ALLIANCE FOR THE GREAT LAKES
ENSURING A LIVING RESOURCE FOR ALL GENERATIONS

September 6, 2011

VIA EMAIL: buckmastert@michigan.gov

Re: Comments on Dow-Midland NPDES Permit No. MI0000868

Tarek Buckmaster
Lakes Erie and Huron Permits Unit
Permits Section, Water Resources Division
Michigan Department of Environmental Quality

Dear Mr. Buckmaster:

With 95 percent of America's fresh surface water, the Great Lakes are a national and international treasure, providing drinking water, jobs and recreation to tens of millions of people. We would like to express our support for the work that Dow-Midland has done and is currently doing to help protect these valuable resources, however the facility still discharges significant quantities of toxic chemicals into the Great Lakes Basin every year. With the enclosed comments, we urge the Michigan Department of Environmental Quality to protect the Great Lakes by ensuring the Dow-Midland discharge permit requires:

- Modification of the dioxin and dioxin-like compounds PMP to better control these toxics;
- More stringent limits and additional monitoring requirements for other toxics including chromium, dinitrobutyl phenol, ethylene glycol, dichloromethane, picloram, acetonitrile, 2,4-D and tetrachloroethylene
- Other significant problems and technical issues with the draft permit must be addressed

According to the Fact Sheet provided with this permit renewal, comments are due to MDEQ today. Our comments are described in greater detail in the attached comment letter. We urge the Michigan DEQ to incorporate the comments enclosed into the final permit. Thank you for the opportunity to comment on Dow-Midland's permit. Should you have any questions about the Alliance's comments, please do not hesitate to contact me at 312-939-0838 x230 or lwelch@greatlakes.org.

Sincerely,

Lyman C. Welch

Lyman C. Welch, Water Quality Program Manager

Laura Schroeder

Laura Schroeder, Water Quality Intern

ALLIANCE FOR THE GREAT LAKES

ENSURING A LIVING RESOURCE FOR ALL GENERATIONS

Eliminating Water Pollution from Lake Huron

Comments to the
Michigan Department of Environmental Quality
On
Dow-Midland's
National Pollutant Discharge Elimination System
Permit No. MI0000868

September 6, 2011

Alliance for the Great Lakes
17 N. State St., Suite 1390
Chicago, IL 60602
(312) 939-0838

I. Introduction

With 95% of America's fresh surface water, the Great Lakes are a national and international treasure, providing drinking water, jobs and recreation to tens of millions of people. The mission of the Alliance for the Great Lakes (Alliance) is to conserve and restore the world's largest freshwater resource through policy, education and local efforts aimed at preserving the Great Lakes region. With the enclosed comments, we hope to reduce the quantity of pollutants flowing into Lake Huron and help avoid undermining the gains being made in restoring the Great Lakes.

The drafting of Dow-Midland's renewed permit allows the Michigan Department of Environmental Quality (MDEQ) to ensure a higher level of protection not only for the Tittabawassee River, but the Great Lakes as well. The Alliance is grateful for this opportunity to voice our concerns regarding the new draft permit for Dow-Midland. We urge MDEQ to do more to protect the Great Lakes by re-examining some areas of the draft permit that require more stringent regulation.

II. Background

Dow-Midland is a chemical manufacturing facility located in Midland, Michigan. The facility discharges treated wastewater into the Tittabawassee River, which flows into the Saginaw River and Saginaw Bay. Saginaw Bay is part of Lake Huron, so it is very important that any reissued permit consider the impact the facility could and does have on water quality, and the continuing impaired status of the region. The Saginaw River Basin is classified as one of only two Areas of Concern in Lake Huron, according to its Lake-wide Management Plan (LaMP).

Dow-Midland's toxics release inventory (TRI) indicates that the facility was the top discharger of dioxin in the Great Lakes basin in 2010 and the second largest discharger of dioxin in 2009, and reported discharging the most toxic form of dioxin -- 2,3,7,8 – TCDD.[1] Members of the dioxin family have been shown to bioaccumulate in humans and wildlife, and are known teratogens, mutagens, and suspected human carcinogens.[2] In addition to dioxin, Dow-Midland discharges several other toxic organic compounds, including: dinitrobutyl phenol, ethylene glycol, formaldehyde, and dichloromethane.[3]

We urge MDEQ to set more restrictive limits in Dow-Midland's permit with the goal of eliminating toxic discharges over time. Now is the time to ensure that Dow-Midland's permit results in the elimination of pollution over time as required by the federal Clean Water Act. The Alliance urges MDEQ to strengthen Dow-Midland's permit in the following ways.

---

[1] USEPA, Toxics Release Inventory for 2010.
[2] ATSDR, ToxFAQs.
[3] USEPA, Toxics Release Inventory for 2010.

