



**State of Michigan  
Department of Natural Resources and Environment  
HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE  
Amendment 9**

NAME OF LICENSEE: The Dow Chemical Company  
 NAME OF OWNER: The Dow Chemical Company  
 NAME OF OPERATOR: The Dow Chemical Company  
 NAME OF TITLEHOLDER OF LAND: The Dow Chemical Company  
 FACILITY NAME: Michigan Operations, Midland Plant  
 FACILITY LOCATION: 1790 Building, Midland, Michigan 48674  
 EPA IDENTIFICATION NUMBER: MID 000 724 724      EFFECTIVE DATE: June 12, 2003  
 REAPPLICATION DATE: December 15, 2012      FIVE-YEAR REVIEW DATE: June 12, 2008  
 EXPIRATION DATE: June 12, 2013

**AUTHORIZED ACTIVITIES**

Pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being §§324.11101 to 324.11152 of the Michigan Compiled Laws, and the hazardous waste management administrative rules (hereafter called the "rules") promulgated thereunder, being R 299.9101 *et seq.* of the Michigan Administrative Code, by the Michigan Department of Natural Resources and Environment (DNRE), formerly the Michigan Department of Environmental Quality (MDEQ), an operating license (hereafter called the "license") is issued to The Dow Chemical Company (hereafter called the "licensee") to operate a hazardous waste treatment, storage, and disposal facility located in Midland, Michigan, at latitude 43° 36' 011" N and longitude 084° 13' 023" W. The licensee is authorized to conduct the following hazardous waste management activities:

- |   |   |  |   |
|---|---|--|---|
| <input checked="" type="checkbox"/> STORAGE             | <input checked="" type="checkbox"/> TREATMENT           | <input type="checkbox"/> DISPOSAL            | <input checked="" type="checkbox"/> POST-CLOSURE        |
| <input checked="" type="checkbox"/> Container           | <input type="checkbox"/> Container                      | <input type="checkbox"/> Landfill            | <input type="checkbox"/> Tank                           |
| <input checked="" type="checkbox"/> Tank                | <input checked="" type="checkbox"/> Tank                | <input type="checkbox"/> Land Application    | <input checked="" type="checkbox"/> Surface Impoundment |
| <input type="checkbox"/> Waste Pile                     | <input checked="" type="checkbox"/> Surface Impoundment | <input type="checkbox"/> Surface Impoundment | <input type="checkbox"/> Landfill                       |
| <input checked="" type="checkbox"/> Surface Impoundment | <input checked="" type="checkbox"/> Incinerator         |  | <input type="checkbox"/> Waste Pile                     |
| <input type="checkbox"/> Drip Pad                       | <input type="checkbox"/> Other:                         |  |   |

**APPLICABLE REGULATIONS AND LICENSE APPROVAL**

The conditions of this license were developed in accordance with the applicable provisions of the rules, effective September 11, 2000. The licensee shall comply with all terms and conditions of this license. This license consists of the 84 pages of conditions attached hereto (including those in any Attachments 1 through 11, 13 through 24, 26 through 28, and 30 through 32) and the applicable regulations contained in R 299.9101 through R 299.11008, as specified in the license. For purposes of compliance with this license, applicable rules are those which are in effect on the date of issuance of this license in accordance with R 299.9521(3)(a).

This license is based on the information contained in the license applications submitted on March 31, 1993, and March 31, 1994, and any subsequent amendments (hereafter referred to as "the application"). Pursuant to R 299.9519(11)(c), the license may be revoked if the licensee fails, in the application or during the license issuance process, to disclose fully all relevant facts or, at any time, misrepresents any relevant facts. As specified in R 299.9519(1), the facility shall be constructed, operated, and maintained in accordance with Part 111 of Act 451, the rules, and this license.

This license is effective on the date of issuance and shall remain in effect for 10 years from the date of issuance, unless revoked pursuant to R 299.9519 or continued in effect as provided by the Michigan Administrative Procedures Act, 1969 PA 306, as amended (Act 306). Pursuant to R 299.9516, this license shall be reviewed by the Director five years after the date of issuance and the land disposal facility part shall be modified as necessary in accordance with the provisions of R 299.9519 and R 299.9520.

This license was issued on June 12, 2003, and subsequently modified on September 30, 2003, September 2, 2004, September 30, 2005, March 10, 2006, September 27, 2007, March 6, 2009, September 30, 2009, and May 12, 2010. Amendment 9, consisting of the 84 pages of conditions attached hereto (as well as those in any Attachments 1 through 11, 13 through 24, 26 through 28, and 30 through 32), is effective on November 3, 2010, and modifies this license as described in the approval letter dated November 3, 2010.

By Liane J. Shekter  
 Liane J. Shekter Smith, P.E., Chief  
 Environmental Resource Management Division

**THE DOW CHEMICAL COMPANY  
MID 000 724 724**

**HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE  
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Attachment 3	Personnel Training Program
Attachment 4	Contingency Plan - Modified September 30, 2005, and September 30, 2009
Attachment 5	Closure Plan - Modified August 26, 2004, Rev. 2, September 27, 2007, and September 30, 2009
Attachment 6	Post-Closure Plan
Attachment 7	Facility Boundary Topographic and Part A Maps and Waste Storage Area I Drawings - Modified September 30, 2005, September 27, 2007, September 30, 2009, and November 3, 2010
Attachment 8	List of Acceptable Waste Types for Management at the Michigan Operations, Midland Plant Site - Modified September 27, 2007
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Attachment 12	1989 Incineration Complex Operating License and Modifications - Deleted September 30, 2005
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Attachment 14	32 Incinerator Detailed Engineering and Process Information - Modified September 30, 2005, March 10, 2006, and September 27, 2007
Attachment 15	32 Incinerator General Facility Description
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**PART I  
STANDARD CONDITIONS**

**A. TERMINOLOGY**

Throughout this license, "Act 451" means Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and "rules" means the hazardous waste management administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Act 451, as in effect on the date of issuance of this license. The term "Division" means the Environmental Resource Management Division within the Michigan Department of Natural Resources and Environment (DNRE) responsible for administering Part 111 of Act 451 and the rules. Throughout this license, "Director" means the Director of the DNRE or the Director's duly authorized designee such as the Division Chief.

**B. EFFECT OF LICENSE**

Except as otherwise provided by law, any treatment, storage, or disposal of hazardous waste not specifically authorized in this license is prohibited. Issuance of this license does not convey property rights of any sort or any exclusive privilege {R 299.9516(7) and Title 40 of the Code of Federal Regulations (CFR) §270.30(g), which is adopted by reference (ABR) in R 299.11003}; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of federal, state, or local law or regulations {R 299.9516(8)}; nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law. Compliance with the terms of this license does not constitute a warranty or representation of any kind by the DNRE, nor does the DNRE intend that compliance with this license constitutes a defense to any order issued or any action brought under Act 451 or any other applicable state statute or Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) {42 USC 9606(a)}, the Resource Conservation and Recovery Act of 1976, as amended (RCRA), and its rules, or any other applicable federal statute. The licensee, however, does not represent that it will not argue that compliance with the terms of this license may be a defense to such future regulatory actions. Each attachment to this license is a part of, and is incorporated into, this license and is deemed an enforceable part of the license.

**C. LICENSE ACTIONS**

This license may be modified or revoked in accordance with R 299.9519. The filing of a request for a license modification or revocation, or the notification of planned changes or anticipated noncompliance on the part of the licensee does not stay the applicability or enforceability of any license condition. {R 299.9519 and R 299.9521(1)(a) and 40 CFR §270.30(f), which is ABR in R 299.11003}

**D. SEVERABILITY**

The provisions of this license are severable, and if any provision of this license, or the application of any provision of this license to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this license shall not be affected thereby.

**E. RESPONSIBILITIES**

1. The licensee shall comply with Part 111 of Act 451, the rules, and all conditions of this license, except to the extent authorized by the DNRE pursuant to the terms of an emergency operating license, including, but not limited to: {R 299.9521(1)(a) and (3)(a) and (b), and 40 CFR §270.30(a), which is ABR in R 299.11003}

(a) Duty to Reapply. If the licensee wishes to continue an activity regulated by this license after the expiration date of this license (June 12, 2013), the licensee shall submit a complete application for a new license to the Division Chief at least 180 days before this license expires (by December 15, 2012), unless an extension is granted pursuant to R 299.9510(5). {R 299.9521(1)(a) and (c) and (3)(a), and 40 CFR §270.30(b), which is ABR in R 299.11003}

(b) License Expiration. To the extent the licensee makes a timely and sufficient application for renewal of this license, this license and all conditions herein will remain in effect beyond

the license expiration date and shall not expire until a decision on the application is finally made by the DNRE, and if the application is denied or the terms of the new license are limited, until the last day for applying for judicial review of the new license or a later date fixed by order of the reviewing court consistent with Section 91(2) of Act 306. {Section 91 of Act 306, R 299.9521(1)(c) and (3)(a)}

- (c) Inspection and Entry. The licensee shall allow the Division Chief, or any authorized representative, upon the presentation of credentials and other documents as may be required by law, to inspect the facility, to obtain and copy records, and to sample or monitor, at reasonable times, any substances or constituents at any location for the purpose of determining:
- (i) Whether the management of hazardous waste may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing danger to public health or the environment;
  - (ii) Whether cause exists for an enforcement action, license revocation, license modification, denial of a license renewal application, or to determine compliance with this license, Part 111 of Act 451 and the rules.

If samples are taken for analysis, duplicate samples and a copy of the analytical results shall be furnished to the licensee upon request.

{Sections 11146(1) and (2) and 11148(1) of Act 451, R 299.9521(1)(a), and 40 CFR §270.30(i), which is ABR in R 299.11003}

- (d) Specific Monitoring Requirements. The Division Chief reserves authority to modify the license pursuant to R 299.9519 to require specific monitoring for hazardous wastes or hazardous waste constituents, in addition to those requirements detailed in this license, if the Division Chief finds that additional monitoring is needed to demonstrate compliance with this license, Part 111 of Act 451 and the rules. {R 299.9611(5)}
- (e) Notice of Facility Modifications. The licensee shall give notice to the Division Chief as soon as possible prior to any planned physical alterations or additions to the licensed facility. {R 299.9519(1)}
- (f) License Amendments for Facility Modifications. The licensee shall request and obtain a license amendment prior to undertaking any modifications to the facility. Except as otherwise authorized by Part 111 of Act 451 and the rules, the licensee shall obtain a construction permit prior to expanding, enlarging, or altering the facility. {R 299.9501(1), R 299.9519, and R 299.9521(1)(b)(i)}
- (g) Submission of Statements and Certifications for Construction and Capability. The licensee shall submit to the Division Chief, by certified mail or hand delivery, a letter signed by the licensee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the license and approved plans and the certifications of construction and capability required pursuant to Section 11123(3) of Act 451. The licensee shall not treat, store, or dispose of hazardous waste in the modified portion of the facility until one of the following conditions is met:
- (i) The Division Chief, or the authorized representative, has inspected the modified facility and finds it is in compliance with the conditions of the license;
  - (ii) If within 15 days after the date of submission of the letter in Condition I.E.1.(g) of this license, the licensee has not received notice from the Division Chief of his or her intent to inspect, prior inspection is waived, and the licensee may commence

treatment, storage, or disposal of hazardous waste.  
{R 299.9521(1)(b)(ii)}

- (h) Anticipated Noncompliance. The licensee shall give advance notice to the Division Chief as soon as the licensee becomes aware of any planned changes or activity in the licensed facility which may result in noncompliance with license requirements. {R 299.9521(1)(a) and 40 CFR §270.30(l)(2), which is ABR in R 299.11003}
  - (i) Transfer of License. The licensee shall obtain the approval of the Division Chief, by a modification to the license, prior to transferring ownership or operation of the facility to another person. The licensee shall comply with the requirements of R 299.9605 when transferring the ownership of the facility. The new owner/operator shall not accept hazardous waste at the facility unless the license modification has been issued by the Division Chief. In addition, the licensee shall provide any new owners or operators of the facility with a copy of the notice required pursuant to R 299.9525. {R 299.9522}
  - (j) Other Information. Whenever the licensee becomes aware that he/she failed to submit any relevant facts in the license application, or submitted incorrect information in a license application or in any report to the Division Chief, the licensee shall promptly submit such facts or information. {R 299.9521(1)(a), R 299.9525, and 40 CFR §270.30(l)(11), which is ABR in R 299.11003}
2. The licensee shall comply with the requirements of 40 CFR §270.30(c) - (e) and (h) - (j), including those requirements pertaining to:
- (a) Need to halt or reduce activity not a defense,
  - (b) Duty to mitigate,
  - (c) Proper operation and maintenance,
  - (d) Duty to provide information,
  - (e) Inspection and entry,
  - (f) Monitoring and records.
- {R 299.9521(1)(a) and 40 CFR §270.30(c) - (e) and (h) - (j), which are ABR in R 299.11003}
3. Any license noncompliance, except to the extent authorized by the DNRE pursuant to the terms of an emergency operating license, constitutes a violation of Part 111 of Act 451 and is grounds for enforcement action, license revocation, license modification, or denial of a license renewal application. {R 299.9521(1)(a) and 40 CFR §270.30(a), which is ABR in R 299.11003}

#### F. **SIGNATORY REQUIREMENT**

The licensee shall ensure that all reports required by this license or other information requested by the Division Chief, or authorized representative, are signed and certified in accordance with R 299.9610(4), by a responsible corporate officer, as defined in 40 CFR §270.11, which is ABR in R 299.11003.  
{R 299.9521(1)(a) and 40 CFR §270.30(k), which is ABR in R 299.11003}

**G. SUBMITTAL DUE DATES AND DEADLINES**

When the due date or deadline for submission of applications, reports, records, and monitoring results required under this license falls on a weekend or legal state holiday, the due date or deadline shall be extended to the next regular business day, and reports, records, and monitoring results shall be considered submitted on a timely basis if submitted by the next regular business day. This extension does not apply to the submittal due date or deadline for financial mechanisms, and associated renewals, replacements, and extensions of financial mechanisms required under this license. The licensee may request extension of the due dates or deadlines for submittals required under this license. The licensee shall submit such requests at least five business days prior to the existing due date or deadline for review and approval by the Division Chief. Written extension requests shall include justification for each extension. {R 299.9521(3)(a)}

**PART II  
GENERAL OPERATING CONDITIONS**

**A. DESIGN AND OPERATION OF FACILITY**

The licensee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the environment, including air, soil, or waters of the State which could threaten human health or welfare or the environment. {R 299.9602, R 299.9606, R 299.9607, and 40 CFR §§264.31 and 264.51, which are ABR in R 299.11003}

**B. REQUIRED NOTICE**

1. The licensee shall notify the Division Chief in writing at least four weeks in advance of the date the licensee expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source is not required. When receiving such hazardous waste, the licensee shall comply with applicable laws, including, but not limited to, any treaties or other agreements entered into between the country in which the foreign source is located and the United States. {R 299.9605(1) and 40 CFR §264.12(a), which is ABR in R 299.11003}
2. When the licensee is to receive hazardous waste from an off-site source (except where the licensee is also the generator), he must inform the generator in writing that he has the appropriate license for, and will accept, the waste the generator is shipping. The licensee must keep a copy of this written notice as part of the operating record (see Condition II.L.1. of this license). {R 299.9605(1) and 40 CFR §264.12(b), which is ABR in R 299.11003}

**C. GENERAL WASTE ANALYSIS**

The licensee shall ensure that any waste stored, treated, or disposed at the facility has been properly characterized pursuant to R 299.9302, and comply with the procedures described in the attached waste analysis plan, Attachment 1 of this license. {R 299.9605(1) and 40 CFR §264.13, which is ABR in R 299.11003}

**D. QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS**

The licensee shall ensure that all samples collected for the purposes of waste characterization and environmental monitoring are collected, transported, analyzed, stored, and disposed of by trained and qualified individuals in accordance with their Quality Assurance/Quality Control (QA/QC) Plan. The QA/QC Plan shall at a minimum include the written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency (U.S. EPA) Publication SW-846, Third Edition, Chapter 1 (November 1986), and its Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), III (December 1996), and IIIA (April 1998), and any subsequent updates, and any facility or contractor's written standard operating procedures (SOPs) which are equivalent or more stringent than SW-846, Chapter 1. The licensee shall make the written QA/QC Plan available to the Division Chief or an authorized representative upon request. {R 299.9521(3)(a) and (b), R 299.9611(2), and R 299.11005}

**E. SECURITY**

The licensee shall comply with the security requirements of R 299.9605(1) and 40 CFR §264.14, which is ABR in R 299.11003.

**F. GENERAL INSPECTION REQUIREMENTS**

1. The licensee shall inspect the hazardous waste management facility, remedy any deterioration or malfunction of equipment or structures, and document inspections and remedies in accordance

with the attached inspection schedule, Attachment 2 of this license, and the provisions of 40 CFR §264.15, which is ABR in R 299.11003. {R 299.9605(1)}

2. The licensee shall develop and implement a procedure to ensure compliance with the requirements of R 299.9605(2).

**G. PERSONNEL TRAINING**

The licensee shall conduct personnel training as required by R 299.9605(1) and 40 CFR §264.16, which is ABR in R 299.11003. This training program shall, at a minimum, cover all items in the attached outline, Attachment 3 of this license. The licensee shall maintain training documents and records as required by R 299.9605 and 40 CFR §264.16(d), which is ABR in R 299.11003.

**H. PREPAREDNESS AND PREVENTION**

The licensee shall comply with the preparedness and prevention requirements of R 299.9606, including, but not limited to, required equipment, testing, and maintenance of equipment, access to communications and alarm systems, required aisle space, and arrangements with emergency response teams. {R 299.9606 and 40 CFR Part 264, Subpart C, which is ABR in R 299.11003}

**I. CONTINGENCY PLAN**

The licensee shall comply with the contingency plan requirements of R 299.9607. The contingency plan, Attachment 4 of this license, and the prescribed emergency procedures shall be immediately implemented by the licensee whenever there is a fire, explosion, or other release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment, or if the licensee has knowledge that a spill has reached surface water or groundwater. {R 299.9607 and 40 CFR Part 264, Subpart D, which is ABR in R 299.11003}

**J. DUTY TO MITIGATE**

Upon notification from the Division Chief or his or her designee that an activity at the facility may present an imminent and substantial endangerment to human health or the environment, the licensee shall immediately comply with an order issued by the Division Chief pursuant to Section 11148(1) of Act 451 to halt such activity and conduct other activities as required by the Division Chief to eliminate the said endangerment. The licensee shall not resume the halted activity without the prior written approval from the Division Chief. {Section 11148 of Act 451 and R 299.9521(3)(b)}

**K. MANIFEST SYSTEM**

The licensee shall comply with the manifest requirements of R 299.9304, R 299.9305, and R 299.9608.

**L. RECORDKEEPING AND REPORTING**

1. Operating Record. The licensee shall maintain a written operating record at the facility, until closure of the facility. {R 299.9609 and 40 CFR §264.73 and Part 264, Appendix I, which are ABR in R 299.11003}
2. Biennial Report. The licensee shall comply with the biennial report requirements of R 299.9610. A single copy of the biennial report shall be submitted to the Division Chief by March 1 of each even numbered year by mailing it to: Biennial Report Coordinator, Environmental Resource Management Division, Department of Natural Resources and Environment, P.O. Box 30241, Lansing, Michigan 48909-7741. {R 299.9521(1)(a) and R 299.9610 and 40 CFR §270.30(l)(9), which is ABR in R 299.11003}

3. Monthly Report. The licensee shall comply with the monthly reporting requirements of R 299.9610(3). The monthly report shall be submitted on a form provided by the Division Chief, or an equivalent form which has been approved by the Division Chief.
4. Environmental Monitoring Reports. The licensee shall submit the results of all environmental monitoring required by this license and any additional environmental sampling and analysis conducted beyond that required in the license in the form of an Environmental Monitoring Report to the Division Chief within 60 days after the end of the quarter in which the sample(s) were analyzed. Such increased frequency shall also be indicated in the Environmental Monitoring Report. {R 299.9521(1)(a), R 299.9521(3)(b), and 40 CFR §270.30(l)(4), which is ABR in R 299.11003}
5. Environmental Monitoring Data Availability. The licensee shall provide environmental monitoring information or data which it is required to generate pursuant to this license, to an authorized representative of an environmental or emergency response department of the City of Midland or Midland County, who requests such information or data and that has jurisdiction over the facility. Such information or data shall be made available on the same day the licensee forwards this information to the Division Chief. {R 299.9521(3)(b)}
6. Additional Environmental Sampling and Analysis. Refer to Condition II.L.4. {R 299.9521(1)(a), R 299.9521(3)(b), and 40 CFR §270.30(l)(4), which is ABR in R 299.11003}
7. Reporting of Noncompliance. The licensee shall immediately report to the Division Chief any noncompliance with the license that may endanger human health or the environment. The licensee shall fulfill this reporting requirement by doing both of the following:
  - (a) The licensee shall immediately contact the Division Chief at 517-335-2690, if the noncompliance occurs during the period 8:00 a.m. to 5:00 p.m., Monday through Friday, except State holidays, or by calling the DNRE Pollution Emergency Alert System (PEAS) telephone number 1-800-292-4706 during all other times. This report shall include the following:
    - (i) Information concerning the release or discharge of any hazardous waste or hazardous waste constituent that may endanger public drinking water supplies or the environment;
    - (ii) Information concerning the fire, explosion, or other release or discharge of any hazardous waste or hazardous waste constituent which could threaten human health or the environment or a spill that has reached surface water or groundwater;
    - (iii) A description of the occurrence and its cause, including all of the information outlined in R 299.9607(2)(a) - (i).
  - (b) The licensee shall also follow-up the verbal report by providing a written report to the Division Chief within five days after the time the licensee becomes aware of the circumstances. The written report shall contain all of the information in Condition II.L.7.(a)(i) - (iii) of this license along with a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected and, if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance and when those activities occurred or will occur. The licensee need not comply with the five-day written notice requirement if the Division Chief waives the requirement and the licensee submits a written report containing this information within 15 days after the time the licensee becomes aware of the circumstances.

{R 299.9521(1)(a), R 299.9521(3)(b), and R 299.9607 and 40 CFR §270.30(l)(10), which is ABR in R 299.11003}

8. Other Noncompliance. The licensee shall report all other instances of noncompliance with this license, Part 111 of Act 451, the rules, and any other applicable environmental laws or rules that apply to the licensed facility, at the time specified in the applicable environmental laws or rules, or if not otherwise specified, at the time monitoring reports required by this license are submitted, or within 30 days, whichever is sooner. The reports shall contain the information listed in Condition II.L.7. of this license. {R 299.9521(1)(a), R 299.9521(3)(b), and 40 CFR §270.30(l)(10), which is ABR in R 299.11003}
9. Form Modification. The licensee may make minor modifications to the forms contained in the attachments to this license. The modifications may include changing the format, updating existing references and information, adding necessary information, and changing certification and notification information in accordance with Part 111 of Act 451 and its rules, and RCRA and its regulations. The licensee shall submit the modifications to the Division Chief prior to implementing the use of the modified form(s). If the Division Chief does not reject or require revision of the modified form(s) within 14 days after receipt, the licensee shall implement use of the modified form(s) and the form(s) shall be incorporated into this license as a replacement for the existing form(s).

**M. CLOSURE**

The licensee shall comply with the closure requirements of R 299.9613, including, but not limited to, performance standards, amendment of closure plans, notification of closure, time allowed for closure, disposal or decontamination of equipment, and certification of closure. The licensee shall close the facility in accordance with the closure plan, Attachment 5 of this license, or as amended and approved by the Division Chief, all other applicable requirements of this license, and all other applicable laws. The licensee shall submit a proposed amended copy of the closure plan to the Division Chief at the same time such a license modification is requested. {R 299.9613 and 40 CFR Part 264, Subpart G, except 40 CFR §§264.112(d)(1), 264.115, and 264.120, which is ABR in R 299.11003}

**N. POST-CLOSURE**

The licensee shall comply with the post-closure monitoring requirements of R 299.9613, and monitor and maintain the facility in accordance with the post-closure plan, Attachment 6 of this license. The licensee shall submit a certification of post-closure in accordance with R 299.9613(5). {R 299.9613 and 40 CFR §§264.116 through 264.119, which are ABR in R 299.11003}

**O. COST ESTIMATE FOR FACILITY CLOSURE AND POST-CLOSURE**

1. At the time of issuance of this license, the closure cost estimate is \$79,342,049 and the post-closure cost estimate is \$2,566,200. Effective September 30, 2005, the closure cost estimate is modified to \$94,330,179. Effective September 27, 2007, the closure cost estimate is modified to \$98,651,100 to reflect the closure of the 703 and 830 Incinerators and the retention of Storage Spots 5E, 6E, 7E, and 8E, and the post-closure cost estimate is modified to \$2,360,300 (2007 cost basis). Effective November 3, 2010, the closure cost estimate is modified to \$105,656,112, and the post-closure estimate is modified to \$2,527,900.
2. The licensee shall comply with the closure and post-closure cost estimate requirements of R 299.9702, including, but not limited to, adjustment of the closure and post-closure cost estimates and maintenance of the latest cost estimates at the facility. {R 299.9702 and 40 CFR §§264.142 and 264.144, which are ABR in R 299.11003}

**P. FINANCIAL ASSURANCE FOR FACILITY CLOSURE AND POST-CLOSURE**

1. The licensee shall provide and continuously maintain closure and post-closure financial assurance in accordance with R 299.9703 in an amount at least equal to the cost estimates required by Condition II.O. of this license. The licensee shall submit all proposed changes in the mechanism(s), other than renewals, extensions, or increases in the amount of assurance, to the

Division Chief and obtain his approval prior to implementation. The licensee shall provide the Division Chief with a signed original of all revisions and renewals within 60 days after such revision or renewal, by the applicable deadlines specified in R 299.9704 through R 299.9709, and prior to the anniversary of the establishment of the financial mechanism(s) provided to satisfy the requirements of this condition. For the financial test, the licensee shall submit the updated financial information required under R 299.9709(3) within 90 days after the close of each fiscal year.

2. Whenever the current closure or post-closure cost estimates increase to an amount greater than the current amount of the associated financial mechanisms, the licensee shall, within 60 days after the increase, either increase the amount of the mechanisms to an amount at least equal to the increased closure and post-closure cost estimates, or provide an additional financial mechanism approved by the Division Chief for an amount at least equal to the difference between the current amount of financial assurance and the increased closure and post-closure cost estimates. Evidence of such increased financial assurance must be submitted to the Division Chief during the 60-day period.

**Q. LIABILITY REQUIREMENTS**

The licensee shall continuously maintain liability coverage for sudden and accidental occurrences and non-sudden accidental occurrences, as required by R 299.9710. The licensee shall submit to the Division Chief a signed original pollution liability insurance amendatory endorsement or other financial mechanism approved by the Division Chief prior to the anniversary date of the establishment of the mechanism(s) used to satisfy the requirements of this condition. In the case of the financial test or corporate guarantee, the licensee shall submit the updated financial information within 90 days after the close of each succeeding fiscal year.

**R. WASTE MINIMIZATION**

The licensee shall certify, at least annually, that the licensee has a program in place to reduce the volume and toxicity of hazardous waste that the licensee generates to the degree determined by the licensee to be economically practicable; and the proposed method of treatment, storage, or disposal is the practicable method currently available to the licensee which minimizes the present and future threat to human health and the environment. The certification shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility. {R 299.9609(1)(a), 40 CFR §264.73(b)(9), which is ABR in R 299.11003, and Section 3005(h) of RCRA, 42 U.S.C. Section 6925(h)}

**S. LAND DISPOSAL RESTRICTIONS**

The licensee shall comply with all of the requirements of 40 CFR Part 268. {R 299.9627 and 40 CFR Part 268, which is ABR in R 299.11003}

**T. AIR EMISSION STANDARDS**

1. The licensee shall comply with the requirements of 40 CFR Part 264, Subpart BB, regarding air emission standards for equipment leaks. {R 299.9631 and 40 CFR Part 264, Subpart BB, which is ABR in R 299.11003}
2. The licensee shall comply with the requirements of 40 CFR Part 264, Subpart CC, regarding air emission standards for tanks, surface impoundments, and containers. {R 299.9634 and 40 CFR Part 264, Subpart CC, which is ABR in R 299.11003}
3. The licensee shall notify the Division Chief of any waste management units which become subject to the requirements of 40 CFR Part 264, Subparts AA, BB, and CC within 30 days after the start of the regulated activity. {R 299.9630, R 299.9631, R 299.9634, and 40 CFR Part 264, Subparts AA, BB, and CC, which are ABR in R 299.11003}

**U. DOCUMENTS TO BE MAINTAINED AT THE FACILITY**

The licensee shall maintain at the facility, or at an alternate location approved by the Division Chief, the following documents and amendments required by this license, until closure/post-closure is completed, certified by an independent registered professional engineer, and the facility is released from financial assurance requirements for closure/post-closure by the Director:

1. Waste analysis plan, including QA/QC plan.
2. Inspection schedules.
3. Personnel training documents and records.
4. Contingency plan.
5. Closure and post-closure plans.
6. Cost estimates for facility closure and post-closure and copies of related financial assurance documents.
7. Operating record.
8. Site security plan.
9. Facility engineering plans and specifications.
10. Recordkeeping procedures.
11. Environmental monitoring plans, including sampling and analysis plans and QA/QC plans.
12. Environmental monitoring data and statistical records.
13. Preventive procedures (personnel protection plan).

