

February 25, 2005

Dow and MI DEQ

Read the fresh post on Enviro-Mich below from Michelle Hurd Riddick, and then read below it, the November 2004 document responding to Dow misinformation that DEQ for some reason never released. What gives?

Dow Chemical Co. has mailed 220 invitations to the owners and occupants of the most-polluted properties along the dioxin-tainted floodplain, specifically those with contamination levels higher than 1,000 parts per trillion.

snip

DEQ spokeswoman Patricia Spitzley raised no objections to the meetings.

..... "The more information and education people can receive about the effects of dioxin the better."

<http://www.mlive.com/business/sanews/index.ssf?/base/business-1/110934665121931.xml>

One more example of State of Michigan permitting the polluter to frame the conversation and explain the science surrounding dioxin. As recently as two weeks ago Dow stated in the Midland Daily News that they see no problem with dioxin in the soils and that the only problem with dioxin is chloracne. Obviously it is ok with DEQ that Dow perpetuate this misinformation contrary to the preponderance of independent science from around the globe that says otherwise.

In November, Dow distributed a Community Update filled with distortions and half truths about dioxin. It was one of Dow's most blatant efforts to date to minimize the risks associated with dioxin. We were told by DEQ management that a response was being prepared but it never came to fruition. The last we heard it was sent to the Governor's communications people and never returned. It is with absolute impunity and with no apparent fear of reprisal from the state that Dow continues to shamefully put communities and our natural resources at risk.

Michelle Hurd Riddick

Lone Tree Council

Comments on Dow's November 2004 Community Update

1. Page 1, Column 1, Paragraph 2: This is an overly generalized and ambiguous statement. The Environmental Protection Agency, International Agency for Research on Cancer (IARC), U.S. Department of Health and Human Services, and other government organizations recognize 2,3,7,8-TCDD as a known human carcinogen and dioxin mixtures (toxic equivalence or TEQ) as suspected or probable human carcinogen.
2. Page 1, Columns 2 and 3: It is difficult to review this section because Dow would not provide the actual study results or even a copy of the Powerpoint presentation given to staff of the Departments of Community Health (DCH) and Environmental Quality on November 3, 2004. DCH staff requested this information on November 4, 2004. Dr. Michael Carson of Dow declined to provide the requested information.

3. Page 1, Column 2, Paragraph 3: The heading of this section states “No Indication of Health Effects” and the text indicates that Dow finds “little indication of any health effect related to dioxin exposure in our chlorophenol workers.”
4. Page 1, Columns 2 and 3, Paragraph 6: In 2004, this is the range Dow reports. Dioxin is eliminated from the body with a half life of approximately seven years. If the Dow reported levels are corrected for elimination via half life, this range would be much higher. It is not accurate to compare the 2004 Dow data to the levels reported by the Centers for Disease Control which are the estimated highest serum levels at the time of last exposure.
5. Page 1, Columns 3, Paragraph 2: The section, “People More Resistant,” is misleading. The statement cited is not proven for all adverse effects that have been associated with dioxin exposure. For example, for effects that have been clearly associated with dioxin exposure, such as chloracne and the induction of liver enzymes, humans and animals respond at similar body burdens. For some effects, humans are more sensitive than certain other mammalian species (e.g., chloracne in mice, cancer in hamsters, decreased testosterone in rats).
6. Page 2, Column 1, Paragraph 4: The more comprehensive studies by National Institute for Occupational Safety and Health (NIOSH) and IARC do show increased risk of disease (cancer, ischemic heart disease). These results were reaffirmed in 2004. Dow should cite the study to which they referred.
7. Page 2, Column 2, Paragraph 4: The bioavailability study design has not been approved by the DEQ. An independent peer review by Toxicology Excellence in Risk Assessment (TERA) indicates that there are major problems with the study design. In addition, it has not been demonstrated at this location that dioxins are “firmly bound” to soil and are not readily absorbed into the blood. In fact, based on Dow’s wild game study and Michigan State University’s (MSU) ecological risk studies, dioxins in the Tittabawassee River floodplain appear to be very bioavailable.

The German study referred to in this discussion may not be relevant as bioavailability varies based, in part, on soil type and contamination.

8. Page 3, Columns 2 and 3: Dow's graphs and comparisons are flat out misrepresentations of the actual facts, data, and model for the DEQ's screening level terrestrial ecological risk assessment (ERA) evaluation.

The DEQ made no estimates of the level of contamination expected to be present in squirrels and turkeys from the Tittabawassee River floodplain. It would have been, and is, inappropriate to use the DEQ's screening level terrestrial ERA to attempt to make such calculations.

The DEQ was, in fact, surprised by the high levels of dioxins found in the portions of squirrels, turkeys, and deer consumed by humans. Higher levels of contamination are expected to be present in portions of animals that are consumed by prey species. The recently released MSU ecological data support the DEQ's conclusion that ecological risk from dioxins is present in the Tittabawassee River floodplain. Levels of dioxin in small ground dwelling mammals is on the order of 100 times higher than the squirrel data reported by Dow.

9. Page 4, Column 3, Paragraph 1: The "guidelines" referred to in this paragraph are actually concentration ranges. Exposure to these concentration ranges may result in adverse health effects. Some studies in humans have shown adverse health effects associated with background levels of dioxin.

10. Page 5, Columns 1 and 2: The Interim Response Activities (IRAs) referred to in this section have not been approved by the DEQ. This section does not discuss critical components of the IRAs, which include advisory signage to reduce exposure to contaminated soil and fish.

Please note that "permit approval" likely refers to floodplain permits, not Part 111 approval of the IRAs for corrective action purposes as is implied by the wording.

11. Page 5, Column 3, Paragraph 1: Based on Dow's November 3, 2004 presentation to DCH and DEQ staff, chloracne did not predict serum dioxin levels (i.e., some workers with high dioxin levels did not exhibit chloracne).

Dow's exposure estimates did not predict actual measured dioxin levels as stated in this paragraph. Instead, they predicted relative levels of exposure.

12. Page 5, Column 7: Although Dow briefed DCH and DEQ staff on the worker study, Dow declined to provide the actual study results when requested to do so on November 4, 2004.

13. Page 6, Column 2, Paragraph 2: A publication of the study cited by Dow supports the TEQ approach, which is an order of magnitude estimate of overall toxic potency (not just cancer). Also, it should be clarified that toxic equivalency factors (TEFs) are developed based on specific toxicity studies of the individual compounds. The TEF for 2,3,4,7,8-PeCDF (not 2,4,7,8-PCDF) estimated from this study were 0.16 to 0.34 for four tumor types, which are within half an order of magnitude of the current TEF of 0.5. The study cited here also verified that the cancer incidence from a mixture of three dioxin-like compounds was adequately predicted by the TEF approach and did not over-predict toxicity as implied by Dow.

14. Page 7, Column 1, Paragraphs 3 and 4: The University of Michigan Dioxin Exposure Study (UMDES) as designed will not be able to conclusively determine the exposure of the specific population of greatest concern, residents who live on properties that frequently flood. Also, as noted above, even if these residents have dioxin levels within the background range, it does not mean that there will be no increased health risk.

The DEQ will not be able to use the UMDES for corrective action purposes as described here. In addition, it is not appropriate to wait until the study is completed in 2007 to begin to take actions to reduce exposure.