



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.



237760

REPLY TO THE ATTENTION OF:

AUG 13 2007

S-6J

PROMPT REPLY NECESSARY

VIA FEDERAL EXPRESS DELIVERY

David Graham  
Vice President  
Environment, Health, & Safety and Sustainability  
The Dow Chemical Company  
2040 Dow Center  
Midland, MI 48674

RE: Request for Information Pursuant to Section 104 of CERCLA to The Dow Chemical Company, Midland, Michigan

Dear Mr. Graham:

This letter seeks your cooperation in providing information and documents relating to the contamination at The Dow Chemical Company Midland Plant property with an address of 1000 East Main Street, 1790 Building, Midland, Michigan, 48667 (the "Midland Plant") and all locations where hazardous substances, pollutants, or contaminants released from the Midland Plant have come to be located ("Site"). We encourage you to give this matter your immediate attention and that you provide a complete and truthful response to this Information Request and attached questions (Attachment B) within **ninety (90) days** after your receipt of this letter.

The United States Environmental Protection Agency ("U.S. EPA") is investigating the release or threat of release of hazardous substances, pollutants, or contaminants at the Site. U.S. EPA is seeking to obtain information concerning the generation, storage, treatment, transportation, and methods used to dispose of these substances, and identify activities, materials, and parties that contributed to contamination at the Site. U.S. EPA will study the effects of these substances on the environment and public health. U.S. EPA believes that you might possess information which may assist the Agency in its investigation of the Site.

On July 12, 2007, U.S. EPA and The Dow Chemical Company ("Dow") entered into three separate Administrative Settlement Agreements and Orders on Consent under the authority of Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622, as

amended ("CERCLA"). The Administrative Settlement Agreements and Orders provide for CERCLA time critical removal actions to clean up dioxin-contaminated bottom deposits, sediments, and/or soils in, or along, the Tittabawassee River in Midland County, Michigan.

The first Administrative Settlement Agreement and Order on Consent ("AOC") provides for the performance of removal actions by Dow to cleanup dioxin-contaminated bottom deposits and sediments at the area known as Reach D, which is located at and in the vicinity of an historic flume situated along the northeast bank of the Tittabawassee River, within the Midland Plant property in Midland County, Michigan.

Under the second AOC, Dow agrees to perform a removal action at an area known as Reach J-K, which is located in overbank areas on the northeast side of the Tittabawassee River, approximately 3.6 miles downstream of the confluence of the Chippewa and Tittabawassee Rivers. Under this AOC, Dow will remove a dioxin-contaminated naturally occurring levee, as well as cap one dioxin-contaminated upland area and fence off another dioxin-contaminated wetland area. This Site is located within Dow's property bounded to the northeast by a wetland with Saginaw Road to the northeast beyond the wetland, the Caldwell boat launch to the South, and to the west by the east channel bank of the Tittabawassee River, in Midland County, Michigan.

Under the third AOC, Dow agrees to perform a removal action at an area known as Reach O of the Tittabawassee River, an approximately 1,300 foot-long point bar extending approximately 50 to 100 feet into the Tittabawassee River and situated parallel to the northeast bank of the Tittabawassee River, approximately 6.1 miles downstream of the confluence of the Chippewa and Tittabawassee Rivers and located within, or immediately adjacent to, Dow property located to the south of North Saginaw Road in Midland County, Michigan. Under this AOC, Dow will remove dioxin-contaminated sediments in three designated locations of the point bar.

Each of these three performance based removal actions is to begin no later than August 15, 2007, and must be completed by December 15, 2007.

Under Section 104(e)(2) of CERCLA, 42 U.S.C. §9604(e)(2), U.S. EPA has broad information gathering authority which allows U.S. EPA to require persons to furnish information or documents relating to:

- (A) The identification, nature, and quantity of materials which have been or are generated, treated, stored, or disposed of at a vessel or facility or transported to a vessel or facility.
- (B) The nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from a vessel or facility.
- (C) Information relating to the ability of a person to pay for or to perform a cleanup.

While U.S. EPA seeks your cooperation in this investigation, compliance with the Information Request is required by law. In addition, providing false, fictitious, or fraudulent statements or representations may subject you to criminal penalties under 18 U.S.C. §1001. The information you provide may be used by U.S. EPA in administrative, civil, or criminal proceedings.

Some of the information U.S. EPA is requesting may be considered by you to be confidential. Please be aware that you may not withhold the information upon that basis. If you wish U.S. EPA to treat the information confidentially, you must advise U.S. EPA of that fact by following the procedures outlined in Attachment A, including the requirement for supporting your claim for confidentiality.

If you have information about other parties who may have information which may assist the Agency in its investigation of the Site or may be responsible for the contamination at the Site, that information should be submitted within the time frame noted above.

Section 104 of CERCLA, 42 U.S.C. §9604, authorizes U.S. EPA to pursue penalties for failure to comply with that section or for failure to respond adequately to requests for submissions of required information.

This Information Request is not subject to the approval requirements of the Paperwork Reduction Act of 1995, 44 U.S.C. §3501 et seq.

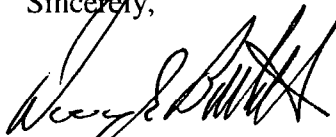
Instructions on how to respond to the questions in Attachment B to this document are described in Attachment A. Your response to this Information Request should be mailed to:

Richard C. Karl, Director  
Superfund Division, S-6J  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

If you have specific questions about the Information Request, or legal questions, please contact Jeffrey A. Cahn, Associate Regional Counsel at 312-886-6670.

We appreciate and look forward to your prompt response to this Information Request.

Sincerely,



*for* Richard C. Karl, Director  
Superfund Division

Enclosures

cc: Jim Sygo, Deputy Director  
Michigan Department of Environmental Quality  
P.O. Box 30241  
Lansing, Michigan 48909

George Bruchmann, Chief  
Waste and Hazardous Materials Division  
Michigan Department of Environmental Quality  
P.O. Box 30241  
Lansing, Michigan 48909

bcc: Jeffrey A. Cahn, ORC (C-14J)  
John Steketee, ORC (C-14J)  
James Augustyn, OSC, (ME-W)  
Mary P. Logan, RPM, (SR-6J)  
Greg Rudloff, LCD (DW-8J)  
John Maritote, EESS (SE-5J)  
Karen Thompson, Public Affairs, (P-19J)  
Records Center (SMR-7J)

**Attachment A**  
**Information Request**  
**to The Dow Chemical Company**

**Instructions**

1. **Answer Every Question Completely.** A separate response must be made to each of the questions set forth in this Information Request. For each question contained in this letter, if information responsive to this Information Request is not in your possession, custody, or control, please identify the person(s) from whom such information may be obtained.
  
2. **Number Each Answer.** Precede each answer with the corresponding number of the question and the subpart to which it responds.
  
3. **Provide the Best Information Available.** Provide responses to the best of Respondent's ability, even if the information sought was never put down in writing or if the written documents are no longer available. You should seek out responsive information from current and former employees/agents. Submission of cursory responses when other responsive information is available to the Respondent will be considered non-compliance with this Information Request.

