

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

IN THE MATTER OF:)	
)	
Wayne Disposal, Inc.,)	CHEMICAL WASTE LANDFILL
49350 North I-94 Service Drive,)	APPROVAL TO DISPOSE OF
Belleville, Michigan 48111-1854)	POLYCHLORINATED BIPHENYLS
MID 048 090 633)	ISSUED PURSUANT TO
)	40 C.F.R. § 761.75
APPLICANT.)	
)	

AUTHORITY

This chemical waste landfill approval (Approval) is issued by the United States Environmental Protection Agency to Wayne Disposal, Inc. (WDI), pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e)(1), and the federal regulations for disposal of Polychlorinated Biphenyls (PCBs) at 40 C.F.R. § 761.75. This Approval replaces the September 27, 2013, Approval and April 14, 2015, Minor Modification previously issued to WDI.

Section 6(e)(1)(A) of TSCA, 15 U.S.C. § 2605(e)(1)(A), requires that EPA promulgate rules to prescribe methods for the disposal of PCBs. The regulations at 40 C.F.R. § 761.75 require, among other things, that various types of PCBs and PCB Items be disposed of in chemical waste landfills approved by EPA for PCB disposal. 40 C.F.R. § 761.75(a) designates the Regional Administrator as the approval authority for such PCB disposal facilities. 40 C.F.R. § 761.75(b) sets out a number of technical requirements for PCB disposal facilities. 40 C.F.R. § 761.75(c) prescribes the process by which an owner or operator of a chemical waste landfill may obtain approval to dispose of PCBs.

EPA Headquarters Delegation 12-5 authorizes the re-delegation of approval authority for PCB disposal facilities from Regional Administrators to Regional Division Directors. Under EPA, Region 5 Delegation 12-5, dated July 28, 2014, the approval authority for PCB disposal facilities was delegated to the Director, Land and Chemicals Division (LCD), EPA, Region 5.

None of the information required to be maintained under or submitted pursuant to this Approval is subject to the requirements of the Paperwork Reduction Act, 44 U.S.C. § 3501, et seq., because such information is collected by EPA from WDI for the purpose of assuring compliance with this Approval.

EFFECTIVE DATES

This Approval is effective upon the signature of the Director of LCD, EPA, Region 5. WDI's authorization to dispose of PCBs and PCB Items in the WDI Landfill under this Approval will be valid for a period of five (5) years, unless such authorization is suspended or terminated, as provided herein, or unless the time period is modified by EPA. Upon signature by the Director, the issuance of this Approval shall be considered final agency action.

BACKGROUND

The WDI Landfill Site # 2, located at 49350 North I-94 Service Drive, Belleville, Michigan (WDI Landfill), is a 193-acre chemical waste landfill that is divided into Master Cells V, VI and VII. The WDI Landfill is owned and operated by Wayne Disposal, Inc. US Ecology owns Wayne Disposal, Inc.

The WDI Landfill was originally authorized under authority granted by the Resource Conservation and Recovery Act (RCRA), as amended, 42 U.S.C. § 6901 *et seq.*, and was operated pursuant to a RCRA Hazardous Waste Management Permit issued by EPA and a Hazardous Waste Management Facility Operating License issued by the predecessor agency to the Michigan Department of Environmental Quality (MDEQ). WDI Landfill Master Cells V and VII, which do not contain PCBs, have been filled and closed, and are currently in post-closure care.

On March 15, 1995, WDI, as lessee and operator of the Landfill, submitted an application to MDEQ for a Hazardous Waste Management Facility Operating License, pursuant to Part 111 of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), for Master Cell VI of the WDI Landfill.

On July 10, 1995, WDI, as lessee and operator of the Landfill, submitted an application to EPA for approval under 40 C.F.R. § 761.75, to dispose of PCBs and PCB-contaminated waste in Master Cell VI of the WDI Landfill.

On April 14, 1997, MDEQ issued a Hazardous Waste Management Facility Operating License to WDI for Master Cell VI of the WDI Landfill.

On April 14, 1997, EPA issued a TSCA Approval to WDI to allow the disposal of PCBs and PCB Items in Master Cell VI of the WDI Landfill. On December 23, 1998, the Approval was modified to reflect a transfer of ownership of the landfill property from the Ford Motor Company to WDI.