Effective September 30, 2005, an approved alternate license-related documents storage location other than the facility is the licensee's Global Records Center, 4520 East Ashman, Midland, Michigan 48642.

{R 299.9521(3)(a)}

**PART III  
CONTAINER STORAGE CONDITIONS**

**A. COVERAGE OF LICENSE**

1. The Waste Storage Area I hazardous waste container storage area at the facility, shown on Drawings B2-100-927122, Rev. 6/04, B2-101-927122, Rev. 6/09, B2-102-927122 through B2-105-927122, is covered by this license. Any expansion or enlargement beyond the facility boundary shown on Drawings B2-001-927122, Rev. 5/10 (Topographic Map), and B2-010-927122, Rev. 5/10 (Part A Map), or beyond the 443,685 gallon storage design capacity requires a construction permit from the Director. {R 299.9521(1)(b)}
2. Drawings B2-100-927122, Rev. 6/04, B2-101-927122, Rev. 6/09, B2-102-927122 through B2-105-927122, B2-001-927122, Rev. 5/10, and B2-010-927122, Rev. 5/10, are incorporated into this license as part of Attachment 7.

**B. WASTE IDENTIFICATION AND QUANTITY**

The licensee may store no more than a total volume of 443,685 gallons of the hazardous wastes listed in the WSA I column of Attachment 8, the List of Acceptable Waste Types for Management at the Michigan Operations, Midland Plant Site, in containers at the facility, subject to the terms of this license. The maximum number of containers of hazardous waste that may be stored at the facility is 8,067 55-gallon container equivalents or 14,789 30-gallon container equivalents. {R 299.9521(2)(d)}

**C. CONDITION OF CONTAINERS**

If a container holding hazardous waste is not in good condition (e.g., rusting, apparent structural defects) or if it begins to leak, the licensee shall transfer the hazardous waste from such container to a container that is in good condition, or otherwise manage the waste in compliance with the conditions of this license. {R 299.9614(1)(a) and 40 CFR §264.171, which is ABR in R 299.11003}

**D. COMPATIBILITY OF WASTE WITH CONTAINERS**

The licensee shall ensure that the ability of the containers to contain the waste is not impaired. {R 299.9614 and 40 CFR §264.172, which is ABR in R 299.11003}

**E. MANAGEMENT OF CONTAINERS**

1. The licensee shall keep all containers holding hazardous waste closed during storage except when it is necessary to add or remove waste, and shall not open, handle, or store containers in a manner which may rupture the containers or cause them to leak. {R 299.9614 and 40 CFR §264.173, which is ABR in R 299.11003}
2. The licensee shall ensure that each container of hazardous waste in the container storage area referenced in Condition III.A. of this license is labeled or clearly marked with the words "Hazardous Waste," the hazardous waste number, and the date accumulation began so that compliance with the one-year storage limit can be assessed. The labels on each container shall be visible for inspection. {R 299.9306(1)(b), R 299.9521(3)(b), R 299.9614, and R 299.9627 and 40 CFR §268.50(a)(2)(i), which is ABR in R 299.11003}
3. The licensee shall only place containers into the hazardous waste container storage area referenced in Condition III.A. of this license in accordance with the configurations shown in Drawings B2-100-927122, Rev. 6/04, and B2-102-927122, Rev. 6/23/04, in Attachment 7 of this license or an alternate configuration approved by the Division Chief. {R 299.9521(3)(b)}
4. The licensee shall not stack 55-gallon containers of hazardous waste greater than two high and shall not stack 30-gallon containers of hazardous waste greater than three high.

{R 299.9521(3)(b)}

5. The licensee shall not store any container of hazardous waste for more than one year in the container storage areas referenced in Condition III.A. of this license prior to treatment of its contents on-site or shipment off-site to another appropriately licensed hazardous waste treatment or disposal facility, except as approved by the Division Chief based on a petition demonstrating that such storage is solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. {R 299.9521(3)(b) and R 299.9627 and 40 CFR Part 268, which is ABR in R 299.11003}

**F. CONTAINMENT**

The licensee shall operate and maintain the containment system in accordance with the requirements of R 299.9614 and 40 CFR §264.175, which is ABR in R 299.11003, and Drawings B2-102-927122, Rev. 6/23/04, through B2-105-927122 in Attachment 7 of this license.

**G. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES**

1. The licensee shall not locate containers holding ignitable or reactive wastes within 15 meters (50 feet) of the facility's property line. {R 299.9614 and 40 CFR §264.176, which is ABR in R 299.11003}
2. The licensee shall take precautions to prevent the accidental ignition or reaction of ignitable or reactive wastes by following the procedures specified in Attachment 9 of this license. {R 299.9605 and 40 CFR §264.17(a), which is ABR in R 299.11003}
3. The licensee shall document compliance with Condition III.G.2. of this license and place this documentation in the operating record (Condition II.L.1. of this license). {R 299.9605 and R 299.9609 and 40 CFR §§264.17(c) and 264.73(b)(3), which are ABR in R 299.11003}

**H. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES OR MATERIALS**

1. The licensee is prohibited from placing incompatible wastes or incompatible wastes and materials in the same container. {R 299.9521(2)(d) and (3)(b)}
2. The licensee shall prevent the placement of hazardous waste in an unwashed container that previously held an incompatible waste or material. {R 299.9614 and 40 CFR §264.177(b), which is ABR in R 299.11003}
3. The licensee shall separate containers of incompatible wastes as indicated in the procedures specified in Attachment 9 of this license. {R 299.9614 and 40 CFR §264.177(c), which is ABR in R 299.11003}
4. The licensee shall document compliance with Conditions III.H.1. and III.H.2. of this license and place this documentation in the operating record (Condition II.L.1. of this license). {R 299.9605, R 299.9609, and 40 CFR §§264.17(c) and 264.73(b)(3), which are ABR in R 299.11003}

**I. DISPOSITION OF ACCUMULATED LIQUIDS**

The licensee shall analyze all liquids accumulated in the containment system for Total Oxygen Demand (TOD) or Total Organic Carbon (TOC) and manage such liquids as follows:

1. Liquids resulting from spills or leaks, or which contain greater than 1,600 milligrams/Liter (mg/L) TOD or 650 mg/L TOC, must be removed within 48 hours of accumulation and incinerated or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.
2. Liquids that contain less than 1,600 mg/L TOD or 650 mg/L TOC must be removed within 96 hours of accumulation and discharged to the licensee's Michigan Operations Wastewater Treatment Plant or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.

{R 299.9521(3)(b), R 299.9614(1)(a) and 40 CFR §264.175(b)(5), which is ABR in R 299.11003}

**PART IV  
TANK SYSTEM STORAGE AND TREATMENT CONDITIONS  
WASTE STORAGE AREA IIB AND THE 1163, 29 AND 33 BUILDINGS**

**A. COVERAGE OF LICENSE**

1. The following hazardous waste storage and treatment tank systems at the facility are covered by this license:

<b>Tank System</b>	<b>Storage Design Capacity</b>	<b>Treatment Design Capacity</b>	<b>Drawings</b>
Waste Storage Area IIB	500,000 gallons East Tank 500,000 gallons West Tank	Not Applicable	B2-201-927122 and B5-201-927122 through B5-204-927122
1163 Building	1,800 cubic yards or 360,000 gallons	1,950 cubic yards/day or 400,000 gallons/day	B2-298-927122 through B2-303-927122
29 Building	600 cubic yards or 121,200 gallons	Not Applicable	B2-001-964136, B2-002-964136, and B2-101-964136
33 Building	900 cubic yards or 181,800 gallons	1,950 cubic yards/day or 400,000 gallons/day	B2-3200-960530, B2-3201-960530, B2-3202-960530, B2-4220-960530, B2-4220A-960530, B2-4221-960530, B2-4222-960530, B2-4223-960530, B2-4258M-960530, B4-3212-960530, B4-212A-960530, B7-3200-960530, D02-088836-00 through D02-088836-07, D02-088836-00A through D02-088836-07A, D02-088836-01B, D02-088836-02B, D02-088836-02D, D02-088836-05B, D02-088836-05D, D02-088836-05C, and D02-088836-05D
<b>TOTAL</b>	1,663,000 gallons	3,900 cubic yards/day or 800,000 gallons/day	

Note: Conversion Factor Used in Table: 202 gallons/cubic yard

2. The drawings listed in the above table are incorporated into this license as Attachment 10.
3. Any expansion or enlargement beyond the facility boundary shown on Drawings B2-001-927122, Rev. 5/10 (Topographic Map), and B2-010-927122, Rev.5/10 (Part A Map), in Attachment 7 of this license or beyond the tank system storage and treatment design capacities listed above requires a construction permit from the Director. {R 299.9521(1)(b)}

4. On June 30, 2009, the licensee received approval of a revised closure plan dated February 14, 2009, to close Waste Storage Area IIA. Construction of a storage unit(s) to replace the Waste Storage Area IIA tank system capacity of 1740 cubic yards or 351,000 gallons does not require a construction permit from the Director, provided that construction is completed before this license expires, construction occurs within the facility boundary, and the licensee constructs the storage unit(s) in accordance with a minor modification requiring the written approval of the Division Chief.
  
5. At the time of license issuance, the licensee was not storing hazardous waste in Waste Storage Area IIB. Prior to returning the Waste Storage Area IIB tank system(s) to service, the licensee shall submit updated information to the Division Chief demonstrating compliance with the applicable provisions of Conditions IV.D. through IV.I. of this license for review and approval. The licensee may construct alternate storage unit(s) to replace the Waste Storage Area IIB tank system(s) within the facility boundary without a construction permit from the Director, provided that the existing tank system(s) are closed in accordance with a plan approved by the Division Chief and the replacement storage unit(s) are constructed in accordance with a minor modification requiring the written approval of the Division Chief.
  
6. At the time of license issuance, the licensee was operating the 29 Building tank system pursuant to the R 299.9503(1)(f) wastewater treatment unit exemption to manage dewatered Tertiary Pond solids in accordance with the "Petition for Site-Specific Treatability Variance from Land Disposal Restrictions (LDR) Treatment Standards for Hazardous Wastes, CFR §268.44(h)" Notification of Approval signed by the U.S. EPA and DNRE on June 18, 2002. After the Tertiary Pond solids project has been completed, the licensee may request the transfer of 600 cubic yards of the unused storage capacity from the 1163 Building and convert the 29 Building tank system from a wastewater treatment unit to a licensed storage tank, provided the following conditions are met:
  - (a) An acceptable demonstration that the licensee has obtained an air use approval or permit and any other necessary environmental permits or approvals is submitted to the Division Chief;
  - (b) Any necessary license application updates for the 29 Building tank system, including the inspection schedule, are submitted to the Division Chief; and
  - (c) The Division Chief approves the transfer of 600 cubic yards of the unused storage capacity from the 1163 Building to the existing 29 Building tank system.
  
7. The 33 Building tank system was under construction at the time of license issuance. The as-built drawings and certification for the 33 Building tank system submitted on June 19, 2003, are approved by the Division Chief in accordance with Condition I.E.1.(g) of this license, effective September 30, 2005. The 900 cubic yards and 1,950 cubic yards/day of the unused storage and treatment capacity, respectively, from the 1163 Building are transferred to the 33 Building tank system.
  
8. The following table summarizes the storage capacity transfers to tank systems and container storage covered by this license and the remaining 1163 Building tank system storage capacity:

1,100,000 gallons	Original 1163 Building Tank System Licensed Storage Capacity
- 360,000 gallons	Current 1163 Building Tank System
- 121,200 gallons	29 Building Tank System
- 181,800 gallons	33 Building Tank System
- 133,250 gallons	32 Building Container Storage Area

- 8,250 gallons	Incinerator Tank Systems
295,500 gallons	Remaining 1163 Building Tank System Storage Capacity
- 26,000 gallons	Storage Spots 5E, 6E, 7E, and 8E in Amendment 5 - 9/27/07
269,500 gallons	Unused 1163 Building Tank System Storage Capacity

Effective September 27, 2007, the remaining 269,500 gallons of unused 1163 Building storage capacity that was not requested to be utilized within three years of issuance of the license (i.e., by June 12, 2006), is eliminated from this license. The 26,000 gallons of storage capacity in Amendment 5 was from existing incinerator unloading spots that were not closed as part of closure of the 703 and 830 Incinerators.

**B. WASTE IDENTIFICATION AND QUANTITY**

The licensee may store no more than a total volume of 1,663,000 gallons of the following hazardous wastes in the tank systems identified in Condition IV.A.1., subject to the terms of this license. {R 299.9521(2)(d)}

Tank System	Physical Form of Waste	Hazardous Waste Types
Waste Storage Area IIB	Pumpable Liquids	Hazardous wastes listed in the WSA II column of Attachment 8
1163 and 29 Buildings	Bulk Solids	Soils, incinerator ash, pressed wastewater treatment plant solids and other bulk solids contaminated with hazardous wastes listed in the 1163 BLDG. column of Attachment 8
	Containerized Waste	Containerized hazardous waste listed in the INCIN STORAGE column of Attachment 8, containing no free liquids
33 Building	Bulk Solids	Soils, incinerator ash, pressed wastewater treatment plant solids and other bulk solids contaminated with hazardous wastes listed in the INCIN STORAGE column of Attachment 8

**C. WASTE TREATMENT CAPACITY AND METHODS**

1. The licensee may treat no more than a total volume of 1,950 cubic yards per day of the hazardous wastes listed in the 1163 BLDG. column of Attachment 8 in the tank system identified as the 1163 Building via dewatering as described in Attachment 11 and subject to the terms of this license. {R 299.9521(2)(d) and (3)(a) and (b)}
2. The licensee may treat no more than a total volume of 1,950 cubic yards per day of incinerator ash resulting from burning the hazardous wastes listed in the INCIN STORAGE column of Attachment 8 and/or pressed wastewater treatment plant solids contaminated with hazardous wastes listed in the 1163 BLDG. column of Attachment 8 in the tank system identified as the 33 Building via dewatering as described in Attachment 11 and subject to the terms of this license. {R 299.9521(2)(d) and (3)(a) and (b)}

**D. DESIGN, CONTAINMENT, AND ASSESSMENT OF TANK SYSTEMS**

The licensee shall construct, operate and maintain all tank systems in accordance with the applicable requirements of R 299.9615 and 40 CFR §§264.191, 264.192, 264.193 and 264.194, which are ABR in R 299.11003, and in accordance with the attached plans and specifications in Attachment 10 of this license.

**E. MANAGEMENT OF TANK SYSTEMS**

1. The licensee shall manage the tank systems in accordance with the requirements of R 299.9615 and 40 CFR §§264.194 and 264.196 which are ABR in R 299.11003, and in accordance with the spill and overflow prevention procedures specified in Attachment 11 of this license.
2. The licensee shall conduct the treatment of hazardous wastes in accordance with the methods and procedures specified in Attachment 11 of this license. {R 299.9633}
3. The licensee shall construct, operate and maintain all tanks in compliance with the requirements of R 29.4101 to R 29.4504 pursuant to the provisions of the Fire Prevention Code, 1941 PA 207, as amended. {R 299.9615}
4. The licensee shall label tank systems in accordance with the provisions of National Fire Protection Association (NFPA) Standard No. 704. {R 299.9615(5)}
5. The licensee shall clearly mark each tank containing land disposal restricted waste with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or record such information for each tank system in the facility operating record. {R 299.9627 and 40 CFR §268.50(a)(2)(ii), which is ABR in R 299.11003}
6. The licensee shall not store any hazardous waste in the tanks referenced in Condition IV.A. of this license for more than one year prior to treatment of its contents on-site or shipment off-site to another appropriately licensed hazardous waste treatment or disposal facility. The licensee may store hazardous waste in a tank for more than the one-year period based upon a petition approved by the Division Chief demonstrating that such storage is solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. {R 299.9521(3)(b) and R 299.9627 and 40 CFR Part 268, which is ABR in R 299.11003}

**F. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES**

1. The licensee shall not place ignitable or reactive waste in a Waste Storage Area IIB tank system unless the procedures described in Attachment 9 of this license are followed and shall not place ignitable or reactive waste in the 1163 Building. {R 299.9615 and 40 CFR §264.198(a), which is ABR in R 299.11003}
2. The licensee shall document compliance with Condition IV.F.1. of this license and place this documentation in the operating record (Condition II.L.1. of this license). {R 299.9605 and R 299.9609 and 40 CFR §§264.17(c) and 264.73(b)(3), which are ABR in R 299.11003}
3. The licensee shall maintain the protective distances between the Waste Storage Area IIB tank systems and any public ways, streets, alleys, or adjoining property lines that can be built upon, as required in Tables 2-1 through 2-6 of the NFPA's "Flammable and Combustible Liquids Code" (1977 or 1981) as specified in Attachment 9 of this license, and as required by R 299.9615 and 40 CFR §264.198(b), which is ABR in R 299.11003.

**G. PROHIBITION ON STORAGE OR TREATMENT OF INCOMPATIBLE WASTES OR MATERIALS**

The licensee shall not place incompatible wastes, or incompatible wastes and materials, in the same tank system or place hazardous waste in a tank system that has not been decontaminated if it previously held

an incompatible waste or material. {R 299.9615 and 40 CFR §264.199, which is ABR in R 299.11003}

H. **DISPOSITION OF ACCUMULATED LIQUIDS**

The licensee shall remove spilled or leaked waste and accumulated precipitation from the tank systems and manage such liquids as follows. {R 299.9521(3)(b) and R 299.9615 and 40 CFR §264.193(c)(4), which is ABR in R 299.11003}

1. Deleted effective September 30, 2009.
2. Deleted effective September 30, 2009.
3. Waste Storage Area IIB. The licensee shall manage all liquids accumulated in the Waste Storage Area IIB containment system as follows:
  - (a) Liquids resulting from spills or leaks, or which contain greater than 1600 milligrams/Liter (mg/L) Total Oxygen Demand (TOD) or 650 mg/L Total Organic Carbon (TOC), must be removed within 48 hours of accumulation and incinerated or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.
  - (b) Liquids that contain less than 1600 mg/L TOD or 650 mg/L TOC must be removed within 96 hours of accumulation and discharged to the licensee's Michigan Operations Wastewater Treatment Plant or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.
  - (c) Liquids that accumulate when no hazardous wastes are stored in the Waste Storage Area IIB tank(s) are not required to be analyzed for TOD or TOC, but must be removed within 96 hours of accumulation and discharged to the licensee's Michigan Operations Wastewater Treatment Plant or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.
4. 1163, 29 and 33 Buildings. These tank systems are roofed and designed in a manner that does not accumulate precipitation or run-on within the tank systems. The tank systems include trenches that gravity drain dewatering leachate from the treatment process and/or wash water to the licensee's Michigan Operations Wastewater Treatment Plant.

{R 299.9521(3)(b) and R 299.9614(1)(a) and 40 CFR §264.175(b)(5), which is ABR in R 299.11003}

I. **COMPLIANCE WITH AIR EMISSION AND WASTE MANAGEMENT REQUIREMENTS FOR STORAGE AND TREATMENT IN TANK SYSTEMS**

The licensee shall operate the facility in a manner that will prevent air emissions in violation of Part 55, Air Pollution Control, of Act 451. {R 299.9602(1)(b)}

**PART V  
INCINERATOR CONTAINER STORAGE CONDITIONS**

**A. COVERAGE OF LICENSE**

<b>Container Storage Areas</b>	<b>Container Types</b>	<b>Storage Design Capacity</b>	<b>Drawings</b>
830 Building Container Storage Area	Packs of Varying Sizes; Typically 30-Gallon Packs	125,000 gallons, of which no more than 100,000 gallons may be liquid waste	B3-400-870005, B3-401-870005, and B3-402-870005
32 Building Container Storage Area	Packs of Varying Sizes; Typically 30-Gallon Packs	133,250 gallons	B4-4300-960530, B4-4312-960530, B4-4313-960530, B4-4314-960530, B4-4331-960530, B4-4332-960530, B4-4333-960530, B4-4334-960530, and B4-4335-960530
Unloading Spot LS-1202	Dempster	750 gallons	B01-002-960530 and B01-006-960530
Unloading Spot LS-2010 Unloading Spot LS-2020	Dempster	750 gallons each	B01-002-960530, B01-003-960530, B4-4200-960530, B4-4214-960530, B4-4231-960530, and B4-4233-960530
Unloading Spot LS-1203	Dino	2,500 gallons	B01-002-960530 and B01-006-960530
Unloading Spot LS-2030 Unloading Spot LS-2040	Dino	2,500 gallons each	B01-002-960530, B01-003-960530, B4-4200-960530, B4-4214-960530, B4-4231-960530, B4-4232-960530, and B4-4233-960530
Unloading Spot LS-101	Trailer	7,000 gallons	B01-002-960530 and B01-006-960530
Unloading Spot LS-1213 Unloading Spot LS-1214	Trailer	7,000 gallons each	B01-002-960530 and B01-066-960530
Unloading Spot LS-2050	Trailer	7,000 gallons	B01-002-960530, B01-004-960530, B4-4200-960530, B4-4212-960530, B4-4231-960530, B4-4232-960530, and B4-4233-960530

Container Storage Areas	Container Types	Storage Design Capacity	Drawings
Unloading Spot LS-2060	Trailer	7,000 gallons	B01-002-960530, B01-004-960530, B4-4200-960530, B4-4211-960530, B4-4211A-960530, B4-4211B-960530, B4-4211C-960530, B4-4212-960530, B4-4231-960530, B4-4232-960530, and B4-4233-960530
Unloading Spot LS-2070 Unloading Spot LS-2080 Unloading Spot LS-2090	Trailer	7,000 gallons each	B01-002-960530, B01-005-960530, B4-4200-960530, B4-4211-960530, B4-4211A-960530, B4-4211B-960530, B4-4211C-960530, B4-4231-960530, B4-4232-960530, and B4-4233-960530
Unloading Spot LS-2100	Trailer	7,000 gallons	B01-002-960530, B01-035-960530, B4-4200-960530, B4-4211-960530, B4-4211A-960530, B4-4211B-960530, B4-4211C-960530, B4-4231-960530, B4-4232-960530, and B4-4233-960530
Unloading Spot LS-1215 Unloading Spot LS-1216	Rail Car	20,000 gallons each	B01-002-960530 and B01-009-960530
Storage Spot SS-5E Storage Spot SS-6E	Containers (Trailers Primarily)	7,000 gallons each spot	B01-002-960530 , B2-404-824008, and B2-405-824008
Storage Spot SS-7E Storage Spot SS-8E	Containers (Trailers Primarily)	6,000 gallons each spot	B01-002-960530, B2-001-880527, and B2-002-880527
TOTAL		397,000 gallons	

1. The 830 Building hazardous waste container storage area at the facility, shown on Drawings B3-400-870005, B3-401-870005, and B3-402-870005 are covered by this license. Any expansion or enlargement beyond the facility boundary shown on Drawings B2-001-927122, Rev. 5/10 (Topographic Map), and B2-010-927122, Rev.5/10 (Part A Map), or beyond the 125,000 gallon storage design capacity requires a construction permit from the Director. {R 299.9521(1)(b)}
2. Drawings B3-400-870005, B3-401-870005, B3-402-870005, B2-001-927122, Rev. 5/10, and B2-010-927122, Rev. 5/10, are incorporated into this license as part of Attachment 7.

3. The as-built drawings and certification for the 32 Incinerator Unloading Spots and 32 Building Container Storage Area submitted on June 13 and 30, 2003, August 30, 2004, and December 13, 2004, are approved by the Division Chief in accordance with Condition I.E.1.(g) of this license, effective September 30, 2005. {R 299.9504(1)(g) and 299.9508(1)(g)}
4. Deleted effective September 30, 2005.
5. The 32 Incinerator Unloading Spots shown in Attachment 13 of this license, Drawings B01-002-960530, B01-003-960530, B01-004-960530, B01-005-960530, B01-006-960530, B01-009-960530, B01-035-960530, B01-066-960530, B4-4200-960530, B4-4211-960530, B4-4211A-960530, B4-4211B-960530, B4-4211C-960530, B4-4212-960530, B4-4214-960530, B4-4231-960530, B4-4232-960530, B4-4233-960530, B2-404-824008, B2-405-824008, B2-001-880527, and B2-002-880527, and described in Attachment 14 of this license, are covered by this license. Any expansion or enlargement of the 32 Incinerator Unloading Spots beyond the facility boundary shown on Drawings B2-001-927122, Rev. 5/10 (Topographic Map), and B2-010-927122, Rev. 5/10 (Part A Map), in Attachment 7 of this license, or beyond a maximum total combined hazardous waste container storage capacity of 112,750 gallons, requires a construction permit from the Director. Individual capacities for the Unloading Spots are further specified below, in Condition V.B. of this license. {R 299.9521(1)(b)}
6. The 32 Building Container Storage Area shown in Drawings B01-014-960530, B4-4300-960530, B4-4312-960530, B4-4313-960530, B4-4314-960530, B4-4331-960530, B4-4332-960530, B4-4333-960530, B4-4334-960530, and B4-4335-960530 in Attachment 13 and described in Attachment 14 of this license, is covered by this license. Any expansion or enlargement of the 32 Building Container Storage Area beyond the facility boundary shown on Drawings B2-001-927122, Rev. 5/10 (Topographic Map), and B2-010-927122, Rev. 5/10 (Part A Map), in Attachment 7 of this license, or beyond a maximum liquid and solid hazardous waste container storage capacity of 133,250 gallons requires a construction permit from the Director. Individual capacities for both liquid and solid container storage in the 32 Building Container Storage Area are further specified below, in Condition V.B. of this license. {R 299.9521(1)(b)}
7. The licensee shall not exceed a total combined container storage capacity of 397,000 gallons in the 32 Incinerator Unloading Spots, 32 Building Container Storage Area, and the 830 Building hazardous waste container storage area. {R 299.9521(1)(b)}
8. Drawings B01-002-960530, B01-003-960530, B01-004-960530, B01-005-960530, B01-006-960530, B01-009-960530, B01-014-960530, B01-035-960530, B01-066-960530, B4-4200-960530, B4-4211-960530, B4-4211A-960530, B4-4211B-960530, B4-4211C-960530, B4-4212-960530, B4-4214-960530, B4-4231-960530, B4-4232-960530, B4-4233-960530, B4-4234-960530, B4-4235-960530, B4-4300-960530, B4-4312-960530, B4-4313-960530, B4-4314-960530, B4-4331-960530, B4-4332-960530, B4-4333-960530, B4-4334-960530, B4-4335-960530, B2-404-824008, B2-405-824008, B2-001-880527, and B2-002-880527 are incorporated into this license as Attachment 13.

