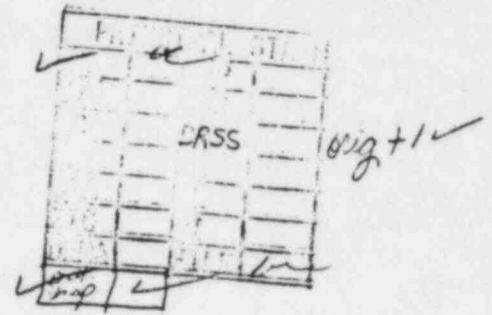


June 26, 1984

U.S. NRC
799 Roosevelt Rd.
Glen Ellyn
Illinois 60137



Dear Mr. Sereniawski:

Enclosed is a copy of a page from the "Investigation of Groundwater Quality in the Hemlock Area of Saginaw County," as prepared by the Michigan Department of Natural Resources - Water Quality Division, April 1979. Of particular concern is the statement, "They demonstrated the well to be intact by conducting casing inspection and cement bond logs and a radioactive tracer survey." The statement is referring to activities of the Dow Chemical Company of Midland, Michigan.

The Environmental Congress of Mid-Michigan (ECOMM) has received information that Dow may have disposed of radioactive materials through their deep well method of disposal or may have used them in the deep wells as tracers. I wrote NRC in December 1983 requesting information from NRC files pertaining to this issue. The response, from J.M. Felton, is enclosed.

I am concerned that the NRC has no records pertaining to such authorization yet according to the DNR report, radioactive materials have been used in the well system. This is particularly critical information as the DNR has launched an investigation into the brine system due to the perponderance of information which indicates poorly maintained and repaired equipment and poor operating practices resulting in a large number of spills and leaks. This information led the DNR to issue on April 11, 1984 a Notice of Violation and Opportunity to Show Cause. The DNR further states that "During the period from March 8 through April 4, 1984, 20 minor leaks of brine were noted...In the period from January 21, 1984 through March 26, 1984, there were 13 major spills and breaks from production wells..." The violation order involves 72 brine production wells, 36 brine injection wells, 17 solution mining wells, and approximately 150 miles of brine and disposal pipelines. If such a large number of spills are occurring at such an exorbitant rate and the well system contains radioactive materials, the probability of spills involving radioactive materials is great and the threat of contaminating groundwaters with brine as well as radionuclides should be of major concern to the NRC.

I request a full investigation be conducted on this issue and would appreciate a timely response to my request.

Sincerely,

Andrea K. Wilson
Andrea K. Wilson, Assistant Director
Environmental Congress of Mid-Michigan
901 E. Gaylord
Mt. Pleasant
Michigan 48858

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PDR FOIA
KOHNB4-850 PDR

A20

JUN 29 1984

517-772-5365

where brines are deposited and the upper aquifers which are used as water supplies. The two wells nearest water well No. 4 each received approximately 3×10^9 gallons of brine prior to the last few years when they have been used very little. Before such wells can be put in use again, Dow must satisfy the Geological Survey that the well casings are sound and will deliver all brines into the formation for which they are intended. This was done in October of 1978, when Dow used one of the nearby wells for a short period of time. They demonstrated the well to be intact by conducting casing inspection and cement bond logs and a radioactive tracer survey. With the permission of the Geological Survey, they resumed use of one well (No. 81) in October of 1978. Shortly thereafter, the concerns about groundwater in the Hemlock area were expressed and the Geological Survey staff decided to close the well down. They had no indication that this well was in any way affecting groundwaters. However, they were aware of nearby oil and gas wells drilled to the Dundee formation that might allow some escape of the natural formation brines. It was decided not to allow the continued use of this well as an extra precaution for groundwater supplies in the area.

Brine Production Operations have been making greater use of a deeper strata, the Sylvania formation, in the last few years. Reinjection of spent brines into the Dundee is being phased out in general and one of the reasons is the Geological Survey's concern about the unknown status of abandoned wells in the area. The general location of the formations used by this system are illustrated in Figure 2 and the location of Dow's brine facilities in the Hemlock area are shown in Figure 3.