III. Specific Comments on the proposed permit

A. The permit requirements for Dow's discharge of dioxin and dioxin-like compounds must be strengthened to eliminate the discharge of these toxic pollutants

Dow-Midland discharges a greater quantity of dioxin and dioxin-like compounds into the Great Lakes Basin than any other industrial facility. In addition, they discharge a significantly greater 2,3,7,8-TCDD TEC quantity than any other industrial facility. Their discharged dioxin is more than five times more toxic than the next highest facility. In addition, Dow-Midland's dioxin discharge increased from 2009 to 2010, according to the facility's TRI data from those years. The Alliance supports the ongoing efforts to remove sources of dioxin contamination from the Dow-Midland facility.[4] However, the previously stated factors indicate that alterations in the facility's pollutant management plan (PMP) are desperately needed, and we recommend that the facility be required to make modifications as a condition of their NPDES permit reauthorization.

Dioxins and furans have been classified as LaMP critical pollutants and have been detected at elevated levels in some Lake Huron fish.[5] Michigan has also issued consumption advisories for game animals within the Tittabawassee River flood plain, because they have potentially dangerous levels of dioxins in their systems.[6] In addition the 2008 LaMP action plan stated that dioxin concentrations are lower in Lake Huron than other Great Lakes areas, with the exception of Saginaw Bay, and Dow-Midland has been implicated as the primary source of Saginaw Bay dioxins.[7] According to the Toxics Release Inventory for 2009 and 2010, Dow-Midland discharged 0.00399 and 0.00418 pounds of dioxin and dioxin-like compounds, respectively, into the Tittabawassee River.[8] This made Dow-Midland the largest industrial source of dioxins in the Great Lakes Basin in 2010. These high levels of dioxin contamination provide additional cause for concern, because of the increase from 2009-2010. Lake Huron's LaMP states that the goal of the plan is to 'Protect and restore water quality throughout the Lake Huron basin and especially in the AOCs...'[9] The fact that Dow-Midland has not decreased dioxin discharges in the last few years, and has in fact increased dioxin TEC discharges indicate that modifications and additional controls need to be included in the facility's PMP.

The Alliance is concerned that the most recent dioxin PMP annual report did not indicate that Dow-Midland has been making plans to eliminate sources of dioxins and furans, other than the WIF Main Header (Raw Above) sewer.[10] According to sampling conducted at the facility, B-100 was a significant 2,3,7,8-TCDD TEC source for 2009-2010, and a minor source in 2008-2009.[11] In addition, WIF 106.1 was a significant source both years. These sampling results indicate that Dow-Midland needs to develop a plan to eliminate the source of the dioxins coming from these influents, while they are eliminating the primary source of dioxins in the wastewater. The

---

[4] USEPA, Toxics Release Inventory for 2010.
[5] Lake Huron LaMP 2008-2010 Action Plan
[6] Lake Huron LaMP 2008-2010 Action Plan
[7] Lake Huron LaMP 2008-2010 Action Plan
[8] USEPA, Toxics Release Inventory for 2010.
[9] Lake Huron LaMP 2008-2010 Action Plan
[10] Dow-Midland 2010 PMP Annual Report
[11] Dow-Midland 2010 PMP Annual Report

severe effects dioxin and dioxin-like compounds can have on human and ecosystem health necessitates quick action to deal with any dioxin sources. We recommend that MDEQ require Dow-Midland to make plans to eliminate these significant sources of dioxin.

B. More stringent limits and additional monitoring is needed for other toxic pollutants

With respect to toxic pollutants, Clean Water Act Section 301 requires that NPDES permits "shall require application of "Best Available Technology ("BAT") to reduce pollutant discharges to the maximum extent "technologically and economically achievable," including "elimination of discharges of all pollutants" if it is achievable.[12] Federal regulations promulgated by U.S. EPA also require that "[t]echnology-based treatment requirements under Section 301(b) of the [CWA] represent the minimum level of control that *must be imposed*" in a NPDES permit.[13] BAT is a stringent treatment standard that has been held to represent "a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges."[14]

Technology-based effluent limitations ("TBELs") are a necessary minimum requirement for a permit "regardless of a discharge's effect on water quality."[15] Federal regulations require state permitting authorities to establish BAT effluent limits in individual NPDES permits on a case-by-case basis, using Best Professional Judgment ("BPJ"), "to the extent that EPA-promulgated effluent limitations are inapplicable."[16] The use of the word "shall" in both the federal statute and regulations does not leave the Director with any discretion as to whether TBELs should be established.[17]

The Clean Water Act requires BAT limits for toxic chemicals in this permit. Specifically, there are a number of pollutants that Dow-Midland reports discharging to surface water in Dow-Midland's Toxics Release Inventory report that are not adequately addressed in the NPDES permit. Therefore, MDEQ must set TBELs for these pollutants by determining BAT. Even if the

---

[12] 33 U.S.C. § 1311(b)(2)(A)(i); *see also id.* §§ 1311(b)(2)(C), 1317(a) (listing procedures for toxic pollutants); 40 C.F.R. § 401.15 (listing toxic pollutants, including mercury).

[13] 40 C.F.R. § 125.3(a) (emphasis added).

[14] *EPA v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 74 (1980).