On August 24, 1999, WDI submitted an application to MDEQ requesting a major modification of the April 14, 1997, Hazardous Waste Management Facility Operating License for the WDI Landfill. WDI sought a modification of the Operating License to allow for a design change to expand the capacity of Master Cell VI by extending the cell both vertically and horizontally over closed Master Cell V.

On March 23, 2000, WDI submitted to EPA an application, pursuant to TSCA and 40 C.F.R. § 761.75, for an amended Approval to allow the disposal of PCB waste in the redesigned and expanded Master Cell VI of the WDI Landfill.

On July 13, 2001, pursuant to Part 111 of Michigan Act 451 and RCRA, MDEQ issued a major modification of the Hazardous Waste Management Facility Operating License for the WDI Landfill. The modified Operating License was set to expire on April 14, 2007.

On August 21, 2001, EPA issued a TSCA Approval pursuant to 40 C.F.R. § 761.75, to allow WDI to continue to dispose of PCBs in Master Cell VI of the WDI Landfill. The Approval allowed WDI to continue to dispose of PCB waste the remaining part of the previously approved 1.435 million cubic yards in Master Cell VI and generally authorized the disposal of an additional 2.89 million cubic yards of PCB waste in the Master Cell VI expansion area.

The August 2001 Approval required, among other things, that WDI construct an underlying grid and liner for Master Cell VI, Subcell E, which was to be constructed on top of closed Master Cell V. The Approval also required WDI to prepare and submit a Settlement Monitoring Plan for Master Cell VI, Subcell E, to assure the integrity of the liner during loading of Master Cell VI.

WDI submitted a Settlement Monitoring Work Plan for Master Cell VI, Subcell E on October 19, 2001, and a Settlement Monitoring Plan on August 12, 2002. On September 19, 2002, EPA approved the Settlement Monitoring Plan.

On November 3, 2003, WDI submitted to MDEQ a Construction Documentation Report and Certification for Phase I of Master Cell VI, Subcell E. On June 4, 2004, MDEQ approved the certification and authorized waste disposal in a portion of Master Cell VI, Subcell E. Thereafter, WDI continued to construct Master Cell VI, Subcell E in phases, and MDEQ continued to approve certifications and authorize waste disposal as each newly constructed portion of Master Cell VI, Subcell E was completed.

On September 24, 2004, WDI submitted to EPA a Geotechnical Instrumentation Installation and Baseline Data Report that described the settlement monitoring instrumentation and pre-load background data for Master Cell VI, Subcell E.

On May 12, 2006, EPA extended the TSCA Approval for the WDI Landfill until April 14, 2007. At that time, EPA also agreed to change the frequency of PCB air sampling from once every sixth day to once every twelfth day.

On October 11, 2006, WDI submitted to EPA an Application for Renewal of the TSCA Approval for the WDI Landfill and to MDEQ a Hazardous Waste Management Facility Operating License Renewal Application for the WDI Landfill.

On April 23, 2007, EPA extended the TSCA Approval for the WDI Landfill until November 14, 2007.

On September 6, 2007, MDEQ determined that WDI's Hazardous Waste Management Facility Operating License Renewal Application was complete, which allowed the WDI Landfill to continue operating in accordance with the existing Operating License, pending a decision on the renewal application.

On November 16, 2007, EPA extended the TSCA Approval for the WDI Landfill until November 14, 2008.

On March 3, 2008, WDI submitted to MDEQ and to EPA a proposed design modification to increase the vertical and horizontal dimensions of Master Cell VI of the WDI Landfill. On January 23, 2009, WDI submitted a revised design modification for Master Cell VI.

On August 26, 2008, WDI submitted to EPA a request to terminate Settlement Monitoring for Master Cell VI, Subcell E of the WDI Landfill, based on monitoring indicating that Master Cell VI was able to adequately support the maximum approved waste load without adversely affecting the leachate collection system or the geomembrane liner.

November 14, 2008, EPA extended the TSCA Approval for the WDI Landfill until November 14, 2009.

On April 9, 2009, EPA approved WDI's request to terminate Settlement Monitoring for Master Cell VI, Subcell E of the WDI Landfill.

