



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

March 3, 1978

Docket No. 50-264

MEMORANDUM FOR: Region III Files

FROM: J. F. Donahue, Chief, Security and Investigation
Section, Safeguards Branch

SUBJECT: DOW CHEMICAL'S RESPONSE TO THE JANUARY 13, 1978
IMMEDIATE ACTION LETTER

During an Enforcement Conference held at Dow Chemical Research Reactor Facility on February 7, 1978, by C. Norelius, J. Dunleavy, and J. Donahue, RIII, and G. Kochanny, W. Lee, L. Nute, and J. Dix, Dow Chemical, Mr. Kochanny, Manager, Dow Research Facility stated:

- (a) Dow Chemical's response to the RIII Immediate Action Letter (IAL) of January 13, 1978, was prepared during his absence and admittedly did not specifically address all the items of concern to RIII nor did it fully outline the scope of the corrective action actually taken by Dow Chemical.
- (b) Dow Chemical took prompt corrective action on each item of concern. The corrective action was completely in accord with the specific measures outlined in the January 13, 1978 IAL.

During a tour of the Dow Research Reactor Facility at the conclusion of the Enforcement Conference and further discussions, the

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March 3, 1978

RIII representatives confirmed that appropriate corrective action had been taken by the licensee.

J. F. Donahue, Chief
Security and Investigation Section

cc: W. Little
C. Brown
C. Norelius

JUN 7 1978

Docket No. 50-264 - 15-02

Dow Chemical U.S.A.
ATTN: Dr. R. R. Langner
Chairman, Radiation
Safety Committee
1803 Building
Midland, MI 48640

Gentlemen:

This refers to the inspection conducted by Mr. J. W. Hiatt of this office on May 3 and 4, 1978, of activities at the TRIGA Reactor Facility authorized by NRC Operating License No. R-108 and to the discussion of our findings with Dr. Kochanny and others of your staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

No items of noncompliance with NRC requirements were identified during the course of this inspection.

Based on discussions with your representatives at the site, we understand that written procedures for the calibration of the continual air monitor and the area radiation monitor will be formalized.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room, except as follows. If this report contains information that you or your contractors believe to be proprietary, you must apply in writing to this office, within twenty days of your receipt of this letter, to withhold such information from public disclosure. The application must include

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OFFICE ►					
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Dow Chemical U.S.A.

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a full statement of the reasons for which the information is considered proprietary, and should be prepared so that proprietary information identified in the application is contained in an enclosure to the application.

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

Sincerely,

A. B. Davis, Chief
Fuel Facility and Materials
Safety Branch

Enclosure: IE Inspection
Report No. 50-264/78-02

cc w/encl:
Central Files
Reproduction Unit NRC 20b
PDR
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OFFICE	RIII	RIII	RIII	RIII		
SURNAME	Hiatt/dec	Fisher	Davis	Brown		
DATE	6/3/78					

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-264/78-02

Docket No. 50-264

License No. R-108

Licensee: Dow Chemical U.S.A.
1803 Building
Midland, MI 48640

Facility Name: TRIGA Reactor

Inspection At: TRIGA Reactor Site, Midland, MI

Inspection Conducted: May 3 and 4, 1978

Inspector: J. W. Hiatt

6/6/78

Approved By: *J W Hiatt*
M.C. Schumacher for
W. L. Fisher, Chief
Fuel Facility Projects and
Radiation Support Section

6/6/78

Inspection Summary

Inspection on May 3 and 4, 1978 (Report No. 50-264/78-02)

Areas Inspected: Routine, unannounced inspection of radwaste management and radiation protection program, including: qualifications; audits; training; procedures; instruments and equipment; exposure control; posting, labeling, and control; surveys; notifications and reports; records of effluents; effluent control instrumentation; and solid radwaste. The inspection involved 11 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

DRP 8508200297

DETAILS

1. Persons Contacted

Dr. G. L. Kochanny, Jr., Research Manager, 1602 Building
Dr. O. V. Anders, Reactor Supervisor
D. L. Barsten, Health Physicist
C. Vaughn, Jr., Research Industrial Hygienist

All of the above attended the exit interview.

The inspector also talked with other licensee personnel, including senior reactor operators and industrial hygienists.

2. General

This inspection, which began at 8:05 a.m. on May 3, 1978, was conducted to examine the routine operational radiation protection and radwaste management programs. An initial tour of the facility at 11:45 a.m. included visual observation of instruments and equipment, posting, labeling, and access controls. During this tour and subsequent visits to the reactor area, radiation surveys were made by the inspector; no abnormal radiation readings or contamination levels were detected. The inspector also observed sample loading, irradiation, and removal from the reactor. No problems were noted.

3. Qualifications

The reactor health physicist is a member of the Industrial Hygiene Office. In January 1978 Mr. Dennis Barsten was assigned as the reactor health physicist, replacing Mr. Ray Olson. Mr. Barsten has an M.S. in Health Physics and has previously worked for Oak Ridge National Laboratory. Additional health physics coverage is available from the Industrial Hygiene staff.