**B. WASTE IDENTIFICATION AND QUANTITY**

1. The licensee may store no more than a total volume of 125,000 gallons of the hazardous wastes listed in the INCIN STORAGE column of Attachment 8, the List of Acceptable Waste Types for Management at the Michigan Operations, Midland Plant Site, in containers in the 830 Building hazardous waste container storage area, subject to the terms of this license. No more than 100,000 gallons of the 125,000 gallons of capacity shall be liquid waste. The maximum number of containers of hazardous waste that may be stored at the facility is 2,272 55-gallon container equivalents or 4,166 30-gallon container equivalents. {R 299.9521(2)(d)}

2. The licensee may store no more than a total volume of 40,000 gallons of the hazardous wastes listed in the INCIN STORAGE column of Attachment 8 in a maximum of two 20,000-gallon rail cars at Unloading Spots LS-1215 and LS-1216, as shown on Drawing B01-009-960530 in Attachment 13 of this license, subject to the terms of this license.
3. The licensee may store no more than a total volume of 89,000 gallons of the hazardous wastes listed in the INCIN STORAGE column of Attachment 8 in a maximum of nine tanker trucks at Unloading Spots LS-101, LS-1213, LS-1214, LS-2050, LS-2060, LS-2070, LS-2080, LS-2090, LS 2100, SS-5E, SS-6E, SS-7E, and SS-8E, shown on Drawings B01-002-960530, B01-004-960530, B01-005-960530, B01-006-960530, B01-035-960530, B01-066-960530, B4-4200-960530, B4-4211-960530, B4-4211A-960530, B4-4211B-960530, B4-4211C-960530, B4-4212-960530, B4-4231-960530, B4-4232-960530, B4-4233-960530, B2-404-824008, B2-405-824008, B2-001-880527, and B2-002-880527, in Attachment 13 of this license, subject to the terms of this license. Effective September 27, 2007, pursuant to Condition IV.A.8. of this license, 26,000 gallons of the unused storage capacity from the 1163 Building is transferred to Storage Spots SS-5E, SS-6E, SS-7E, and SS-8E.
4. The licensee may store no more than a total volume of 7,500 gallons of the hazardous wastes listed in the INCIN STORAGE column of Attachment 8 in three dino spots at Unloading Spots LS-1203, LS-2030, and LS-2040, shown on Drawings B01-002-960530, B01-003-960530, B01-006-960530, B4-4200-960530, B4-4214-960530, B4-4231-960530, B4-4232-960530, and B4-4233-960530, in Attachment 13 of this license, subject to the terms of this license.
5. The licensee may store no more than a total volume of 2,250 gallons of the hazardous wastes listed in the INCIN STORAGE column of Attachment 8 in three dempster spots at Unloading Spots LS-1202, LS-2010, and LS-2020, shown on Drawings B01-002-960530, B01-003-960530, B01-006-960530, B4-4200-960530, B4-4214-960530, B4-4231-960530, and B4-4233-960530, in Attachment 13 of this license, subject to the terms of this license.
6. The licensee shall ensure that the total combined volume of hazardous wastes stored in all the Unloading Spots does not exceed the 138,750-gallon Unloading Spot hazardous waste storage capacity specified in Condition V.A.3., above, at any given time.
7. The licensee may store no more than a total volume of 133,250 gallons of the hazardous wastes listed in the INCIN STORAGE column of Attachment 8 in a maximum of 2,422 55-gallon container equivalents or 4,441 30-gallon container equivalents in the 32 Building Container Storage Area, subject to the terms of this license. {R 299.9521(2)(d)}

**C. CONDITION OF CONTAINERS**

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the licensee shall transfer the hazardous waste from such container to a container that is in good condition, or otherwise manage the waste in compliance with the conditions of this license.

{R 299.9614(1)(a) and 40 CFR §264.171, which is ABR in R 299.11003}

**D. COMPATIBILITY OF WASTE WITH CONTAINERS**

The licensee shall assure that the ability of the containers to contain the waste is not impaired.  
{R 299.9614 and 40 CFR §264.172, which is ABR in R 299.11003}

**E. MANAGEMENT OF CONTAINERS**

1. The licensee shall keep all containers holding hazardous waste closed during storage except when it is necessary to add or remove waste, and shall not open, handle, or store containers in a manner which may rupture the containers or cause them to leak. {R 299.9614 and 40 CFR §264.173, which is ABR in R 299.11003}

2. The licensee shall ensure that each container of hazardous waste in the container storage area is labeled or clearly marked with the words "Hazardous Waste" and the hazardous waste number, and the date accumulation began so that compliance with the one-year storage limit can be assessed. The labels on each container shall be clearly visible for inspection. {R 299.9306(1)(b), R 299.9521(3)(b), R 299.9614, R 299.9627, and 40 CFR §268.50(a)(2)(i), which is ABR in R 299.11003}
3. The licensee shall only place containers into the hazardous waste container storage area referenced in Condition V.A. of this license in accordance with the configurations to be provided with the Certification of Construction as-built drawings specified in Condition V.A.1. of this license.
4. The licensee shall not stack 55-gallon containers of hazardous waste greater than two high and shall not stack 30-gallon containers of hazardous waste greater than three high. {R 299.9521(3)(b)}
5. The licensee shall not store any container of hazardous waste for more than one-year in the container storage area referenced in Condition V.A. of this license prior to shipment off-site to another appropriately licensed hazardous waste treatment or disposal facility, except as approved by the Division Chief based on a petition demonstrating that such storage is solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. {R 299.9521(3)(b), R 299.9627, and 40 CFR Part 268, which is ABR in R 299.11003}

**F. CONTAINMENT**

The licensee shall operate and maintain the containment system in accordance with the requirements of R 299.9614 and 40 CFR §264.175, which is ABR in R 299.11003, and the plans and specifications to be approved under Condition V.A.1. of this license.

**G. SPECIAL REQUIREMENTS FOR STORAGE OF IGNITABLE OR REACTIVE WASTES**

1. The licensee shall not locate containers holding ignitable or reactive wastes within 15 meters (50 feet) of the facility's property line. {R 299.9614 and 40 CFR §264.176, which is ABR in R 299.11003}
2. The licensee shall prevent the ignition or reaction of ignitable or reactive wastes by following the procedures specified in Attachment 9 of this license. {R 299.9605 and 40 CFR §264.17(a), which is ABR in R 299.11003}
3. The licensee shall document compliance with Condition V.G.2. of this license and place this documentation in the operating record (Condition II.L.1. of this license). {R 299.9605 and R 299.9609 and 40 CFR §§264.17(c) and 264.73(b)(3), which are ABR in R 299.11003}

**H. SPECIAL REQUIREMENTS FOR STORAGE OF INCOMPATIBLE WASTES OR MATERIALS**

1. The licensee is prohibited from placing incompatible wastes or incompatible wastes and materials in the same container. {R 299.9521(2)(d) and (3)(b)}
2. The licensee shall prevent the placement of hazardous waste in an unwashed container that previously held an incompatible waste or material. {R 299.9614 and 40 CFR §264.177(b), which is ABR in R 299.11003}
3. The licensee shall separate containers of incompatible wastes as indicated in the procedures specified in Attachment 9 of this license. {R 299.9614 and 40 CFR §264.177(c), which is ABR in R 299.11003}

4. The licensee shall document compliance with Conditions V.H.1. and V.H.2. of this license and place this documentation in the operating record (Condition II.L.1. of this license). {R 299.9605 and R 299.9609 and 40 CFR §§264.17(c) and 264.73(b)(3), which are ABR in R 299.11003}

**I. DISPOSITION OF ACCUMULATED LIQUIDS**

The licensee shall analyze all liquids accumulated in the containment system for Total Oxygen Demand (TOD) or Total Organic Carbon (TOC) and manage such liquids as follows:

1. Liquids resulting from spills or leaks, or which contain greater than 1600 mg/L TOD or 650 mg/L TOC, must be removed within 48 hours of accumulation and incinerated or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.
2. Liquids that contain less than 1600 mg/L TOD or 650 mg/L TOC must be removed within 96 hours of accumulation and discharged to the licensee's Michigan Operations Wastewater Treatment Plant or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.

{R 299.9521(3)(b) and R 299.9614(1)(a) and 40 CFR §264.175(b)(5), which is ABR in R 299.11003}

**J. COMPLIANCE WITH AIR EMISSION AND WASTE MANAGEMENT REQUIREMENTS FOR STORAGE IN CONTAINERS**

The licensee shall operate the facility in a manner that will prevent air emissions in violation of Part 55 of Act 451. {R 299.9602(1)(b)}

**PART VI  
INCINERATOR TANK SYSTEM STORAGE CONDITIONS**

**A. COVERAGE OF LICENSE**

<b>Tank System</b>	<b>Storage Design Capacity</b>	<b>Drawings</b>
V-101	10,150 gallons	B01-010-960530, Rev. 9/06, B2-422-874008, B2-409-874008, B2-410-874008, and B5-021-61178
V-301	18,700 gallons	A5-001-830235, B01-007-960530, Rev. 5/03, B2-422-874008, B2-409-874008, B2-410-874008, and B1-399-874008
V-302	18,700 gallons	A5-001-830235, B01-007-960530, Rev. 5/03, B2-422-874008, B2-409-874008, B2-410-874008, and B1-399-874008
V-303	18,700 gallons	B01-007-960530, Rev. 5/03, B2-422-874008, B2-409-874008, B2-410-874008, B5-422-874008, and B1-399-874008
V-401	18,700 gallons	B01-008-960530, Rev. 5/03, B2-422-874008, B2-409-874008, B2-410-874008, B5-420-874008, and B1-399-874008
V-402	15,900 gallons	B01-008-960530, Rev. 5/03, B2-422-874008, B2-409-874008, B2-410-874008, B1-399-874008, and D-2933
V-403	18,700 gallons	B01-008-960530, Rev. 5/03, B2-422-874008, B2-409-874008, B2-410-874008, B5-420-874008, and B1-399-874008
V-404	18,700 gallons	B01-008-960530, Rev. 5/03, B2-422-874008, B2-409-874008, B2-410-874008, B5-420-874008, and B1-399-874008
V-601	7,000 gallons	B01-010-960530, Rev. 9/06, B2-422-874008, B2-409-874008, B2-410-874008, MI 21847, and L1
V-701	7,000 gallons	B01-010-960530, Rev. 9/06, B2-422-874008, B2-409-874008, B2-410-874008, B9-001-970544, and B1-399-874008
<b>TOTAL</b>	<b>152,250 gallons</b>	

1. The hazardous waste tank systems at the facility shown in Attachment 16 of this license and Drawings B01-007-960530, Rev. 5/04, B01-008-960530, Rev. 5/04, B01-010-960530, Rev. 9/06, B2-422-874008, B2-409-874008, B2-410-874008, B5-021-61178, L1, MI 21847, B9-001-970544, A5-001-830235, B5-422-874008, B5-420-874008, D-2933, and B1-399-874008, and described in Attachment 14 of this license, are covered by this license. Any expansion or enlargement beyond the facility boundary shown on Drawings B2-001-927122, Rev. 5/10 (Topographic Map) and B2-010-927122, Rev. 5/10 (Part A Map) in Attachment 7 of this license, or beyond the 152,250 gallon tank system storage design capacity requires a construction permit from the Director. {R 299.9521(1)(b)}
2. Drawings B01-007-960530, Rev. 5/04, B01-008-960530, Rev. 5/04, B01-010-960530, Rev. 9/06, B2-422-874008, B2-409-874008, B2-410-874008, B5-021-61178, L1, MI 21847, B9-001-970544, A5-001-830235, B5-422-874008, B5-420-874008, D-2933, and B1-399-874008 are incorporated into this license as Attachment 16.

**B. WASTE IDENTIFICATION AND QUANTITY**

1. The licensee may store no more than a total volume of 24,150 gallons of the hazardous wastes listed in the INCIN STORAGE column of Attachment 8 in the water containment tank systems 101, 601, and 701, subject to the terms of this license. Tank systems 101 and 601 may only be used for drainage collection from the 830 Building hazardous waste container management and waste receiving/unloading areas, the 32 Incinerator Unloading Spots and 32 Building Container Storage Area, and/or the Tank 101, 601, and 701 secondary containment listed in Conditions V.A. and VI.A. of this license, or from secondary containment of releases from the tanks covered by this license. Tank system 701 may be used in the same manner as Tank systems 101 and 601 and may also be used to store condensate from the 32 Incinerator Tank Farm carbon bed system. {R 299.9521(2)(d)}
2. The licensee may store no more than a total volume of 128,100 gallons of the hazardous wastes listed in the INCIN STORAGE column of Attachment 8 in tank systems 301, 302, 303, 401, 402, 403, and 404, subject to the terms of this license. {R 299.9521(2)(d)}
3. The licensee shall ensure that the total combined volume of hazardous wastes stored in the tank systems covered under this license does not exceed the authorized 152,250-gallon hazardous waste tank storage capacity, specified in Condition VI.A., above, at any time.

**C. DESIGN, CONTAINMENT, AND ASSESSMENT OF TANK SYSTEMS**

The licensee shall operate and maintain all tank systems in accordance with the applicable requirements of R 299.9615 and 40 CFR §§264.191, 264.192, 264.193, and 264.194, which are ABR in R 299.11003, and the attached plans and specifications in Attachments 14 and 16 of this license.

**D. MANAGEMENT OF TANK SYSTEMS**

1. The licensee shall manage the tank systems in accordance with the requirements of R 299.9615 and 40 CFR §§264.194 and 264.196, which are ABR in R 299.11003, and with the spill and overflow prevention procedures specified in Attachment 14 of this license.
2. The licensee shall operate and maintain all tanks in compliance with the requirements of R 29.4101 to R 29.4504 pursuant to the provisions of the Fire Prevention Act, 1941 PA 207, as amended. {R 299.9615}
3. The licensee shall label tank systems in accordance with the provisions of National Fire Protection Association (NFPA) Standard No. 704. {R 299.9615(5)}
4. The licensee shall clearly mark each tank containing land disposal restricted waste with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or record such information for each tank system in the facility operating record. {R 299.9627 and 40 CFR §268.50(a)(2)(ii), which is ABR in R 299.11003}
5. The licensee shall not store any hazardous waste in the tanks referenced in Condition VI.A. of this license for more than one year prior to treatment of its contents on-site or shipment off-site to another appropriately licensed hazardous waste treatment or disposal facility. The licensee may store hazardous waste in a tank for more than the one-year period based upon a petition approved by the Division Chief demonstrating that such storage is solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. {R 299.9521(3)(b) and R 299.9627 and 40 CFR Part 268, which is ABR in R 299.11003}

**E. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES**

1. The licensee shall not place ignitable or reactive waste in a tank system unless the procedures described in Attachment 9 of this license are followed. {R 299.9615 and 40 CFR §264.198(a), which is ABR in R 299.11003}
2. The licensee shall document compliance with Condition VI.E.1. of this license and place this documentation in the operating record (Condition II.L.1. of this license). {R 299.9605 and R 299.9609 and 40 CFR §§264.17(c) and 264.73(b)(3), which are ABR in R 299.11003}
3. The licensee shall maintain the protective distances between the tank systems and any public ways, streets, alleys, or adjoining property lines that can be built upon, as required in Tables 2-1 through 2-6 of the NFPA's "Flammable and Combustible Liquids Code" (1977 or 1981) as specified on page 15-T of Attachment 14 of this license, and as required by R 299.9615 and 40 CFR §264.198(b), which is ABR in R 299.11003.

**F. PROHIBITION ON STORAGE OF INCOMPATIBLE WASTES OR MATERIALS**

The licensee shall not place incompatible wastes, or incompatible wastes and materials, in the same tank system or place hazardous waste in a tank system that has not been decontaminated if it previously held an incompatible waste or material. {R 299.9615 and 40 CFR §264.199, which is ABR in R 299.11003}

**G. DISPOSITION OF ACCUMULATED LIQUIDS**

The licensee shall analyze all liquids accumulated in the containment system for Total Oxygen Demand (TOD) or Total Organic Carbon (TOC) and manage such liquids as follows:

1. Liquids resulting from spills or leaks, or which contain greater than 1,600 mg/L TOD or 650 mg/L TOC, must be removed within 48 hours of accumulation and incinerated or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.
2. Liquids that contain less than 1,600 mg/L TOD or 650 mg/L TOC must be removed within 96 hours of accumulation and discharged to the licensee's Michigan Operations Wastewater Treatment Plant or otherwise managed in accordance with the requirements of Part 111 of Act 451 and the rules.

{R 299.9521(3)(b) and R 299.9615 and 40 CFR §264.193(c)(4), which is ABR in R 299.11003}

**H. COMPLIANCE WITH AIR EMISSION AND WASTE MANAGEMENT REQUIREMENTS FOR STORAGE AND TREATMENT IN TANK SYSTEMS**

The licensee shall operate the facility in a manner that will prevent air emissions in violation of Part 55 of Act 451. {R 299.9602(1)(b)}

**PART VII  
INCINERATOR TREATMENT CONDITIONS**

**A. COVERAGE OF LICENSE**

1. The as-built drawings and certification for the 32 Incinerator submitted on June 13 and 30, 2003, August 30, 2004, and December 13, 2004, are approved by the Division Chief in accordance with Condition I.E.1.(g) of this license, effective September 30, 2005.
2. Deleted effective September 30, 2005.
3. The 32 Incinerator, and all its ancillary equipment (including, but not limited to, the 10 Cubic Yard Hopper for Bulk Solids Storage, the Volumetric Feeder, the Elevating Conveyor, the Waste Feed Chute, and the Air Lock; and the 32 Building Container Storage Area Feed Conveyor and the Container Opening Air Lock), shown on Drawings B2-1000-960530, B01-001-960530 (Index), B01-002-960530, B01-013-960530, B01-014-960530, B01-015-960530, B01-020-960530 through B01-025-960530, B01-036-960530, B01-040-960530, B01-041-960530, Rev. 5/09, B01-043-960530 through B01-046-960530, B01-048-960530, B01-050-960530, B4-3212-960530, B4-3212A-960530, B4-3212B-960530, B4-3212C-960530, B4-3212D-960530, B4-3212E-960530, B4-3313-960530, B4-3313A-960530, B4-3313B-960530, B4-3313C-960530, B4-3313D-960530, B4-3313E-960530, B4-3313F-960530, B4-3331-960530, B4-3332-960530, B4-3333-960530, B4-4212A-960530, B4-4212B-960530, B4-4212C-960530, B4-4212D-960530, B4-4234-960530, B4-4235-960530, B4-4311-960530, B4-4311A-960530, B4-4311B-960530, B4-4311C-960530, B4-4311D-960530, B4-4311E-960530, B4-4311F-960530, B4-4331-960530, B4-4332-960530, B4-4333-960530, B4-4334-960530, B4-4335-960530, B4-4400-960530, 219-0001, 222-0001, 5138-0000-001, 5138-0010-001, 5138-0010-002, 5138-0030-001, 5138-0030-002, and 9505-5826-1 are covered by this license and shall replace the 703 and 830 Building Incinerators. Any expansion or enlargement of the 32 Incinerator beyond the facility boundary shown on Drawings B2-001-927122, Rev. 5/10 (Topographic Map), and B2-010-927122, Rev. 5/10 (Part A Map), in Attachment 7 of this license, or beyond a maximum heat output capacity of 130 million BTUs per hour requires a construction permit from the Director. {R 299.9521(1)(b)}
4. Deleted effective September 30, 2005.
5. Drawings B2-1000-960530, B01-001-960530 (Index), B01-002-960530, B01-013-960530, B01-014-960530, B01-015-960530, B01-020-960530 through B01-025-960530, B01-036-960530, B01-040-960530, B01-041-960530, Rev. 5/09, B01-043-960530 through B01-046-960530, B01-048-960530, B01-050-960530, B4-3212-960530, B4-3212A-960530, B4-3212B-960530, B4-3212C-960530, B4-3212D-960530, B4-3212E-960530, B4-3313-960530, B4-3313A-960530, B4-3313B-960530, B4-3313C-960530, B4-3313D-960530, B4-3313E-960530, B4-3313F-960530, B4-3331-960530, B4-3332-960530, B4-3333-960530, B4-4212A-960530, B4-4212B-960530, B4-4212C-960530, B4-4212D-960530, B4-4234-960530, B4-4235-960530, B4-4311-960530, B4-4311A-960530, B4-4311B-960530, B4-4311C-960530, B4-4311D-960530, B4-4311E-960530, B4-4311F-960530, B4-4331-960530, B4-4332-960530, B4-4333-960530, B4-4334-960530, B4-4335-960530, B4-4400-960530, 219-0001, 222-0001, 5138-0000-001, 5138-0010-001, 5138-0010-002, 5138-0030-001, 5138-0030-002, and 9505-5826-1 are incorporated into this license as Attachment 17.
6. In accordance with R 299.9601(7), the 32 Incinerator shall comply with the Air Quality Division (AQD) Permit Number MI-ROP-A4033-2004, effective March 29, 2004, and any subsequent revisions to that permit, pursuant to the 40 CFR Part 63, Subpart EEE Hazardous Waste Combustor Maximum Achievable Control Technology (MACT) regulations. The Director may require a site specific risk assessment (SSRA) of the 32 Incinerator if the Director determines that the results of the MACT Comprehensive Performance Test or other relevant information indicates that the 32 Incinerator is a potential threat to human health and the environment, and may impose additional conditions for the 32 Incinerator if the SSRA shows that the MACT standards are not sufficient to protect human health and the environment. The licensee shall perform the SSRA and implement such additional conditions based on the results of the SSRA as directed by the Director

and according to the schedule established by the Director. {R 299.9521(3)(b) and 40 CFR §270.62(b)(2)}

**B. MAINTENANCE OF FACILITY**

1. The licensee shall operate and maintain the 32 Incinerator in accordance with this license and the drawings approved by the Division Chief.
2. The licensee shall maintain the 32 Incinerator so that it will comply with the provisions of Part 55 of Act 451, as required by R 299.9623(2).
3. No modification to the 32 Incinerator shall be made which would affect the achievement of the performance standards in Condition VII.C., or any other conditions specified in this license, unless the licensee complies with the facility modification procedures of Conditions I.E.1.(e) and (f) of this license.

**C. PERFORMANCE STANDARDS AND OPERATING CONDITIONS**

1. Deleted effective September 30, 2005.
2. The licensee shall maintain and operate the 32 Incinerator in accordance with the performance standards and operating conditions specified in AQD Permit Number MI-ROP-A4033-2004, effective March 29, 2004 and any subsequent revisions to that permit.

**D. COMPLIANCE WITH AIR EMISSION REQUIREMENTS FOR INCINERATION**

The licensee shall comply with all air emission and waste management requirements for incineration contained in permits issued under Part 55 of Act 451. Failure to abide by the above referenced statute or permits issued thereunder shall constitute a violation of this license.

**PART VIII  
SURFACE IMPOUNDMENTS STORAGE AND TREATMENT CONDITIONS  
TERTIARY POND**

**A. COVERAGE OF LICENSE**

1. The Tertiary Pond, which consists of the Pentagonal, Rectangular and Main hazardous waste surface impoundments in series, supply piping, pumps, a cascade, and other associated equipment, shown on Drawings B2-509-927122, Rev. 10/31/06, B2-525-927122, and B2-526-927122 and described in Attachment 18 of this license, is covered by this license. Any expansion or enlargement beyond the design capacities of 783,000,000 gallons for storage and 50,000,000 gallons per day for treatment, or beyond the facility boundary shown on Drawings B2-001-927122, Rev. 5/10 (Topographic Map), and B2-010-927122, Rev. 5/10 (Part A Map), in Attachment 7 of this license requires a construction permit from the Director. {R 299.9521(1)(b)}
2. Drawing B2-509-927122, Rev. 9/9/03, is incorporated into this license as Attachment 18.

**B. WASTE IDENTIFICATION AND QUANTITY**

The licensee may store and treat Michigan Operations secondary Wastewater Treatment Plant effluent, identified in the T-POND column of Attachment 8, in the Tertiary Pond prior to discharge to the Tittabawassee River, subject to the terms of this license.

<b>Tertiary Pond Surface Impoundments</b>	<b>Surface Area</b>	<b>Capacity</b>
Pentagonal	7.5 acres	33,000,000 gallons
Rectangular	13 acres	50,000,000 gallons
Main	182 acres	700,000,000 gallons

**C. WASTE TREATMENT CAPACITY AND METHODS**

The licensee may treat no more than a total volume of 50,000,000 gallons per day of the hazardous wastes listed in the T-POND column of Attachment 8 in the Tertiary Pond via conventional tertiary wastewater treatment processes consisting of thermal equalization, surge capacity, aeration, Total Dissolved Solids management, and other processes authorized in the licensee's National Pollutant Discharge Elimination System permit, subject to the terms of this license. {R 299.9616}

**D. DESIGN AND OPERATING REQUIREMENTS**

1. The licensee shall operate and maintain the facility as described in Attachment 18 of this license and in accordance with R 299.9616 and the plans, specifications, reports, and the Determination Regarding Minimum Technology Requirements Pursuant to Section 3005(j)(3), dated October 6, 1987, contained in Attachment 19 of this license.
2. The licensee shall operate and maintain the surface impoundments to prevent overtopping resulting from normal or abnormal operations, overfilling, wind and wave action, rainfall, run-on, malfunctions of level controllers, alarms and other equipment, and human error. {R 299.9616 and 40 CFR §264.221(g), which is ABR in R 299.11003}
3. The licensee shall maintain the surface impoundment dikes with sufficient structural integrity to prevent massive failure of the dikes. {R 299.9616 and 40 CFR §264.221(h), which is ABR in R 299.11003}

4. The licensee is prohibited from managing ignitable, reactive and incompatible wastes in the Tertiary Pond as specified in Attachment 9 of this license.

**E. NOTIFICATION AND RESPONSE REQUIREMENTS**

1. If the level of liquids in the surface impoundments suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundments or the surface impoundment dike(s) leak, the licensee shall follow the notification, repair and removal from service requirements of 40 CFR §264.227 and the procedures outlined in pages 11 and 12 of the Contingency Plan, Attachment 4 of this license. {R 299.9616}
2. If the surface impoundments are removed from service and cannot or will not be repaired, the licensee shall close the Tertiary Pond in accordance with Conditions II.M. and II.N. of this license. {R 299.9616 and 40 CFR §§264.227(e) and 264.228, which are ABR in R 299.11003}

**PART IX  
POST-CLOSURE CARE CONDITIONS FOR CLOSED UNITS**

**A. COVERAGE OF LICENSE AND UNIT IDENTIFICATION**

1. The licensee shall provide post-closure care for the following hazardous waste surface impoundments that were certified closed with hazardous waste in place on the dates listed in the table below. The closed units shown in the drawings listed in the table below are covered by this license. {R 299.9613}

<b>Closed Unit</b>	<b>Closed Unit Process Design Capacities and General Description of Wastes Managed</b>	<b>Drawings</b>
Diversion Basin Certified Closed March 8, 1989	37,000,000 gallons Diverted untreated wastewater and manufacturing complex surface run-off	B2-404-927122
Open Wastewater Conduits Certified Closed December 27, 1988		
Conduit A	50,000 gallons General influent wastewater	B2-404-927122
Conduit B	310,000 gallons Phenolic treatment system influent wastewater	B2-404-927122
Conduit C-1	1,000,000 gallons General influent wastewater	B2-404-927122
Conduit C-2	90,000 gallons Diverted primary wastewater	B2-404-927122
Conduit C-3	50,000 gallons Secondary treated wastewater	B2-404-927122
Sludge Dewatering Facility Certified Closed January 29, 1990	136,000,000 gallons Wastewater Treatment Plant Solids; tanker truck flushings; and sludges from the closure of the Diversion Basin and Open Wastewater Conduits	B2-100-874006

2. Drawings B2-404-927122 and B2-100-874006 are incorporated into this license as Attachment 20.

**B. WASTE IDENTIFICATION**

The hazardous wastes listed in Attachment 21 of this license were managed in the closed units described in Condition IX.A.1. of this license.

