decommissioning plan in place.

#### 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.). (x) Y ( ) N

3. Decontamination and remediation of the following are being performed consistent with DP and sound industry practice:

a. Soil. (x) Y ( ) 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). (x) Y ( ) 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. (x) Y ( ) 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. (x) 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:

Ben Baker- Project Manager

RSO- as yet not approved.

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:

Reason for site inspection is partially to discuss proposed DP.

## 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. (X) Y ( ) N

3. All essential systems and services (e.g., electrical power, water supply, communication 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. (x) Y ( ) N

Basis for Findings:

review of plan

## 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:

No surveys taking place at this time.

## D. MATERIALS

1. Radioactive materials licensed during operations have been removed offsite; residual quantities conform to license conditions. (X) Y ( ) 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 ( ) N
2. Training program being effectively implemented. ( ) Y ( ) N

Basis for Findings:

#### 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:

No work taking place.

#### G. RADIATION PROTECTION

1. The licensee's approved health physics program is being implemented in the field for new decommissioning activities. ( ) Y ( ) 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. ( ) Y ( ) N
2. All new effluent releases conform to DP and applicable regulations. ( ) Y ( ) N
3. The licensee's environmental monitoring program is being implemented in conformance with

the DP and all applicable limits are being met. ( ) Y ( ) 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). (x) Y ( ) N

3. Licensee's financial assurance conforms with the financial assurance requirements of NRC-approved possession limits and NRC regulations. (X) Y ( ) N

Basis for Findings:

Discussed with NRC HQ.

#### 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 activities being conducted.

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 follow up items and other issues.