No items of noncompliance were identified.

4. Licensee Audits

The inspector reviewed minutes of Reactor Operations Committee and Radiation Hazards Committee meetings held in CY 1977 and 1978 to date. Membership requirements and meeting frequencies were as stated in the Technical Specifications (T.S.). No significant radiation protection or radwaste problems were noted.

5. Training

All members of the reactor staff are licensed operators who receive both radiation protection training and training under 10 CFR 19.12 as part of their licensing process. Requalification training is conducted yearly. Outside of the reactor staff, no other individuals frequent the reactor area.

No items of noncompliance were identified.

6. Radiation Protection Procedures

Procedures required by the technical specifications regarding calibration of the continual air monitor and the area radiation monitor are contained in the licensee's "Calibration Logbook." The inspector noted that the procedures consist mostly of tables and applicable data but contain no formal instructions. This does not present a major problem, because staff turnover is small and, based on discussions with reactor personnel, the calibration methods appear to be well understood.

Portable instrument calibration procedures maintained by the Industrial Hygiene Office were reviewed; no problems were noted.

No items of noncompliance were identified.

7. Instruments and Equipment

a. Portable Survey Instruments

The licensee maintains operable and calibrated instruments capable of detecting beta and gamma radiation. A review of records indicates that the instruments were calibrated semi-annually in 1977 and had been calibrated in March 1978.

b. Area Radiation Monitor

Due to recurrent malfunctions, the area monitor originally installed at the facility has been replaced. At the time of the inspection, the installation of the new monitor had not been approved by the Reactor Operations Committee. Until approval is obtained, a portable NMC detector, set to alarm at 2 mR/hr, is being used to fulfill the T.S. requirement. The portable unit was also used during periods of maintenance on the replaced monitor.

During facility tours, the inspector noted that, as required by the T.S., when the alarm setpoint was exceeded an audible alarm was actuated. A review of records indicates the area monitor was checked and calibrated within the T.S. required frequency.

c. Continuous Air Monitor (CAM)

Records indicate that the CAM was calibrated and that the alarm setpoints were checked within the required T.S. frequency. The inspector verified that an audible alarm was initiated when the setpoint was exceeded.

No items of noncompliance were identified in the above areas.

8. Exposure Control

a. External Exposure

The licensee's vendor film badge reports, which are equivalent to Form NRC-5, were reviewed for the period April 1977 through February 14, 1978. The greatest whole body and skin doses received by reactor personnel in CY 1977 were 420 mrem and 440 mrem, respectively.

Self-reading dosimeters are used as needed (e.g., during fuel inspections).

No problems were noted.

b. Internal Exposure

The licensee has no routine bioassay program and relies on the CAM and contamination swipe tests to define any problems. A review of records indicated that no problems had been encountered.

9. Posting and Labeling

The licensee's compliance with posting and labeling requirements specified in 10 CFR 19.11 and 10 CFR 20.203 were reviewed. No problems were noted.

10. Materials

The licensee stated that any radioactive material received is surveyed by the Industrial Hygiene Office. Records indicate that no material was received by the TRIGA Facility during 1977.

11. Surveys

Quarterly contamination surveys are made by the Industrial Hygiene Office. A review of the results for 1977 indicated only low level contamination near the sample removal port. In mid-1977 the licensee placed plastic around this area to help prevent contaminating the floor and to expedite cleanups.

Area radiation surveys are not routinely performed, as radiation levels in the area do not normally fluctuate. However, each sample is surveyed upon removal from the reactor. During the tours, the inspector performed radiation surveys and found no levels above 5 mR/hr.

No items of noncompliance were identified.

12. Notifications and Reports

Discussions with licensee representatives indicate that during 1977 and 1978 to date there were no problems regarding compliance with 10 CFR 19 and 10 CFR 20 notification and reporting requirements.

13. Radwaste Management

a. Liquid Radwaste

No radioactive liquid effluents are released from the reactor. Any liquids generated are collected and transferred to the Industrial Hygiene Office for solidification and disposal. About ten gallons of distilled water are added to the reactor pool each week to replace water lost via evaporation.

b. Gaseous Radwaste

The licensee has no gaseous effluent monitor. An evaluation of the theoretical amount of Ar-41 released is made in Section H.5 of the Safety Analysis Report. The evaluation assumes continual operation of the rabbit system, while in fact the system operates about one hour per week.

Particulate gaseous effluents are measured by the CAM. No significant particulate activity was noted.

c. Solid Radwaste

Solid radwaste is transferred to the broad Byproduct Material License (21-00265-06) for shipment to a licensed disposal agency. The last shipment was made in August 1977.

No items of noncompliance were identified in radwaste management.

14. Exit Interview

The inspector met with Dr. Kolchanny and other members of the staff (denoted in Paragraph 1) on May 4, 1978. The inspector described the scope of the inspection and stated that no items of noncompliance had been found.

The licensee agreed to develop formal calibration procedures for the continual air monitor and the area radiation monitor by the next radiation protection inspection. (Paragraph 6)