**C. POST-CLOSURE PROCEDURES AND USE OF PROPERTY**

1. The licensee shall conduct post-closure care in accordance with Attachment 22 of this license for the closed Diversion Basin and Open Wastewater Conduits for 30 years from March 31, 1992, the effective date of the issuance of the first post-closure license, except that the 30-year post-closure period may be shortened upon application and demonstration approved by the Director that the reduced period is sufficient to protect human health and the environment, or may be extended if the Director finds that the extended period is necessary to protect human health and the environment. {R 299.9601(3) and 40 CFR §264.117(a), which is ABR in R 299.11003}
2. The licensee shall conduct post-closure care for the Sludge Dewatering Facility in accordance with Attachment 23 of this license for 30 years from the effective date of the issuance of this license, except that the 30-year post-closure period may be shortened upon application and demonstration approved by the Director that the reduced period is sufficient to protect human health and the environment, or may be extended if the Director finds that the extended period is necessary to protect human health and the environment. {R 299.9601(3) and 40 CFR §264.117(a), which is ABR in R 299.11003}
3. The licensee shall comply with the requirements for surface impoundments as follows, in accordance with R 299.9616 and 40 CFR §264.228(b)(1) and (3), which are ABR in R 299.11003:
  - (a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, and other events; and
  - (b) Prevent run-on and run-off from eroding or otherwise damaging the final cover.
4. The licensee shall maintain documentation that a survey plat has been prepared and certified by a professional land surveyor that:
  - (a) Indicates the location and dimensions of the closed hazardous waste management units with respect to permanently surveyed benchmarks;
  - (b) Has been filed with the Midland County Register of Deeds; and
  - (c) Contains a note which states that the land has been used to manage hazardous wastes and its use is restricted pursuant to R 299.9613 and the 40 CFR 264 Subpart G regulations, which are ABR in R 299.11003.
5. The licensee shall not allow any post-closure use of the properties, designated in Condition IX.A.1. of this license, on or in which hazardous wastes remain after partial or final closure which will disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the closed units' monitoring systems during the post-closure care period, unless the Director finds in accordance with R 299.9613 and 40 CFR §264.117(c), which is ABR in R 299.11003, that the disturbance:
  - (a) Is necessary to the proposed use(s) of the properties described on page XVII.5 of Attachment 22 of this license and page XVIII.35 of Attachment 23 of this license, and will not increase the potential hazard to human health or the environment; or
  - (b) Is necessary to reduce a threat to human health or the environment.

6. If the licensee or any subsequent owner or operator of the land upon which the hazardous waste disposal unit is located, wishes to remove hazardous wastes and hazardous waste residues, then he shall request a modification to this license in accordance with the applicable requirements of R 299.9613(1) and 40 CFR §264.119(c), which is ABR in R 299.11003. The licensee or any subsequent owner or operator of the land shall demonstrate that the removal of hazardous wastes will satisfy the criteria of 40 CFR §264.117(c).
7. If the licensee is granted a license modification or otherwise granted approval to conduct hazardous waste removal activities, the licensee may request that the Director approve either:
  - (a) The removal of the notation on the deed to the subject property or other instrument normally examined during title search; or
  - (b) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

{R 299.9613(1) and 40 CFR §264.119(c)(1) and (2), which are ABR in R 299.11003}
8. No later than 60 days after completion of the established post-closure period, specified in Condition IX.C.1. and 2. of this license, for each closed hazardous waste management unit identified in Condition IX.A.1 of this license, the licensee shall submit to the Director by registered mail, a certification that the post-closure care for the hazardous waste management unit was performed in accordance with the specifications in this license, as required by R 299.9613(1) and 40 CFR §120, which is ABR in R 299.11003. The certification must be signed by an independent, registered professional engineer. Documentation supporting the independent, registered professional engineer's certification must be furnished to the Director upon request until the Director releases the licensee from the financial assurance requirements for post-closure care under R 299.9703.
9. The licensee shall conduct post-closure environmental monitoring for the closed Diversion Basin, Open Wastewater Conduits, and Sludge Dewatering Facility in accordance with the requirements in Part X of this license. The post-closure monitoring program for the closed Diversion Basin and Open Wastewater Conduits shall be the Michigan Operations site environmental monitoring program in accordance with Conditions X.A., X.G. and X.H. of this license. A separate post-closure monitoring program shall be conducted for the closed Sludge Dewatering Facility in accordance with Condition X.B. of this license. {R 299.9611(2)(b) and R 299.9612}

**PART X**  
**ENVIRONMENTAL MONITORING CONDITIONS**

**A. GLACIAL TILL AND REGIONAL AQUIFER DETECTION GROUNDWATER MONITORING PROGRAM**

1. The licensee shall conduct a groundwater monitoring program for the glacial till and regional aquifer in accordance with Condition X.A. of this license. Under this program, the licensee shall operate and maintain a groundwater monitoring system consisting of Monitoring Wells 3794, 3795, 3796-A, 3856, 3858, 3860, 3862, 2708, 2745, 3065, 3066, 3137, 3138, 3857, 3859, 3861, 5220, 5232, and 5266 as shown in Figure 1 and listed in Table 4 of the Groundwater Monitoring Program Sampling and Analysis Plan (SAP), Attachment 24 of this license. {R 299.9611(2)(b) and R 299.9612}

The licensee shall sample the monitoring wells in accordance with the procedures specified below:

- (a) Static water level measuring devices, pumps and/or sampling equipment shall be compatible with the constituents sampled and must be thoroughly cleaned and rinsed before use in each monitoring well or piezometer. Sampling procedures shall assure that cross-contamination and changes in water chemistry do not occur. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
  - (b) The static water elevation shall be determined by methods giving precision to 1/8 inch or 0.01 foot prior to purging water from the wells for sampling. Measurements shall be made from the top of the casing with the elevation of all casings in the monitoring well system related to a permanent reference point, using United States Geological Survey (USGS) datum. {R 299.9612 and 40 CFR §264.97(f), which is ABR in R 299.11003}
  - (c) To ensure a representative sample, a volume of water shall be purged that is equal to or greater than three times the amount of water in the well casing, or until pH and specific conductance stabilize, or until the well is dry, before obtaining a sample for analysis as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. Wells shall be sampled immediately after purging where recovery rates allow. Where wells are pumped dry during purging, recovery rates shall be determined and samples taken as soon as sufficient recovery occurs. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
  - (d) Water removed from each monitoring well shall be managed as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. {R 299.9521(3)(b)}
  - (e) All monitoring wells or piezometers shall have protective barriers, be clearly labeled, securely capped, and locked when not in use. {R 299.9612 and 40 CFR §264.97(c) - (e), which are ABR in R 299.11003}
  - (f) Prior to undertaking monitoring well or piezometer replacement or repair, the licensee shall obtain the written approval of the Division, unless the well has been damaged or rendered inoperable, and the location, design, and depth of the replacement monitoring well or piezometer remain unchanged. {R 299.9519(5)(c)(i)}
  - (g) All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. {R 299.9519(5)(c)(ii), R 299.9611(2)(a), R 299.9612, and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}

3. The licensee shall submit an Annual Groundwater Report to the Division Chief no later than April 15 for the previous calendar year's activities. At a minimum, the report shall include the following information:
- (a) A narrative summary of the previous calendar year's sampling events, including the dates of the sampling events, and the identification of any significant problems with respect to SAP defined procedures.
  - (b) A determination of the groundwater flow rate and direction in the monitored zone(s), including the preparation of a groundwater level contour map(s), a diagram(s) showing the horizontal and vertical flow components in the monitored zone(s), and/or hydrographs of these data.
  - (c) A summary of groundwater quality data results, including a narrative summary of results and trends, isochems (if appropriate), data graphs, and data tables.
  - (d) A presentation of the statistical analysis of the data and the identification of any statistically significant increases pursuant to Conditions X.A.6. and X.A.11. of this license.
  - (e) An analysis and discussion of laboratory and field related quality assurance/quality control information. This shall include results of equipment, field, and trip blanks, and discussion and evaluation of the adequacy of the data with respect to SAP specifications and requirements.

This annual report is in addition to the reporting requirements of Condition II.L.4. of this license. {R 299.9521(3)(b) and R 299.9612(1) and 40 CFR §264.97(j), which is ABR in R 299.11003}

4. Establishing Background. The licensee shall establish background groundwater quality values at monitoring wells for the constituents specified in the relevant section of Table 2 of the SAP, Attachment 24 of this license.
- (a) Background values for the primary organic groundwater monitoring constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, shall be less than the laboratory target detection limit(s) for the constituent(s) which are listed in Appendix B of the SAP, Attachment 24 of this license.
  - (b) Background values for the primary metal constituents shall be established by sampling quarterly for two years and by calculating the means of the first two years quarterly results. Within 30 days after reporting the eighth quarter's data, the licensee shall submit the mean background values, variance, and standard deviations for each monitored constituent at each well to the Division Chief.
  - (c) Background values for inorganic secondary constituents shall be established by sampling quarterly for two years and by calculating the means of the first two year's quarterly results. Within 30 days after reporting the eighth quarter's data, the licensee shall submit the mean background values, variance, and standard deviations for each monitored constituent at each well to the Division Chief.
  - (d) In the event that groundwater quality at the upgradient well(s) shows a significant change, a petition may be submitted to the Division Chief to reestablish background quality. Background values may be reestablished only upon written approval of the Division Chief.

{R 299.9612(1)(d) and (e) and 40 CFR §264.97(a) and (g), which are ABR in R 299.11003}

5. Detection Monitoring Program. The licensee shall quarterly sample Monitoring Wells 3794, 3796-A, 3856, 3858, 3860, and 3862 as shown in Figure 1 of the SAP and analyze the samples for the

primary and secondary constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license. Data and evaluations must be submitted to the Division Chief in accordance with the time frame specified in Condition II.L.4. of this license. {R 299.9612 and 40 CFR §264.98}

6. Primary Constituents. The licensee shall determine if a statistically significant increase has been detected as compared to background levels for each primary constituent listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license. For the primary organic groundwater monitoring constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, any detection at or above the laboratory target detection limit(s) for the constituent(s) shall be considered statistically significant. The laboratory detection limits are specified in Appendix B of the SAP, Attachment 24 of this license. For primary metal constituents, a statistically significant increase shall be determined using the procedure identified in Table 2 of the SAP, Attachment 24 of this license. {R 299.9612(1)(e) and 40 CFR §264.97(h) and (i), which are ABR in R 299.11003}
7. If a statistically significant increase is detected pursuant to Condition X.A.6., the licensee shall notify the Division, Hazardous Waste Section, by telephone and in writing within seven working days and arrange a resampling as soon as possible to confirm if a statistically significant increase exists. Resampling must include not less than four replicate samples at the affected well(s) for the primary constituent(s) in question. A statistically significant increase shall be confirmed using the statistical evaluation procedures defined in Table 2 of the SAP, Attachment 24 of this license. For the primary organic groundwater monitoring constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, a statistically significant increase shall be confirmed if at least two of the four resample results for the constituent(s) are detected at or above the laboratory target detection limit(s), or if at least one of the resample results is detected at five times its laboratory target detection limit. {R 299.9612 and 40 CFR §264.97(g), which is ABR in R 299.11003}
8. If the licensee determines pursuant to Conditions X.A.6. and X.A.7. of this license that a statistically significant increase has been confirmed for primary constituents, the licensee shall: {R 299.9612 and 40 CFR §264.98(f) and (g), which are ABR in R 299.11003}
  - (a) Notify the Division Chief within seven working days by calling the Division project geologist or permit engineer for the site, or the appropriate Division District Supervisor, or in the event of their unavailability, the DNRE Pollution Emergency Alerting System (PEAS) at 1-800-292-4706.
  - (b) Provide written notification to the Division Chief within seven calendar days of the determination. The written notification shall indicate what constituents have shown statistically significant changes and the well(s) in which the changes have occurred.
  - (c) As soon as possible, sample the groundwater in the glacial till and regional aquifer detection monitoring wells within 1,000 feet of the affected well for primary and secondary constituents and determine the concentration of all constituents identified in Appendix IX of 40 CFR Part 264 that are present in groundwater and for which approved analysis methods exist. The licensee shall also establish background values for Appendix IX constituents detected pursuant to R 299.9612 and 40 CFR §264.98(g)(3), which is ABR in R 299.11003.
  - (d) Immediately take steps to determine the cause of the contamination and eliminate the source of the discharge.
  - (e) Within 90 days after the confirmation of a statistically significant increase, submit to the Division Chief an application for a license modification to establish a compliance monitoring and corrective action program meeting the requirements of R 299.9612. The application shall include the following information:

- (i) An identification of the concentration of all Appendix IX constituents found in the groundwater.
  - (ii) Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of R 299.9612.
  - (iii) Any proposed changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of R 299.9612.
- (f) Within 180 days after the determination, submit to the Division Chief a detailed description of the corrective action(s) that shall achieve compliance with applicable laws and rules, including a schedule of implementation. Corrective action shall also meet the requirements of R 299.9629, and include a plan for a groundwater monitoring program that shall demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of 40 CFR §264.99, which is ABR in R 299.11003.
- (g) During the period prior to a license modification requiring a compliance monitoring and corrective action program, the licensee shall provide the Division Chief, or his or her designee, with telephone updates and written reports regarding the progress to date in determining the cause of contamination and eliminating the discharge on a frequency agreed to by the Division Chief. The licensee shall include in the written report the results of all samples from environmental monitoring conducted by the licensee.  
{R 299.9521(3)(b)}
9. If the licensee determines pursuant to Conditions X.A.6. and X.A.7. of this license that a statistically significant increase in hazardous constituents has been confirmed in groundwater, it may demonstrate that a source other than the licensed facility caused the increase or that the increase resulted from error in sampling, analysis or evaluation. While the licensee may make a demonstration under this condition in addition to, or in lieu of, submitting a license modification application and implementing corrective action within the time specified in Conditions X.A.8.(e) and X.A.8.(f), respectively, of this license, the licensee is not relieved of the requirement to submit a license modification application and implement corrective action within the time specified, unless the DNRE finds that the demonstration made under this condition successfully shows that a source other than the licensed facility caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this condition, the licensee shall:
- (a) Notify the Division Chief within seven days after the determination that it intends to make a demonstration under this condition.
  - (b) Within 90 days after the determination, submit a report to the Division Chief that demonstrates that a source other than the licensed facility solely caused the increase, or that the increase was caused by error in sampling, analysis, or evaluation.
  - (c) Within 90 days after the confirmation of a statistically significant increase, submit to the Division Chief an application for a license modification to make any appropriate changes to the groundwater monitoring program at the facility.
  - (d) Continue to monitor groundwater in compliance with this license.
- {R 299.9612 and 40 CFR §264.98(g)(6), which is ABR in R 299.11003}
10. In the event that the Division Chief determines from the findings of Conditions X.A.6. and X.A.7. of this license that a statistically significant increase in hazardous constituents has been confirmed in groundwater, and the Director finds, in accordance with Section 11148 of Act 451, that the

increase may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 specifying the steps the Director determines are necessary to prevent the act or eliminate the practice that constitutes that hazard, including, if specified, permanent or temporary cessation of the operation of the facility. This condition does not limit the DNRE's ability to take enforcement action pursuant to Sections 11148 and 11151 of Act 451. {R 299.9612(1)(g)}

11. Secondary Constituents. The licensee shall determine if a statistically significant increase has been detected as compared to background levels for each secondary constituent listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license. A significant increase shall be determined using the statistical evaluation specified in Table 2 of the SAP, Attachment 24 of this license. {R 299.9612(1)(c)}
12. If the licensee determines pursuant to Condition X.A.11. of this license that a statistically significant increase has been detected for any secondary constituent, the licensee shall:
  - (a) Notify the Director, within seven working days, by calling the Division Chief or the appropriate Division District Supervisor.
  - (b) Resample for the secondary constituent(s) in the affected well(s), taking not less than four samples at each well.
  - (c) Confirm whether or not a statistically significant increase has occurred in the secondary constituent(s), and, within seven working days, notify the Division Chief. For the secondary constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, a statistically significant increase shall be confirmed if two of the four resample results exceed the control chart upper limit.
  - (d) If confirmed, the licensee shall resample for both primary and secondary constituents in the affected well(s) in quadruplicate and redetermine if a statistically significant increase has occurred in accordance with Condition X.A.6. for the primary constituents and Condition X.A.11. for the secondary constituents. If reconfirmed, the licensee shall take steps to determine the cause of contamination and eliminate the source of the discharge. A report that explains the chronology of events, investigative methods, all lab analyses, calculations, field activities, and findings/ conclusions related to this determination shall be submitted within 60 days after a statistically significant increase has been confirmed pursuant to Condition X.A.12.(c) of this license.
  - (e) The licensee may demonstrate that a source other than the licensed facility, or an error in sampling, analysis, or evaluation solely caused the increase. A report that contains the information set forth in Condition X.A.12.(d) of this license shall be submitted within 60 days after a statistically significant determination under Condition X.A.12.(c) of this license.

{R 299.9612(1)(c)}

## B. **SLUDGE DEWATERING FACILITY GROUNDWATER MONITORING PROGRAM**

1. The licensee shall conduct a detection monitoring program for the Sludge Dewatering Facility (SDF). Under this program, the licensee shall operate and maintain a groundwater monitoring system consisting of Monitoring Wells 4506, 4507, 3775, 3776, 3777, 3778, 3779, 5487, 3916, and 3922 as shown in Figure 3 of the SAP, Attachment 24 of this license. {R 299.9611(2)(b) and R 299.9612}

The licensee shall sample the monitoring wells in accordance with the procedures specified below:

- (a) Static water level measuring devices, pumps and/or sampling equipment shall be compatible with the constituents sampled and must be thoroughly cleaned and rinsed before use in each monitoring well or piezometer. Sampling procedures shall assure that

- cross-contamination and changes in water chemistry do not occur. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
- (b) The static water elevation shall be determined by methods giving precision to 1/8 inch or 0.01 foot prior to purging water from the wells for sampling. Measurements shall be made from the top of the casing with the elevation of all casings in the monitoring well system related to a permanent reference point, using USGS datum. {R 299.9612 and 40 CFR §264.97(f), which is ABR in R 299.11003}
  - (c) To ensure a representative sample, a volume of water shall be purged that is equal to or greater than three times the amount of water in the well casing, or until pH and specific conductance stabilize, or until the well is dry, before obtaining a sample for analysis as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. Wells shall be sampled immediately after purging where recovery rates allow. Where wells are pumped dry during purging, recovery rates shall be determined and samples taken as soon as sufficient recovery occurs. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
  - (d) Water removed from each monitoring well shall be managed as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. {R 299.9521(3)(b)}
  - (e) All monitoring wells or piezometers shall have protective barriers, be clearly labeled, securely capped, and locked when not in use. {R 299.9612 and 40 CFR §264.97(c) - (e), which are ABR in R 299.11003}
  - (f) Prior to undertaking monitoring well or piezometer replacement or repair, the licensee shall obtain the written approval of the Division, unless the well has been damaged or rendered inoperable, and the location, design, and depth of the replacement monitoring well or piezometer remain unchanged. {R 299.9519(5)(c)(i)}
  - (g) All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachments 24 of this license.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. {R 299.9519(5)(c)(ii), R 299.9611(2)(a), and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. The licensee shall submit an Annual Groundwater Report to the Division Chief no later than April 15 for the previous calendar year's activities. At a minimum, the report shall include the following information:
- (a) A narrative summary of the previous calendar year's sampling events, including the dates of the sampling events and the identification of any significant problems with respect to SAP defined procedures.
  - (b) A determination of the groundwater flow rate and direction in the monitored zone(s), including the preparation of a groundwater level contour map(s), a diagram(s) showing the horizontal and vertical flow components in the monitored zone(s), and/or hydrographs of these data.
  - (c) A summary of groundwater quality data results, including a narrative summary of the results and, if applicable, trends, isochems (if appropriate), data graphs, and data tables.

- (d) A presentation of the statistical analysis of the data and the identification of any statistically significant increases pursuant to Condition X.B.6. and a presentation of the trend analysis required to be conducted pursuant to Condition X.B.11. of this license.
- (e) An analysis and discussion of laboratory and field related quality assurance/quality control information. This shall include results of equipment, field, and trip blanks, and discussion and evaluation of the adequacy of the data with respect to SAP specifications and requirements.

This annual report is in addition to the reporting requirements of Condition II.L.4. of this license. {R 299.9521(3)(b) and R 299.9612(1) and 40 CFR §264.97(j), which is ABR in R 299.11003}

4. Establishing Background. Background values for the primary groundwater monitoring constituents listed in Table 2 of the SAP, Attachment 24 of this license, shall be less than the laboratory target detection limit(s) for the constituent(s). The laboratory target detection limit(s) are specified in Appendix B of the SAP, Attachment 24 of this license. In the event that groundwater quality at the upgradient well(s) shows a significant change, a petition may be submitted to the Division Chief to reestablish background quality. Background values may be reestablished only upon written approval of the Division Chief. {R 299.9612(1)(d) and (e) and 40 CFR §264.97(a) and (g), which are ABR in R 299.11003}
5. Detection Monitoring Program. The licensee shall on a quarterly basis sample Leak Detection Monitoring Wells 4506 and 4507, and analyze the samples for the primary constituents listed in Table 2 of the SAP, Attachment 24 of this license. The licensee shall on an annual basis sample Monitoring Wells 3775, 3776, 3777, 3778, 3779, 5487, 3916, and 3922 for the primary and tracking constituents listed in Table 2 of the SAP, Attachment 24 of this license. Data and evaluations must be submitted to the Division Chief in accordance with the time frame specified in Condition II.L.4. of this license. {R 299.9612 and 40 CFR §264.98}
6. Primary Constituents. The licensee shall determine if a statistically significant increase has been detected as compared to background levels for each primary constituent listed in Table 2 of the SAP, Attachment 24 of this license. For the primary groundwater monitoring constituents listed in Table 2 of the SAP, Attachment 24 of this license, any detection at or above the laboratory target detection limit(s) for the constituent(s) shall be considered statistically significant. The laboratory detection limits are specified in Appendix B of the SAP, Attachment 24 of this license. {R 299.9612(1)(e) and 40 CFR §264.97(h) and (i), which are ABR in R 299.11003}
7. If a statistically significant increase is detected pursuant to Condition X.B.6., the licensee shall notify the Division, Hazardous Waste Section, by telephone and in writing within seven working days and arrange a resampling as soon as possible to confirm if a statistically significant increase exists. Resampling must include not less than four replicate samples at the affected well(s) for the primary constituent(s) in question. For the primary groundwater monitoring constituents listed in Table 2 of the SAP, Attachment 24 of this license, a statistically significant increase shall be confirmed if at least two of the four resample results are detected at or above the laboratory target detection limit(s) for the constituent(s), or if at least one of the resample results is detected at five times the laboratory target detection limit. {R 299.9612 and 40 CFR §264.97(g), which is ABR in R 299.11003}
8. If the licensee determines pursuant to Conditions X.B.6. and X.B.7. of this license that a statistically significant increase has been confirmed for primary constituents, the licensee shall: {R 299.9612 and 40 CFR §264.98(f) and (g), which are ABR in R 299.11003}
  - (a) Notify the Division Chief within seven working days by calling the Division project geologist or permit engineer for the site, or the appropriate Division District Supervisor, or in the event of their unavailability, the DNRE PEAS at 1-800-292-4706.

- (b) Provide written notification to the Division Chief within seven calendar days of the determination. The written notification shall indicate what constituents have shown statistically significant changes and the well(s) in which the changes have occurred.
  - (c) As soon as possible, sample the groundwater in the monitoring wells and leak detection wells within 1,000 feet of the affected well for primary constituents and determine the concentration of all constituents identified in Appendix IX of 40 CFR Part 264 that are present in groundwater and for which approved analysis methods exist. The licensee shall also establish background values for Appendix IX constituents detected pursuant to R 299.9612 and 40 CFR §264.98(g)(3), which is ABR in R 299.11003.
  - (d) Immediately take steps to determine the cause of the contamination and eliminate the source of discharge.
  - (e) Within 90 days after the confirmation of a statistically significant increase, submit to the Division Chief an application for a license modification to establish a compliance monitoring and corrective action program meeting the requirements of R 299.9612. The application shall include the following information:
    - (i) An identification of the concentration of all Appendix IX constituents found in the groundwater.
    - (ii) Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of R 299.9612.
    - (iii) Any proposed changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of R 299.9612.
  - (f) Within 180 days after the determination, submit to the Division Chief a detailed description of corrective actions that shall achieve compliance with applicable laws and rules, including a schedule of implementation. Corrective action shall also meet the requirements of R 299.9629, and include a plan for a groundwater monitoring program that shall demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of 40 CFR §264.99, which is ABR in R 299.11003.
  - (g) During the period prior to a license modification requiring a compliance monitoring and corrective action program, the licensee shall provide the Division Chief, or his or her designee, with telephone updates and written reports at a frequency determined by the Division Chief regarding the progress to date in determining the cause of contamination and eliminating the discharge. The licensee shall include in the written report the results of all samples from environmental monitoring conducted by the licensee.
9. If the licensee determines pursuant to Conditions X.B.6. and X.B.7. of this license that a statistically significant increase in hazardous constituents has been confirmed in groundwater, it may demonstrate that a source other than the licensed facility caused the increase or that the increase resulted from error in sampling, analysis or evaluation. While the licensee may make a demonstration under this condition in addition to, or in lieu of, submitting a license modification application and implementing corrective action within the time specified in Conditions X.B.8.(e) and X.B.8.(f), respectively, of this license, the licensee is not relieved of the requirement to submit a license modification application and implement corrective action within the time specified, unless the DNRE finds that the demonstration made under this condition successfully shows that a source other than the licensed facility caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this condition, the licensee shall:

- (a) Notify the Division Chief within seven days after the determination that it intends to make a demonstration under this condition.
- (b) Within 90 days after the determination, submit a report to the Division Chief that demonstrates that a source other than the licensed facility solely caused the increase, or that the increase was caused by error in sampling, analysis, or evaluation.
- (c) Within 90 days after the determination, submit to the Division Chief an application for a license modification to make any appropriate changes to the groundwater monitoring program at the facility.
- (d) Continue to monitor groundwater in compliance with this license.

{R 299.9612 and 40 CFR §264.98(g)(6), which is ABR in R 299.11003}

10. In the event that the Division Chief determines from the findings of Conditions X.C.6. and X.C.7. of this license that a statistically significant increase in hazardous constituents has been confirmed in the groundwater, and the Director finds, in accordance with Section 11148 of Act 451, that the increase may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 specifying the steps the Director determines are necessary to prevent the act or eliminate the practice that constitutes that hazard, including, if specified, permanent or temporary cessation of the operation of the facility. This condition does not limit the DNRE's ability to take enforcement action pursuant to Sections 11148 and 11151 of Act 451. {R 299.9612(1)(g) and R 299.9612(1)(g)}
11. Tracking Constituents. The licensee shall annually evaluate the tracking constituent data by developing Stiff and Piper diagrams and conducting trend analyses using historical data. The results of this trend analysis shall be reported in the Annual Groundwater Report required pursuant to Condition X.B.3. of this license. {R 299.9612(1)(c)}
12. Hydraulic Monitoring Program. The licensee shall operate and maintain a hydraulic monitoring program for water levels associated with the SDF consisting of piezometers located as shown in Figure 3 of the SAP, Attachment 24 of this license.
  - (a) The licensee shall on a quarterly basis measure the water levels in Monitoring Wells 4506, 4507, 3775, 3776, 3777, 3778, 3779, 5487, 3916, and 3922 and Piezometers 6143, 6144, 6145, 6146, 6147, 6148, and 6149.
  - (b) The licensee shall report the results of the hydraulic monitoring program as required by Condition II.L.4. of this license.
  - (c) After four quarters of data have been collected from the wells and piezometers identified in Condition X.B.12.(a) of this license, the licensee shall conduct a reevaluation of the SDF hydraulic monitoring program. The reevaluation shall determine if the existing hydraulic monitoring program is adequate to confirm an inward gradient at all points around the SDF and will propose, if necessary, the addition of monitoring points to the hydraulic monitoring program.
    - (i) The results of this reevaluation shall be submitted to the Division Chief for review and approval within 60 days of the end of the fourth quarter of data collection. The Division Chief will approve, modify and approve, or disapprove the reevaluation or provide a written Notice of Deficiency on the proposed hydraulic monitoring program.

