



STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

August 9, 2006

Mr. Greg Cochran, Director
Michigan Dioxin Initiative
Michigan Operations
The Dow Chemical Company
1790 Building, Office 137
Washington Street
Midland, Michigan 48674

Dear Mr. Cochran:

Subject: August 3, 2006, Meeting to Discuss Dow's May 1, 2006, Notice of Deficiency Response -
The Dow Chemical Company, Michigan Operations (Dow); MID 000 724 724

This letter is intended to document the results of our meeting of August 3, 2006, which included representatives from Dow, the Waste and Hazardous Materials and Executive Divisions of the Michigan Department of Environmental Quality (MDEQ), and Region 5 of the United States Environmental Protection Agency (U.S. EPA) by phone.

The purpose of the meeting was to discuss and to determine a path forward to resolve several of the key issues that the MDEQ and the U.S. EPA have identified in the review of Dow's May 1, 2006, response to notices of deficiency (NODs) that were provided to Dow on March 2, and April 13, 2006. The NODs resulted from the review of Dow's December 29, 2005, Remedial Investigation Work Plans (RIWPs) for the Midland Area and the Tittabawassee River and Floodplain.

Because discussion during the August 3, 2006, meeting did not comprehensively address the concerns of the MDEQ and the U.S. EPA with respect to the Dow RIWPs or Dow's May 1, 2006, response to the NODs, further discussion and work by Dow, the MDEQ, and the U.S. EPA, will be necessary to develop work plans that meet the state and federal regulatory obligations. As we discussed during the meeting, the MDEQ has received written comments from the U.S. EPA on Dow's May 1, 2006, response. The MDEQ is in the process of reviewing these comments and will shortly be transmitting combined written MDEQ and U.S. EPA comments to Dow. This letter will reflect the status of the issues to date, as some comments are in the process of resolution (as captured below) or were resolved by the MDEQ's July 12, 2006, pilot approval of the *GeoMorph* Sampling and Analysis Plan, Upper Tittabawassee River.

The MDEQ has captured results of the August 3, 2006, meeting as follows:

Updating the Midland and Tittabawassee RIWPs and Schedules

Dow confirmed during the meeting that fully revised RIWPs for the Midland Tittabawassee River Areas of Concern will be submitted to the MDEQ by December 1, 2006. The RIWPs will be comprehensively revised to reflect the current status of investigation and will include a completely integrated schedule of activities related to the RIWPs. The expectation was expressed by the MDEQ and the U. S. EPA that the revised RIWPs would contain a greatly expanded description of the manufacturing processes, histories, by-products and wastes, and releases from the Midland facility.

The MDEQ agreed that Dow could propose to submit individual work plans to address key components of the RIWPs but noted that these components had to be integrated into the overall RIWPs master schedule and that the proposed phasing could not unacceptably delay the overall implementation of the RIWPs.

Examples of key components that are missing from the schedule that Dow submitted on May 1, 2006, include the ecological risk assessment and the development of sediment cleanup criteria.

Concern was expressed by Dow, the MDEQ, and the U.S. EPA regarding the overall length of the schedules, along with a mutual desire to compress the schedules where appropriate. The exposure survey instrument was discussed as an example of where the MDEQ believes significant schedule compression can occur. The use of existing exposure data sources (the Michigan Department of Community Health Fish Consumption Survey and the University of Michigan Dioxin Exposure Study (UM DES)) were also discussed as means to move forward in a more timely manner.

Dow expressed the desire to meet with the MDEQ and the U.S. EPA to specifically discuss the Midland and Tittabawassee River project schedules and to look for opportunities to accelerate the existing proposed schedules. The MDEQ and the U.S. EPA agreed this would be valuable.

Priority 1 and 2 Sampling During 2006

Dow's proposal to conduct sampling only on Priority 1 and 2 properties in the upper six miles of the Tittabawassee River was discussed. At this time, the MDEQ does not believe that this proposal is adequate to develop timely information on the areas of highest concern for human direct contact exposure and does not believe that the Dow proposal is responsive to the NODs.

The MDEQ and Dow have agreed to meet in early September to review the results of the UM DES to determine if the sampling conducted under that study could be used, in part, to address the MDEQ and the U.S. EPA concerns with respect to this issue. The MDEQ and Dow agreed that it would be useful to have Dr. David Garabrant attend a portion of this meeting if he was available.

The MDEQ will defer the determination of the need to pursue enforcement action with respect to this issue pending the release of UM DES study, the outcome of the September meeting to discuss the UM DES, and any timely subsequent proposal Dow may make to conduct sampling on the Priority 1 and 2 properties.

Collection of Exposure Assessment Data in 2006

The MDEQ and Dow discussed the need to determine soil concentrations at several agricultural properties adjacent to residential areas to determine where dust samples could be collected yet this field season. The MDEQ believes that this work could be coordinated with sampling of selected Priority 1 and 2 Interim Response Activity properties. It was noted that under the UM DES agricultural properties were not sampled. Therefore, the UM DES would be of limited value in addressing this issue. The need to collect additional data on certain fish species was also discussed.

It was agreed that Dow and the MDEQ would begin meeting on a regular basis this month to begin addressing this and other related issues in a collaborative and timely manner.