Most of the brine wells of the Dow system have a small pond constructed next to them. These can serve several purposes. Fresh water in them can be added to the saturated brines brought out by production wells so that the salts do not precipitate out as the brines cool. When accidental brine losses at the well head occur, the ponds may be used to catch any spilled brine. Sometimes the ponds receive the rinsing from the cleaning of drilling tools.

The potential for these ponds to contaminate groundwaters has not been fully evaluated. In general, they are small and appear to have clay bottoms. Ponds next to wells No. 50 and No. 81 were inspected on October 31, 1978, and the following observations made:

The pond next to Well No. 50 is approximately 8 meters by 20 meters and up to 1 meter deep and is enclosed by a broken down fence. Deer tracks were numerous around the edge of the pond and aquatic insects and Characeae noted in the water. The bottom was of clay type material. A slight oil sheen was seen and decomposing plant material was scattered along the water's edge and bottom. Water samples showed: specific conductance = 1,175 micromhos per centimeter, COD = 32 mg/l, and TOC = 9.8 mg/l.

The pond next to Well No. 81, is approximately 10 meters x 10 meters, somewhat deeper than that next to No. 50, and surrounded by an intact fence. Its bottom was of a clay type material and little organic material was observed in it. A slight oil sheen was present. Water samples showed: specific conductance = 17,950 micromhos per centimeter and TOC = 15.8 mg/l.

Whether or not either of these ponds has ever contained hazardous substances or if they lose water to the groundwaters is not known.

*Investigation of Groundwater Quality in the Hemlock Area
of Saginaw County, MDNR - Water Quality Division - April 1979*

NOTE FOR: Region III

THRU: License Fee Management Branch

FROM: Licensing Assistance Section

Enclosed is a pending licensing action to be handled in your region.

CONTROL NO. 15934

LICENSEE: New Chemical Company

LICENSE NUMBER: 21-00265-06 DOCKET NUMBER: 30-04783

The duplicate copy of the licensing action has already been sent to your region. Please return it to Headquarters for the duplicate file.

Attached also is the official file. Please return the duplicate folder to LAS, NMSS, upon receipt of this file.

FOR LFMB USE

Fee Category and Amount: 3K \$150 CR
2B \$150

Correct fee has been paid.

Application may be processed for: amendment ☒ renewal ☐ license

LFMB Reviewer: cap2

A22

CONVERSATION RECORD

TIME

4:31 pm

DATE

30 July 1984

TYPE

☐ VISIT

☐ CONFERENCE

☒ TELEPHONE

☒ INCOMING

☐ OUTGOING

ROUTING

NAME/SYMBOL

INT

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Gordon Engdahl

ORGANIZATION (Office, dept., bureau, etc.)

Dow Chemical U.S.A.
Midland, MI

TELEPHONE NO.

(313)

SUBJECT

Control No 15934

SUMMARY

Response essentially completed. Are now
presently it to Committee members for approval.
They will respond to request before September 7, 1984

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

Mike McLean

SIGNATURE

Mike McLean

DATE

30 July 1984

ACTION TAKEN

A21

SIGNATURE

TITLE

DATE

30 Jul 84



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 9 0 1983

Ms. Andrea K. Wilson
Director - ECOMM
901 E. Gaylord
Mt. Pleasant, MI 48858

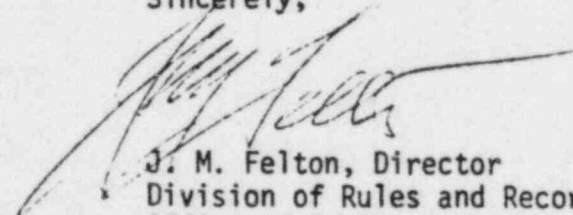
IN RESPONSE REFER
TO FOIA-83-732

Dear Ms. Wilson:

This is in response to your letter dated December 3, 1983 in which you requested, pursuant to the Freedom of Information Act, any records in connection with Dow Chemical Company's use and/or disposal of radioactive materials excluding information pertaining to Dow's incineration of radioactive materials.

The Nuclear Regulatory Commission has no records pertaining to a license authorizing deep well disposal of radioactive materials.

Sincerely,


J. M. Felton, Director
Division of Rules and Records
Office of Administration

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