- (ii) The licensee shall modify the proposed hydraulic monitoring program in accordance with or based on the resolution of the Notice of Deficiency and submit a new hydraulic monitoring program or revisions to the hydraulic monitoring program to the Division Chief for approval within 30 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the revised hydraulic monitoring program becomes an enforceable condition of this license.
  - (d) The licensee shall evaluate each of the SDF cells by comparing the static water levels from the piezometer within each of the cells to the associated perimeter monitoring well to verify the presence of an inward hydraulic gradient. If the licensee determines that an inward hydraulic gradient is not present in one or more of the SDF cells, the licensee shall respond as follows:
    - (i) The licensee will initiate an investigation to determine the cause of the anomalous reading(s). This initial response may include the following: the collection of additional water level measurements to confirm the initial water level measurements; an integrity check of the piezometer for damage or silting; checking the leachate levels in the sumps; checking the tile performance; and checking the hydraulic levels in the tile cleanouts. This initial response period will not last longer than seven working days from the time of the discovery of the anomalous hydraulic reading. Within this initial response period, the licensee will have determined if there was not an inward gradient toward the SDF cells.
    - (ii) If the licensee determines that there was not an inward gradient, the licensee shall notify the Division within seven working days of this determination and initiate environmental monitoring of primary constituents in Table 2 of the SAP, Attachment 24 of this license, of the appropriate perimeter monitoring well(s). Also, within the seven day period, the licensee will have either fixed the leachate collection system such that the system is operating as designed or will have a planned response to fix or modify the system. The planned response, any modification of the system, and the schedule for correcting the system is subject to approval by the Division Chief.
- 13. Leachate Monitoring Program. The licensee shall conduct a leachate monitoring program for the SDF as follows:
  - (a) Every four years the licensee shall sample the leachate from Lift Station 50 (LS-50) as shown in Figure 3 of the SAP, Attachment 24 of this license, for 40 CFR Part 264, Appendix IX constituents. The licensee shall evaluate this data to determine if specific monitoring constituents need to be added to or eliminated from the routine detection and perimeter groundwater monitoring program.
  - (b) The licensee shall monitor the volume of leachate pumped from the facility and record the volume in the operating record. {R 299.9609(1)(b) and R 299.9619(4)(c)(iii)}
  - (c) Any organic constituent that is added to the monitored constituents due to its elevated presence in the leachate monitoring conducted as specified in Condition X.B.13.(a) of this license shall be added to the groundwater monitoring constituents by the licensee. If an added constituent is not detected over two consecutive samplings in the groundwater, it may be removed from those programs, if approved in writing by the Division Chief.
  - (d) The licensee shall report leachate monitoring results as required by Condition II.L.4. of this license.
  - (e) The licensee shall submit an annual leachate monitoring report to the Division by April 15 of each year during the post-closure care period. The annual leachate monitoring report shall include:

- (i) Leachate volume calculations.
- (ii) A graphical presentation of the monthly and yearly quantities of leachate being generated and pumped from the landfill.
- (iii) A graphical comparison between leachate quantities pumped/generated during the reported year and the leachate quantities pumped/generated from previous years.
- (iv) The reasons for increases/decreases in leachate quantities. If there is an increase in leachate quantities, the source shall be indicated in the leachate monitoring report.

{R 299.9521(3)(a) and (b), R 299.9611(5), and R 299.9619(4)}

### C. POSEYVILLE LANDFILL GROUNDWATER MONITORING PROGRAMS

1. The licensee shall conduct a detection and a corrective action monitoring program for the Poseyville Landfill. Under this program, the licensee shall operate and maintain a detection groundwater monitoring system consisting of Monitoring Wells 2438, 2684, 2686, 2688, 2691, 2692, 2693, 2968, 2969, 2985, 2986, 2991, 2992, 2994, 2995, 2996, 2998, 2999, 3004, and 4505. The licensee shall operate and maintain a corrective action monitoring program consisting of the Monitoring Wells and/or Piezometers 2549, 2550, 2688, 2902, 2903, 2904, 2906, 2908, 2915, 2917A, 2922, 2929A, 2930, 3278, 3280, 3282, 3283, 5923, 5924, and 5925 and Purge Wells 2690A, 2917, 2960, and 2961. The wells and piezometers are shown in Figure 4 of the SAP, Attachment 24 of this license. {R 299.9611(2)(b) and R 299.9612}

The licensee shall sample the monitoring wells in accordance with the procedures specified below:

- (a) Static water level measuring devices, pumps and/or sampling equipment shall be compatible with the constituents sampled and must be thoroughly cleaned and rinsed before use in each monitoring well or piezometer. Sampling procedures shall assure that cross-contamination and changes in water chemistry do not occur. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
- (b) The static water elevation shall be determined by methods giving precision to 1/8 inch or 0.01 foot prior to purging water from the wells for sampling. Measurements shall be made from the top of the casing with the elevation of all casings in the monitoring well system related to a permanent reference point, using USGS datum. {R 299.9612 and 40 CFR §264.97(f), which is ABR in R 299.11003}
- (c) To ensure a representative sample, a volume of water shall be purged that is equal to or greater than three times the amount of water in the well casing, or until pH and specific conductance stabilize, or until the well is dry, before obtaining a sample for analysis as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. Wells shall be sampled immediately after purging where recovery rates allow. Where wells are pumped dry during purging, recovery rates shall be determined and samples taken as soon as sufficient recovery occurs. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
- (d) Water removed from each monitoring well shall be managed as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. {R 299.9521(3)(b)}
- (e) All monitoring wells or piezometers shall have protective barriers, be clearly labeled, securely capped, and locked when not in use. {R 299.9612 and 40 CFR §264.97(c) - (e), which are ABR in R 299.11003}

- (f) Prior to undertaking monitoring well or piezometer replacement or repair, the licensee shall obtain the written approval of the Division, unless the well has been damaged or rendered inoperable, and the location, design, and depth of the replacement monitoring well or piezometer remains unchanged. {R 299.9519(5)(c)(i)}
  - (g) All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. {R 299.9519(5)(c)(ii), R 299.9611(2)(a), and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. The licensee shall submit an Annual Groundwater Report to the Division Chief no later than April 15 for the previous calendar year's activities. At a minimum, the report shall include the following information:
- (a) A narrative summary of the previous calendar year's sampling events, including sampling event dates and the identification of any significant problems with respect to SAP defined procedures.
  - (b) A determination of the groundwater flow rate and direction in the monitored zone(s), including the preparation of a groundwater level contour map(s), a diagram(s) showing the horizontal and vertical flow components in the monitored zone(s), and/or hydrographs of these data.
  - (c) A summary of groundwater quality data results, including a narrative summary of results and trends, isochems (if applicable), data graphs, and data tables as applicable.
  - (d) A presentation of the statistical analysis of the data and the identification of any statistically significant increases pursuant to Condition X.C.6. and any increasing trends in contamination pursuant to Condition X.C.13.(b) of this license.
  - (e) An analysis and discussion of laboratory and field related quality assurance/quality control information. This shall include results of equipment, field, and trip blanks, and discussion and evaluation of the adequacy of the data with respect to SAP specifications and requirements. This Annual Groundwater Report is in addition to the reporting requirements of Condition II.L.4. of this license. {R 299.9521(3)(b) and R 299.9612(1) and 40 CFR §264.97(j), which is ABR in R 299.11003}
4. Establishing Background. Background values for the primary groundwater monitoring constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, shall be less than the laboratory target detection limit(s) for the constituent(s). The laboratory detection limits are specified in Appendix B of the SAP, Attachment 24 of this license. In the event that groundwater quality at the upgradient well(s) shows a significant change, a petition may be submitted to the Division Chief to reestablish background quality. Background values may be reestablished only upon written approval of the Division Chief. {R 299.9612(1)(d) and (e) and 40 CFR §264.97(a) and (g), which are ABR in R 299.11003}
5. Detection Monitoring Program. The licensee shall on a quarterly and/or annual basis sample the monitoring wells listed in the relevant section of Table 2 of the SAP and analyze the samples for the target constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license. Data and evaluations must be submitted to the Division Chief in accordance with the time

frame specified in Condition II.L.4. of this license. {R 299.9612 and 40 CFR §264.98}

6. Monitoring Constituents. The licensee shall determine if a statistically significant increase has been detected as compared to background levels for each constituent listed in the relevant section of the SAP, Attachment 24 of this license. For the groundwater monitoring constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, any detection at or above the laboratory target detection limit(s) for the constituent(s) shall be considered statistically significant. The laboratory detection limits are specified in Appendix B of the SAP, Attachment 24 of this license. {R 299.9612(1)(e) and 40 CFR §264.97(h) and (i), which are ABR in R 299.11003}
7. If a statistically significant increase is detected pursuant to Condition X.C.6., the licensee shall notify the Division, Hazardous Waste Section by telephone and in writing within seven working days and arrange a resampling as soon as possible to confirm if a statistically significant increase exists. Resampling must include not less than four replicate samples at the affected well(s) for the constituent(s) in question. For the groundwater monitoring constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, a statistically significant increase shall be confirmed if at least two of the four resample results are detected at or above the laboratory target detection limit(s) for the constituent(s), or if at least one of the resample results is detected at five times the laboratory target detection limit. {R 299.9612 and 40 CFR §264.97(g), which is ABR in R 299.11003}
8. If the licensee determines pursuant to Conditions X.C.6. and X.C.7. of this license that a statistically significant increase has been confirmed for a monitoring constituent(s) listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, the licensee shall: {R 299.9612 and 40 CFR §264.98(f) and (g), which are ABR in R 299.11003}
  - (a) Notify the Division Chief within seven working days by calling the Division project geologist or permit engineer for the site, or the appropriate Division District Supervisor, or in the event of their unavailability, the DNRE PEAS at 1-800-292-4706.
  - (b) Provide written notification to the Division Chief within seven calendar days of the determination. The written notification shall indicate what constituents have shown statistically significant changes and the well(s) in which the changes have occurred.
  - (c) As soon as possible, sample the groundwater monitoring wells within 1,000 feet of the affected well for monitoring constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, and determine the concentration of all constituents identified in Appendix IX of 40 CFR Part 264 that are present in groundwater and for which approved analysis methods exist. The licensee shall also establish background values for Appendix IX constituents detected pursuant to R 299.9612 and 40 CFR §264.98(g)(3), which is ABR in R 299.11003.
  - (d) Immediately take steps to determine the cause of the contamination and eliminate the source of discharge.
  - (e) Within 90 days after the confirmation of a statistically significant increase, submit to the Division Chief an application for a license modification to establish a compliance monitoring and corrective action program meeting the requirements of R 299.9612. The application shall include the following information:
    - (i) An identification of the concentration of all Appendix IX constituents found in the groundwater.
    - (ii) Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of R 299.9612.
    - (iii) Any proposed changes to the monitoring frequency, sampling and analysis

procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of R 299.9612.

- (f) Within 180 days after the determination, submit to the Division Chief a detailed description of corrective actions that shall achieve compliance with applicable laws and rules, including a schedule of implementation. Corrective action shall also meet the requirements of R 299.9629, and include a plan for a groundwater monitoring program that shall demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of 40 CFR §264.99, which is ABR in R 299.11003.
  - (g) During the period prior to a license modification requiring a compliance monitoring and corrective action program, the licensee shall provide the Division Chief, or his or her designee, with telephone updates and written reports every two weeks regarding the progress to date in determining the cause of contamination and eliminating the discharge, unless an alternate schedule is approved by the Division Chief. The licensee shall include in the written report the results of all samples from environmental monitoring conducted by the licensee.
9. If the licensee determines pursuant to Conditions X.C.6. and X.C.7. of this license that a statistically significant increase in hazardous constituents has been confirmed in groundwater, it may demonstrate that a source other than the licensed facility caused the increase or that the increase resulted from error in sampling, analysis or evaluation. While the licensee may make a demonstration under this condition in addition to, or in lieu of, submitting a license modification application and implementing corrective action within the time specified in Conditions X.C.8.(e) and X.A.8.(f), respectively, of this license, the licensee is not relieved of the requirement to submit a license modification application and implement corrective action within the time specified, unless the DNRE finds that the demonstration made under this condition successfully shows that a source other than the licensed facility caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this condition, the licensee shall:
- (a) Notify the Division Chief within seven days after the determination that it intends to make a demonstration under this condition.
  - (b) Within 90 days after the determination, submit a report to the Division Chief that demonstrates that a source other than the licensed facility solely caused the increase, or that the increase was caused by error in sampling, analysis, or evaluation.
  - (c) Within 90 days after the confirmation of a statistically significant increase, submit to the Division Chief an application for a license modification to make any appropriate changes to the groundwater monitoring program at the facility.
  - (d) Continue to monitor groundwater in compliance with this license.
- {R 299.9612 and 40 CFR §264.98(g)(6), which is ABR in R 299.11003}
10. In the event that the Division Chief determines from the findings of Conditions X.C.6. and X.C.7. of this license that a statistically significant increase in hazardous constituents has been confirmed in groundwater, and the Director finds, in accordance with Section 11148 of Act 451, that the increase may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 specifying the steps the Director determines are necessary to prevent the act or eliminate the practice that constitutes that hazard, including, if specified, permanent or temporary cessation of the operation of the facility. This condition does not limit the DNRE's ability to take enforcement

action pursuant to Sections 11148 and 11151 of Act 451. {R 299.9612(1)(g)}

11. Corrective Action Monitoring Program. The licensee shall conduct a corrective action monitoring program for the Poseyville Landfill in accordance with Conditions X.C.12. and X.C.13. of this license. Under this program, the licensee shall operate and maintain a corrective action monitoring program consisting of Piezometers 2549, 2550, 2688, 2902, 2903, 2904, 2906, 2908, 2915, 2917A, 2922, 2929A, 2930, 3278, 3280, 3282, 3283, 5923, 5924, and 5925 and Purge Wells 2690A, 2917, 2960, and 2961 as shown in Figure 4 of the SAP, Attachment 24 of this license. {R 299.9611(2)(b) and R 299.9612}
12. Corrective Action Hydraulic Monitoring Program. The licensee shall operate and maintain a corrective action hydraulic monitoring program for water levels associated with the Poseyville Landfill consisting of piezometers listed in Condition X.C.11. of this license and located as shown in Figure 4 in the SAP, Attachment 24 of this license.
  - (a) The licensee shall on a quarterly basis measure the water levels in each of the piezometers and purge wells listed in Condition X.C.11. The static water level data will be converted to USGS datum elevations and a contour(s) of the potentiometric surface elevation(s) will be produced.
  - (b) The licensee shall on a quarterly basis develop typical groundwater contour maps of the static water elevations for each of the discrete hydrogeologic units that are subject to the corrective action hydraulic monitoring program. The contour interval used shall be no greater than 1 foot. Any missing data points shall be explained by the licensee in a summary evaluation that shall accompany these maps. The licensee shall evaluate the contour map to determine if the plume(s) of groundwater contamination is being completely captured by the purge well system. These contour maps shall be submitted to the Division Chief within 60 days of the end of each respective quarter. If the evaluation of the groundwater contour map(s) indicates that plume capture is not complete, and the effective operation of the purge wells cannot be confirmed, the licensee shall respond as follows:
    - (i) The licensee shall notify the Division Chief, or his or her designee, within seven working days that the system may not be capturing the plume of groundwater contamination.
    - (ii) The licensee will attempt to determine the cause of the anomalous reading(s). This initial response will include the following: checking the operating components of the purge wells in the vicinity of the piezometer(s) showing the abnormal readings; an integrity check of the piezometer for damage or silting; and the collection of additional water level measurements to confirm the initial water level measurements.
    - (iii) This initial response period will not last longer than seven working days from the time of the discovery of the anomalous hydraulic reading. Within this initial response period, the licensee will have determined whether the plume is being effectively contained. If effective capture is not being maintained, the licensee shall notify the Division Chief, or his or her designee, of this determination and will have either fixed the purge well system such that the system is operating as designed or have a planned response to fix or modify the system. The planned response, any modification of the system, and the schedule for correcting the system is subject to approval by the Division Chief.
    - (iv) In the event that the Division Chief determines that there is a failure to effectively capture the plume of groundwater contamination, and the Director finds, in accordance with Section 11148 of Act 451, that the failure may present an imminent and substantial hazard to the health of persons or to the natural

resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 to conduct other activities as

required by the Director to eliminate the said endangerment. This condition does not limit the DNRE's ability to take enforcement action pursuant to Sections 11148 and 11151 of Act 451. {R 299.9611(2)(b) and R 299.9612}

13. Corrective Action Chemical Monitoring Program. The licensee shall conduct a corrective action chemical monitoring program for the Poseyville Landfill. Under this program, the licensee shall operate and maintain a corrective action chemical monitoring program consisting of Purge Wells 2690A, 2917, 2960, and 2961 as shown in Figure 4 of the SAP, Attachment 24 of this license and as further specified in this condition.
- (a) The licensee shall on a quarterly basis sample the purge wells listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license, and analyze the samples for the target constituents listed in the relevant section of Table 2 of the SAP, Attachment 24 of this license. Data and evaluations must be submitted to the Division Chief in accordance with the time frame specified in Condition II.L.4. of this license.
  - (b) The licensee shall revise the corrective action chemical monitoring program to include detection and/or compliance monitoring of groundwater wells at the perimeter of the plume of contamination. The purpose of this monitoring program will be to verify the effectiveness of the groundwater remediation system in preventing the expansion of the existing plume of contamination and to document the progressive remediation of the plume. This revision shall be made in accordance with the Compliance Schedule, Attachment 28 of this license. Upon approval by the Division Chief, the licensee shall update the SAP, Attachment 24 of this license, to reflect the revision to the corrective action chemical monitoring program.
  - (c) The licensee shall include the following information in the Annual Groundwater Report required by Condition X.C.3. of this license: a summary of the previous year's data, a detailed description of any anomalous data found and actions taken to correct the corrective action system, and a trend analysis of the purge well chemical monitoring data. This information must be submitted to the Division Chief no later than April 15 following each calendar year in addition to the reporting requirements of Condition X.C.3. of this license.

**D. SIX PURGE WELLS GROUNDWATER MONITORING PROGRAM**

1. The licensee shall conduct a corrective action monitoring program. Under this program, the licensee shall operate and maintain a groundwater monitoring system consisting of piezometers and purge wells identified in the appropriate section of Table 2 and as shown in Figure 6 of the SAP, Attachment 24 of this license. {R 299.9611(2)(b) and R 299.9612}

The licensee shall sample the monitoring wells in accordance with the procedures specified below:

- (a) Static water level measuring devices, pumps and/or sampling equipment shall be compatible with the constituents sampled and must be thoroughly cleaned and rinsed before use in each monitoring well or piezometer. Sampling procedures shall assure that cross-contamination and changes in water chemistry do not occur. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
- (b) The static water elevation shall be determined by methods giving precision to 1/8 inch or 0.01 foot prior to purging water from the wells for sampling. Measurements shall be made from the top of the casing with the elevation of all casings in the monitoring well system related to a permanent reference point, using USGS datum. {R 299.9612 and 40 CFR §264.97(f), which is ABR in R 299.11003}
- (c) To ensure a representative sample, a volume of water shall be purged that is equal to or

greater than three times the amount of water in the well casing, or until pH and specific conductance stabilize, or until the well is dry, before obtaining a sample for analysis as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. Wells shall be sampled immediately after purging where recovery rates allow. Where wells are pumped dry during purging, recovery rates shall be determined and samples taken as soon as sufficient recovery occurs. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}

- (d) Water removed from each monitoring well shall be managed as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. {R 299.9521(3)(b)}
  - (e) All monitoring wells or piezometers shall have protective barriers, be clearly labeled, securely capped, and locked when not in use. {R 299.9612 and 40 CFR §264.97(c) - (e), which are ABR in R 299.11003}
  - (f) Prior to undertaking monitoring well or piezometer replacement or repair, the licensee shall obtain the written approval of the Division, unless the well has been damaged or rendered inoperable, and the location, design, and depth of the replacement monitoring well or piezometer remain unchanged. {R 299.9519(5)(c)(i)}
  - (g) All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. {R 299.9519(5)(c)(ii), R 299.9611(2)(a), and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. Chemical Characterization Program. The licensee shall collect a representative sample(s) from the Six Purge Wells System and analyze the sample(s) for the constituents identified in 40 CFR Part 264, Appendix IX (Appendix B of the SAP, Attachment 24 of this license). This sampling event shall be conducted within 60 days of the effective date of this license. Prior notification will be given to the Division to allow sufficient time to schedule split sampling. The data and evaluations from this characterization sampling event must be submitted to the Division Chief in accordance with the time frame specified in Condition II.L.4. of this license. The results of this chemical characterization, in coordination with other groundwater investigation activities required under the Compliance Schedule (Deep Sand Monitoring Program), Attachment 28 of this license, will be used to develop an appropriate routine chemical monitoring program for this area in compliance with Condition XII.A.3. of this license.
4. Hydraulic Monitoring Program. The licensee shall operate and maintain a quarterly hydraulic monitoring program for water levels associated with the Six Purge Wells System consisting of piezometers located as shown in Figure 6 in the SAP, Attachment 24 of this license.
- (a) The licensee shall develop typical groundwater contour maps of the static water elevations on a quarterly basis. The contour interval used shall be no greater than 2 feet. These contour maps shall be submitted to the Division Chief in accordance with Condition II.L.4. of this license. Any missing data points shall be explained by the licensee in a summary evaluation that shall accompany these maps.
  - (b) The licensee shall prepare an annual groundwater hydraulic report. This report shall summarize the previous year's data along with a detailed description of any anomalous data found and actions taken to correct the Six Purge Wells System. The report shall include diagrams showing the horizontal and vertical flow components in the monitored

zone, and/or hydrographs of these data. This information must be submitted to the Division Chief no later than April 15 following each calendar year.

- (c) If the data shows that the Six Purge Wells System may not be preventing upland groundwater from flowing toward the Tittabawassee River, the licensee shall respond as described below:
  - (i) Initially, the licensee shall notify the Division Chief within 24 hours that the system may not be maintaining a hydraulic barrier to upland groundwater flow.
  - (ii) The licensee will attempt to determine the cause of the anomalous reading(s). This initial response will include the following: checking the operating components of the purge wells in the vicinity of the piezometer(s) showing the abnormal readings; an integrity check of the piezometer for damage or silting; and the collection of additional water level measurements to confirm the initial water level measurements.
  - (iii) This initial response period will not last longer than five calendar days from the time of the discovery of the anomalous hydraulic reading. Within this initial response period, the licensee will have determined whether the Six Purge Well System is preventing upland groundwater from flowing to the Tittabawassee River. If effective capture was not maintained, the licensee shall notify the Division of this determination and will have either fixed the purge well system such that the system is operating as designed or have a planned response to fix or modify the system. The planned response, any modification of the system, and the schedule for correcting the system and addressing any releases to the Tittabawassee River, are subject to approval by the Division Chief.
- 5. In the event that the Division Chief determines from the findings of Condition X.D.4.(c) of this license that there is upland groundwater flowing into the Tittabawassee River, and the Director finds, in accordance with Section 11148 of Act 451, that the failure may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 specifying the steps the Director determines are necessary to prevent the act or eliminate the practice that constitutes that hazard, including, if specified, permanent or temporary cessation of the operation of the facility. This condition does not limit the DNRE's ability to take enforcement action pursuant to Sections 11148 and 11151 of Act 451. {R 299.9612(1)(g)}

#### **E. SAND BAR MONITORING PROGRAM**

- 1. The licensee shall conduct a corrective action monitoring program. Under this program, the licensee shall operate and maintain a hydraulic monitoring system consisting of Monitoring Well 5678 (MW-8) as shown in Figure 9 of the SAP, Attachment 24 of this license. {R 299.9611(2)(b) and R 299.9612}

The licensee shall sample the monitoring wells in accordance with the procedures specified below:

- (a) Static water level measuring devices, pumps and/or sampling equipment shall be compatible with the constituents sampled and must be thoroughly cleaned and rinsed before use in each monitoring well. Sampling procedures shall assure that cross-contamination and changes in water chemistry do not occur. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
- (b) The static water elevation shall be determined by methods giving precision to 1/8 inch or 0.01 foot prior to purging water from the wells for sampling. Measurements shall be made from the top of the casing with the elevation of all casings in the monitoring well system

- related to a permanent reference point, using USGS datum. {R 299.9612 and 40 CFR §264.97(f), which is ABR in R 299.11003}
- (c) All monitoring wells and piezometers shall have protective barriers, be clearly labeled, securely capped, and locked when not in use. {R 299.9612 and 40 CFR §264.97(c) - (e), which are ABR in R 299.11003}
  - (d) Prior to undertaking monitoring well or piezometer replacement or repair, the licensee shall obtain the written approval of the Division Chief, unless the well has been damaged or rendered inoperable, and the location, design, and depth of the replacement monitoring well or piezometer remain unchanged. {R 299.9519(5)(c)(i)}
  - (e) All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. {R 299.9519(5)(c)(ii), R 299.9611(2)(a) and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. Chemical Monitoring Program. The licensee shall annually collect a representative sample from the Sand Bar Lift Station and analyze the sample for the constituents identified in Table 2 of the SAP, Attachment 24 of this license. The data from the annual sampling event must be submitted to the Division Chief in the annual hydraulic report required pursuant to Condition X.E.4.(c) of this license.
4. Hydraulic Monitoring Program. The licensee shall operate and maintain a hydraulic monitoring program for water levels associated with the Sand Bar dewatering system consisting of Monitoring Well 5678 (MW-8) as shown in Figure 12 of the SAP, Attachment 24 of this license.
- (a) The licensee shall obtain real-time static water level data from Monitoring Well 5678 (MW-8) which will be collected, compiled and averaged by computer on a 12 hour basis. The computer generated data shall be evaluated by operating personnel within two working days. If the water level in the monitoring well is lower than the river level during non-high river level conditions, the Sand Bar dewatering system is operating correctly and no further action is required. A high river level condition is occurring when a portion of the Sand Bar surrounded by the sheet piling is partially or completely submerged by river water. During and immediately following high river level conditions, the water level in the monitoring well may exceed or be equal to the river level. Effective operation of the system during or immediately following a high river level event will be evaluated by the observation of a consistent decrease in static water level in the monitoring well, related to the operation of the Sand Bar dewatering system, after the river level has receded below the down river edge of the sheet piling.
  - (b) The licensee shall collect static water level measurements manually at the monitoring well on a bimonthly basis in order to validate, and calibrate if necessary, the automatically collected data. All manually obtained hydraulic level data shall be summarized, reviewed, and evaluated within five working days of the collection of the data. During severe weather conditions it may not be possible to collect a manual reading from the monitoring well due to ice or high water conditions. Manual static water level readings shall be collected as specified in the Hydraulic Readings/Static Water Levels (SWL) section in the SAP, Attachment 24 of this license. The licensee shall develop typical hydraulic profiles of the static water elevations on a quarterly basis comparing the water level elevation in Monitoring Well 5678 to the Tittabawassee River level.

- (c) The licensee shall prepare an annual groundwater hydraulic report. This report shall summarize the previous year's data along with a detailed description of any anomalous data found and actions taken to correct the Sand Bar dewatering system and a summary of groundwater quality data results, including a narrative summary of results and trends, data graphs, and data tables. This information must be submitted to the Division Chief no later than April 15 following each calendar year.
  - (d) If the data shows that the Sand Bar dewatering system is not functioning effectively, the licensee shall respond as described below:
    - (i) The licensee shall notify the Division Chief within 24 hours that the system may not be maintaining a hydraulic barrier to groundwater flow.
    - (ii) The licensee shall attempt to determine the cause of the anomalous reading(s). This initial response shall include the following: checking the operating components of the horizontal well and sump system; an integrity check of the well for damage or silting; and the collection of additional water level measurements from Monitoring Well 5678 and other Sand Bar wells and/or piezometers to confirm the initial water level measurements.
    - (iii) This initial response period shall not last longer than five calendar days from the time of the discovery of the anomalous hydraulic reading. Within this initial response period, the licensee will have determined whether the system was functioning effectively. If effective capture was not maintained, the licensee shall notify the Division Chief of this determination and will have either fixed the dewatering system such that the system is operating as designed or have a planned response to fix or modify the system and to address any releases as necessary. The response to ineffective operation and the schedule for correcting the system and addressing any releases is subject to review and approval by the Division Chief.
5. Surface Water Monitoring Program. The containment of the Sand Bar groundwater shall also be evaluated as part of the Surface Water Monitoring Program that is required to be developed pursuant to Condition XII.H.3 of this license. If the Surface Water Monitoring Program indicates that the Sand Bar contaminated groundwater is not being effectively contained, the licensee shall modify the dewatering system such that the system is containing contaminated groundwater to the extent that the river is not impacted. The response to ineffective containment and the schedule for correcting the system and addressing any releases is subject to review and approval by the Division Chief.