[15] *Am. Petroleum Inst. v. EPA*, 661 F.2d 340, 344 (5th Cir. 1981); *see also PUD No. 1 Jefferson County v. Wash. Dep't of Ecology*, 511 U.S. 700, 704 (1994) (state water quality standards are "supplementary" to required individual TBELs) (citing *EPA v. Calif.* ex. rel. *Water Res. Control Bd.*, 426 U.S. 200, 205 n.12 (1976)); *Hooker Chems. & Plastics Corp. v. Train*, 537 F.2d 620, 623 (2d Cir. 1976) (CWA "predicate[s] pollution control on the application of control technology on the plants themselves rather than on the measurement of water quality.").

[16] 40 C.F.R. § 125.3(c)(2), (d). *See also* NY CLS § 17-0809 (2011) (1) (stating that SPDES permits "shall contain applicable effluent limitations as required by the [Clean Water] Act and as may be promulgated by the department."); 6 NY COMP. CODES R. & REGS. § 750-1.2 (14) (2011) (defining BPJ as "the method used by permit writers to develop BAT or BCT limits or requirements on a case-by-case basis for pollutants and wastewaters not addressed by 40 CFR 405 to 471."); *Northern Cheyenne Tribe v. Montana Dep't of Envtl. Quality*, --P.3d--, 2010 WL 1997421 (Mont. May 18, 2010).

[17] *See Bennett v. Spear*, 520 U.S. 154, 172 (1997) (the imperative "shall" makes clear that the agency action specified is obligatory, not discretionary); *see also Alabama v. Bozeman*, 533 U.S. 146, 153 (2001) ("The word 'shall' is ordinarily the language of command.") (internal quotations and citations omitted).

Dow-Midland facility is not discharging these pollutants in amounts that would implicate the applicable water quality standard or require a WQBEL, the Clean Water Act still requires that they be subject to TBELs.[18]

The Clean Water Act requires that "the discharge of any pollutant by any person shall be unlawful" except, in pertinent part, if it is authorized by a NPDES permit.[19] The Act further defines "discharge of a pollutant" to mean "any addition of any pollutant to navigable waters from any point source."[20] Requiring effluent limitations for even discharges of pollutants that occurring only in small amounts is consistent with the Clean Water Act's statutory goal of "elimination of discharges of all pollutants."[21]

Accordingly, although the pollutants reported in Dow-Midland's Toxics Release Inventory report may only be discharged in small amounts, they still constitute "discharges of a pollutant" that are illegal under the Clean Water Act unless subject to appropriate TBELs. MDEQ must revise the draft permit to incorporate such TBELs before Dow-Midland's NPDES permit can be lawfully renewed. In this case, more stringent limits and additional monitoring for chromium, dinitrobutyl phenol, ethylene glycol, dichloromethane, picloram, acetonitrile, 2,4-D and tetrachloroethylene are needed.

(1) Chromium Compounds

According to the Toxics Release Inventory for 2009 and 2010, Dow-Midland discharged 290 and 330 pounds of chromium compounds (chromium), respectively, into the Tittabawassee River.[22] Dow-Midland discharged more chromium into the Great Lakes Basin in 2010 than almost all other industrial facilities. However, the draft permit limit does not require Dow-Midland to reduce its chromium pollution. Health effects that can result from exposure to chromium include: anemia; intestinal and stomach damage; and cancer.[23]

Recent studies have detected chromium-6 in tap water across the country, and others have linked the compound to serious diseases such as stomach cancer. EPA recognizes the potential adverse effects of chromium-6 and is in the process of finalizing a human health risk assessment on the compound, suggesting that surface water systems conduct monitoring in the interim. While current federal regulations focus only on total chromium, it is clear that there is cause for concern with this compound, even causing the state of California to set the public health goal for chromium in the drinking water at a very low level of 0.02 µg/L. Given its widespread presence in surface water and its potentially negative health impacts, Dow-Midland should be required to report the level of chromium-6 in its discharge along with total chromium.

---

[18] *See, e.g., PUD No. 1 Jefferson County*, 511 U.S. at 704; *Am. Petroleum Inst.*, 661 F.2d at 344; *Hooker Chems. & Plastics Corp.*, 537 F.2d at 623.

[19] 33 U.S.C. § 1311(a) (citing *id.* § 1342); NY CLS § 17-0803 (2011) (stating that it is "unlawful to discharge pollutants to the waters of the state from any outlet or point source without a SPDES permit.").

[20] 33 U.S.C. § 1362(12).

[21] 33 U.S.C. § 1311(b)(2)(A)(i); *see also EPA v. Nat'l Crushed Stone Ass'n*, 449 U.S. at 74. http://www.epa.gov/glnpo/aoc/rochester.html

[22] USEPA, Toxics Release Inventory for 2010.

[23] ATSDR, ToxFAQs.

The draft permit limit for Dow-Midland's monthly average chromium discharge is 84 lb/day and the daily maximum chromium discharge is 210 lb/day.[24] Both of these limits are higher than the maximum amount reported in the facility's DMR from 2006-2008.[25] These limits are also higher than the maximum annual discharge the facility reported to the TRI database from 2006-2010.[26] The new chromium limits in the permit are a step in the right direction, but the limits should be reduced in order to ensure the health of the Great Lakes. The Alliance recommends decreasing Dow-Midland's chromium limits, in order to decrease pollution from one of the most significant chromium polluters in the Great Lakes Basin.