On May 15, 2009, WDI entered into a Consent Order with the State of Michigan to resolve alleged RCRA violations regarding a flood event from storm water control structures and several onsite leachate releases at the WDI Landfill. The Consent Order included provisions for WDI to expand storm water management systems; treat storm water before discharge to surface water; enact SOPs for fugitive dust control, vehicle track-out, wind speed monitoring, and storm water management; and implement several enhancements to soil, surface water and sediment monitoring programs. The Consent Order required that those provisions be included in the next renewal of the Hazardous Waste Management Facility Operating License for the WDI Landfill.

On November 13, 2009, EPA extended the TSCA Approval for the WDI Landfill until May 14, 2010.

On December 17, 2009, WDI submitted to EPA a revised Application for Renewal of the TSCA Approval for the WDI Landfill and to MDEQ a revised Hazardous Waste Management Facility Operating License Renewal Application for the WDI Landfill. These Applications replaced the October 2006 Applications.

On May 14, 2010, EPA extended the TSCA Approval for the WDI Landfill until October 15, 2010.

On September 30, 2010, the Michigan Department of Natural Resources and the Environment (MDNRE) issued to WDI a Hazardous Waste Management Facility Operating License for

Master Cell VI of the WDI Landfill.

On October 12, 2010, EPA extended the TSCA Approval for the WDI Landfill until April 8, 2011.

On April 12, 2011, EPA extended the TSCA Approval for the WDI Landfill until September 30, 2011.

On September 29, 2011, EPA issued a TSCA Approval for the WDI Landfill that was set to expire on September 29, 2016.

On March 4, 2011, WDI submitted to MDEQ an Application for an 11.73 million cubic yard expansion to the Hazardous Waste Landfill. This application was amended in September 2011 to address comments by MDEQ.

On April 18, 2012, WDI submitted to EPA a request to amend its TSCA Approval to include the 11.73 million cubic yard expansion area to the WDI Landfill. The request included the September 2011 application that had been submitted to MDEQ.

On May 4, 2012, MDEQ issued an Operating License for a Hazardous Waste landfill to WDI that included the previously permitted 10.72 million cubic yards and the 11.73 million cubic yard expansion area at the WDI Landfill.

On October 1, 2012, EPA provided comments to WDI on its request to amend its TSCA Approval.

On October 31, 2012, WDI submitted a response to EPA's comments on the TSCA Approval amendment request.

On September 27, 2013, EPA issued a TSCA Approval, pursuant to 40 C.F.R. § 761.75, to allow WDI to continue to dispose of PCB waste in the previously approved and constructed Master Cell VI area of the WDI Landfill, and to dispose of up to another 11.73 million cubic yards of PCB waste in Master Cell VI expansion area, including Subcells F and G, after these Subcells are constructed and certified by the MDEQ.

On April 14, 2015, EPA issued a Minor Modification to the TSCA Approval to allow WDI to dispose of an additional 275,274 cubic yards of material in Master Cell VI. This was allowed due to the removal of a height restriction on the landfill cell which had been required by the adjacent Willow Run Airport because of a former runway.

On March 29, 2018, WDI submitted a renewal application to EPA for continued disposal of PCBs in Master VI of the WDI landfill.

On May 4, 2018, WDI submitted engineering plans to EPA and MDEQ for modification of the cell liner for the Phase 2 construction of Master Cell VI Subcell G. The modification consists of

using Geosynthetic Clay Liner in place of compacted clay liner. Other components of the previously approved liner system, including the primary and secondary leachate collection systems, are not being modified.

EPA received WDI's response to MDEQ and EPA's comments on the technical specifications for the modified landfill liner that were dated May 16, 2018. The response included updated engineering diagrams and documents.

DEFINITIONS

The following terms are defined for the purposes of this Approval. Any conflict between the following definitions and those set forth under TSCA and the PCB regulations at 40 C.F.R. Part 761 shall be resolved in favor of the definitions in TSCA and the PCB regulations.

Application: All data, documents, licenses, permits, and other information submitted to date by WDI to EPA regarding the Agency's review of WDI's request for a TSCA Approval for the WDI Landfill, including particularly the March 29, 2018, PCB TSCA Renewal Application; the May 16, 2018, Proposed Permit Modification and engineering diagrams; the May 4, 2012, MDEQ Hazardous Waste Management Facility Expansion Operating License; the September 2011 License Application submitted to MDEQ; and any subsequent updates submitted to these documents.