#### F. TERTIARY POND MONITORING PROGRAMS

1. Upon issuance of this license, the licensee may terminate the operation of Purge Well 4290 and begin a compliance monitoring program to verify that groundwater remediation in this area has been completed. Under this program, the licensee shall operate and maintain a groundwater monitoring system consisting of Monitoring Well 3795 as shown in Figure 2 of the SAP, Attachment 24 of this license. {R 299.9611(2)(b) and R 299.9612}

The licensee shall sample the monitoring well in accordance with the procedures specified below:

- (a) Static water level measuring devices, pumps and/or sampling equipment shall be compatible with the constituents sampled and must be thoroughly cleaned and rinsed before use in each monitoring well. Sampling procedures shall assure that cross-contamination and changes in water chemistry do not occur. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}

- (b) The static water elevation shall be determined by methods giving precision to 1/8 inch or 0.01 foot prior to purging water from the wells for sampling. Measurements shall be made from the top of the casing with the elevation of all casings in the monitoring well system related to a permanent reference point, using USGS datum. {R 299.9612 and 40 CFR §264.97(f), which is ABR in R 299.11003}
  - (c) To ensure a representative sample, a volume of water shall be purged that is equal to or greater than three times the amount of water in the well casing, or until pH and specific conductance stabilize, or until the well is dry, before obtaining a sample for analysis as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. Wells shall be sampled immediately after purging where recovery rates allow. Where wells are pumped dry during purging, recovery rates shall be determined and samples taken as soon as sufficient recovery occurs. {R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
  - (d) Water removed from the monitoring well shall be managed as specified in the Well Purging Procedures in the SAP, Attachment 24 of this license. {R 299.9521(3)(b)}
  - (e) The monitoring well shall have adequate protective barrier(s), be clearly labeled, securely capped, and locked when not in use. {R 299.9612 and 40 CFR §264.97(c) - (e), which are ABR in R 299.11003}
  - (f) Prior to undertaking monitoring well replacement or repair, the licensee shall obtain the written approval of the Division, unless the well has been damaged or rendered inoperable, and the location, design, and depth of the replacement monitoring well remain unchanged. {R 299.9519(5)(c)(i)}
  - (g) All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. {R 299.9519(5)(c)(ii), R 299.9611(2)(a), and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. The licensee shall submit an Annual Groundwater Report to the Division Chief no later than April 15 for the previous calendar year's activities. At a minimum, the report shall include the following information:
- (a) A narrative summary of the previous calendar year's sampling events, including sampling event dates and the identification of any significant problems with respect to SAP defined procedures.
  - (b) A summary of groundwater quality data results, including a narrative summary of results and trends, data graphs, and data tables as applicable.
  - (c) A presentation of the trend analysis of the data and the identification of any increasing trends pursuant to Condition X.F.7. of this license.
  - (d) An analysis and discussion of laboratory and field related quality assurance/quality control information. This shall include results of equipment, field, and trip blanks, and discussion and evaluation of the adequacy of the data with respect to SAP specifications and requirements.

This Annual Groundwater Report is in addition to the reporting requirements of Condition II.L.4. of this license. {R 299.9521(3)(b) and R 299.9612(1) and 40 CFR §264.97(j), which is ABR in R 299.11003}

4. Compliance Monitoring Program. The licensee shall on a quarterly basis conduct a compliance monitoring program for a period of one year after the operation of Purge Well 4290 ceases. If the concentrations of the constituents in Table 2 of the SAP, Attachment 24 of this license, remain below the generic residential drinking water criteria of Part 201, Environmental Remediation, of Act 451, remediation is complete and Purge Well 4290 may be closed and chemical monitoring of Well 3795 shall be transitioned to the semi-annual detection monitoring program specified in Condition X.F.5 and X.F.6. of this license. If the results of the compliance monitoring program indicate that remediation is not complete, then the licensee shall resume operation of Purge Well 4290 and continue operation of the compliance monitoring program. The licensee shall not begin the detection monitoring program specified in Condition X.F.6. of this license until four consecutive quarterly samples are below the generic residential drinking water criteria of Part 201 of Act 451 after operation of the purge well has ceased.
5. Establishing Background. The licensee shall establish background groundwater quality values for a detection monitoring program at Monitoring Well 3795 for the constituents specified in Table 2 of the SAP, Attachment 24 of this license. Background values for the primary constituents shall consist of the results of at least eight sampling events, consisting of one year of quarterly compliance monitoring data and two years of semiannual detection monitoring data, following issuance of the license. Within 60 days of collecting the background values, the licensee shall submit the mean background values, variance, and standard deviations for each monitored constituent at the well to the Division Chief. In the event that upgradient groundwater quality shows a significant change, a petition may be submitted to the Division Chief to reestablish background quality. Background values may be reestablished only upon written approval of the Division Chief. {R 299.9612(1)(d) and (e) and 40 CFR §264.97(a) and (g), which are ABR in R 299.11003}
6. Detection Monitoring Program. If the quarterly compliance monitoring data collected pursuant to Condition X.F.4. of this license demonstrates that remediation in this area is complete, the licensee shall begin semi-annual detection monitoring of Monitoring Well 3795 as listed in Table 2 of the SAP, Attachment 24 of this license for the listed constituents. Data and evaluations must be submitted to the Division Chief in an annual groundwater monitoring report by April 15 of each year. {R 299.9612 and 40 CFR §264.99}
7. Primary Constituents. Following submittal of the background data, the licensee shall begin to conduct trend analyses to determine if the concentration(s) of a monitored constituent(s) is increasing over time as compared to background levels for each primary constituent listed in the Table 2 of the SAP, Attachment 24 of this license. {R 299.9612(1)(e) and 40 CFR §264.97(h) and (i), which are ABR in R 299.11003}
8. If an increasing trend in contaminant concentration(s) is detected, as defined in Table 2 of the SAP, Attachment 24 of this license, or the generic residential drinking water criteria of Part 201 of Act 451 are exceeded, the licensee shall notify the Division, Hazardous Waste Section, by telephone and in writing within seven working days and arrange a resampling as soon as possible to confirm if a trend exists or if the generic residential drinking water criteria of Part 201 of Act 451 have been exceeded. Resampling must include not less than four replicate samples at the affected well(s) for the primary constituent(s) in question. {R 299.9612 and 40 CFR §264.97(g), which is ABR in R 299.11003}
9. If the licensee confirms pursuant to Conditions X.F.7. and X.F.8. of this license that an upward trend in concentration(s) is occurring or has occurred, or the applicable remediation standard(s) has been exceeded, the licensee shall: {R 299.9612 and 40 CFR §264.98(f) and (g), which are ABR in R 299.11003}



- (a) Notify the Division Chief within one working day by calling the Division project geologist or permit engineer for the site, or the appropriate Division District Supervisor, or in the event of their unavailability, the DNRE PEAS at 1-800-292-4706.
  - (b) Provide written notification to the Division Chief within seven calendar days of the determination. The written notification shall indicate what constituents have shown an increasing trend in concentration or an exceedance of the remediation standard and the well in which the change(s) or exceedance(s) have occurred.
  - (c) As soon as possible, sample the groundwater in Monitoring Well 3795 for the concentration of all constituents identified in Appendix IX of 40 CFR Part 264 that are present in groundwater and for which approved analysis methods exist. The licensee shall also establish background values for Appendix IX constituents detected pursuant to R 299.9612 and 40 CFR §264.98(g)(3), which is ABR in R 299.11003.
  - (d) Immediately take steps to determine the cause of the contamination and eliminate the source of discharge.
  - (e) Within 90 days after the determination, submit to the Division Chief a plan to reestablish a compliance monitoring and corrective action program, if necessary, meeting the requirements of R 299.9612. The plan shall include the following information:
    - (i) An identification of the concentration of all Appendix IX constituents found in the groundwater.
    - (ii) Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of R 299.9612.
    - (iii) Any proposed changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of R 299.9612.
  - (f) Within 180 days after the determination, submit to the Division Chief detailed description of corrective actions that shall achieve compliance with applicable laws and rules, including a schedule of implementation. Corrective action shall also meet the requirements of R 299.9629, and include a plan for a groundwater monitoring program that shall demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of 40 CFR §264.99, which is ABR in R 299.11003.
  - (g) During the period prior to establishment of the compliance monitoring and, if necessary a corrective action program, the licensee shall provide the Division Chief, or his or her designee, with telephone updates and written reports every two weeks regarding the progress to date in determining the cause of contamination and eliminating the discharge, unless an alternate schedule is approved by the Division Chief. The licensee shall include in the written report the results of all samples from environmental monitoring conducted by the licensee.
10. If the licensee determines pursuant to Condition X.F.8. of this license that an increasing trend in concentration of hazardous constituents has occurred or is occurring in groundwater, or a remediation standard has been exceeded, it may demonstrate that a source other than the licensed facility caused the increase or that the increase resulted from error in sampling, analysis or evaluation. While the licensee may make a demonstration under this condition in addition to, or in lieu of, submitting a plan within the time specified in Condition X.F.9. of this license, the licensee is not relieved of the requirement to submit a plan to reestablish a compliance monitoring program and implement corrective action, if necessary, within the time specified unless the demonstration made under this condition successfully shows that a source other than the licensed facility caused

the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this condition, the licensee shall:

- (a) Notify the Division Chief within seven days after the determination that it intends to make a demonstration under this condition.
- (b) Within 90 days after the determination, submit a report to the Division Chief that demonstrates that a source other than the licensed facility solely caused the increase, or that the increase was caused by error in sampling, analysis, or evaluation.
- (c) Within 90 days after the determination, submit to the Division Chief a plan for review and approval to make any appropriate changes to the groundwater monitoring program at the facility.
- (d) Continue to monitor groundwater in compliance with this license.

{R 299.9612 and 40 CFR §264.98(g)(6), which is ABR in R 299.11003}

11. In the event that the Division Chief determines from the findings of Conditions X.F.7. of this license that an increasing trend in concentration of hazardous constituents has occurred in the groundwater or a remediation standard(s) has been exceeded, and the Director finds, in accordance with Section 11148 of Act 451, that the increase may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 specifying the steps the Director determines are necessary to prevent the act or eliminate the practice that constitutes that hazard, including, if specified, permanent or temporary cessation of the operation of the facility. This condition does not limit the DNRE's ability to take enforcement action pursuant to Sections 11148 and 11151 of Act 451. {R 299.9612(1)(g)}
12. Hydraulic Monitoring Program. The licensee shall conduct a hydraulic monitoring program as identified in Table 2 of the SAP, Attachment 24, of the license. The function of this monitoring program is to evaluate the integrity of the Tertiary Pond slurry wall by verifying that the groundwater elevation on the interior of the slurry wall (Tertiary Pond side) is significantly higher than the water elevation on the exterior of the slurry wall. The hydraulic data and evaluation will be summarized and reported in the Annual Groundwater Report. The lack of a significant differential head across the slurry wall shall result in the completion of further investigation on a schedule approved by the Division Chief.

**G. EAST-SIDE MAIN PLANT REVETMENT GROUNDWATER INTERCEPTION SYSTEM (RGIS)  
HYDRAULIC MONITORING PROGRAM**

1. The licensee shall maintain and operate a hydraulic monitoring program for water levels associated with the RGIS consisting of the piezometers and piezometer clusters identified in Table 5 and shown in Figure 5 of the SAP, Attachment 24 of this license, and the USGS Tittabawassee River Gauge Station.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license. {R 299.9519(5)(c)(ii), R 299.9611(2)(a), and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}

3. The licensee shall continuously measure static water level in each primary piezometer under all environmental conditions. This data shall be recorded to the nearest hundredth of a foot and averaged at 12-hour intervals. The static water level in the automated primary piezometer of each cluster (except Cluster AT), in Table 5 of the SAP, Attachment 24 of this license, will be compared with the 12-hour average Tittabawassee River level. These static water levels at the RGIS tile will be used to monitor hydraulic gradient reversal at the RGIS (reversal of the natural groundwater flow toward the river). Typically, water levels in the RGIS are to be maintained at or near the bottom elevation of the tile to provide the maximum possible time to respond to a system problem and to remain below the proactive response level identified in Condition X.G.8. of this license. The licensee may propose alternate set points for the typical operation of the RGIS to the DNRE for review and approval. Upon approval, these alternate set points will be incorporated into the SAP, Attachment 24 of this license, without the need for a minor license modification. RGIS operation is effective when the groundwater level, as measured at the primary piezometers, is lower than the adjacent water level in the Tittabawassee River.
4. The licensee shall collect static water level measurements manually at each piezometer bimonthly in order to validate and calibrate, if necessary, the automatically collected data. During severe weather conditions it may not be possible to collect a manual reading from the piezometers due to ice or high water conditions. Manual static water level reading shall be collected as specified in the Hydraulic Readings/Static Water Levels (SWL) section in the SAP, Attachment 24 of this license.
5. The licensee shall compare water levels from piezometers in Clusters O, N, AS, M, AR, AQ, and AW to river levels above the Dow dam. The water levels from the remaining RGIS piezometers clusters shall be compared to river levels below the Dow dam. Cluster AT is located along the southern portion of the RGIS that is parallel to Saginaw Road, and therefore cannot be compared to the river level. Correct functioning along the section of the RGIS monitored by Cluster AT is determined by hydraulic drawdown to the primary piezometer.
6. The licensee shall evaluate real-time static water level data from the automated primary piezometers which are collected and compiled by computer. The computer generated data shall be evaluated by operating personnel within two working days. All manually obtained piezometer hydraulic level data shall be summarized, reviewed, and evaluated within five working days of the collection of the data. If the water levels in all of the piezometers listed in Table 5 (except Cluster AT) of the SAP, Attachment 24 of this license are lower than the river level (upper or lower river level as appropriate), the RGIS is operating effectively. A flow sheet describing the data evaluation and reporting requirements for the RGIS is provided as Figure 13 of Attachment 24 of this license.
7. The licensee shall submit the results of hydraulic readings in accordance with the time frame specified in Condition II.L.4. of this license to the Division Chief. These data will be presented in table form (one table for the automatically collected static water levels and one table for manually collected static water level data) which will include piezometer identification, indication of the primary piezometer in the cluster, date of data collection, and the USGS water elevation for the river and each piezometer monitored.
8. Proactive Response. Under normal operating conditions, the licensee shall maintain the water level in the RGIS, as measured by the primary piezometers, at an elevation which is at least two feet below the real-time Tittabawassee River level. If the water level, as measured at the primary piezometers, rises to within two feet of the river level, a proactive response shall be immediately initiated as follows:
  - (a) The licensee shall conduct an investigation of the piezometer and corresponding RGIS area in an attempt to determine the cause of this high level reading, unless high river levels prevent a complete investigation. This investigation may include the following: a check of the computer program/alarm sequence; an on-line check of adjacent piezometer levels, lift station levels, and flow rates; a visual observation of the concern area along the RGIS; and/or manual static water level measurements in the concern area. Unless high river

levels prevent the investigation, this proactive response period will not last longer than two calendar days from the time of the initial alarm.

- (b) If it is determined that the piezometer is not reflecting true conditions within the area of the system it monitors, the affected piezometer will be fixed or a planned response to fix or modify the piezometer will be formulated. The planned response may include redeveloping the piezometer, repairing a leak in the piezometer, or other actions that are necessary to alleviate the problem. If a planned response to repair or replace a piezometer(s) is necessary, it will be submitted to the Division Chief for review and approval. The submittal will include a timetable which will summarize the time required to complete the repairs.
- (c) If the proactive response investigation indicates that the piezometer is reflecting real conditions along its monitoring section of the RGIS, the licensee will investigate the cause of the elevated hydraulic levels in the RGIS. This investigation may include the following: an on-line check of adjacent piezometer levels; close monitoring of the hydraulic level trend including lift station levels and flow rates; a visual observation of the area of concern along the RGIS; and/or manual static water level measurements in the area of concern piezometers and clean-outs. As a result of this investigation, the licensee will determine what additional actions, if any, are necessary to bring the water levels in that section of RGIS below the proactive response level. If a planned response to repair or replace a section of the RGIS is necessary, it will be submitted to the Division Chief for review and approval. The submittal will include a timetable which will summarize the time required to complete the repairs.

9. Initial Response. If the water level in a piezometer listed in Table 5 (except Cluster AT) of the SAP, Attachment 24 of this license becomes equal to or higher than the river level, the licensee will respond as follows:

- (a) The licensee shall attempt to determine the cause of this high level reading. If not already completed, the initial response will include the following: a check of the operating components of the RGIS in the vicinity of the piezometer (a check for standing water in nearby clean-outs, an integrity check of the piezometer itself, and the functioning of the lift station into which the section drains); and the collection of follow-up water level measurements to confirm the initial water level measurements.
- (b) This initial response period will not last longer than five calendar days from the time of discovery of the high hydraulic reading. Within this initial response period, the licensee will have determined whether there was a loss of gradient reversal. If the gradient reversal was lost, the licensee shall have fixed the RGIS so that the gradient is corrected or will have a planned response to fix or modify the RGIS in as timely a manner as possible. The planned response may include cleaning the collection tile, replacing a pump, fixing electrical wiring, or other actions that are necessary to alleviate the problem.
- (c) If the licensee has determined that a loss of gradient reversal has occurred, the licensee shall within 24 hours, notify the Division Chief and the Water Resources Division District Supervisor or their designees. The licensee will also inform the Division Chief of the results of the investigative and repair activities that were performed during the initial response period, and, if the RGIS was not repaired, there will be a planned response to repair or replace the impacted section of the RGIS to regain gradient reversal in as timely a manner as possible. If a planned response to repair or replace a section of the RGIS is necessary and/or if there has been a release, a work plan shall be submitted to the Division Chief for review and approval. The submittal shall include a plan and a timetable which summarizes the time required to complete the repairs and shall assess any release(s) to the Tittabawassee River and include any necessary response activity to address any release(s) of contaminated groundwater to the Tittabawassee River.

- (d) If, after the initial response, it is determined that a gradient reversal was maintained, and that the piezometer reading was high due to some other cause, this information will be communicated in the report accompanying the submittal of quarterly hydraulic data.

#### H. EAST-SIDE RGIS CHEMICAL MONITORING PROGRAM

1. The licensee shall analyze water collected by Lift Stations 1, 2, 3, 4, 5, 6, 7, 8, and 13 on an annual basis for the target constituents listed in Table 2 of the SAP, Attachment 24 of this license, to track the quality of the groundwater being collected by the East-Side RGIS. The water from each lift station will be reanalyzed for the 40 CFR Part 264, Appendix IX list every five years to reevaluate the target monitoring for modification, if appropriate. Prior notification will be given to the Division to allow sufficient time to schedule split sampling. The data and evaluations from these sampling events must be submitted to the Division Chief in the Annual Groundwater Report.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license. {R 299.9519(5)(c)(ii), R 299.9611(2)(a), and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. Annual Groundwater Report. The licensee shall include a RGIS operational summary in the Annual Groundwater Report that will be submitted prior to April 15 of each year. This summary will typically include a report on maintenance activities from the previous year and a performance evaluation of the RGIS, including the chemical monitoring data and trend evaluation(s) of water quality over time. This annual RGIS operational summary will also include average monthly flow and volumes of water removed from each lift station and long-term trend evaluations of water levels from the RGIS piezometers.
4. The licensee shall conduct the inspections identified in Condition II.F.1. of this license and Table 6 of the SAP, Attachment 24 of this license.

#### I. WEST-SIDE MAIN PLANT AND TERTIARY POND RGIS MONITORING PROGRAM

1. The licensee shall maintain and operate a hydraulic monitoring program for water levels associated with the West-Side Main Plant and Tertiary Pond RGIS consisting of piezometers identified in Table 5 and shown in Figure 5 of the SAP, Attachment 24 of this license.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license. {R 299.9519(5)(c)(ii), R 299.9611(2)(a) and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. The licensee shall measure static water level in each piezometer on a monthly basis. During some weather conditions it may not be possible to collect a manual reading from the piezometers due to ice or high water conditions. This data shall be recorded to the nearest hundredth of a foot. The static water level in the primary piezometer of each cluster, in Table 5 of the SAP, Attachment 24 of this license, will be compared to the criteria indicated in Table 2 of the SAP, Attachment 24 of this license (either the adjacent piezometers in that cluster, the water level in Bullock Creek, or to the water level on the outside of the sheet piling [in the case of Cluster TI]). These static water levels at the RGIS tile shall be used to verify the effectiveness of the tile as a hydraulic barrier. The

Tertiary Pond RGIS is operating effectively when it intercepts the shallow groundwater flowing from the Tertiary Pond toward Bullock Creek, toward the Tittabawassee River, and/or into the shallow groundwater surrounding the Tertiary Pond (on the outside of the tile system).

4. Initial Response. If the water level in a piezometer listed in Table 5 of the SAP, Attachment 24 of this license does not confirm effective tile operation, the licensee will respond as follows:
  - (a) The licensee shall attempt to determine the cause of this high level reading. The initial response will include the following: a check of the operating components of the RGIS in the vicinity of the piezometer (a check for standing water in nearby clean-outs, an integrity check of the piezometer for damage or silting, and the functioning of the lift station into which the section drains); and the collection of follow-up water level measurements to confirm the initial water level measurements.
  - (b) This initial response period will not last longer than five calendar days from the time of discovery of the high hydraulic reading. Within this initial response period, the licensee will have determined whether there was a loss of gradient reversal. If the gradient reversal was lost, the licensee shall have fixed the RGIS so that the gradient is corrected or will have a planned response to fix or modify the RGIS in as timely a manner as possible. The planned response may include cleaning the collection tile, replacing a pump, fixing electrical wiring, or other actions that are necessary to alleviate the problem.
  - (c) If the licensee has determined that a loss of gradient reversal has occurred, the licensee shall within 24 hours, notify the Division Chief and the Water Resources Division District Supervisor or their designees. The licensee will also inform the Division Chief of the results of the investigative and repair activities that were performed during the initial response period, and, if the RGIS was not repaired, there will be a planned response to repair or replace the applicable section of the RGIS to regain gradient reversal in as timely a manner as possible. If a planned response to repair or replace a section of the RGIS is necessary and/or if there has been a release, a work plan shall be submitted to the Division Chief for review and approval. The submittal shall include a plan and a timetable which summarizes the time required to complete the repairs and shall assess any release(s) to the Tittabawassee River and include any necessary response activity to address any release(s) of contaminated groundwater to the Tittabawassee River.
  - (d) If, after the initial response, it is determined that a gradient reversal was maintained, and that the piezometer reading was high due to some other cause, this information will be communicated in the report accompanying the submittal of quarterly hydraulic data.
  - (e) All manually obtained piezometer hydraulic level data shall be summarized, reviewed, and evaluated within five working days of the collection of the data. If the water levels indicate that the RGIS is operating correctly, then no further action is required. A flow sheet describing the data evaluation and reporting requirements for the RGIS is provided as Figure 13 of the SAP, Attachment 24 of this license.
  - (f) The licensee will submit the results of hydraulic readings in accordance with the time frame specified in Condition II.L.4. of this license to the Division Chief. These data will be presented in table form which will include piezometer identification, indication of the primary piezometer in the cluster, date of data collection, and the USGS water elevation for the river (if applicable) and each piezometer monitored.
5. Annual Groundwater Report. The licensee shall include a RGIS operational summary in the Annual Groundwater Report that will be submitted prior to April 15 of each year. This summary will typically include a report on maintenance activities from the previous year and a performance evaluation of the RGIS, including the chemical monitoring data and trend evaluation(s) of water

quality over time. This annual RGIS operational summary will also include average monthly flow and volumes of water removed from each lift station and long-term trend evaluations of water levels from the RGIS piezometers.

6. Chemical Monitoring Program. The licensee shall analyze water collected by Lift Stations 9, 11, and 20 on an annual basis for four years for the 40 CFR Part 264, Appendix IX constituents to develop a target constituent list in order to characterize and track the quality of the groundwater being collected by the West-Side RGIS. After the initial four year characterization, the lift stations will be analyzed for the target list on an annual basis. After the target list has been developed, the water from the lift station will be reanalyzed for the 40 CFR Part 264, Appendix IX list every five years to reevaluate the target monitoring for modification, if appropriate. Prior notification will be given to the Division to allow sufficient time to schedule split sampling. The data and evaluations from these sampling events must be submitted to the Division Chief in the Annual Groundwater Report.
7. The licensee shall conduct the inspections identified in Condition II.F.1. of this license and Table 6 of the SAP, Attachment 24 of this license.

**J. FACILITY SHALLOW GROUNDWATER MONITORING PROGRAM**

1. Hydraulic Monitoring Program. The licensee shall operate and maintain a quarterly and annual hydraulic monitoring program for the shallow groundwater within the facility boundary consisting of piezometers located as shown in Figure 8 of the SAP, Attachment 24 of this license.
2. The licensee shall collect and analyze samples according to the schedule, constituents, and procedures specified in the SAP, Attachment 24 of this license. The licensee shall submit proposed revisions to the SAP to the Division Chief for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. All monitoring wells, piezometers, purge wells and other sampling equipment will be inspected and maintained as described in Attachment 24 of this license. {R 299.9519(5)(c)(ii), R 299.9611(2)(a) and R 299.9612 and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. The licensee shall develop typical groundwater contour maps of the static water elevations on a quarterly basis. The contour interval used shall be sufficiently detailed to accurately assess groundwater flow conditions and identify any areas of off-site shallow groundwater flow. Any missing data points shall be explained by the licensee in a summary evaluation that shall accompany these maps. These contour maps shall be submitted to the Division Chief in accordance with Condition II.L.4. of this license.
4. If the data and maps that are required to be developed pursuant to Condition X.J.3. of this license do not provide sufficient detail to determine if groundwater is being maintained within the facility boundary, and the area(s) of concern is not being addressed under Condition XII.A.1 of this license, the licensee shall, in the summary evaluation required pursuant to Condition X.J.3. of this license, propose a work plan for Division review and approval to add any additional wells or piezometers necessary to determine if there are areas of off-site shallow groundwater flow. Upon approval, the licensee shall install the additional wells or piezometers and modify the SAP to include the additional monitoring points in accordance with Condition X.J.2. of this license. If approved, the revisions to the SAP shall become part of this license without the need for a minor license modification.
5. The licensee shall prepare an annual groundwater hydraulic report. This report shall summarize the previous year's data along with a detailed description of any anomalous data found. The report shall include diagrams showing the horizontal and vertical flow components in the monitored zone(s), and/or hydrographs prepared from data collected from the piezometers specified in Table 2 of the SAP, Attachment 24 of this license. This information must be submitted to the Division Chief no later than April 15 following each calendar year.

6. If the licensee or the Division Chief determines from the information required pursuant to Condition X.J.3. of this license that shallow groundwater is flowing or has the potential to flow beyond the facility boundary, then the licensee shall take the following actions:
  - (a) Within 60 days of submitting the quarterly report required pursuant to Condition X.J.3. of this license or written notification by the Division Chief, the licensee shall prepare a work plan for Waste and Hazardous Material Division review and approval to confirm the existence of or the potential for off-site groundwater flow and to characterize the groundwater for the presence of contaminants. The licensee shall implement and report the results of the approved work plan on a schedule contained within the work plan.
  - (b) If the existence or the potential for off-site flow is confirmed, based on the results of the hydraulic and chemical characterization program required pursuant to Condition X.J.6.(a) of this license, the licensee shall propose, as appropriate, a groundwater detection, compliance, or corrective action monitoring program for review and approval. Upon approval by the Division Chief, the groundwater monitoring program becomes an enforceable condition of this license.
  - (c) If the results of the investigation required pursuant to Condition X.J.6.(a) of this license indicate that contaminated groundwater has flowed or may flow beyond the facility boundary, the licensee shall immediately comply with the requirements of Condition XI.C.4. of this license.
  