(2) Dinitrobutyl Phenol

Dinitrobutyl phenol is a recognized developmental and reproductive toxicant and a suspected carcinogen, endocrine disruptor, kidney toxicant and neurotoxicant.[27] The compound has been ranked by ScoreCard.org as one of the worst compounds for human and ecosystem health.[28] Dow-Midland was the only industrial facility in the Great Lakes Basin that reported having discharged dinitrobutyl phenol in the 2010 TRI database.[29] A further cause of concern is the fact that the quantity discharged has steadily increased over the past 5 years.[30] As a result of the serious potential health effects and the rising discharges from Dow-Midland, the Alliance strongly recommends that MDEQ develop monitoring requirements and limits for this dangerous compound.

(3) Ethylene Glycol

Ethylene glycol is a suspected endocrine disruptor, and can cause developmental and renal damage.[31, 32] Dow-Midland is one of the top ten dischargers of this compound in the Great Lakes Basin, but has not made progress in the last five years towards decreasing the quantity it discharges.[33] We recommend that MDEQ include limits on ethylene glycol discharged from the facility in order to ensure that Dow-Midland does not continue increasing the level of the compound present in their effluent.

[24] Dow-Midland Draft Permit (2011).
[25] USEPA. Envirofacts Warehouse: PCS
[26] USEPA, Toxics Release Inventory for 2010.
[27] Scorecard.org.
[28] Scorecard.org.
[29] USEPA, Toxics Release Inventory for 2010.
[30] USEPA, Toxics Release Inventory for 2010.
[31] Pesticideinfo.org.
[32] ATSDR. ToxFAQs
[33] USEPA, Toxics Release Inventory for 2010.

(4) Dichloromethane

Dichloromethane is a suspected carcinogen, and ingestion of this compound can cause damage to the liver, cardiovascular, neurological, endocrine and reproductive systems. [34, 35] Despite decreasing its discharge of dichloromethane, Dow-Midland continues to discharge the second largest quantity of this pollutant in the Great Lakes Basin. [36] Due to the relatively large amount discharged, and based on discharge limits in other dichloromethane discharging facilities, we recommend that Dow-Midland's new permit have limits on the amount of the chemical that can be released.

(5) Picloram

Picloram is an herbicide, and can have significant adverse effects on Great Lakes ecosystems when it is present in surface or ground water. The US Fish and Wildlife Service has identified picloram as a potential threat to endangered plants due to its mobility, persistence, and toxicity and is also suspected to be toxic to fish. [37] The Alliance recommends that Dow-Midland be required to monitor and limit their discharge of this compound due to its potentially considerable effects on the Great Lakes.

(6) 2,4-D

2,4-D is a widely used herbicide and a potential endocrine disruptor that can be highly toxic to fish. [38] Dow-Midland discharges more of this chemical than any other industrial facility in the Great Lakes basin. [39] In addition, limits for 2,4-D have increased from the previous permit to the current draft permit. [40] This is of extreme concern, because the Clean Water Act sets a goal of continuously improving the water quality in the Great Lakes, rather than allowing pollutant levels to increase. The Alliance recommends that the final permit contain lower 2,4-D limits than both the draft permit and the previous permit Dow-Midland operated under.

(7) Tetrachloroethylene

Dow-Midland discharged the second greatest quantity of tetrachloroethylene into the Great Lakes basin in 2010. [41] Tetrachloroethylene is a suspected carcinogen and can cause damage to developmental and neurological systems. [42] We are supportive of MDEQ's inclusion of stricter limits for tetrachloroethylene, but we recommend further decreasing Dow-Midland's limit, because the new limit would not require Dow-Midland to make any reductions to their tetrachloroethylene discharge.

---

[34] Pesticideinfo.org.
[35] ScoreCard.org
[36] USEPA, Toxics Release Inventory for 2010.
[37] Extension Toxicology Network: Pesticide Information Profile
[38] Extension Toxicology Network: Pesticide Information Profile
[39] USEPA, Toxics Release Inventory for 2010
[40] Dow-Midland Draft Permit (2011)
[41] USEPA Toxics Release Inventory for 2010
[42] ATSDR. ToxFAQs

C. More stringent Stormwater Pollution Prevention Plan requirements are needed.

Stringent storm water pollution controls are needed in order to comply with Michigan's water quality standards and the permit should include appropriate requirements in Dow's stormwater pollution prevention plan – the "SWPPP". Runoff from site operations can be heavily contaminated with toxic metals and other pollutants and is a potentially large source of pollution of adjacent waterways. The SWPPP requirements must be incorporated into Dow's NPDES permit, reviewed by the permitting agency and made available for public review during the notice and comment process for renewal of Dow's permit. See Environmental Defense Center v. United States Environmental Protection Agency, 344 F.3d 832 (9th Cir. 2003) (holding SWPPP is subject to all aspects of both public notice and agency review requirements) cert. denied, 124 S. Ct. 2811 (2004). Unfortunately, MDEQ did not make Dow's SWPPP publicly available during the permit review process. The SWPPP should control Dow's runoff, yet the public has no way to ensure that Dow has a solid SWPPP in place to protect waterways. MDEQ must require Dow to update its SWPPP, review it and make the SWPPP available for public review before the NPDES permit is reissued.