Annual Reporting Period: A regulatory interval based on the calendar year. It includes a July 15 due date for the previous year's annual reports required by this Approval.

Artesian Conditions: Those hydraulic conditions where water naturally rises to elevations above the geologic unit in which the water is found.

Aquifer: A geologic formation or group of formations or part of a formation that is capable of yielding a significant amount of groundwater to a well or springs.

Aquiclude: A geologic unit through which virtually no water flows; typically, a silty clay such as glacially derived fine sediments.

Batch: A specific volume that is handled as a whole and is sampled in a representative way.

Cell: The specially prepared unit into which PCBs are disposed. In the case of Master Cell VI of the WDI Landfill, it consists of the entirety of Master Cell VI (Subcells A, B, C, D, E, F, and G), as expanded, and any related appurtenances thereto.

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9657.

Clay Pan: A continuous, laterally extensive, relatively impermeable, thick bed of high clay content material.

Closure: The cessation of the use of a subject site, and activities undertaken to secure the site and control, minimize or eliminate the threat to human health and the environment from the site. General closure requirements for hazardous waste facilities are set forth in the RCRA regulations at 40 C.F.R. Part 264, Subpart G (*Closure and Post-Closure*), and unit specific closure requirements for landfills are set forth at 40 C.F.R. Part 264, Subpart N (*Landfills*).

Closure and Post-Closure Plans: Written plans for achieving proper closure and implementing post-closure care of a subject site. Closure plan requirements for hazardous waste facilities are set forth in the RCRA regulations at 40 C.F.R. § 264.112 (*Closure plan; amendment of plan*), and post-closure plan requirements are set forth at 40 C.F.R. § 264.118 (*Post-closure plan; amendment of plan*).

Dilution: The avoidance of TSCA requirements and the Conditions of this Approval by combining non-TSCA regulated material with TSCA regulated material, or otherwise numerically averaging sample values from TSCA and non-TSCA cells so that the mixture becomes deregulated.

Dry Weight: Reporting based on a dry weight determination for all solids and semi-solids and fluids with a concentration of more than five tenths (0.5) percent solids content.

Expiration of Approval: The cessation of WDI's authorization to dispose of PCB waste in Master Cell VI of the WDI Landfill under this Approval. WDI's authorization to dispose of PCBs in Master Cell VI will cease five (5) years after the date the Approval is executed by the Director of the Land and Chemical Division, EPA, Region 5, unless that date is modified by the Director.

Facility: Cadastral boundaries of the property on which the WDI Landfill is located.

Financial Requirements: The mechanism, options and documentation by which an owner or operator of a subject facility estimates closure and post-closure costs and provides assurance of financial assets sufficient to satisfy potential liabilities for closure and post-closure care of the facility. Financial Requirements for closure and post-closure care of hazardous waste facilities are set forth in the RCRA regulations at 40 C.F.R. Part 264, Subpart H (*Financial Requirements*).

Flood: Internal to the Cell: to raise the leachate level to more than one foot above the liner.
External to the Cell: to exceed the Facility's on-site water holding capacity so as to allow unauthorized offsite discharge.

Free Liquid: Fluid that drains freely from waste material under the Paint Filter Test, EPA SW-846 Method 9095. Wastes containing these fluids shall not be disposed of in the WDI Landfill. The Liquid Release Test is recommended to estimate leachate production.

Leachate: Water that filters through the waste and collects on the inner synthetic geomembrane

(primary liner) of Master Cell VI of the WDI Landfill. Also, rainwater that flows into the Cell through manways is leachate if it mixes with leachate.

Leachate Collection System (LCS): The network of drains and sumps above the inner synthetic geomembrane (primary liner) of Master Cell VI of the WDI Landfill, used to collect, monitor and remove leachate that drains from waste in the Cell and collects above the primary liner.

Leachate Escape: Anything flooding out of the clean-out risers for Master Cell VI of the WDI Landfill, including rainwater in contact with waste or mixed with leachate that leaves the containment cell and overcomes the on-site control structures for Master Cell VI, whether or not it leaves the Facility boundary.