7. If contaminated shallow groundwater is found to be flowing beyond the facility boundary or has the potential to flow beyond the facility boundary, and the Director finds, in accordance with Section 11148 of Act 451, that the contamination may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 specifying the steps the Director determines are necessary to prevent the act or eliminate the practice that constitutes that hazard, including, if specified, permanent or temporary cessation of the operation of the facility. This condition does not limit the DNRE's ability to take enforcement action pursuant to Sections 11148 and 11151 of Act 451. {R 299.9612(1)(g)}

**K. AMBIENT AIR MONITORING PROGRAM**

The licensee shall conduct ambient air monitoring and reporting of monitoring results in accordance with the program specified in Attachment 26 of this license, effective September 30, 2005. The ambient air monitoring program was revised and incorporated into Attachment 26 of this license as a minor modification effective November 3, 2010. {R 299.9611(2)(c)}

**L. SOIL MONITORING PROGRAMS**

1. Soil Monitoring Program. The licensee shall, within 60 days of the issuance of this license, submit a plan to establish a soil monitoring program as indicated in the Compliance Schedule, Attachment 28 of this license. The monitoring program shall include soil box monitoring as specified below and soil monitoring of the Green Belt Areas located on Dow property north and east of the facility fence line along Bay City and Saginaw Roads. The purpose of this monitoring program is to verify that the Soil and Groundwater Exposure Control Program, Attachment 27 of this license, is effectively preventing the migration of dioxins and furans from facility surficial soils via track out and blowing dust. The proposed monitoring point(s) shall include a minimum of three soil boxes (two new boxes, one located near 2 gate and the other near 11 gate, and one existing box located near 19 gate) and locations in the Green Belt Area(s) downwind of the facility in areas where clean top soil was placed during Phase I of the Soil and Groundwater Exposure Control Program. The plan shall include the soil box locations; proposed Green Belt monitoring location(s); a proposal to establish baseline concentration(s) of dioxins and furans in the soil boxes and Green

Belt; a proposed monitoring frequency; and a schedule of activities. Per the Compliance Schedule, Attachment 28 of this license, the licensee shall also submit a proposal for evaluation of the collected data for review and approval by the Division Chief. Sample collection procedures and analytical methods shall be those identified in the Soil Monitoring section of the SAP, Attachment 24 of this license. Upon approval, this more comprehensive soil monitoring program will replace the program identified in the Soil and Groundwater Exposure Control Program, Attachment 27 of this license, and the licensee shall modify the SAP to include the third soil box and the Green Belt monitoring and implement this monitoring program. Once approved, the revisions to the SAP shall become part of this license without the need for a minor license modification. {R 299.9611(2)(d)}

2. The licensee shall report in writing to the Division Chief the data and results of the evaluation of the Soil Monitoring Program including the Soil Box and Green Belt Area data in accordance with the SAP, Attachment 24 of this license, and as further specified in Conditions X.L.1., and X.L.3. of this license.
3. All results and evaluations shall be reported in compliance with the timeframe specified in Condition II.L.4. of this license. All dioxin and furan data required pursuant to Condition X.L. of this license shall be reported on a dry weight basis and include the concentrations of the 17 International Toxicity Equivalency Factor congeners.
4. The licensee shall evaluate the toxic equivalent concentration (TEQ) of dioxins and furans by comparing the concentrations from the soil box and Green Belt Area sampling events to the baseline concentration(s); the approved framework for the evaluation of the data that is to be developed pursuant to the Compliance Schedule, Attachment 28 of this license; any control soil boxes; and the applicable environmental protection standards.
5. Per the Compliance Schedule, Attachment 28 of this license, the licensee shall submit a proposed framework to evaluate the information required pursuant to Condition X.L.4. of this license and determine whether the data indicate the potential for off-site migration. The time required to establish the above proposed framework to evaluate the monitoring data and the DNRE approval of the framework, shall not prevent the implementation of the actual data collection for the soil box and Green Belt Monitoring program. The implementation of data collection will begin as early as possible in 2003.
6. If, based on the framework described in Condition X.L.5. of this license or other evaluation(s) conducted by the licensee or the DNRE, the data indicate the potential for off-site migration, the licensee shall take immediate action to eliminate the source of the contamination and to prevent a possible release(s) by proposing a modification(s) to the Soil and Groundwater Exposure Control Program or other appropriate actions for review and approval by the Division Chief. The licensee shall immediately implement the approved modification(s) or actions.
7. If the licensee or the Division Chief determines, from the information required pursuant to Condition X.L.4. or X.L.5. of this license, that off-site migration has occurred, or has the potential to occur, at concentrations that may exceed an environmental protection standard, the licensee shall immediately comply with the requirements of Condition XI.C.4. of this license.
8. If dioxins and furans are migrating beyond the facility boundary, or have the potential to migrate beyond the facility boundary, and the Director finds, in accordance with Section 11148 of Act 451, that the presence of these contaminants may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 specifying the steps the Director determines are necessary to prevent the act or eliminate the practice that constitutes the hazard, including, if specified, permanent or temporary cessation of the operation of the facility.

**M. SURFACE WATER MONITORING PROGRAM**

1. The licensee shall develop a surface water monitoring program as described in Section H-3 of the Compliance Schedule, Attachment 28 of this license.
2. The licensee shall report surface water monitoring results as required by Condition II.L.4. of this license. {R 299.9521(3)(a) and (b) and R 299.9611(5)}
3. If the results of the surface water monitoring program or other monitoring indicates that surface water is being contaminated by the facility, and the Director finds, in accordance with Section 11148 of Act 451, that the contamination may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing damage to public health or the environment, the licensee shall immediately comply with an order issued by the Director pursuant to Section 11148(1) of Act 451 specifying the steps the Director determines are necessary to prevent the act or eliminate the practice that constitutes that hazard, including, if specified, permanent or temporary cessation of the operation of the facility. This condition does not limit the DNRE's ability to take enforcement action pursuant to Sections 11148 and 11151 of Act 451. {R 299.9612(1)(g)}

**PART XI  
CORRECTIVE ACTION CONDITIONS**

**A. CORRECTIVE ACTION AT THE FACILITY**

1. The licensee shall implement corrective action for all releases of a contaminant from any waste management unit(s) at the facility, regardless of when the contaminant may have been placed in or released from the waste management unit. For the purposes of this license, the term “corrective action” means an action determined by the Division Chief to be necessary to protect the public health, safety, welfare, or the environment, and includes, but is not limited to, investigation, evaluation, cleanup, removal, remediation, monitoring, containment, isolation, treatment, storage, management, temporary relocation of people, and provision of alternative water supplies, or any corrective action allowed under Title II of the federal Solid Waste Disposal Act, or regulations promulgated pursuant to that act. In accordance with R 299.9629, the licensee shall take corrective action to ensure compliance with the groundwater protection standards, and, if necessary, other applicable environmental protection standards, established by the Director, including, any of the following:
  - (a) A list of the hazardous wastes and hazardous constituents. The list of hazardous constituents are identified pursuant to the provisions of 40 CFR §264.93.
  - (b) The groundwater protection standards which are expressed as concentration limits that are established pursuant to the provisions of R 299.9612(1)(d) or as concentration limits established pursuant to the provisions of Part 31, Water Resources Protection, or Part 201 of Act 451 if the limits are not less stringent than allowed pursuant to the provisions of RCRA.
  - (c) The environmental protection standards which are necessary for the cleanup and protection of soil, surface water, sediments, and ambient air that are established pursuant to the provisions of Part 201 of Act 451 if the limits are not less stringent than allowed pursuant to the provisions of RCRA.
  - (d) The compliance point or points at which the standards apply and at which monitoring shall be conducted, which for groundwater are specified pursuant to the provisions of 40 CFR §264.95. The point(s) of compliance with respect to waste management units (WMUs) and areas of concern (AOCs) is the facility boundary unless otherwise specified by the Division Chief. The Division Chief will specify a unit(s)-specific point of compliance for WMUs and AOCs located within the Facility Solid Waste Management Unit (SWMU), if necessary, on a case-by-case basis as the corrective action process is implemented in accordance with this license and Part 111 of Act 451.
  - (e) The compliance period, which for groundwater is specified pursuant to the provisions of 40 CFR §264.96.
  - (f) The restoration and mitigation measures that are necessary to mitigate damage to the natural resources of the state, including wildlife, fish, wetlands, or other ecosystems.

The Division Chief may approve a substantively equivalent remedial process that meets the requirements of Part 201 of Act 451 to satisfy the corrective action obligations under this license. {Sections 11102, 11115a, 20120a, and 20120b of Act 451 and R 299.9629}

2. To the extent that a release of a hazardous substance, as defined in Section 20101(t) of Act 451, that is not also a contaminant, as defined in Section 11102(2) of Act 451, is discovered while performing corrective action under this license, the licensee shall take concurrent actions as necessary to address the Part 201 of Act 451 remedial obligations for that release. {Part 201 of Act 451}

**B. CORRECTIVE ACTION BEYOND THE FACILITY BOUNDARY**

1. The licensee shall implement corrective action beyond the facility boundary if the release of a contaminant has or may have migrated or has or may have been emitted, beyond the facility boundary, unless the licensee demonstrates to the satisfaction of the Division Chief that, despite the licensee's best efforts, the licensee was unable to obtain the necessary permission to undertake this corrective action. The licensee shall not be relieved of all responsibility to clean up a release that has migrated or has been emitted beyond the facility boundary where off-site access is denied. On-site measures to address such releases shall be addressed under this part of the license, as determined to be necessary on a case-by-case basis. Assurances of financial responsibility for such corrective action shall be provided as specified in Conditions XI.K. and XI.L. of this license. {Section 11115a of Act 451 and R 299.9629}
2. The following off-site areas identified in the table below require further corrective action in accordance with Conditions XI.B.3. and XI.B.4. of this license.

<b>Releases Beyond the Facility Boundary</b>	<b>Off-Site Areas that Exceed the Environmental Protection Standards Pursuant to Section 20120a(1)(a) and (17) of Act 451</b>
Midland Area Soils	Areas Impacted by Off-Site Migration or Transportation of Contaminants
Tittabawassee River Sediments	Areas Impacted by Off-Site Migration or Transportation of Contaminants
Tittabawassee River Flood Plain	Areas Impacted by Off-Site Migration or Transportation of Contaminants

3. Within 60 days of the issuance of this license, the licensee shall develop and submit for review and approval to the Division Chief a scope of work (SOW) for conducting a Remedial Investigation (RI) for all areas where a release from the facility is known to have occurred or could potentially have occurred as identified in Condition XI.B.2. At a minimum, these areas shall include the Midland Area Soils and the Tittabawassee River, commencing at the facility's upstream boundary, and shall include river sediments and soils identified in Condition XI.B.2. of this license and extending, at a minimum, to the confluence of the Tittabawassee and Shiawassee Rivers downstream of Greenpoint Island.
  - (a) The SOW must identify and propose the implementation of specific interim response activities for the protection of public health for the areas identified in Condition XI.B.2. of this license that are known through prior environmental sampling to be impacted by releases from the facility. The licensee should be prepared to immediately implement these interim response activities as needed to reduce exposures upon approval by the Division Chief. As additional areas and exposure pathways are identified, further interim response activities may need to be implemented accordingly.
  - (b) The SOW must describe the proposed phasing and prioritization of work in a schedule based on consideration of potential risks to human health and the environment. In planning, submitting, and conducting each area/project/phase of the RI, the requirements listed in R 299.5528(3) of the administrative rules for Part 201 of Act 451 must be addressed. The areas identified in Condition XI.B.2. of this license covered under this SOW must be incorporated into the detailed Compliance Schedule for the facility under Condition XII.A. of this license. The RI must include the development and submittal of detailed and legible figures and diagrams identifying the specific locations of known off-site soil and sediment impact areas.

- (i) The SOW must identify additional potential exposure pathways that do not have Part 201 of Act 451 generic criteria (e.g., food chain exposures, house dust, etc.).
  - (ii) The SOW must identify the specific areas proposed for investigation and the process proposed for selecting those areas.
  - (iii) The SOW must include a description of proposed steps to determine if there are continuing sources of contaminants, originally released by the licensee, to the areas identified in Condition XI.B.2. of this license. These potential sources include erosional and depositional processes.
  - (iv) The licensee has the option to propose steps to develop site-specific cleanup criteria, including proposed use of probabilistic risk assessment methods. Site-specific criteria may be developed as allowed pursuant to Part 111 of Act 451, which adopts environmental protection standards developed under Part 201 of Act 451 and the associated administrative rules, provided they are not less stringent than allowed pursuant to the provisions of RCRA. The licensee may include a description of the proposed steps to develop site-specific criteria in the SOW. A prerequisite to DNRE approval of site-specific criteria would be implementation of associated requirements of Part 201 of Act 451 and the applicable administrative rules.
  - (v) The SOW must include provisions for conducting an ecological risk assessment for the areas identified in Condition XI.B.2. of this license.
- (c) In addition to the above requirements, the SOW must include a proposed plan for public participation.
4. The Division Chief will approve, modify and approve, or disapprove the SOW, or provide a written Notice of Deficiency on the SOW. The licensee shall modify the SOW in accordance with or based on the resolution of the Notice of Deficiency and submit a new SOW or revisions to the SOW to the Division Chief for approval within 30 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the SOW becomes an enforceable condition of this license.
  5. The licensee shall submit a written RI Work Plan to the Division Chief in accordance with the SOW approved pursuant to Condition XI.B.4. of this license. The Division Chief will approve, modify and approve, or disapprove the RI Work Plan, or provide a written Notice of Deficiency on the RI Work Plan. The licensee shall modify the RI Work Plan in accordance with or based on the resolution of the Notice of Deficiency and submit a new RI Work Plan or revisions to the RI Work Plan to the Division Chief for approval within 60 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the RI Work Plan becomes an enforceable condition of this license. The licensee shall implement the approved RI Work Plan in accordance with the schedule in the RI Work Plan. The licensee shall submit a written RI Final Report to the Division Chief for review and approval in accordance with the schedule in the approved RI Work Plan. Based upon the results of the RI, the Division Chief may require additional corrective action according to Conditions XI.F. through XI.J. of this license for the areas identified in Condition XI.B.2. of this license.
  6. The following off-site areas identified in the table below also require further corrective action in accordance with Conditions XI.B.7. and XI.B.8. of this license. Concurrent with activities required to be taken by the licensee pursuant to Conditions XI.B.1. – XI.B.5. of this license, other administrative options will be pursued by the DNRE in coordination with the U.S. EPA to investigate contamination and assess potential additional sources in the off-site areas identified in the table below and, if necessary, conduct interim response activities. These options may include, but are not limited to, a federal led action taken pursuant to CERCLA; a unilateral order(s) issued pursuant to Part 111 of Act 451 or RCRA; or a state led action taken pursuant to Parts 201, 31, and/or 55 of Act 451. By identifying the off-site areas in the table below, the DNRE does not

preclude the potential responsibility of other parties for contamination in those areas.

<b>Releases Beyond the Facility Boundary</b>	<b>Off-Site Areas that Exceed the Environmental Protection Standards Pursuant to Section 20120a(1)(a) and (17) of Act 451</b>
Saginaw River Sediments	Areas Impacted by Off-Site Migration or Transportation of Contaminants
Saginaw River Flood Plain	Areas Impacted by Off-Site Migration or Transportation of Contaminants
Saginaw Bay	Areas Impacted by Off-Site Migration or Transportation of Contaminants

7. If a comprehensive corrective action program is being conducted in compliance with an alternate legally binding agreement or other administrative option (alternate administrative option) as described in Condition XI.B.6. of this license, the licensee may submit a request for a major modification of the license to the Division Chief. This major modification request is subject to public comment and would be limited to the corrective action activities that are being addressed by the alternate administrative option. Upon approval of the major modification request, the license shall be modified to reflect the conditions of the alternate administrative option for the subject off-site area(s). If the major modification request is denied, and four years have passed since issuance of the license, the licensee shall immediately implement the corrective action process described by Conditions XI.B.3., XI.B.4., and XI.B.5. of this license for those areas that were the subject of the modification request, except that these conditions shall apply to the off-site areas that are listed in Condition XI.B.6. of this license.
  
8. At the end of the four year period beginning on the date this license is issued, the licensee shall continue or commence the corrective action process for any of the off-site areas that are identified in Condition XI.B.6. of this license that have not been addressed pursuant to Condition XI.B.7. of this license to the extent that off-site migration or transportation of contaminants released from the facility has or may have occurred in these areas. Corrective action for these areas shall be implemented using the process described by Conditions XI.B.3., XI.B.4., and XI.B.5. of this license except that these conditions shall apply to the off-site areas listed in Condition XI.B.6. of this license. That process shall commence with the development of a SOW as described in Condition XI.B.3. of this license for the areas identified in Condition XI.B.6. of this license within 60 days of the end of the four year period described in this condition.
  
9. Consistent with the provisions of Condition XI.G. of this license, the Division Chief may require the licensee to implement interim response activities to prevent, minimize or mitigate injury to the public health, safety, or welfare or the environment in accordance with Condition XI.G. of this license at any of the specific off-site area(s) identified in Conditions XI.B.2. and XI.B.6. of this license at any time during the corrective action process where information indicates that the injury has or may have resulted directly or indirectly from the facility.
  
10. The licensee, the DNRE and the U.S. EPA are parties to an Administrative Settlement Agreement and Order on Consent for Remedial Investigation, Feasibility Study and/or Engineering Evaluation and Cost Analysis, and Response Design, CERCLA Docket No. V-W-10-C-942 effective January 21, 2010 (AOC). Among other things, the AOC requires the licensee to conduct a Remedial Investigation and Feasibility Study (RI/FS) pursuant to the requirements of CERCLA for areas defined as the "Site" under the AOC (AOC Site).
  - (a) As they pertain to the AOC Site, the license corrective action obligations set forth in Attachment 31 to this license (Attachment 31 is also Appendix H to the AOC) are held in abeyance and may be satisfied by compliance with the AOC as provided by

Condition XI.B.10.(d) of this license, below.

- (b) "Site" shall mean the area located in and along the Tittabawassee River and its floodplains, beginning at and including Reach A, starting upstream of the Midland Plant, and extending downstream to, and including, the Saginaw River and its floodplains, and Saginaw Bay, and any other areas in or proximate to the Tittabawassee River and its floodplains, the Saginaw River and its floodplains, and Saginaw Bay, where hazardous substances, pollutants, or contaminants from the Midland Plant have or may have come to be located, all depicted generally on the map attached as Appendix C to the AOC. Areas that are not part of the Site include but are not limited to the city of Midland, Michigan, generally, and the Midland Plant. Limited areas of the Tittabawassee River floodplain are located within the city limits of the city of Midland and are part of the Site as depicted in Appendix C to the AOC. The Midland Plant is depicted in Appendix D to the AOC.
- (c) "Saginaw Bay" means the area encompassed by an imaginary line drawn between Au Sable Point and Point Aux Barques as depicted in Appendix G of the AOC. Saginaw Bay is operationally considered to have an inner and outer Bay. The inner Bay consists of the area encompassed by an imaginary line drawn between Au Gres and Fish Point, also depicted in Appendix G of the AOC.
- (d) The DNRE will review the plans, reports, and other items submitted or determinations made under the AOC. Each plan, report, or other item or determination, once approved or made by the U.S. EPA, after opportunity for review and comment by the DNRE, will be considered to be consistent with, and to satisfy, the corresponding obligation of the licensee as set forth in Attachment 31 to this license and Appendix H of the AOC unless within no more than 10 business days after the U.S. EPA approval of a plan, report, or other item or U.S. EPA determination, the DNRE invokes the dispute resolution process set forth in Section XVII of the AOC with respect to that approval or determination.
- (e) If after the dispute resolution process in Section XVII of the AOC is completed, and the DNRE has determined, consistent with the standards set forth in paragraph 69 of the AOC, that the licensee must undertake additional response activities/corrective actions to fulfill the requirement under this license that was the subject of the dispute resolution process, then the DNRE will provide the licensee with a written notice directing the licensee to conduct such work as necessary to meet the substantive corrective action requirements of Part 111 and this license. The notice will include a description of the corrective action that is necessary, identify the provision of this license that requires the corrective action, and provide a reasonable time schedule for undertaking the corrective action. The notice will also set forth the reasons why:
  - (i) Such work is necessary to meet the substantive corrective action requirements of this license; and
  - (ii) Compliance with such substantive corrective action requirements under this license will not be achieved by the implementation of the Work taken or to be taken by licensee pursuant to the AOC. The licensee shall promptly comply with the required corrective action on the identified schedule, subject to all of licensee's rights under this license and applicable law, including any rights the licensee may have to seek judicial review of the DNRE's decision under Section 600.631 of the Michigan Compiled Laws or any other applicable provision of law.
- (f) The DNRE's February 1, 2008, approval with modifications of the Remedial Investigation Scope of Work for the Saginaw River and Bay and Floodplain is withdrawn.
- (g) The obligations listed in Attachment 32 to this license (Attachment 32 is also Exhibit A to the Statement of Work and the Statement of Work is Appendix A to the AOC) will be removed as current obligations under this license according to the schedule set forth in

Attachment 32, and the work will be undertaken in accordance with the AOC.

(h) Condition XI.S. of this license does not apply to the AOC Site.

**C. IDENTIFICATION OF EXISTING WASTE MANAGEMENT UNITS AND AREAS OF CONCERN**

The following WMUs and AOCs have been identified at the facility or contiguous to the facility. As used in this license, AOCs means those areas which may not meet the definition of a WMU where hazardous waste, hazardous constituents or hazardous substances may have been released to the environment on a non-routine basis, which may present an unacceptable risk to the public health, safety, welfare, or the environment and are subject to the corrective action requirements of Part 111 of Act 451 and the remediation requirements of Part 201 of Act 451.

Those WMUs that were identified as SWMUs in the September 30, 1988 U.S. EPA, Region 5, Hazardous and Solid Waste Amendments (HSWA) Permit are marked with an asterisk (\*) below.

<b>WMUs</b>	<b>WMU TYPE</b>
LEL Site I (Dioxin Point Source)* ("LEL" Indicates Locally Elevated Levels of Dioxins and Furans)	Former Manufacturing Site Closed as a Landfill
LEL Site II (Dioxin Point Source)*	Former Wastewater Pond Closed as a Landfill
LEL Site III (Dioxin Point Source)*	Former Conduits to Wastewater Treatment Plant With Historic Organic Deposit Closed as a Landfill
Poseyville Landfill*	Closed Landfill
No. 6 Brine Pond (6-Pond) and Brine Injection Wells Within the Facility Boundary*	Inactive Brine Pond and Closed Brine Injection Wells
Chemical Disposal Well No. 1	Closed Injection Well
Chemical Disposal Well No. 2	Closed Injection Well
Chemical Disposal Well No. 3	Closed Injection Well
Chemical Disposal Well No. 4 CD	Closed Injection Well
Chemical Disposal Well No. 5	Closed Injection Well
Chemical Disposal Well No. 8	Closed Injection Well
Chemical Disposal Well No. 9	Closed Injection Well
Facility SWMU*	The Area Within the Designated Facility Boundary, Including Separately Identified WMUs
1925 Landfill*	Area of Closed Landfills and Surface Impoundments Closed with Waste in Place
Closed Diversion Basin and Open Wastewater Conduits	Closed Surface Impoundments

<b>WMUs</b>	<b>WMU TYPE</b>
Sludge Dewatering Facility	Surface Impoundment Closed as a Landfill
703 Incinerator	Closed Hazardous Waste Incinerator
830 Incinerator	Closed Hazardous Waste Incinerator
Waste Storage Area IIA	Closed Hazardous Waste Management Storage Tank System

<b>AOCs</b>	<b>AOC TYPE</b>
East-Side Powerhouse Cooling Pond	Former Cooling Pond Closed with Unknown Fill Material in Place
Ash Pond	Former Pond Between Tertiary Pond and No. 6 Brine Pond Closed with Unknown Fill Material in Place
US 10 Tank Farm	Styrene Product Storage Tank Farm
Pure Oil Site	Former Storage Tank Farm
Overlook Park	Relocated Soils From Construction of Tertiary Pond

- The following WMUs, identified in the table below, require further corrective action or have ongoing corrective action operation, maintenance and/or monitoring requirements at this time as described in Parts IX, X, XI, XII, and the Compliance Schedule, Attachment 28 of this license.

<b>WMUs</b>	<b>WMU TYPE</b>
LEL Site I (Dioxin Point Source)	Former Manufacturing Site Closed as a Landfill
LEL Site II (Dioxin Point Source)	Former Wastewater Pond Closed as a Landfill
LEL Site III (Dioxin Point Source)	Former Conduits to Wastewater Treatment Plant With Historic Organic Deposit Closed as a Landfill
Poseyville Landfill	Closed Landfill
No. 6 Brine Pond (6-Pond) and Brine Injection Wells Within the Facility Boundary	Inactive Brine Pond and Closed Brine Injection Wells
Chemical Disposal Well No. 3	Closed Injection Well
1925 Landfill	Area of Closed Landfills and Surface Impoundments Closed with Waste in Place
Closed Diversion Basin and Open Wastewater Conduits	Closed Surface Impoundments

<b>WMUs</b>	<b>WMU TYPE</b>
Facility SWMU	The Area Within the Designated Facility Boundary, Including Separately Identified WMUs

2. The following AOCs identified in the table below require further corrective action, which includes, at a minimum, an RFI Phase I type investigation/preliminary assessment (PA) as described in the Compliance Schedule, Attachment 28 of this license. Based on a review of the PA results, the Division Chief may require additional corrective action according to Condition XI.F. of this license for the AOCs identified below.

<b>AOCs</b>	<b>AOC TYPE</b>
East-Side Powerhouse Cooling Pond	Former Cooling Pond Closed with Unknown Fill Material in Place
Ash Pond	Former Powerhouse Ash Pond
Triangle Pond	Former Pond Between Tertiary Pond and No. 6 Brine Pond Closed with Unknown Fill Material in Place
US 10 Tank Farm	Styrene Product Storage Tank Farm
Pure Oil Site	Former Storage Tank Farm
Overlook Park	Relocated Soils From Construction of Tertiary Pond

3. The following WMUs do not require corrective action at this time, other than the site-wide investigation requirements required under the Compliance Schedule, Attachment 28 of this license. The determination that no further corrective action is required at this time is based on the design of the units and the available information regarding the units which indicates that no known or suspected releases of contaminants from the units have occurred. The DNRE may require corrective action for those WMUs based upon new information or changed conditions which lead the DNRE to determine that there is, or may have been, a release of a contaminant(s).

<b>WMUs</b>	<b>WMU TYPE</b>
Chemical Disposal Well No. 1	Closed Injection Well
Chemical Disposal Well No. 2	Closed Injection Well
Chemical Disposal Well No. 4 CD	Closed Injection Well
Chemical Disposal Well No. 5	Closed Injection Well
Chemical Disposal Well No. 8	Closed Injection Well
Chemical Disposal Well No. 9	Closed Injection Well
Sludge Dewatering Facility	Surface Impoundment Closed as a Landfill
703 Incinerator	Closed Hazardous Waste Incinerator

WMUs	WMU TYPE
830 Incinerator	Closed Hazardous Waste Incinerator
Waste Storage Area IIA	Closed Hazardous Waste Storage Tank System

4. Within 30 days after the discovery of a release of a contaminant from a WMU, the licensee shall provide written notification to the Division Chief. The written notification shall include all available information pertaining to the release. Based on a review of all of the information, the Division Chief may require corrective action for the newly identified release. The licensee shall submit a written Remedial Investigation (RI) Work Plan to the Division Chief within 60 days after written notification by the Division Chief that corrective action for the release is required.

{Sections 11102 and 11115a of Act 451 and R 299.9629}

**D. IDENTIFICATION OF NEW WASTE MANAGEMENT UNITS**

1. Within 30 days after discovery of a new WMU or a release of a contaminant from a new WMU, the licensee shall provide written notification to the Division Chief. The written notification shall include all of the following information to the extent that it is available:
  - (a) The location of the unit on the facility topographic map.
  - (b) The designation of the type of unit.
  - (c) The general dimensions and structural description, including any available drawings of the unit.
  - (d) The date the unit was operated.
  - (e) Specification of all waste(s) that have been managed in the unit.
  - (f) All available information pertaining to any release of a contaminant from the unit.
2. Based on a review of all of the information provided in Condition XI.D.1. of this license, the Division Chief may require further information or corrective action for the newly identified WMU. The licensee shall submit a written Preliminary Assessment (PA) to the Division Chief within 60 days after written notification by the Division Chief that corrective action for the unit is required.
3. Based on a review of the PA, the Division Chief may require corrective action for the newly identified WMU. The licensee shall submit a written RI Work Plan to the Division Chief within 60 days after written notification by the Division Chief that corrective action for the unit is required.

{Sections 11102 and 11115a of Act 451 and R 299.9629 and 40 CFR §270.14(d), which is ABR in R 299.11003}

**E. DISPUTE RESOLUTION FOR CORRECTIVE ACTION REVIEWS**

1. The DNRE and the licensee shall use their best efforts to informally, and in good faith, resolve any dispute that arises with respect to the implementation or administration of Conditions XI.F.2., XI.G.2., XI.I.2., XI.J.2., XI.J.5. and XI.K.3. of this license. Upon request by the licensee, the DNRE will provide the licensee a written statement of its decision on any matter that the parties are unable to resolve.