This request for information pertains to any and all information Dow, or any person or entity acting on behalf of Dow, has, or once had, in its possession concerning the release of any dioxin, hazardous substances, pollutants, or contaminants from Dow's Midland, Michigan facility by Dow or any person or entity acting on behalf of Dow, including but not necessarily limited to: the results of any testing for or analysis of any dioxin, hazardous substances, pollutants, or contaminants released from Dow's Midland Plant, Michigan facility; detailed descriptions of the production methods and processes which led to the release of such dioxin, hazardous substances, pollutants, or contaminants; and copies of all studies, tests or other analyses of the toxicity of such dioxin, hazardous substances, pollutants, or contaminants.

If the information sought by this information request is not contained in a document, separately identify the persons(s) who provided the information in the response, the basis for each person's knowledge, the position occupied by the person providing the response, and the person's address and supervisor's name.

Upon receipt of this information request, all records relating in any manner to any aspect of environmental management, regulation, investigation, and/or any other environmentally-related issue or state of affairs at Dow or its affiliates or agents in relation to the general subjects of inquiry in this subpoena are to be retained until further notice is received from EPA. The destruction of any records containing any information about, or references to, any such matter constitutes a failure to comply with this subpoena and may result in a court action against Respondent.

You must respond to the Information Request on the basis of all information and documents in your possession, custody or control, or in the possession, custody or control of your current employees, agents, servants, contractors, or attorneys. A separate response must be made to each of the questions set forth in this Information Request. Precede each response with the letter of the Information Request to which it corresponds.

If any document was, but is no longer, in the possession, custody, or control of Respondent, provide the following information: state the disposition of the document; state the date such disposition was made; identify the present custodian of the document, state his or her address, or, if the document no longer exists, so state; identify the person who made the decision regarding the disposition of the document; state the reason for the disposition; and describe the document and the contents of the document, including the title, date, author, addressees, locations and number of copies made and the location of the copies.

If any information called for herein is not available or accessible in the full detail requested, the request shall be deemed to call for the best information available. The request also requires the production of all information called for in as detailed a manner as possible based upon such information as is available or accessible, including, where specific information is not available or accessible, an estimate and explanation of the method by which each estimate is made.

4. Identify Sources of Answer. For each question, identify (see Definitions) all the persons and documents that you relied on in producing your answer.

5. Data Submission. All sampling data, sampling results, sample reports, non-numerical sampling data shall be submitted in both a "hard" (or paper) copy form, as well as in an electronic format developed and submitted in accordance with the Manual for Electronic Data, Version 1.1, EPA Region 5, June 2004.

A copy of the Manual for Electronic Data, Version 1.1 may be found at the following web site: "[www.epa.gov/region5superfund/edman/index.html](http://www.epa.gov/region5superfund/edman/index.html)".

In addition, a paper copy of the Manual for Electronic Data, Version 1.1 is enclosed with this information request as a courtesy and for your convenience.

6. Document Submission. Each document that is produced shall be produced in a manner that designates the specific numbered information request item(s) and subpart(s) to which the document is responsive. Each document submitted shall be clearly and precisely identified by its title, author, date of preparation, and subject matter. Each document shall be produced in "hard" (or paper) copy form and, to the extent practicable, in a searchable electronic format with the "cut and paste" feature enabled (data submissions remain subject to information request instruction number 5, supra). For each response to this information request which includes documents, Respondent shall compile an index of the documents produced in response to the specific numbered information request item(s) to which the documents are responsive.

The index must state the paragraph number of the information request item(s) and must list all documents submitted in response to that paragraph.

7. Number of Copies. Two “hard” (or paper) copies of all documents, sampling data, sampling results, sample reports, non-numerical sampling data shall be submitted where no electronic version of such documents, sampling data, sampling results, sample reports, non-numerical sampling data is submitted. One “hard” (or paper) copy of all documents, sampling data, sampling results, sample reports, non-numerical sampling data shall be submitted where an electronic version of such documents, sampling data, sampling results, sample reports, non-numerical sampling data is also submitted.

All electronic copies of all documents, sampling data, sampling results, sample reports, non-numerical sampling data shall be submitted on compact disk(s) (“CD”) or digital video disk(s). Three copies of all CD(s) or DVD(s) shall be submitted.

8. Continuing Obligation to Provide/Correct Information. If additional information or documents responsive to this Request become known or available to you after you respond to this Request, U.S. EPA hereby requests pursuant to Section 104(e) of CERCLA that you supplement your response to U.S. EPA.

9. Confidential Information. The information requested herein must be provided even though you may contend that it includes confidential information or trade secrets. You may assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of CERCLA, 42 U.S.C. §§ 9604(e)(7)(E) and (F), and 40 C.F.R. §2.203(b).

If you make a claim of confidentiality for any of the information you submit to U.S. EPA, you must prove that claim. For each document or response you claim confidential, you must separately address the following points:

1. the portions of the information alleged to be entitled to confidential treatment;
2. the period of time for which confidential treatment is desired (e.g., until a certain date, until the occurrence of a specific event, or permanently);
3. measures taken by you to guard against the undesired disclosure of the information to others;
4. the extent to which the information has been disclosed to others; and the precautions taken in connection therewith;
5. pertinent confidentiality determinations, if any, by U.S. EPA or other federal agencies, and a copy of any such determinations or reference to them, if available; and



6. whether you assert that disclosure of the information would likely result in substantial harmful effects on your business' competitive position, and if so, what those harmful effects would be, why they should be viewed as substantial, and an explanation of the causal relationship between disclosure and such harmful effects.

To make a confidentiality claim, please stamp or type "confidential" on all confidential responses and any related confidential documents. Confidential portions of otherwise nonconfidential documents should be clearly identified. You should indicate a date, if any, after which the information need no longer be treated as confidential. Please submit your response so that all non-confidential information, including any redacted versions of documents, is in one envelope and all materials for which you desire confidential treatment are in another envelope.

All confidentiality claims are subject to U.S. EPA verification. It is important that you satisfactorily show that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so, and that it is not and has not been obtainable by legitimate means without your consent. Information covered by such claim will be disclosed by U.S. EPA only to the extent permitted by Section 104(e) of CERCLA. If no such claim accompanies the information when it is received by U.S. EPA, then it may be made available to the public by U.S. EPA without further notice to you.

10. Disclosure to U.S. EPA Contractor. Information which you submit in response to this Information Request may be disclosed by U.S. EPA to authorized representatives of the United States, pursuant to 40 C.F.R. §2.310(h), even if you assert that all or part of it is confidential business information. Please be advised that U.S. EPA may disclose all responses to this Information Request to one or more of its private contractors for the purpose of organizing and/or analyzing the information contained in the responses to this Information Request. If you are submitting information which you assert is entitled to treatment as confidential business information, you may comment on this intended disclosure within seven (7) days of receiving this Information Request.