Tittabawassee River Floodplain Bioavailability Study

The MDEQ and Dow discussed the path forward with respect to conducting additional bioavailability work on the Tittabawassee River floodplain. Dow indicated that this issue was under consideration and that a decision on whether to pursue additional bioavailability work on the Tittabawassee River would be made in the next day. On August 4, 2006, you provided an e-mail to the MDEQ and the U.S. EPA indicating that Dow would not be pursuing further bioavailability work on the Tittabawassee River floodplain.

Midland Bioavailability Study and Potential Constituents of Interest (PCOI) Effort

The MDEQ requested clarification on several issues related to the schedule contained in the May 31, 2006, version of the Sampling and Analysis Plan in Support of Bioavailability Study, Midland Area Soils. Dow agreed to modify the schedule to be consistent with the approved Scope of Work. On August 7, 2006, Dow provided a revised schedule and document. Also on August 7, 2006, the MDEQ provided the revised document to Toxicology Excellence in Risk Assessment for scientific peer review.

Dow clarified that they had initiated the process of contacting property owners for sampling activities this fall and had provided a mailing packet to the city of Midland for review and that Dow would be providing the Midland reviewed packet to the MDEQ for review and approval shortly. As of August 9, 2006, we had not received the mailing packet for review.

The MDEQ also expressed the desire to be as complete as possible in the initial analysis of samples for contaminants other than dioxins and furans. Based on the results of this discussion, the MDEQ and Dow agreed that all of the Midland PCOI samples would be analyzed for 40 CFR 264 Appendix IX constituents with identification of tentatively identified compounds (TICs) according to an agreed upon methodology. Samples would also be archived for possible additional work to limit the need to return to collect additional sample volume. Dow will provide an updated and comprehensive review of PCOIs in the December 1, 2006, revision to the RIWPs. Additional compounds of concern that are identified during this process could then be investigated using the archived samples. The MDEQ recommended that Dow pursue a PCOI identification process that is similar to the one being developed for the Tittabawassee River RIWP.

Interim Response Activities during Tittabawassee River Investigation Activities

The MDEQ indicated that it was necessary to come to an understanding of when interim response activities would be implemented as investigation activities proceed this summer and fall along the Tittabawassee River. The MDEQ further noted that during the pilot phase of investigation it was appropriate to determine the effects of various interim response activities and to conduct monitoring to determine the activities that are most effective and least disruptive. Dow agreed and recommended a follow up meeting to discuss both the conditions and soil/sediment concentrations under which interim response activities would be appropriate.

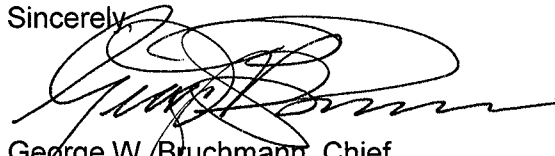
In summary, we believe that at a high level this was a productive meeting, but that much detailed technical work needs to be completed. Please contact Ms. Cheryl Howe, Hazardous Waste Section (HWS), Waste and Hazardous Materials Division (WHMD) at 517-373-9881, or by e-mail at howec@michigan.gov, to begin the process of setting up the following meetings:

- August meeting to develop criteria for implementation of interim response activities and follow up monitoring of interim response activities.
- August meeting to discuss and agree upon agricultural soil and follow-up dust sampling and schedule for sampling.

- Early September meeting to review UM DES results and determine schedule for additional sampling. Dr. Garabrant will be invited to attend this meeting if he is available.
- September meeting to review Michigan Department of Community Health Saginaw Bay Watershed Pilot Project Fish Consumption Advisory Survey results and to determine additional fish sampling needs and schedule for sampling.
- Periodic meetings beginning in September to review sensitivity analysis of probabilistic risk assessment parameters and to determine where additional exposure data need to be collected and the schedule for the collection of the data.
- October meeting(s) to review the overall RIWP schedules to identify opportunities to streamline and compress the schedule and to provide the regulatory agencies with a better understanding of the overall corrective action process from Dow's point of view.

Thank you for meeting with us to discuss these challenging issues. My staff and I look forward to continued progress and a positive working relationship with you and your staff. This letter does not preclude, nor limit, the MDEQ's ability to initiate any other enforcement action, under state or federal law, as deemed appropriate. Should you have any questions, please contact Mr. Taylor, HWS, WHMD, at 517-335-4799 or taylorab@michigan.gov, Ms. Howe, or you may contact me.

Sincerely,



George W. Bruchmann, Chief
Waste and Hazardous Materials Division
517-373-9523

cc: Mr. Peter Wright, Dow
Mr. Joseph Heimbuch, Dow
Mr. Ben Baker, Dow
Mr. Tom Long, The Sapphire Group
Mr. Jack Bails, Public Sector Consultants
Mr. Gerry Phillips, U.S. Environmental Protection Agency, Region 5
Mr. Greg Rudloff, U.S. Environmental Protection Agency, Region 5
Mr. John Steketee, U.S. Environmental Protection Agency, Region 5
Mr. Jim Sygo, Deputy Director, MDEQ
Mr. Stephen Buda, MDEQ
Mr. David Slayton, MDEQ
Ms. Virginia Himich, MDEQ
Mr. Terry Walkington/Ms. Trisha Peters, MDEQ
Ms. Cheryl Howe, MDEQ
Dr. Deb MacKenzie-Taylor, MDEQ
Mr. Allan Taylor, MDEQ
Off-Site Corrective Action File