D. Other significant problems with the draft permit must be corrected.

1 Matters Addressing Applicant's Water Supply Intakes and Feedwater Operations

Dow receives Michigan Operations site feedwater for 'service water' production at a nominal rate of 1.62 MGD from the Tittabawassee River. Dow also receives 0.77 MGD of potable water and 12.6 MGD of 'Huron Water' from the City of Midland in conjunction with the Saginaw-Midland Municipal Water Supply Corporation (SMMWSC) for industrial process and cooling water.

1.1 Neither Applicant's Submittal Nor MDEQ's Draft Permit/Fact Sheet Address Intake Entrainment and Impingement Biological Losses from Applicant's Tittabawassee River Intake Operation

Dow's operation of a 1.62 MGD intake on the Tittabawassee River uses a stationary trash rack and rotary bar screen "....to exclude aquatic wildlife and debris on its intake, which is located on a 1.4 acre lagoon immediately upstream of the Dow Dam. " The feedwater intake in this location must be considered to raise the potential for biological losses from intake operation.

Neither Dow's submittal, nor MDEQ's draft permit, address intake design, operation, the present level of aquatic/biological damage from the existing facility and expected entrainment and impingement losses on both large and small aquatic organisms.

Damage to aquatic organisms from Applicant's feedwater intake operations is a form of 'pollution, impairment and destruction' that MDEQ must address in carrying out its permit-issuance authority since such damage is collateral to the operation being permitted. MDEQ must carry out its responsibilities under requirements originating at 33 U.S.C. §1326(b) (and related state authorities) to ensure that Applicant's intake operations use required best management practices (BMPs) reflecting a level of control of biological losses reflecting Best Technology Available for intake design and operations.

Given that the Applicant's submittal contains no demonstration of Best Technology Available, BMPs or existing impingement and entrainment losses, the permit must not issue without such matters being addressed.

1.2 The Applicant's Reliance on the SMMWSC Lake Huron Intake Must be Addressed

The Applicant nominally receives 12.6 MGD of Lake Huron Water, claimed to be received from the City of Midland. The City of Midland receives its Lake Huron water from the Saginaw Midland Municipal Water Supply Corporation (SMMWSC).

According to the City of Midland, over half of the water it receives is sent to industrial users, being Dow Chemical, Dow Corning and the MCV cogeneration facility. All of this industrial water is first received at the SMMWSC Lake Huron intake. SMMWSC operates two intakes sited in the open waters off of Whitestone Point on Lake Huron, including one 66 inch and one 72 inch.

MDEQ must require the Applicant to address environmental responsibility for the substantial industrial point source use of one or more of the SMMWSC Lake Huron water intakes, particularly if a majority of the volume of one or more of the intakes is physically directed to the Applicant.

2 Applicant's Stormwater Pollution Prevention Plan

The Applicant generates onsite stormwater associated with its industrial operations. Discharges of stormwater must be controlled with a level of effluent control technology that meets the required level of BAT/BPT effluent limitation control requirements. Such control requirements will include both system design and operational workpractice requirements in order to reach the required level of effluent control stringency.

Requirements concerning the Applicant's Storm Water Pollution Prevention Plan (SWPPP) are found at section I.A.14 of the draft MDEQ Dow Chemical Michigan Operations NPDES permit. While the Draft Permit contains specific requirements on the contents of the SWPPP, such permit conditions in and of themselves do not constitute the required technology-based effluent limitation directly binding on the actual discharge of stormwater. The technology-based stormwater effluent limitations as actual requirements reside in the SWPPP that is developed under the permit in the form of Best Management Practices designed to achieve Clean Water Act BAT/BCT effluent limitation requirements at 33 U.S.C. §1311(b)(2)(a)

MDEQ's permit-issuance adoption of the SWPPP provisions of Section I.A.14 of the Draft Permit is erroneous because these SWPPP permit provisions as proposed for adoption do not comply with the holdings in the case of Environmental Defense Center v. United States Environmental Protection Agency, 344 F.3d 832 (9th Cir. 2003). In that case, petitioners successfully challenged EPA's Phase II stormwater permitting program which allowed submission of a SWPPP without requiring either permit-issuance authority review and approval of the SWPPP or public access to the SWPPP.

The specific errors inherent in Section I.A.14 of the draft permit relevant to the Environmental Defense Center decision include all of the following:

Section I.A.14 does not require submission to MDEQ and MDEQ approval before a SWPPP is either adopted or amended. This failure means that the Applicant is allowed to engage in impermissible self-regulation which fails to require an agency review of an SWPP P to ensure that discharge of pollutants is reduced to the maximum extent practicable.

Since section I.A.14 does not require submission and approval of the SWPPP to MDEQ, and there is no provision requiring the Applicant to provide the SWPPP to the public, there is no guarantee of any public access at all to the SWPPP. This means that SWPPP is not enforceable as a practical matter since the SWPPP-related effluent limitation applicable requirements are not available to the public.