11. Personal Privacy Information. Personnel and medical files, and similar files, the disclosure of which to the general public may constitute an invasion of privacy, should be segregated from your responses, included on separate sheet(s), and marked as "Personal Privacy Information."

12. Objections to Questions. If you have objections to some or all the questions within the Information Request letter, you are still required to respond to each of the questions.

### **Definitions**

The following definitions shall apply to the following words as they appear in this Information Request.

1. The term “arrangement” means every separate contract or other agreement between two or more persons, whether written or oral.

2. The term “documents” includes any written, recorded, computer-generated, or visually or aurally reproduced material of any kind in any medium in your possession, custody, or control, or known by you to exist, including originals, all prior drafts, and all non-identical copies.

3. The term “Dioxin” or “dioxin” shall mean shall mean the seventeen chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans identified by the World Health Organization in *The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds*, expressed as toxic equivalence concentrations, as set forth below.

| Congener (Full-Name)                       | Congener (Abreviation) | CAS No     |
|--|------------------------|------------|
| <b>Dioxins</b>                             |                        |            |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin        | 2,3,7,8-TCDD           | 1746-01-6  |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin      | 1,2,3,7,8-PCDD         | 40321-76-4 |
| 1,2,3,4,7,8- Hexachlorodibenzo-p-dioxin    | 1,4-HxCDD              | 39227-28-6 |
| 1,2,3,6,7,8- Hexachlorodibenzo-p-dioxin    | 1,6-HxCDD              | 57653-85-7 |
| 1,2,3,7,8,9- Hexachlorodibenzo-p-dioxin    | 1,9-HxCDD              | 19408-74-3 |
| 1,2,3,4,6,7,8- Heptachlorodibenzo-p-dioxin | 1,4,8-HpCDD            | 35822-39-4 |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin | OCDD                   | 3268-87-9  |
| <b>Furans</b>                              |                        |            |
| 2,3,7,8-Tetrachlorodibenzofuran            | 2,3,7,8-TCDF           | 51207-31-9 |
| 1,2,3,7,8-Pentachlorodibenzofuran          | 1,2,3,7,8-PCDF         | 57117-41-6 |
| 2,3,4,7,8-Pentachlorodibenzofuran          | 2,3,4,7,8-PCDF         | 57117-31-4 |
| 1,2,3,4,7,8-Hexachlorodibenzofuran         | 1,4-HxCDF              | 70648-26-9 |
| 1,2,3,6,7,8- Hexachlorodibenzofuran        | 1,6-HxCDF              | 57117-44-9 |
| 1,2,3,7,8,9- Hexachlorodibenzofuran        | 1,9-HxCDF              | 72918-21-9 |
| 2,3,4,6,7,8- Hexachlorodibenzofuran        | 4,6-HxCDF              | 60851-34-5 |
| 1,2,3,4,6,7,8- Heptachlorodibenzofuran     | 1,4,6-HpCDF            | 67562-39-4 |
| 1,2,3,4,7,8,9- Heptachlorodibenzofuran     | 1,4,9-HpCDF            | 55673-89-7 |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran     | OCDF                   | 39001-02-0 |

Individual dioxins are assessed using a toxic equivalency factor (“TEF”), which is an estimate of the relative toxicity of the compounds to 2,3,7,8-tetrachlorodibenzo-p-dioxin (“TCDD”). These converted concentrations are then added together to determine the “toxic equivalence concentration” (“TEQ”) of the dioxin compounds as a whole.

4. The term “hazardous substance” shall have the same definition as that contained in Section 101(14) of CERCLA, and includes any mixtures of such hazardous substances with any other substances, including mixtures of hazardous substances with petroleum products or other nonhazardous substances.

5. The term “identify” means, with respect to a natural person, to set forth: (a) the person's full name; (b) present or last known business and home addresses and telephone numbers; (c) present or last known employer (include full name and address) with title, position or business.

6. With respect to a corporation, partnership, or other business entity (including a sole proprietorship), the term “identify” means to provide its full name, address, and affiliation with the individual and/or company to whom/which this request is addressed.

7. The term “material” or “materials” shall mean any and all objects, goods, substances, or matter of any kind, including but not limited to wastes.

8. The term “person” shall include any individual, firm, unincorporated association, partnership, corporation, trust, or other entity.

9. The term “pollutant or contaminant” shall have the same definition as that contained in Section 101(33) of CERCLA and shall include, but not be limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations; except that the term “pollutant or contaminant” shall not include petroleum. “Pollutant or contaminant” shall also include, but not be limited to, the most recent version of Dow’s Target Analyte List (“TAL”) list (the original of which was attached to Dow’s December 1, 2006, Remedial Investigation Work Plan for the Tittabawasee and Upper Saginaw River.

10. The term “real estate” shall mean and include, but not be limited to the following: land, buildings, a house, dwelling place, condominium, cooperative apartment, office or commercial building, including those located outside the United States.

11. The term “release” shall mean any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant.

12. The term “Site” shall mean The Dow Chemical Company Midland Plant property with an address of 1000 East Main Street, 1790 Building, Midland, Michigan, 48667 (the “Midland Plant”), and all locations where hazardous substances, pollutants, or contaminants released from the Midland Plant have come to be located (“Site”).

13. The term “you” or “Respondent” or “Dow” shall mean The Dow Chemical Company, which owns and/or operates, or owned and/or operated, a business or businesses located at or near 2040 Dow Center, Midland, Michigan 48674 and includes all officers, directors, employees and agents of that corporation, including all contractors, consultants, and their employees, or any such person, and any merged, consolidated, acquired or defunct predecessor, parent, subsidiary, division or affiliate thereof and its corporate offices, field offices and any other place utilized for the purpose of operating and maintaining such business or businesses.

**Attachment B**  
**Information Requests**  
**to The Dow Chemical Company**

**Information Requests**

1. Identify all persons consulted in the preparation of the answers to these Information Requests.
2. Identify all documents consulted, examined, or referred to in the preparation of the answers to these Requests, and provide copies of all such documents. Each document that is produced shall be produced in a manner that designates the specific numbered information request item(s) and subpart(s) to which the document is responsive. Each document submitted shall be clearly and precisely identified by its title, author, date of preparation, and subject matter. Each document shall be produced in “hard” (or paper) copy form and, to the extent practicable, in a searchable electronic format with the “cut and paste” feature enabled (data submissions remain subject to information request instruction number 5, supra). For each response to this information request which includes documents, Respondent shall compile an index of the documents produced in response to the specific numbered information request item(s) to which the documents are responsive. The index must state the paragraph number of the information request item(s) and must list all documents submitted in response to that paragraph.
3. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any Information Request or who may be able to provide additional responsive documents, identify such persons.
4. Identify all persons having knowledge or information about the generation, transportation, treatment, disposal, or other handling of hazardous substances by you, your contractors, or by prior owners and/operators.
5. State whether Dow, or any person or other entity acting on behalf of Dow, has ever sampled for, tested for, or performed any analyses of hazardous substances, pollutants, or contaminants (other than dioxin) at any location within the boundaries of the Dow Midland Plant facility in Midland, Michigan. Provide the name, address, and title of the person(s) who performed the sampling, testing, or analyses. Provide the dates when all such sampling, testing, or analyses were performed. Provide the specific locations where all such sampling, testing, or analyses were performed including an address of the location where such sampling, testing, or analyses were conducted; a detailed description of the location where such sampling, testing, or analyses were conducted, including global positioning system coordinates, or similar coordinates, if available; and a copy of a county plat map identifying the specific location(s) where such sampling, testing, or analyses were conducted. State the reasons why such sampling, testing or analyses were conducted. Provide a detailed description of the results of all such sampling, testing, or analyses, including but not limited to the date such activities were conducted. Provide copies of all documentation associated with and setting forth the results of such sampling,

testing, or analyses. If such results were not committed to writing, please provide a detailed description of the results and identify the person(s) who provided such description.

