

Memo

To: Ben Baker
Senior Environmental Project Leader
The Dow Chemical Company
Sustainable Development
1790 Building
Midland, MI 48674

From: Peter Adriaens, PhD

Date: March 16, 2009

RE: Response to Dow request for additional information on atmospheric deposition modeling

The UMDES team received a request (dated 10/23/08) from the Dow Chemical Company (attached) pertaining to our atmospheric deposition modeling data and methods.

At this time, we are furnishing the requested information (Dow memo, request # 1) related to the ES&T publication titled "Geostatistical modeling of the spatial distribution of soil dioxins in the vicinity of an incinerator. 1. Theory and application to Midland, Michigan" by Goovaerts et al., 2008:

- ISCST3 air dispersion modeling input file (file named: **test.inp**)
- ISCST3 air dispersion modeling output file (file named: **test.out**)
- ISCST3 air dispersion modeling second output file (file named **5YEARSRESULTS.DAT**)
- Meteorological data set used: **test.met**
- Coordinates of the 261x261 grid with spacing of 50m are saved in file **261x261 gridnodes.txt**
- 100 realizations of TEQ simulated values associated with each of the 261x261 grid node are split into two excel files named **grid1.xls and grid2.xls**
- Locations of 53 MDEQ samples can be found in file **Coordinates of 53 MDEQ samples.xls**
- ISCST3 predictions of air dispersion, dry and wet deposition fluxes at these 53 locations, and soil concentration (old MDEQ) are found in file **deposition at 53 MDEQ locactions.xls**

Files with extension **.dat**, **.txt**, or **.out** can be opened using Notepad or WordPad. Files with extension **.xls** are opened by Excel. Meteorological data files the for ISCST3 model ending with

.met extension can be read by the ISCST3 model. For data visualization in Arc-GIS program, the projected system is found in **Projection.prj** (open using Notepad or WordPad).

Information pertaining to the following requests was not furnished:

- Dow memo request #2 (Goovaerts 2008b). Response to these requests (beyond what is available in the Goovaerts et al. paper would violate confidentiality of the respondents because of the high spatial data resolution of the model.
- Dow memo request # 3 (Trinh et al., 2008). This analysis is currently not yet complete, and is in the process of being written up for peer-reviewed publication. We expect to release this information as soon as it is complete and has been reviewed.

The UMDES study investigators strive to respond to requests from stakeholders in an as complete and timely manner as possible. All requests will be subject to stringent adherence to our confidentiality requirements.