Leak Detection, Collection and Removal System (LDCRS): The network of drains and sumps between the inner geomembrane (primary liner) and the outer geomembrane (secondary liner) of Master Cell VI of the WDI Landfill, used to detect leaks from the primary liner.

Major Modification: A material change in the design or operation of the WDI Landfill. Such changes include, but are not necessarily limited to: any change in ownership; an increase in the disposal capacity of the Landfill; any change in the manner of waste placement; any significant change to the financial assurance estimate or commitment; any change to the closure/post-closure plan; cap repairs; and abandonment. A major modification requires the approval of the Director of the Land and Chemicals Division, EPA, Region 5.

Minor Modification: A minor change in the design, construction or day-to-day operation of the WDI Landfill or any other change in operations that is not a major modification. Such changes in operations include but are not limited to: changing the groundwater, leachate or air monitoring sites or the analytical methodology; any change to any portion of the leachate collection, detection and removal system, not including repairs; changes in waste acceptance procedures; changes in the closure post-closure plan that are not major; and minor inflationary adjustments to WDI's annual cost estimates. A minor modification requires the approval of the Chief of the RCRA Branch, EPA, Region 5.

Operator: Wayne Disposal, Inc., 49350 North I-94 Service Drive, Belleville, Michigan 48111-1854, operates the WDI Landfill, including Master Cell VI.

Owner: Wayne Disposal, Inc., owns the WDI Landfill and the property upon which the WDI Landfill, including Master Cell VI, is located. The Environmental Quality Company, 36255 Michigan Ave., Wayne, Michigan 48184, owns Wayne Disposal, Inc.

PCB(s): Polychlorinated Biphenyl(s), as defined at 40 C.F.R. § 761.3.

PCB Contact Water: All untested fluids produced from within Master Cell VI of the WDI Landfill or fluid known to have contacted PCBs.

PCB Items: Articles, article containers, containers or equipment that contain PCBs, as defined at 40 C.F.R. § 761.3.

PCB Waste(s): PCBs and PCB Items that are subject to the disposal requirements of 40 C.F.R. Part 761, Subpart D.

Placement of PCBs: The use of equipment to bring PCB waste to Master Cell VI of the WDI Landfill, off-load PCB waste in Master Cell VI, compact PCB waste in Master Cell VI to proper density, and cover PCB waste.

Post-Closure Care: Long-term care provided at subject sites following closure. Such care at hazardous waste landfills usually includes requirements to monitor and maintain liners, final covers, leachate collection and removal systems, and leak detection systems to protect human health and the environment from releases of hazardous constituents. General post-closure requirements for hazardous waste facilities are set forth in the RCRA regulations at 40 C.F.R. Part 264, Subpart G (*Closure and Post-Closure*), and unit specific closure requirements for landfills are set forth at 40 C.F.R. Part 264, Subpart N (*Landfills*).

Post-Closure Period: The period of time after operations at the WDI Landfill have ceased and the final cap has been installed on the Landfill (i.e., after the Landfill has been closed). Under RCRA regulations at 40 C.F.R. § 264.117, the post-closure period for hazardous waste landfills generally runs for thirty (30) years after the facility is closed, unless that time period is shortened or extended pursuant to regulation.

PPM/ppm: A unit of measure, parts per million, used to establish regulatory thresholds for material under TSCA based on use of an appropriate gravimetric reporting methodology such as wet weight or dry weight.

Quarterly Reporting Period: A chronological system denoted by the beginning of the first, fourth, seventh and tenth calendar months of the year.

Significant Rainfall: One half inch or more of rainfall in twenty-four hours.

Site: The vertical and horizontal dimensions of Master Cell VI of the WDI Landfill, as expanded and defined by the architectural and engineering design documents submitted to EPA by WDI as part of its TSCA Approval application. The terms and conditions of this Approval apply to the operation of the WDI Landfill and are not limited in their applicability to only the Site.

Stabilization: The use of an additive material that permanently changes the waste to prevent the release of water or chemicals under the expected physical effects of the landfill process such as compression and leaching.

Statistically Significant Increase: A determination using statistical procedures appropriate to the respective sampling plan in the TSCA application as modified.