- a. If such sampling, testing, or analyses were performed, specifically describe all actions taken by Dow, or person or entity acting on behalf of Dow, as a result of such sampling, testing, or analyses.
  - b. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed to determine the presence of hazardous substances, pollutants, or contaminants (other than dioxin) inside the boundaries of the Dow Midland Plant facility in Midland, Michigan.
  - c. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed by a third party to determine the presence of hazardous substances, pollutants, or contaminants (other than dioxin) inside the boundaries of the Dow Midland Plant facility in Midland, Michigan.
  - d. Provide copies of all documents setting forth or referencing sampling, testing, or analyses for hazardous substances, pollutants, or contaminants (other than dioxin) performed by, on behalf of, or authorized by Dow, or anyone acting behalf of Dow (other than that required by a federal or state Clean Air Act or Clean Water Act permit and the results of which have been submitted to the federal or state government), regarding the Dow Midland Plant facility in Midland Michigan.
  - e. Provide copies of all documents, reports, or written analyses produced by Dow, or any person or entity acting on behalf of Dow, concerning the nature and extent of hazardous substances, pollutants, or contaminants (other than dioxin) released at the Dow Midland Plant facility in Midland, Michigan.
6. State whether Dow, or any person or other entity acting on behalf of Dow, has ever sampled for, tested for, or performed any analyses of hazardous substances, pollutants, or contaminants (other than dioxin) at any location within the Tittabawassee River and the floodplains associated with the Tittabawassee River in the State of Michigan. Provide the name, address, and title of the person(s) who performed the sampling, testing, or analyses. Provide the dates when all such sampling, testing, or analyses were performed. Provide the specific locations where all such sampling, testing, or analyses were performed including an address of the location where such sampling, testing, or analyses were conducted; a detailed description of the location where such sampling, testing, or analyses were conducted, including global positioning system coordinates, or similar coordinates, if available; and a copy of a county plat map identifying the specific location(s) where such sampling, testing, or analyses were conducted. State the reasons why such sampling, testing or analyses were conducted. Provide a detailed description of the results of all such sampling, testing, or analyses, including but not limited to the date such

activities were conducted. Provide copies of all documentation associated with and setting forth the results of such sampling, testing, or analyses. If such results were not committed to writing, please provide a detailed description of the results and identify the person(s) who provided such description.

- a. If such sampling, testing, or analyses were performed, specifically describe all actions taken by Dow, or person or entity acting on behalf of Dow, as a result of such sampling, testing, or analyses.
- b. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed to determine the presence of hazardous substances, pollutants, or contaminants (other than dioxin) within the Tittabawassee River and the floodplains associated with the Tittabawassee River in the State of Michigan.
- c. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed by a third party to determine the presence of hazardous substances, pollutants, or contaminants (other than dioxin) within the Tittabawassee River and the floodplains associated with the Tittabawassee River in the State of Michigan.
- d. Provide copies of all documents setting forth or referencing sampling, testing, or analyses for hazardous substances, pollutants, or contaminants (other than dioxin) performed by, on behalf of, or authorized by Dow, or anyone acting behalf of Dow (other than that required by a federal or state Clean Air Act or Clean Water Act permit and the results of which have been submitted to the federal or state government) within the Tittabawassee River and the floodplains associated with the Tittabawassee River in the State of Michigan.
- e. Provide copies of all documents, reports, or written analyses produced by Dow, or any person or entity acting on behalf of Dow, concerning the nature and extent of hazardous substances, pollutants, or contaminants (other than dioxin) contamination within the Tittabawassee River and the floodplains associated with the Tittabawassee River in the State of Michigan.

7. State whether Dow, or any person or other entity acting on behalf of Dow, has ever sampled for, tested for, or performed any analyses of, the presence of dioxin, and all other hazardous substances, pollutants, or contaminants at any location within the Saginaw River and the floodplains associated with the Saginaw River in the State of Michigan. Provide the name, address, and title of the person(s) who performed the sampling, testing, or analyses. Provide the dates when all such sampling, testing, or analyses were performed. Provide the specific locations where all such sampling, testing, or analyses were performed including an address of the location where such sampling, testing, or analyses were conducted; a detailed description of the location where such sampling, testing, or analyses were conducted, including global positioning system

coordinates, or similar coordinates, if available; and a copy of a county plat map identifying the specific location(s) where such sampling, testing, or analyses were conducted. State the reasons why such sampling, testing or analyses were conducted. Provide a detailed description of the results of all such sampling, testing, or analyses, including but not limited to the date such activities were conducted. Provide copies of all documentation associated with and setting forth the results of such sampling, testing, or analyses. If such results were not committed to writing, please provide a detailed description of the results and identify the person(s) who provided such description.

- a. If such sampling, testing, or analyses were performed, specifically describe all actions taken by Dow, or person or entity acting on behalf of Dow, as a result of such sampling, testing, or analyses.
  - b. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed to determine the presence of dioxin, and all other hazardous substances, pollutants, or contaminants within the Saginaw River and the floodplains associated with the Saginaw River in the State of Michigan.
  - c. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed by a third party to determine the presence of dioxin, and all other hazardous substances, pollutants, or contaminants within the Saginaw River and the floodplains associated with the Saginaw River in the State of Michigan.
  - d. Provide copies of all documents setting forth or referencing sampling, testing, or analyses for dioxin, and all other hazardous substances, pollutants, or contaminants performed by, on behalf of, or authorized by Dow, or anyone acting behalf of Dow (other than that required by a federal or state Clean Air Act or Clean Water Act permit and the results of which have been submitted to the federal or state government) within the Saginaw River and the floodplains associated with the Saginaw River in the State of Michigan.
  - e. Provide copies of all documents, reports, or written analyses produced by Dow, or any person or entity acting on behalf of Dow, concerning the nature and extent of dioxin, and all other hazardous substances, pollutants, or contaminants contamination within the Saginaw River and the floodplains associated with the Saginaw River in the State of Michigan.
8. State whether Dow, or any person or other entity acting on behalf of Dow, has ever sampled for, tested for, or performed any analyses of, the presence of dioxin, and all other hazardous substances, pollutants, or contaminants at any location within Lake Huron. Provide the name, address, and title of the person(s) who performed the sampling, testing, or analyses. Provide the dates when all such sampling, testing, or analyses were performed. Provide the



specific locations where all such sampling, testing, or analyses were performed including an address of the location where such sampling, testing, or analyses were conducted; a detailed description of the location where such sampling, testing, or analyses were conducted, including global positioning system coordinates, or similar coordinates, if available; and a copy of a county plat map identifying the specific location(s) where such sampling, testing, or analyses were conducted. State the reasons why such sampling, testing or analyses were conducted. Provide a detailed description of the results of all such sampling, testing, or analyses, including but not limited to the date such activities were conducted. Provide copies of all documentation associated with and setting forth the results of such sampling, testing, or analyses. If such results were not committed to writing, please provide a detailed description of the results and identify the person(s) who provided such description.