2. If the DNRE approves with modifications one of the submittals under Conditions XI.F.2., XI.G.2., XI.I.2, XI.J.2., XI.J.5., and XI.K.3. of this license, and the matter has not been resolved through informal discussions under Condition XI.E.1. above, the licensee may seek further review of the approval with modifications by filing written objections with the Director within 15 days of receiving the DNRE's notice of approval with modifications, or under an alternate time frame approved by the DNRE. The written objection shall set forth the specific points of dispute, the relevant facts upon which the dispute is based, the basis for the licensee's position, including any factual data, analysis or opinion, and any matters that the licensee considers necessary for a determination.
3. Within 14 days of the receipt of the licensee's request for a review of disputed issues under Conditions XI.F.2., XI.G.2., XI.I.2, XI.J.2., XI.J.5., and XI.K.3., the Director will provide a written statement of decision to the licensee. This statement will include a statement of his/her understanding of the issues in dispute; the relevant facts upon which the dispute is based; any factual data, analysis, or opinion supporting his/her position; and any other supporting documentation relied upon by the Director in making his/her decision. The time period for the Director's review of the disputed issues may be extended by written agreement between the parties.
4. The written statement of the Director issued under Condition XI.E.3. of this license shall be binding on the licensee subject to any rights the licensee may have to seek judicial review of the DNRE's decision under Section 600.631 of the Michigan Compiled Laws or any other applicable provision of law. Nothing in this paragraph shall be construed to limit any defenses the DNRE may raise should the licensee seek such judicial review. This condition is not intended to limit any right the licensee may have to seek judicial review of matters not subject to dispute resolution under Condition XI.E. of this license.

#### F. **REMEDIAL INVESTIGATION**

The licensee shall conduct an investigation that conforms with, or that is substantively equivalent to, the Remedial Investigation (RI) in accordance with the provisions of Part 201 of Act 451 and Conditions XI.F.1. - XI.F.5., below, to determine if a release of a contaminant(s) from any of the WMUs identified in Condition XI.C.1. or XI.D.2. of this license has occurred, and if a release(s) has occurred, evaluate the nature and extent of the release(s). The RI shall be conducted in accordance with Conditions XI.F.1. - XI.F.5., XII.B. and the Compliance Schedule, Attachment 28 of this license.

1. The licensee shall submit a written RI Work Plan(s) to the Division Chief for review and approval in accordance with Conditions XI.C.4., XI.D.3., or the time frame contained in the Compliance Schedule, Attachment 28 of this license, as specified in Conditions XI.C.1. and XI.C.2. of this license.
2. The Division Chief will approve, modify and approve, or disapprove the RI Work Plan, or provide a written Notice of Deficiency on the RI Work Plan. The licensee shall modify the RI Work Plan in accordance with or based on the resolution of the Notice of Deficiency and submit a new RI Work Plan or revisions to the RI Work Plan to the Division Chief for approval within 60 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the RI Work Plan becomes an enforceable condition of this license.
3. The licensee shall implement the approved RI Work Plan within 45 days after receipt of the Division Chief's written approval of the RI Work Plan.
4. The licensee shall submit a written RI Final Report to the Division Chief for review and approval within 60 days after the completion of the RI. The RI Final Report shall document compliance with the approved RI Work Plan and support further corrective action at the facility, if needed.
5. The Division Chief will approve the RI Final Report or provide a written Notice of Deficiency on the RI Final Report. The licensee shall modify the RI Final Report in accordance with or based on the resolution of the Notice of Deficiency and submit a new RI Final Report or revisions to the RI Final

Report to the Division Chief for approval within 45 days after receipt of the Notice of Deficiency.

6. The licensee shall submit bimonthly written RI progress reports to the Division Chief.
7. The licensee shall comply with the time frames specified in Conditions XI.F.1. - XI.F.6. of this license unless otherwise approved in writing by the Division Chief.

{Sections 11102 and 11115a of Act 451 and R 299.9629 and Part 201 of Act 451}

#### **G. INTERIM RESPONSE ACTIVITIES**

The licensee shall conduct interim response activities (IRA) at the facility, as defined in R 299.9103(q), and/or beyond the facility boundary, if determined necessary by the licensee or the Division Chief, to clean up or remove a released contaminant or to take other actions, prior to the implementation of a remedial action, as may be necessary to prevent, minimize, or mitigate injury to the public health, safety, or welfare, or to the environment. The licensee shall conduct interim response activities that conform with or that are substantively equivalent to the IRA provisions of Part 201 of Act 451 and Conditions XI.G.1. - XI.G.7. of this license. The licensee may conduct interim response activities that are designed to meet cleanup criteria if those activities are conducted in a manner that conforms with or is substantively equivalent to the provisions of R 299.5526(7) and (8) and R 299.5705 of the December 21, 2002, administrative rules under Part 201 of Act 451.

1. The licensee shall submit a written IRA Work Plan to the Division Chief for review and approval within 60 days after the licensee receives written notification by the Division Chief that IRA are necessary.
2. The Division Chief will approve, modify and approve, or disapprove the IRA Work Plan, or provide a written Notice of Deficiency on the IRA Work Plan. The licensee shall modify the IRA Work Plan in accordance with or based on the resolution of the Notice of Deficiency and submit a new IRA Work Plan or revisions to the IRA Work Plan to the Division Chief for approval within 60 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the IRA Work Plan becomes an enforceable condition of this license.
3. The licensee shall implement the approved IRA Work Plan within 45 days after receipt of the Division Chief's written approval of the IRA Work Plan.
4. The licensee shall submit a written IRA Report to the Division Chief for review and approval within 60 days after the completion of the IRA. The IRA Report shall document compliance with the approved IRA Work Plan and support further corrective action at the facility, if needed.
5. The Division Chief will approve the IRA Report or provide a written Notice of Deficiency on the IRA Report. The licensee shall modify the IRA Report in accordance with or based on the resolution of the Notice of Deficiency and submit a new IRA Report or revisions to the IRA Report to the Division Chief for approval within 45 days after receipt of the Notice of Deficiency.
6. The licensee shall submit monthly written IRA progress reports to the Division Chief.
7. The licensee shall comply with the time frames specified in Conditions XI.G.1. - XI.G.6. of this license unless otherwise approved in writing by the Division Chief.

{Sections 11102 and 11115a of Act 451 and R 299.9629 and Part 201 of Act 451}

#### **H. DETERMINATION OF NO FURTHER ACTION**

1. The licensee shall continue remedial action and/or interim response activities to the extent necessary to ensure that the requirements of R 299.9629 are satisfied, including that the applicable environmental protection standards established under Part 201 of Act 451, as adopted

in Part 111 of Act 451, are met, if the limits are not less stringent than allowed pursuant to the provisions of RCRA.

2. Based on the results of the RI and other relevant information, the licensee shall submit a written request for a minor license modification to the Division Chief if the licensee wishes to terminate corrective action for a specific WMU identified in Condition XI.C.1. or XI.D.2. of this license. The licensee must demonstrate that there have been no further releases of a contaminant(s) from the WMU since corrective action has been completed and that the WMU does not pose a threat to public health, safety, welfare, or the environment.
3. Based on the results of the RI and other relevant information, the licensee shall submit a written request for a major license modification to the Division Chief if the licensee wishes to terminate facility-wide corrective action. The licensee must conclusively demonstrate that there have been no further releases of a contaminant(s) from any of the WMUs at the facility since corrective action has been completed and that none of the WMUs pose a threat to public health, safety, welfare, or the environment.
4. If, based upon a review of the licensee's request for a license modification pursuant to Condition XI.B. or XI.H.3. of this license, the results of the completed RI, and other relevant information, the Division Chief determines that the releases or suspected releases of a contaminant(s) do not exist and/or that the WMU(s) and/or the release(s) do not pose a threat to public health, safety, welfare, or the environment, the Division Chief will approve the requested modification.
5. A determination of no further action shall not preclude the Division Chief from requiring continued or periodic monitoring of air, soil, groundwater, or surface water, if necessary to protect public health, safety, welfare, or the environment, when facility-specific circumstances indicate that potential or actual releases of a contaminant(s) may occur.
6. A determination of no further action shall not preclude the Division Chief from requiring further corrective action at a later date, if new information or subsequent analysis indicates that a release or potential release of a contaminant(s) from a WMU at the facility may pose a threat to public health, safety, welfare, or the environment. The Division Chief will initiate the necessary license modifications if further corrective action is required at a later date.

{Sections 11102, 11115a, and 20120a of Act 451 and R 299.9629}

## I. **FEASIBILITY STUDY**

If the Division Chief determines, based on the results of the RI and other relevant information, that response activities are necessary, the Division Chief will notify the licensee in writing that a Feasibility Study (FS) is required. If approved by the Division Chief, the FS may be waived and the licensee may proceed to Condition XI.J. of this license. If required by the Division Chief, the licensee shall conduct an FS to develop and evaluate the response activity alternative(s) necessary to address the release(s) of a contaminant(s) or hazardous substance(s) and the WMU(s) that is identified in the approved RI Report as requiring response activities. The licensee shall conduct an FS that conforms with or that is substantively equivalent to the FS provisions of Part 201 of Act 451 and Conditions XI.I.1. - XI.I.7. of this license.

1. The licensee shall submit a written FS Work Plan to the Division Chief for review and approval within 60 days after receipt of written notification that an FS Work Plan is required.
2. The Division Chief will approve, modify and approve, or disapprove the FS Work Plan, or provide a written Notice of Deficiency on the FS Work Plan. The licensee shall modify the FS Work Plan in accordance with or based on the resolution of the Notice of Deficiency and submit a new FS Work Plan or revisions to the FS Work Plan to the Division Chief for approval within 60 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the FS Work Plan becomes an enforceable condition of this license.

3. The licensee shall implement the approved FS Work Plan within 45 days after receipt of the Division Chief's written approval of the FS Work Plan.
4. The licensee shall submit a written FS Report to the Division Chief for review and approval within 60 days after the completion of the FS. The FS Report shall document compliance with the approved FS Work Plan and support final response activity at the facility, if needed.
5. The Division Chief will approve the FS Report or provide a written Notice of Deficiency on the FS Report. The licensee shall modify the FS Report in accordance with or based on the resolution of the Notice of Deficiency and submit a new FS Report or revisions to the FS Report to the Division Chief for approval within 45 days after receipt of the Notice of Deficiency.
6. The licensee shall submit bimonthly written FS progress reports to the Division Chief.
7. The licensee shall comply with the time frames specified in Conditions XI.I.1. - XI.I.6. of this license unless otherwise approved in writing by the Division Chief.

{Sections 11102 and 11115a of Act 451, R 299.9629, and Part 201 of Act 451}

**J. REMEDIAL ACTION PLAN**

The licensee shall conduct final response activities based on the RI, IRA, and/or FS Report approved by the Division Chief. The final response activities shall be conducted in accordance with Conditions XI.J.1. - XI.J.7. of this license.

1. If the final response activities are based on criteria in categories provided for in Section 20120a(1)(a) to (j) or (2) of Act 451, which are adopted by reference in R 299.9629(3)(a)(iii), the licensee shall submit a written remedial action plan (RAP) that conforms with or that is substantively equivalent to the RAP provisions in Section 20120b of Act 451 to the Division Chief for review and approval within 60 days after the approval of the FS Report by the Division Chief.
2. The Division Chief will approve, modify and approve, or disapprove the RAP, or provide a written Notice of Deficiency on the RAP. The licensee shall modify the RAP in accordance with or based on the resolution of the Notice of Deficiency and submit a new RAP or revisions to the RAP to the Division Chief for approval within 60 days after receipt of the Notice of Deficiency. The Division will provide notice of its draft decision on the RAP to persons on the facility mailing list and an opportunity for a public hearing. Upon approval by the Division Chief, the RAP becomes an enforceable condition of this license.
3. The licensee shall implement the approved RAP within 45 days after receipt of the Division Chief's written approval of the RAP.
4. The licensee shall submit a written RAP Completion Report to the Division Chief for review and approval within 60 days after the remedial actions have been completed and the cleanup criteria have been met. The RAP Completion Report shall document compliance with the completion criteria and provide justification that the remedial actions may cease.
5. The Division Chief will approve, modify and approve, or disapprove the RAP Completion Report, or provide a written Notice of Deficiency on the RAP Completion Report. The licensee shall modify the Completion Report in accordance with or based on the resolution of the Notice of Deficiency and submit a new RAP Completion Report or revisions to the RAP Completion Report to the Division Chief for approval within 45 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the RAP Completion Report becomes an enforceable condition of this license.

6. The licensee shall submit monthly written progress reports during the implementation of the RAP to the Division Chief, unless a modified frequency for submittal of the progress reports is approved in writing by the Division Chief.
7. The licensee shall comply with the time frames specified in Conditions XI.J.1. - XI.J.6. of this license unless otherwise approved in writing by the Division Chief.

{Sections 11102, 11115a, 20120a and 20120b of Act 451 and R 299.9629}

**K. COST ESTIMATE FOR CORRECTIVE ACTION**

1. The licensee shall prepare a detailed written cost estimate for implementing final response activity at the facility. {R 299.9712}
2. The licensee shall submit the detailed written cost estimate for implementing final response activity to the Division Chief for review and approval in conjunction with the RAP required in Condition XI.J.1. of this license. {R 299.9712}
3. The Division Chief will approve or disapprove the cost estimate for implementing final response activity or provide a written Notice of Deficiency on that cost estimate. The licensee shall modify the cost estimate in accordance with or based on the resolution of the Notice of Deficiency and submit a new cost estimate to the Division Chief for approval within 45 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the cost estimate becomes an enforceable condition of this license. {R 299.9712}
4. Until the Director notifies the licensee in writing that the licensee is no longer required by R 299.9713 to maintain financial assurance for implementing final response activity at the facility, the licensee shall adjust the cost estimate for inflation within 60 days prior to the anniversary of the date of the establishment of the financial mechanism(s) used to demonstrate financial assurance for implementing final response activity. If the financial mechanism used is the financial test or corporate guarantee, the licensee shall adjust the cost estimate for inflation within 30 days after the close of the firm's fiscal year and before submission of updated financial information to the Division Chief. Whenever the current cost estimate increases to an amount greater than the current value of the associated financial mechanism for reasons other than inflation, the licensee shall, within 60 days, increase the value of the mechanism to an amount at least equal to the adjusted cost estimate. Evidence of such increases shall be submitted to the Division Chief during the 60-day period. {R 299.9712}
5. The licensee shall recalculate the cost estimate for implementing final response activity within 30 days after the Division Chief has approved a modification of the RAP. Until the Director notifies the licensee in writing that the licensee is no longer required to maintain financial assurance for implementing final response activity, the licensee shall revise the cost estimate whenever there is a change in the facility's RAP, if the change in the RAP increases the cost of implementing final response activity. {R 299.9712}
6. The licensee shall keep the latest cost estimate for implementing final response activity at the facility. {R 299.9609}

**L. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION**

1. The licensee shall establish and maintain corrective action financial assurance in accordance with R 299.9629(2) and R 299.9713. The licensee shall submit in conjunction with the RAP the financial assurance mechanism(s) that use forms that are approved by the Division Chief in an amount at least equal to the cost estimate required by Condition XI.K.1. of this license. This financial assurance mechanism(s) shall be submitted no later than 60 days after the RAP is submitted, and before any work is commenced under the RAP. If more than one mechanism is used, or if more than one facility is covered by the mechanism(s), the total amount of financial assurance provided for the facility shall at least equal the amount of the cost estimate required by Condition XI.K.1. of this license. The licensee shall submit all proposed changes in the mechanism(s), other than renewals, extensions, or increases in the amount of assurance, to the Division Chief and obtain approval prior to implementation. The licensee shall provide the Division Chief with a signed original of all revisions and renewals within 60 days after such revision or renewal, by the applicable deadlines specified in R 299.9704 through R 299.9709, and prior to the anniversary of the establishment of the financial mechanism(s) provided to satisfy the requirements of this condition. For the financial test, the licensee shall submit the updated financial information required under R 299.9709(3) within 90 days after the close of each fiscal year.

2. Whenever the current cost estimate for implementing final response activity increases to an amount greater than the current amount of the associated financial mechanism(s) for reasons other than inflation, the licensee shall, within 60 days after the increase, either increase the amount of the mechanism(s) to an amount at least equal to the increased cost estimate, or provide an additional financial mechanism approved by the Division Chief for an amount at least equal to the difference between the current amount of financial assurance and the increased cost estimate. Evidence of such increased financial assurance must be submitted to the Division Chief during the 60-day period.

**M. CORRECTIVE ACTION MANAGEMENT UNITS**

The licensee shall comply with the requirements of R 299.9635 in order to designate an area at the facility as a corrective action management unit for implementation of response activities. {R 299.9521(3)(a)}

**N. TEMPORARY UNITS**

The licensee shall comply with the requirements of R 299.9636 in order to designate tank or container storage units used for the treatment or storage of remediation wastes as temporary units for implementation of response activities. {R 299.9521(3)(a)}

**O. SUMMARY OF CORRECTIVE ACTION SUBMITTALS**

The licensee shall submit required corrective action documents in accordance with the schedule below unless otherwise approved in writing by the Division.

<b>CORRECTIVE ACTION DOCUMENT</b>	<b>SUBMITTAL DEADLINE</b>
Written notification of a new release of a contaminant from an existing WMU, a new WMU, or a release of a contaminant from a new WMU	Within 30 days after discovery
PA for new WMU or a release of a contaminant from a new WMU	Within 60 days after receipt of written notification that a PA is required
SOW for conducting an RI for Midland Area Soils and Tittabawassee River Sediments and Flood Plain pursuant to Condition XI.B. of this license	Within 60 days of the issuance of this license; the initial submittal deadline is not subject to extension
SOW for continuing or commencing corrective action for Saginaw River Sediments and Flood Plain and Saginaw Bay pursuant to Condition XI.B. of this license	Within four years and 60 days of the issuance of this license
RI Work Plan for a newly identified release of a contaminant from an existing WMU, a new WMU, or a release of a contaminant from a new WMU	Within 60 days after receipt of written notification that an RI Work Plan is required
RI Work Plan for existing WMUs and contaminant releases	In accordance with the Compliance Schedule, Attachment 28 of this license, or other provisions of this license
Revised RI Work Plan for existing WMUs and contaminant releases	Within 60 days after receipt of RI Work Plan Notice of Deficiency
RI progress reports	Bimonthly after initiation of the RI
RI Final Report for existing WMUs and contaminant releases	Within 60 days after completion of RI
Revised RI Final Report for existing WMUs and contaminant releases	Within 45 days after receipt of RI Final Report Notice of Deficiency

<b>CORRECTIVE ACTION DOCUMENT</b>	<b>SUBMITTAL DEADLINE</b>
IRA Work Plan for a newly identified release of a contaminant from an existing WMU, a new WMU, or a release of a contaminant from a new WMU	Within 60 days after receipt of written notification that an IRA Work Plan is required
Revised IRA Work Plan	Within 60 days after receipt of IRA Work Plan Notice of Deficiency
IRA progress reports	Monthly after initiation of the IRA
IRA Report	Within 60 days after completion of the IRA
Revised IRA Report	Within 45 days after receipt of IRA Report Notice of Deficiency
FS Work Plan for existing WMUs and contaminant releases	Within 60 days after receipt of written notification that an FS Work Plan is required
Revised FS Work Plan for existing WMUs and contaminant releases	Within 60 days after receipt of FS Work Plan Notice of Deficiency
FS progress reports	Bimonthly after initiation of the FS
FS Report for existing WMUs and contaminant releases	Within 60 days after completion of the FS
Revised FS Report for existing WMUs and contaminant releases	Within 45 days after receipt of FS Report Notice of Deficiency
RAP for existing WMUs and contaminant releases	Within 60 days after approval of the FS Report
Revised RAP for existing WMUs and contaminant releases	Within 60 days after receipt of RAP Notice of Deficiency
RAP progress reports	Monthly after implementation of the RAP
RAP Completion Report for remediated WMUs and contaminant releases	Within 60 days after the remedial actions have been completed and cleanup criteria have been met
Revised RAP Completion Report for existing WMUs and contaminant releases	Within 45 days after receipt of RAP Completion Report Notice of Deficiency

**P. CORRECTIVE ACTION DOCUMENTS RETENTION**

The licensee shall maintain all corrective action documents required by this license at the facility or at an alternate location approved by the Division Chief. Effective September 30, 2005, an approved alternate license-related documents storage location other than the facility is the licensee's Global Records Center, 4520 East Ashman, Midland, Michigan 48642. The documents shall be maintained for the operating life of the facility or until the facility is released from financial assurance requirements for corrective action by the Deputy Director for Environmental Protection, whichever is longer. The licensee shall offer such documents to the Division Chief prior to discarding those documents. {Sections 11102 and 11115a of Act 451 and R 299.9629}

**Q. SOIL AND GROUNDWATER EXPOSURE CONTROL PROGRAM**

The licensee shall implement the Soil and Groundwater Exposure Control Program, Attachment 27 of this license. Proposed revisions to the Soil and Groundwater Exposure Control Program shall be submitted to the Division Chief for review and approval. If approved, the revised Soil and Groundwater Exposure Control Program, including revised Fugitive Dust Control Programs approved by the AQD, shall become part of this license without the need for a minor license modification. Semiannual revisions to the site Fugitive Dust Control Plan Map do not require approval by the AQD or the ERMD. Effective September 30, 2005, September 30, 2009, and

November 3, 2010, the Soil and Groundwater Exposure Control Program was revised as part of the minor license modification. {Sections 11102, 11115a, 20120a, and 20120b of Act 451 and R 299.9629}

**R. SOURCE CONTROL**

1. The licensee shall implement source control activities to permanently and significantly reduce the volume, toxicity, and/or control the mobility of contaminants and hazardous substances in soil and groundwater at the facility. The licensee shall conduct source control activities to address free phase liquids in soil or groundwater, highly concentrated dissolved contaminants or hazardous substances in groundwater, and high levels of soil contamination. {Sections 20114 and 20118 of Act 451 and R 299.5705(5), R 299.5705(6), R 299.9629(3)(iii), R 299.9629(4), and R 299.9629(7)}
2. The Division Chief may require the licensee to conduct response activities to meet the applicable source control requirements of Part 111 or Part 201 of Act 451. {Sections 20114 and 20118 of Act 451 and R 299.5705(5), R 299.5705(6), R 299.9629(3)(iii), R 299.9629(4), and R 299.9629(7)}
3. Within 120 days of the issuance of this license, the licensee shall submit a report to the Division Chief which provides the following information:
  - (a) The location of all areas that are known to the licensee where a hazardous substance(s) or contaminant(s) is present in a liquid phase equal to or greater than 1/8 inch of measurable thickness (free product) in soil or groundwater .
  - (b) The specific contaminant(s) or hazardous substance(s) that is present at each of the locations identified in Condition XI.R.3.(a) of this license.
  - (c) An estimate of the horizontal and vertical extent of the liquid phase hazardous substance(s).
  - (d) A description of any actions the licensee has taken or is taking to meet the applicable source control requirements of Part 111 or Part 201 of Act 451.
4. Based on the review of the information required pursuant to Condition XI.R.3. of this license, or other relevant information, the Division Chief may require the licensee to conduct interim response activities in accordance with Condition XI.G. of this license.
5. Within 30 days of the discovery of free product that has not been reported pursuant to Condition XI.R.3. of this license, the licensee shall submit to the Division Chief the information specified in Condition XI.R.3. of this license.
6. The point of compliance for purposes of source control activities shall be the boundary of the individual WMU or AOC, unless otherwise specified by the Division Chief. {R 299.9629(3)(iv)}

{Sections 11102, 11115a, 20114(1)(d), 20114(1)(f), 20118, 20120a, 20120b, and 20120c of Act 451 and R 299.9629}

**S. RESERVATION OF CORRECTIVE ACTION RESPONSE ACTIVITY AND ENFORCEMENT AUTHORITY**

The specific corrective action requirements identified in Conditions XI.A. through XI.R. are measures that the DNRE has at this time concluded the licensee should, as a minimum, perform pursuant to this license and Part 111 of Act 451. Additional corrective action measures may be required to satisfy the licensee's obligations under Part 111 of Act 451, Part 201 of Act 451, or other applicable law, or to otherwise assure protection of public health, safety, welfare, or the environment. The DNRE reserves all of its rights under applicable laws to:

1. Require the licensee to perform further corrective action or response activities beyond those

specified in Conditions XI.A. through XI.R. and Condition XII.A. of this license;

2. Undertake corrective action or response activities and seek cost recovery from the licensee or any other person; and
3. Take enforcement action against the licensee or any other person with respect to any release of contaminants or hazardous substances into the environment.

**T. RESERVATION OF RIGHTS RELATED TO THE AOC SITE**

Except as specifically provided in the AOC, for the area included in the AOC Site, the DNRE reserves all of its rights to:

1. Require additional remedial investigation and feasibility study activities pursuant to the procedures set forth in Sections XI and XVII of the AOC and Condition XI.B.10.(a) - (h) of this license;
2. Require IRAs pursuant to the procedures set forth in Section XI, paragraph 29(e) and Section XVII of the AOC;
3. Require corrective action for currently unknown releases or potential future releases to the AOC Site from areas outside of the AOC Site that may require actions to be taken in the area defined as the AOC Site as provided in AOC Section XI, paragraph 46;
4. Require submission and implementation of a RAP for the AOC Site;
5. Undertake corrective action or response activities and seek cost recovery from the licensee or any other person; and
6. Take enforcement action against the licensee or any other person with respect to any release of contaminants or hazardous substances into the environment.

**U. DESIGNATION OF STAGING PILE**

Effective September 30, 2009, the licensee is granted approval to construct and operate a single staging pile with a capacity of up to 6,000 cubic yards for the storage of solid, nonflowing hazardous remediation waste in compliance with the requirements of R 299.9638 and the design and operating criteria described in Attachment 30, Staging Pile Designation with Design Information, to this license. Any subsequent staging pile(s) shall be designated only through the written request and issuance of a major license modification or renewal license by the Division Chief. {R 299.9638}

**PART XII  
SCHEDULES OF COMPLIANCE**

**A. COMPLIANCE SCHEDULE FOR ENVIRONMENTAL MONITORING AND CORRECTIVE ACTION FOR UNITS OTHER THAN THE 32 INCINERATOR**

1. The licensee shall comply with the prioritized compliance schedules for environmental monitoring and corrective action contained in the Compliance Schedule, Rev. 9/16/09, Attachment 28 of this license. The DNRE may require additional corrective action other than that specified in the Compliance Schedule, Rev. 9/16/09, Attachment 28 of this license, based upon the results of the Compliance Schedule work, other relevant information, or changed conditions which lead the DNRE to determine that there is, or may have been, a release of a contaminant(s) from the WMU(s) or AOC(s). The licensee shall submit proposed revisions to the Compliance Schedule to the Division Chief for review and approval prior to implementation. The revisions to the Compliance Schedule shall become part of this license without the need for a minor license modification. The most recently revised Compliance Schedule (Rev. 9/16/09) is approved as of September 30, 2009, and incorporated into Attachment 28 of this license for reference.
2. When activities conducted under the Compliance Schedule involve the implementation of corrective measures or other significant remediation work, the licensee shall ensure that work plans include sufficient time in the implementation schedule for the Division to allow an opportunity for public involvement pursuant to Conditions XI.B. and XI.J.2. of this license.
3. The licensee shall update the groundwater monitoring programs for the surficial sand aquifer, the glacial till sand aquifers, and the regional aquifer based on the results of the groundwater investigations required by the Compliance Schedule, Rev. 9/16/09, Attachment 28 of this license, or other relevant information.
  - (a) Within 60 days of notification by the Division Chief that an update to a monitoring program(s) is required, the licensee shall propose a modification(s) to the subject groundwater program(s) to the Division Chief for review and approval. The proposed modification shall include, as necessary, provision for the use of additional existing monitoring wells and/or the installation of new monitoring wells and any additional necessary monitoring constituents.
  - (b) The Division Chief will approve, modify and approve, or disapprove the proposed groundwater monitoring program(s), or provide a written Notice of Deficiency on the proposed groundwater monitoring program(s). The licensee shall modify the proposed groundwater monitoring program(s) in accordance with or based on the resolution of the Notice of Deficiency and submit a new groundwater monitoring program(s) or revisions to the groundwater monitoring program(s) to the Division Chief for approval within 30 days after receipt of the Notice of Deficiency. Upon approval by the Division Chief, the revised groundwater monitoring program(s) becomes an enforceable condition of this license.

{R 299.9521}

**B. 32 INCINERATOR UPGRADE COMPLIANCE SCHEDULE - Deleted effective September 30, 2005.**