Since section I.A.14 does not provide the content of the SWPPP BMP elements, the SWPPP is therefore not a part of the permit. However, failure to provide the SWPPP as part of the public review and comment process means that applicable requirements in the form of SWPPP-related BMP effluent limitations are not reviewed by the public before their adoption. This violates the holding in Environmental Defense Center that the public is entitled to review and comment upon the SWPPP before it receives final approval.

In addition to the errors discussed above, section I.A.14 of the permit fails to provide a system of annual and/or event reporting that addresses SWPPP requirement compliance assurance. There is no requirement or specified element of reporting requirements to address variant or non-compliant implementation of SWPPP requirements.

3 The Draft Permit Should be Amended to Include Technology-Based Effluent Limitations for Chlorinated Dioxins/Furans Measured at an Internal Monitoring Point(s)

Under 40 C.F.R. §125.3, et seq., MDEQ must impose technology-based effluent limitations on pollution effluents from Applicant's process that reflect Best Available Technology (BAT) for toxic pollutants, such as PCDD/PCDF.

Although Applicant's categorical chemical process units are covered by existing effluent limitation guidance in Federal regulations, these rules were not intended to serve as BAT effluent limitations controlling effluent loadings and aqueous concentrations of poly-chlorinated di-benzo dioxin/furan (PCDD/PCDF) compounds. In such a circumstance, MDEQ must provide for a BAT effluent limitation determined using best professional judgment (BAT-BPJ) technology.

The present Draft Permit does not contain any numerical technology-based PCDD/PCDF effluent discharge limitations for PCDD/PCDF loadings and aqueous concentrations determined by best professional judgment. The failure to provide the required PCDD/PCDF BAT-BPJ effluent limitations means the permit cannot be approved in its present form.

The Draft Permit does contain a water-quality based effluent limitation at the final effluent discharge point. However, the current PCDD/PCDF water quality-based effluent limitations enforced at the final discharge point are not capable of ensuring that all individual system-upstream chemical process and waste management unit effluents are continuously controlled to

meet a level of process-based PCDD/PCDF effluent loading/concentration reduction meeting a BAT-BPJ level of effort. The water quality based effluent limitations for the 2,3,7,8 TCDD congener and 2,3,7,8 TCDD TEF may be unenforceable when aqueous concentrations and loadings are less than the analytical method quantification level. The amount of inherent treatment plant dilution and non-PCDD/PCDF-contaminated process wastewater diluting process wastewater containing PCDD/PCDF means that end-of-pipe monitoring and sampling methods are not appropriate for enforcing technology-based effluent limitations.

In setting PCDD/PCDF BAT-BPJ effluent limitations, MDEQ should require that compliance with such limitations be determined at one or more internal monitoring points prior to discharge to Applicant's main treatment plant headworks. Internal monitoring points should be established at the physical point of individual process wastewater entering the site sewer system or at the discharge of an individual-site/process-specific wastewater treatment system. The needed internal monitoring points at a minimum should address PCDD/PCDF effluent discharges from the hazardous waste incinerator system, the 2,4 dichlorophenoxyacetic acid production plant, chlorinated phenolics production and each Pesticide Chemical production process unit in which chlorination of phenols and other oxidization processes take place.

4 PCDD/PCDF Matters and the Michigan Operations Tertiary Pond

Nothing in Applicant's submittal addresses the existing inventory of PCDD/PCDF materials contained in the tertiary pond wastewater treatment unit. The tertiary pond is designed to increase the amount of suspended solids settling and to reduce aqueous total suspended solids In doing so, the tertiary pond may have some effect on the removal of particle/particle bound PCDD/PCDF.

However, resuspension of such particle/particle bound PCDD/PCDF that previously was deposited may occur with wave/wind action and will occur with maintenance/dredging applications within the tertiary pond. The Applicant should be required to submit information which indicates the expected PCDD/PCDF congener inventory contained in sediments deposited within the tertiary pond.

The tertiary pond is under a 'maintenance program' for 'removal of accumulated solids when prescribed levels are reached' associated with its status under the Applicant's RCRA permit. However, any such maintenance activity and its threshold for initiation is inextricably intertwined with matters addressing the presence of PCDD/PCDF contained in such waste and the discharge of such materials through the final effluent point and from dredging activities to be conducted. The tertiary pond 'maintenance program' is a de facto best management practice that will address final wastewater effluent control of PCDD/PCDF and TSS and must be considered as part of effluent limitation applicable requirements and formalized as such under terms of the adopted permit after public notice and an opportunity for comment.

5 Pollutant Minimization Programs Must be Part of the Permit as Enforceable Elements of Water Quality Based Effluent Limitations for Purpose of Public Notice/Comment and MDEQ Review and Decision-making

Sections I.A.8-11 provide requirements for pollutant minimization programs for hexachlorobenzene, chlorpyrifos, chlorinated dioxins and furans and pentachlorobenzene. The

MDEQ Draft Permit established water quality-based effluent limitations for these pollutants. However, analytical determinations of the numerical level of the water quality-based effluent loading and concentration limits are not possible when measured aqueous concentrations at the final effluent point are less than the method quantification limits for each of the four pollutants.