- a. If such sampling, testing, or analyses were performed, specifically describe all actions taken by Dow, or person or entity acting on behalf of Dow, as a result of such sampling, testing, or analyses.
- b. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed to determine the presence of and all other dioxin, hazardous substances, pollutants, or contaminants within Lake Huron.
- c. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed by a third party to determine the presence of dioxin, and all other hazardous substances, pollutants, or contaminants within Lake Huron.
- d. Provide copies of all documents setting forth or referencing sampling, testing, or analyses for dioxin, and all other hazardous substances, pollutants, or contaminants performed by, on behalf of, or authorized by Dow, or anyone acting on behalf of Dow (other than that required by a federal or state Clean Air Act or Clean Water Act permit and the results of which have been submitted to the federal or state government) within Lake Huron.
- e. Provide copies of all documents, reports, or written analyses produced by Dow, or any person or entity acting on behalf of Dow, concerning the nature and extent of dioxin, and all other hazardous substances, pollutants, or contaminants contamination within Lake Huron.

9. State whether Dow, or any person or other entity acting on behalf of Dow, has ever sampled for, tested for, or performed any analyses of, the presence of hazardous substances, pollutants, or contaminants (other than dioxin) at any location within the City of Midland in the State of Michigan. Provide the name, address, and title of the person(s) who performed the sampling, testing, or analyses. Provide the dates when all such sampling, testing, or analyses were performed. Provide the specific locations where all such sampling, testing, or analyses

were performed including an address of the location where such sampling, testing, or analyses were conducted; a detailed description of the location where such sampling, testing, or analyses were conducted, including global positioning system coordinates, or similar coordinates, if available; and a copy of a county plat map identifying the specific location(s) where such sampling, testing, or analyses were conducted. State the reasons why such sampling, testing or analyses were conducted. Provide a detailed description of the results of all such sampling, testing, or analyses, including but not limited to the date such activities were conducted. Provide copies of all documentation associated with and setting forth the results of such sampling, testing, or analyses. If such results were not committed to writing, please provide a detailed description of the results and identify the person(s) who provided such description.

- a. If such sampling, testing, or analyses were performed, specifically describe all actions taken by Dow, or person or entity acting on behalf of Dow, as a result of such sampling, testing, or analyses.
- b. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed to determine the presence of hazardous substances, pollutants, or contaminants (other than dioxin) within the City of Midland in the State of Michigan.
- c. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed by a third party to determine the presence of hazardous substances, pollutants, or contaminants (other than dioxin) within the City of Midland in the State of Michigan.
- d. Provide copies of all documents setting forth or referencing sampling, testing, or analyses for hazardous substances, pollutants, or contaminants (other than dioxin) performed by, on behalf of, or authorized by Dow, or anyone acting behalf of Dow (other than that required by a federal or state Clean Air Act or Clean Water Act permit and the results of which have been submitted to the federal or state government) within the City of Midland in the State of Michigan.
- e. Provide copies of all documents, reports, or written analyses produced by Dow, or any person or entity acting on behalf of Dow, concerning the nature and extent of hazardous substances, pollutants, or contaminants contamination (other than dioxin) within the City of Midland in the State of Michigan.

10. State whether Dow, or any person or other entity acting on behalf of Dow, has ever sampled for, tested for, or performed any analyses of, the presence of hazardous substances, pollutants, or contaminants (other than dioxin) in fish found in, and taken from, any location within the Tittabawassee River in the State of Michigan. Provide the name, address, and title of the person(s) who performed the sampling, testing, or analyses. Provide the dates when all such

sampling, testing, or analyses were performed. Provide the specific locations where all such sampling, testing, or analyses were performed including an address of the location where such sampling, testing, or analyses were conducted; a detailed description of the location where such sampling, testing, or analyses were conducted, including global positioning system coordinates, or similar coordinates, if available; and a copy of a county plat map identifying the specific location(s) where such sampling, testing, or analyses were conducted. State the reasons why such sampling, testing or analyses were conducted. Provide a detailed description of the results of all such sampling, testing, or analyses, including but not limited to the date such activities were conducted. Provide copies of all documentation associated with and setting forth the results of such sampling, testing, or analyses. If such results were not committed to writing, please provide a detailed description of the results and identify the person(s) who provided such description.

- a. If such sampling, testing, or analyses were performed, specifically describe all actions taken by Dow, or person or entity acting on behalf of Dow, as a result of such sampling, testing, or analyses.
- b. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed to determine the presence of hazardous substances, pollutants, or contaminants (other than dioxin) in fish found in, and taken from, any location within the Tittabawassee River in the State of Michigan.
- c. Provide copies of the results of all sampling, testing, or analyses in the current (or former) possession of Dow, or any person or entity acting on behalf of Dow, performed by a third party to determine the presence of hazardous substances, pollutants, or contaminants (other than dioxin) in fish found in, and taken from, any location within the Tittabawassee River in the State of Michigan.
- d. Provide copies of all documents setting forth or referencing sampling, testing, or analyses for hazardous substances, pollutants, or contaminants (other than dioxin) performed by, on behalf of, or authorized by Dow, or anyone acting behalf of Dow (other than that required by a federal or state Clean Air Act or Clean Water Act permit and the results of which have been submitted to the federal or state government) in fish found in, and taken from, any location within the Tittabawassee River in the State of Michigan.
- e. Provide copies of all documents, reports, or written analyses produced by Dow, or any person or entity acting on behalf of Dow, concerning the nature and extent of hazardous substances, pollutants, or contaminants (other than dioxin) contamination in fish found in, and taken from, any location within the Tittabawassee River in the State of Michigan.

11. Provide the following information about Dow's production of each of the chemicals listed in this information request item:

- a. Describe the chemical reaction(s) used by Dow to produce each of the listed chemicals.
- b. Identify the specific location where, and dates when, each of the listed chemicals was produced.
- c. Identify how much each of the listed chemicals was produced on a yearly basis; identify the byproducts from the production of each of the listed chemicals
- e. Provide all information concerning the disposal of each of the listed chemicals and the disposal of the byproducts of each of the listed chemicals identified in response to this information request item.
- f. Provide all information concerning the environmental fate and transport of each of the listed chemicals and the environmental fate and transport of the byproducts of the listed chemicals identified in response to this information request item.

1. bromine
2. iron bromide
3. potassium bromide
4. bromine purifier
5. chlorine
6. bleach (calcium hypochlorite)
7. bleaching powder
8. sulfur chloride
9. bromides
10. mining salts
11. magnesium carbonate
12. chloroform
13. carbon tetrachloride
14. benzoic acid
15. insecticides
16. food preservatives
17. sulfur chloride
18. benzyl chloride
19. benzoic acid
20. carbon tetrachloride
21. potash
22. lime sulfur (calcium sulfide)
23. lead arsenate
24. sodium chloride

25. magnesium chloride
26. calcium chloride
27. acetic acid
28. Dowmetal™
29. acetic anhydride
30. Epsom salt (magnesium sulfate)
31. orthophenylphenol
32. acetylene tetrabromide
33. ethyl chloride
34. paradibromobenzene
35. acetylsalicylic acid
36. ethyl monochloracetate
37. ammonium bromide
38. ethylene bromide
39. parphenetidin
40. ammonium salicylate
41. ethylene chlorbromide
42. parphenylphenol
43. aniline hydrochloride
44. ethylene chlorhydrin
45. pentachloroethane
46. aniline oil
47. ferric chloride
48. phenol
49. anthralic acid
50. ferrous chloride
51. phenol salicylate
52. barium bromate
53. hexachloroethane
54. phenyl acetate
55. Bordo mixtures
56. hydrobromic acid
57. phenyl ethyl alcohol
58. bromoform
59. potassium bromate
60. cadmium bromate
61. lime sulfur
62. calcium arsenate
63. lithium bromide
64. propylene chloride
65. calcium bromide
66. lithium salicylate
67. purified bromine
68. magnesium arsenate

69. salicylaldehyde
70. camphor monobrominated
71. magnesium bromate
72. sodium bromate
73. carbolic acid
74. magnesium bromide
75. sodium bromide
76. carbon bisulfide
77. magnesium oxychloride
78. sodium salicylate
79. caustic soda
80. magnesium salicylate
81. sodium sulfide
82. chloracetyl chloride
83. methyl anthranilate
84. strontium bromide
85. methyl bromide
86. strontium salicylate
87. methyl salicylate
88. sulfur chloride
89. Ciba dyes (7 colors)
90. methylene chloride
91. sulfur monochloride
92. cinchophen
93. Midland Vat Blue dyes (3 types)
94. synthetic indigo
95. coumarin
96. tetrachloroethane
97. dichloromethane
98. monobromobenzene
99. tetrachloroethylene
100. dichloroacetic acid
101. monochloroacetic acid
102. tribromophenol
103. diethylaniline
104. trichloroacetic acid
105. dimethylaniline
106. nicotine sulfate
107. diphenyloxide
108. orthocresotinic acid
109. 1,1-dichloroethane
110. 1,2,4,5-tetrachlorobenzene
111. 2,4,6-trichlorophenol

112. 2-(2,4-dichlorophenoxy)acetic acid (2-4-D; Dowspray™ 66; Esteron™ 44; Esteron™ 99; Esteron™ Brush Killer)
113. 2-chloropropionic acid
114. 4-chloro-2-phenyl-phenol (Dowicide™ 32)
115. acrylonitrile
116. alpha-methylstyrene
117. antipyrene
118. demethylaminobenzene
119. dicyclopentadiene
120. diethylbenzene
121. diisopropanolamine
122. dinitro-o-sec-butylphenol (Dinoseb™, Premerge™, DN289™)
123. methylchloroacetate
124. propylene glycol
125. sodium trichloroacetate
126. toluene
127. xylidene
128. 2,4,5-T (Esteron™ 245)
129. 4-chloro-2-cyclopentyl-phenol (Dowicide™ 9)
130. 1,2-dibromo-3-chloropropane (Fumazone™)
131. 1-methoxy-2-propanol (Dowanol™ PM)
132. 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropanoate (Erbon™)
133. 2,2-dichloropropionic acid (Dalapon™)
134. 2-chloro-1-morpholin-4-yl-ethanone (Morpholine™)
135. 2-ethoxyethanol (Dowanol™ EE)
136. 2-methoxyethanol (Dowanol™ EM)
137. acrylamide
138. acrylic acid
139. bromobenzene
140. bromomethylbenzene
141. dimethoxy-sulfanylidene-(2,4,5-trichlorophenoxy-phosphorane) (Ectoral™, Trolene™, Ronnel™, Korlan™, Nankor™, Viozene™)
144. Kuron™ herbicide containing 2,4,5-trichlorophenoxypropionic acid (also known as Silvex™)
145. monoisopropanolamine
146. o,o-dimethyl-o-(2,4,5-trichlorophenyl) phosphorothioate (Dowpon™, Ronnel™, Ruelene™)
147. p-dibromobenzene
148. polyacrylamide (Separan™)
149. SE-651
150. styrene/butadiene latex
151. Styrofoam™ brand plastic
152. tetraethylene pentamine
153. tetrasodium 2-[2-bis-(carboxylatomethyl)amon]ethyl-

- (carboxylatomethyl)amino]acetate (Versene™)
154. Vidden™ (a mixture of dichloropropenes and dichloropropanes)
  155. (17-acetyl-6-chloro-3-hydroxy-10,10-dimethyl-1,2,3,8,9,11,12,14,15,16-decahydrocyclopenta[a]phenanthren-17-yl)acetate (Verton™)
  156. 4-dimethylamino-3,5-dimethyl-phenyl
  157. methylaminoformate (Zectran™)
  158. 2,3,5-trichloro-1H-pyridin-4-one (Daxtron™)
  159. 2,4,5-T and 2,4-D mixture
  160. 2-butoxyethanol (Dowanol™ EB)
  161. 2-phenoxyethanol (Dowanol™ EP and Dowanol™ EPH)
  162. chlorpyrifos o, o-diethyl o-(2,4,6-trichlor-2-pyridyl)1 (Dursban™)
  163. decabromodiphenyl oxide
  164. dimethylamine salt of 2-methyl-chlorophenoxyacetic acid
  165. Dowicil™ TBS
  166. l-isobutoxy-2-propanol (Dowanol™ PIB)
  167. methylene bromide
  168. o-2,4-dichlorophenyl-o-methyl
  169. o-sec-butylphenol
  170. pentachloropyridine
  171. pentachlorophenol (glazed, prilled form)
  172. t-butylsalol
  173. tert-butyl-salol (TBS, Tausol™)
  174. tricyclohexylstannane hydrate
  175. triisopropanolamine
  176. Zetabon™ (coils of metal coated with ethylene copolymer plastic) .
  177. styrene monomer
  178. 1,1,1-trichloroethane (TCA)
  179. ethyl cellulose
  180. vinyl chloride
  181. vinylidene chloride
  182. 2,4-D herbicide
  183. ethanolamines
  184. chlorinated benzenes
  185. Saran™ resin,
  186. Styron™ polystyrene
  187. plastic and plastic lattices
  188. soil fumigant
  189. weed killers
  190. ethylene dibromide
  191. methyl styrene
  192. polyvinyl chloride (PVC)
  193. ethyl benzene
  194. bisphenol A
  195. chloro-alkali