State water quality rules require that pollution minimization programs (PMP) be developed for the four pollutants indicated in the prior paragraph (see R323.1213(1)(d). The PMPs to be developed must be considered as 'applicable requirements' for achieving water quality standards in receiving waters. As such, PMPs must be considered part of the permit and should be subject to public notice and comment prior to their adoption.

6 The Alliance Opposes Dow's Request for 'Process Sampling Locations' as a 'Back Door' Effort to Shield Internal Process Wastewater Constituent Analytical Data from Public Disclosure as 'Process Data'

Section 4.5 of the Applicant's text narrative submittal contains the following Applicant request for permit modification:

"Samples collected from within the wastewater treatment system or process operational areas and no at the NPDES compliance monitoring location designated in this permit are considered process samples, regardless of whether they are analyzed by methods approved in 40 CFR 136 or by other methods. Analytical results from process samples are not required to be included in the calculation and reporting of values requirement in the Discharge Monitoring Reports." (p. 4-6)

The Alliance strongly opposes adoption of this language or anything like it in the Draft Permit. A permit declaration that all such samples are 'process data' is the first step leading to an inevitable Applicant claim that all such 'process data' is confidential business information that is claimed to be exempt from effluent data disclosure requirements. The relative scarcity of internal monitoring points to address post-production process wastewater and the requirement for BAT-BPJ controls means that internal point wastewater monitoring data is of considerable and ongoing interest to the public. In addition, the language requested by the Applicant would have the effect of designating all of the internal monitoring performed for the four different pollution monitoring programs as being 'process data, ' that would subject such information to Applicant confidentiality designations. No amendment to the permit should allow such a result to occur and Applicant's requested language on this count should be disallowed in any final permit issuance.

7 The Draft Permit Should be Amended to Include Enforceable Effluent Limitations Prohibiting Pesticide Chemical Activities Wastewater Additions to Applicant's Michigan Operations Wastewater Treatment System

Section 3.5.3 of Applicant's NPDES Renewal Application indicates:

"No process wastewaters from Subpart C activities [Pesticide Chemical Activities] are discharged to the WWTP: instead, they are collected for incineration at the Dow MiOps Incinerator."

Applicant's acceptance of the above 'no-discharge' practice and inherent operation covering the pesticide activities process wastewater is a BAT effluent limitation to control wastewater contaminants from these units. As such, this 'no-discharge' practice for treatment of the stated wastewaters should be made a permit-enforceable technology-based effluent limitation through an amended permit provision.

In the section of the Application where the pesticide activities are addressed, it is not clear from the Applicant whether all of the Table 3-4 pesticide chemical production process wastewaters are fully subsumed within the Table 3-5 pesticide chemical activities under Subpart C. The Application should be amended to specifically clarify this matter.

8 MDEQ's Fact Sheet Indicates Monitoring Results Showing Selected Violation of Facility Effluent Limitations Without Reconciling the Enforcement Status of the Facility

The Applicant is subject to an effluent limitation of 1.0 TUA for acute toxicity. The MDEQ Fact Sheet shows a maximum daily value of 6.9 TUA for acute toxicity.

The Applicant is subject to an effluent limitation of 0.019 ug/l for Pentachlorobenzene. The MDEQ Fact Sheet shows a Maximum Daily concentration of 0.046 ug/l, which exceeds the monthly average

The Applicant is subject to Chlorpyrifos effluent limitations of 0.029 lb/day (monthly average) and 0.099 lbs/day (daily maximum) at the 031B internal monitoring point. The MDEQ Fact Sheet shows maximum Chlorpyrifos loads at the same internal monitoring point of 0.27 lbs/day (monthly average) and 1.04 lbs/day.

These are apparent past measured violation of Applicant's permitted effluent limitations, but the Fact Sheet provides no explanation for these measured effluents and no discussion of the effect of the measured contaminants on Applicant's past permit compliance status.

9 Mixing Zone Information is Insufficiently Articulated in the MDEQ Fact Sheet and Application

Neither the Fact Sheet nor the Application contain sufficient information concerning the use of mixing zones. The p. 2 statement for 'toxic pollutants' indicates that 25% of the applicable design flows of the receiving stream for acute values and 75 % of the receiving stream for chronic values was used for toxic pollutant mixing zone determinations. For 'other pollutants,' apparently 100% of the receiving waters are to be considered as the mixing zone.

This is not a sufficient statement as to what mixing zone was used to address water quality based effluent standard setting in the permit for all of the specific toxic pollutants contained in the facility's effluent.

At a minimum, the Fact Sheet, Draft Permit and the Application should indicate which 'toxic pollutants' and which 'other pollutants' are subject to which specific mixing zones and this information should be clear and complete. All of the mixing zone information should be shown with the derivation of water quality based effluent limitations. All of these elements and disclosures must address MDEQ-rule-based restrictions on mixing zones, including requirements

that no mixing zones be used for Great Lakes Water Quality Standard bioaccumulative pollutants.