- 196. crabgrass killer Zytron (DMPA or O-2,4-dichlorophenyl O-methyl isopropylphosphoramidothioate)
- 197. chlorophenols and chlorinated phenolic compounds
- 198. organochlorinated pesticides
- 199. Lindane
- 200. Lorsban insecticide (chlorpyrifos O,O-diethyl 0-(3,5,6-trichloro-2-pyridyl)
- 202. chlorpyrifos
- 202. 1,2-dibromo-3-chloropropane, the active ingredient in Dow's Fumazone® fumigant and Ronnel® fenchlorophos insecticide
- 203. organophosphate insecticide (O,O-Dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate)
- 204. polychlorinated biphenyls (PCBs)

12. Provide the following information about Dow's production of metals (including, but not limited to, arsenic, chromium, copper, lead, magnesium, nickel, and zinc):

- a. Describe the chemical reaction(s) used by Dow to produce each of the above-listed metals.
- b. Identify the specific location where, and dates when, each of the listed metals was produced.
- c. Identify how much each of the listed metals was produced on a yearly basis; identify the byproducts from the production of each of the listed chemicals
- e. Provide all information concerning the disposal of each of the listed metals and the disposal of the byproducts of each of the listed metals identified in response to this information request item.
- f. Provide all information concerning the environmental fate and transport of each of the listed metals and the environmental fate and transport of the byproducts of the listed metals identified in response to this information request item.

13. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of acenaphthene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

14. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of acenaphthylene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

15. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of aldrin to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

16. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of alkyl-lead compounds, including but not limited to, tetraethyl lead, tetramethyl lead to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

17. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of alkyl phenols to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

18. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of anthracene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

19. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of antimony to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

20. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of arsenic to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

21. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of benzo(a)pyrene {B(a)P} to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

22. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of benzo(g,h,i) perylene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

23. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of beryllium to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

24. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of bis(2-ethylhexyl) phthalate[also Di(2-ethylhexyl) phthalate (DEHP)] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

25. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of butylbenzyl phthalate to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

26. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of cadmium and cadmium compounds to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

27. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of chlordane (Dow-Klor and Dowchlor) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

28. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of chloroform to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

29. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of chromium to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

30. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of copper to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

31. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of cyanide to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

32. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of dibutyl phthalate (DBP) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

33. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of di(2-ethylhexyl) phthalate (DEHP) [also Bis(2-ethylhexyl) phthalate] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

34. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 1,2-dichlorobenzene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

35. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 1,3-Dichlorobenzene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

36. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 1,4-dichlorobenzene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

37. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 3,3'-dichlorobenzidine to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

38. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 1,1-dichloroethane [also Ethylidene dichloride] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

39. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of dichloro-diphenyl-dichloroethane (DDD) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

40. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of dichloro-diphenyl-dichloroethylene (DDE) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

41. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of dichloro-diphenyl-trichloroethane (DDT) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

42. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of dinitropyrene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

43. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of dieldrin to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

44. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of endrin to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

45. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of endosulfan, alpha- to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

46. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of endosulfan, beta- to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

47. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of ethylidene dichloride [also 1,1-Dichloroethane] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

48. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of fluoranthene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

49. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of fluorene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

50. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of heptachlor to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

51. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of heptachlor epoxide to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

52. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of hexachlorobenzene (HCB) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

53. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of hexachloro-1,3-butadiene (hexachlorobutadiene) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

54. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of hexachlorocyclohexane, gamma [also Lindane and Hexachlorocyclohexane, gamma] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

55. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of isodrin to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

56. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of lead and lead compounds to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

57. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Lindane to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

58. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Lorsban to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

59. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of

mercury and mercury compounds to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

60. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 4,4'-methylenebis(2-chloroaniline) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

61. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of methoxychlor to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

62. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of methyl chloroform [also 1,1,1-Trichloroethane] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

63. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Mirex (Hexachloropentadiene) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

64. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 2-Methylnaphthalene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

65. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of naphthalene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

66. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of nickle to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

67. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of nitrobenzene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

68. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of octachlorostyrene (OCS) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

69. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of pendimethalin to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

70. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of pentachlorobenzene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

71. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of pentachloronitrobenzene [also Quintozene] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

72. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of pentachlorophenol (PCP) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

73. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of phenanthrene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

74. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of phenol to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

75. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Polybrominated Flame Retardants (BFR and PBDEs) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

76. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of polychlorinated biphenyls (PCBs) to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.



77. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of polycyclic aromatic hydrocarbons/compounds (PAHs/PACs) or polychlorinated organic matter (POM), including but not limited to: Anthracene, Benzo(a)anthracene, Benzo(g,h,i)perylene, Perylene, and Phenanthrene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

78. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of pyrene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

79. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Quintozene [also Pentachloronitrobenzene] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

80. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of selenium to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

81. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Tetrabromobisphenol A to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

82. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 1,2,4,5-Tetrachlorobenzene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

83. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Toxaphene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

84. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Tributyl tin to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

85. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of

1,2,3,4-Trichlorobenzene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

86. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 1,2,4-Trichlorobenzene to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

87. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 1,1,1-Trichloroethane [also Methyl chloroform] to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

88. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 2,4,5-Trichlorophenol to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

89. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of Trifluralin to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

90. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of 2,4,6-Tris(1,1-dimethylethyl) phenol to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

91. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of zinc to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

92. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the actual or potential release of any chlorinated and brominated isomers of biphenyls, biphenylenes, dibenzodioxins, dibenzofurans, naphthalenes, diphenyl ethers, dibenzothiophenes, benzenes and azo/azoxy benzenes to any media outside the boundaries of the Dow Midland Plant facility in Midland, Michigan.

93. Did you ever produce use, purchase, store, treat, dispose, transport or otherwise handle any hazardous substances, pollutants, or contaminants other than those listed in information request items 11-92? If the answer to the preceding question is anything but an unqualified "no", identify:

- a. The chemical composition, characteristics, physical state (e.g., solid, liquid) of each hazardous substance, pollutant, or contaminant;
- b. Who supplied you with each such hazardous substance, pollutant, or contaminant;
- c. How each such hazardous substance, pollutant, or contaminant was used, purchased, generated, stored, treated, transported, disposed, or otherwise handled by you;
- d. When each such hazardous substance, pollutant, or contaminant was used, purchased, generated, stored, treated, transported, disposed, or otherwise handled by you;
- e. Where each such hazardous substance, pollutant, or contaminant was used, purchased, generated, stored, treated, transported, disposed, or otherwise handled by you; and
- f. The quantity of each such hazardous substance, pollutant, or contaminant used, purchased, generated, stored, treated, transported, disposed or otherwise handled by you.