10 The Draft Permit Contains No Mercury Effluent Limitations and Insufficient Mercury Effluent Monitoring Requirements

The Draft Permit does not contain any technology-based or water quality-based effluent limitation for mercury, a Great Lakes Water Quality Standard pollutant. The Applicant's submittal and the MDEQ Fact Sheet do not provide the 'reasonable potential to exceed' analysis required under MDEQ rules for mercury and all other toxic pollutants.

The subject facility should be subjected to a water quality-based effluent limitation for mercury at the final effluent point and a technology-based effluent limitation to be imposed at internal monitoring points for hazardous waste incinerator effluent and any other process wastewater group in which mercury is, or is likely to be, present.

The present draft permit requires mercury water quality monitoring at the final effluent point only if the facility receives commercial hazardous waste. There is no clear information on whether such an event has happened to date or not.

Mercury water quality monitoring should be required for facility monitoring if no commercial hazardous waste is received by the facility.

11 Permit and Application Clarification of Outfall Identification

At various places in the Draft Permit and the Application, there are references to both Outfall 31 and also to Outfall 31A. As near as the Alliance can determine, Outfall 31 and Outfall 31A are the same entity. As a result, we suggest all references in the Draft Permit and the application addressing Outfall 31A be amended to indicate "Outfall 31."

12 Permit Accountability for Technology-Based Effluent Control Measures Carried Out by the Applicant and by Non-Applicant Corporate Entities Directing Process and Other Wastewater to Applicant's Michigan Operation Wastewater Treatment Plant

Table 3-1 indicates so-called 'pretreatment activity' carried out on a number of specific individual production plant effluents for both Applicant-owned production process units and production processes and effluent generation units by non-Applicant-owned entities that use or otherwise discharge to the Applicant's Michigan Operations wastewater treatment plant.

Table 3-1 does not include the pesticide plant activity wastewater which is treated by incineration as disclosed elsewhere in the application.

All of the listed 'pretreatment activity' constitute technology-based control measures designed to limit, reduce or eliminate individual process-specific wastewater effluent contaminants. Because these control measures accepted by the Applicant are, in fact, BAT technology-based effluent control and treatment measures, all of the control measures should be made permit-

enforceable with internal monitoring point effluent limitations and monitoring/reporting requirements to ensure compliance with the required BAT-BPJ level of pollution control.

Because entities that are different and distinct from the Applicant as permit-holder, it is necessary to specifically state how such control measures will be enforced against such non-NPDES permit holders using Applicant's Michigan Operation wastewater treatment plant. It is entirely possible that the only means to do this is to require that such entities become parties to the permit in a manned that is not presently required.

13 Applicant's Rendition of the Receiving Waters Impairment Status under Section 303(d) Does Not Address Outstanding Fish Contamination Problems in the Receiving Waters

Section 1.6 of the application only mentions Section 303(d) impairments from untreated sewage discharges and pathogens and does not mention to impairment status of the receiving waters as a result of demonstrated fish contamination problems and the prior deposition of PCDD/PCDF-contaminated stream sediments.

The Application, Draft Permit and Fact Sheet must address the fish contamination problem in a manner that addresses the effect of this situation on receiving water impairment status.

14 Applicant Compliance with Required Laboratory Standards

Applicant apparently intends to conduct a considerable number of water quality testing at in-house laboratories operated by the Applicant. The draft permit should be amended to require that Applicant's water quality sample laboratory practice conform to any required EPA laboratory practice standards, and that any such violation of such laboratory practice standards constitute a violation of the permit when the Applicant uses its own laboratory facilities to conduct the analytical work.

The Applicant should not be permitted to invoke any permit shield as a defense against an allegation that laboratory practice standards were not followed.

15 Other Pollutants

The permit contains no technology-based or water quality based effluent limitation for nitrates. There are no technology based effluent limitations for chemical oxygen demand.

16 The Application and MDEQ's Fact Sheet Fail to Provide Sufficient and Detailed Information on Showing the Derivation of Both Technology-Based and Water Quality Based Effluent Limitation

Technology-based effluent limitations in the Draft Permit are largely based on EPA's Effluent Limitation Guidance under 40 C.F.R. 414 Subpart I at the §414.91 table determination and on EPA and MDEQ documents not provided in the Application.

There is no explanation in either the Fact Sheet or the Application for the 0.0086 ppq TEC effluent limitation, or why it is higher than the 2,3,7,8 TCDD effluent limitation which is listed in the Great Lakes Water Quality Standards.

MDEQ should alter its requirements and practices so all documentation on all technology-based and water quality based effluent limitation is always included for all effluent limitations contained in permits and is always shown in the NPDES permit application.

IV. Conclusion

The Alliance for the Great Lakes urges MDEQ to make Dow-Midland's draft permit stronger, with more stringent and specific requirements. In particular, the permit renewal provides a perfect opportunity to require the facility to decrease its dioxin discharges, because Dow-Midland discharged more dioxin into the Great Lakes Basin in 2010 than any other industrial facility. In addition, MDEQ must address the other serious flaws with the draft permit identified in the Alliance's comments. The permit must require Dow-Midland to decrease its deleterious impact on the Great Lakes' ecosystems.