94. State whether Dow, or any person or other entity acting on behalf of Dow, has ever conducted or performed any study, test, or other scientific or nonscientific analysis of the toxicity of dioxin, and all other hazardous substances, pollutants, or contaminants that has been, or could have been released, from Dow's Midland Plant facility.

- a. Provide the dates and specific locations where all such studies, tests, or analyses were performed; the name address and title of the persons who performed the studies, tests, or analyses; provide the reasons for such studies, tests, or analyses; provide a description of the results of all such studies, tests, or analyses; provide all documentation setting forth the results of such studies, tests, or analyses, including, but not limited to a copy of the studies, tests, analyses, and data, and all attachments or other referenced documents, all associated abstracts, summaries, and associated documents.
- b. If such studies, tests, or analyses were performed, and if not already described in this information request item, then specifically describe all actions taken, conclusions drawn or interpretations made by Dow, or person or entity acting on behalf of Dow, as a result of or based upon such studies, tests, or analyses.

95. State whether Dow, or any person or other entity acting on behalf of Dow, has ever conducted or performed any study, test, or other scientific or nonscientific analysis of the human health effects of dioxin, and all other hazardous substances, pollutants, or contaminants that has been, or could have been released, from Dow's Midland Plant facility.

- a. Provide the dates and specific locations where all such studies, tests, or analyses were performed; the name address and title of the persons who performed the studies, tests, or analyses; provide the reasons for such studies, tests, or analyses; provide a description of the results of all such studies, tests, or analyses; provide all documentation setting forth the results of such studies, tests, or analyses, including, but not limited to a copy of the studies, tests, analyses, and data, and all attachments or other referenced documents, all associated abstracts, summaries, and associated documents.
- b. If such studies, tests, or analyses were performed, and if not already described in this information request item, then specifically describe all actions taken, conclusions drawn or interpretations made by Dow, or person or entity acting on behalf of Dow, as a result of or based upon such studies, tests, or analyses.

96. State whether Dow, or any person or other entity acting on behalf of Dow, has ever conducted or performed any study, test, or other scientific or nonscientific analysis of the ecological health effects of dioxin, and all other hazardous substances, pollutants, or contaminants that has been, or could have been released, from Dow's Midland Plant facility.

- a. Provide the dates and specific locations where all such studies, tests, or analyses were performed; the name address and title of the persons who performed the studies, tests, or analyses; provide the reasons for such studies, tests, or analyses; provide a description of the results of all such studies, tests, or analyses; provide all documentation setting forth the results of such studies, tests, or analyses, including, but not limited to a copy of the studies, tests, analyses, and data, and all attachments or other referenced documents, all associated abstracts, summaries, and associated documents.
- b. If such studies, tests, or analyses were performed, and if not already described in this information request item, then specifically describe all actions taken, conclusions drawn or interpretations made by Dow, or person or entity acting on behalf of Dow, as a result of or based upon such studies, tests, or analyses.

97. State whether Dow, or any person or other entity acting on behalf of Dow, has ever conducted or performed any epidemiological study, test, or other scientific or nonscientific analysis of any humans exposed to, or that could have been exposed to, dioxin, and all other hazardous substances, pollutants, or contaminants that has been, or could have been released, from Dow's Midland Plant facility.

- a. Provide the dates and specific locations where all such studies, tests, or analyses were performed; the name address and title of the persons who performed the studies, tests, or analyses; provide the reasons for such studies, tests, or analyses; provide a description of the results of all such studies, tests, or analyses; provide

all documentation setting forth the results of such studies, tests, or analyses, including, but not limited to a copy of the studies, tests, analyses, and data, and all attachments or other referenced documents, all associated abstracts, summaries, and associated documents.

- b. If such studies, tests, or analyses were performed, and if not already described in this information request item, then specifically describe all actions taken, conclusions drawn or interpretations made by Dow, or person or entity acting on behalf of Dow, as a result of or based upon such studies, tests, or analyses.

98. State whether Dow, or any person or other entity acting on behalf of Dow, has ever conducted or performed any study, test, or other scientific or nonscientific analysis of the fate and transport of dioxin, and all other hazardous substances, pollutants, or contaminants that has been, or could have been released, from Dow's Midland Plant facility.

- a. Provide the dates and specific locations where all such studies, tests, or analyses were performed; the name address and title of the persons who performed the studies, tests, or analyses; provide the reasons for such studies, tests, or analyses; provide a description of the results of all such studies, tests, or analyses; provide all documentation setting forth the results of such studies, tests, or analyses, including, but not limited to a copy of the studies, tests, analyses, and data, and all attachments or other referenced documents, all associated abstracts, summaries, and associated documents.
- b. If such studies, tests, or analyses were performed, and if not already described this information request item, then specifically describe all actions taken, conclusions drawn or interpretations made by Dow, or person or entity acting on behalf of Dow, as a result of or based upon such studies, tests, or analyses.

99. Provide all information currently, or formerly, in the possession of Dow, or any person or other entity acting on behalf of Dow, concerning the presence of dioxin, and all other hazardous substances, pollutants, or contaminants in any type or species of plant or animal concerning or related to the actual or potential release of such dioxin, and all other hazardous substances, pollutants, or contaminants from the Dow facility in Midland, Michigan. Any such information should include the size, age, species, weight and lipid chemical analysis of each fish.

100. Please provide a copy of any and all contract(s), agreements or any other legally binding documents, between Dow and the University of Michigan (UM) or any person or other entity acting on behalf of the UM concerning or in any way related the UM's Dioxin Exposure Study (UMDES), conducted by the UM's School of Public Health.

101. Please provide a copy (copies) of any and all correspondence, electronic messages, notes of conversations or any other document or writings memorializing any

discussions between Dow and UM, or any person or other entity acting on behalf of UM, concerning or in any way related to the UMDES.

102. Please provide a copy of any and all grants, or similar documents, and all other associated documents related to the operation or funding of the UMDES in the possession or formerly in the possession of Dow.

103. Please provide a copy of any and all contract(s), agreements or any other legally binding documents, between Dow and Michigan State University (MSU) or any person or other entity acting on behalf of the MSU concerning or in any way related the MSU's Tittabawasee River Project (TRP).

104. Please provide a copy (copies) of any and all correspondence, electronic messages, notes of conversations or any other document or writings memorializing any discussions between Dow and MSU, or any person or other entity acting on behalf of the MSU, concerning or in any way related to the TRP.

105. Please provide a copy of any and all grants, or similar documents, and all other associated documents related to the operation or funding of the TRP in the possession or formerly in the possession of Dow.

106. Please provide copies of all information or documents used, reviewed or relied upon by Dow, or any person or entity acting on behalf of Dow, to draft or create the December 1, 2006 Remedial Investigation Work Plans for the Tittabawasee River and Upper Saginaw River and the City of Midland, including any document referenced in or attached thereto.