Suspension of Disposal Authorization: Temporary removal of WDI's authorization to place PCBs in Master Cell VI of the WDI Landfill. Such authority may be reinstated at EPA's discretion.

Termination of Disposal Authorization: Permanent revocation of WDI's authorization to continue to place PCBs in Master Cell VI of the WDI Landfill.

TSCA Disposal: The placement of PCBs and PCB Items in Master Cell VI of the WDI Landfill, and the operation and maintenance of Master Cell VI in accordance with this Approval.

Treatment: Changing the disposal status of a regulated waste by removing or destroying PCBs.

Upper Aquifer: The designated groundwater monitoring zone for a facility, as specified under RCRA Subtitle D and accepted as part of the TSCA approval process. The first water-bearing zone encountered below ground level.

Wet Weight: Reporting based on a wet weight measurement for fluids with solids content less than five tenths (0.5) percent.

FINDINGS

The following Findings are made pursuant to 40 C.F.R. § 761.75(c)(3), and are based on EPA's review of information submitted by WDI in the December 2009 Application for Renewal of its Hazardous Waste Operating License and Application for TSCA Approval, the September 2011 revised Application for an Operating License to expand the Hazardous Waste landfill, the March 2018 PCB TSCA Renewal Application, the May 2018 Proposed Permit Modification with engineering diagrams, and pursuant to 40 C.F.R. § 761.75(c)(1) and (2).

1. WDI currently operates a EPA-approved TSCA chemical waste landfill with an active Cell, Master Cell VI, located at the WDI Landfill in Belleville, Michigan.
2. The WDI Landfill, including Master Cell VI, is also regulated by the State of Michigan under RCRA-equivalent Hazardous Waste Management regulations at Part 111 of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), and the rules promulgated thereunder.
3. WDI's mailing address and physical address is: 49350 North I-94 Service Drive, Belleville, Michigan 48111-1854.
4. The WDI Landfill is bounded on the north and west by the Willow Run Airport; to the south by the I-94 North Service Drive; and to the east by Beck Road.
5. Master Cell V and Master Cell VI (Subcells A, B, C, D, E, F, and G) are located on a thick, relatively impermeable large-area clay pan, as required by 40 C.F.R. § 761.75(b)(1) (*Soils*). Most of Master Cell VI, Subcell E is built on top of Master Cell V or overlies a narrow earthen berm of undisturbed clay pan between Master Cell V and Master Cell VI.

Most of Master Cell VI Subcells F and G will be built on top of Master Cells I and IV. Master Cell VI Subcell G Phase 1 was built on a wooded lot between Master Cells I and IV.

6. The local soil profile is made up of five units:
 - a. The Upper Sand Unit is thin, unprotected, permeable, water-bearing, silty sand. Although water-bearing, the Upper Sand Unit is not considered an aquifer due to the limited quantity and low quality of the water yielded. During construction of the Landfill, the whole Upper Sand Unit was removed from around the Cells and replaced with a ten-foot thick compacted clay isolation barrier.
 - b. The Clay Pan is a laterally extensive, glacially-derived silty clay layer. It is a regional barrier to water flow and maintains a minimum of ten (10) feet of relatively impermeable material below both Master Cell V and Master Cell VI. The permeability under Master Cell VI is certified by laboratory soil testing to be less than 1×10^{-7} cm/sec. The permeability of native clay samples from under Master Cell V is similar to that under Master Cell VI, with permeability of 1×10^{-7} cm/sec or less.
 - c. The Transition Silt Unit is a partly water-bearing fine grained sand silt aquitard unit with as much as 16-35% clay in it, directly underlying most of the Clay Pan but overlying the Upper Aquifer. Permeability tests on the Unit yield laboratory values of 1.3×10^{-8} to 6.9×10^{-6} cm/sec.
 - d. The Lower Sand Drift Aquifer is a partly-confined, protected, highly permeable, and useable sandy aquifer located on fractured limestone and shale, whose pressure head varies from ten feet below the secondary liner to just at the base of the primary liner of Master Cell VI. The Drift Aquifer is defined as the Upper Aquifer for regulatory purposes despite being below the Clay Pan. Local groundwater resources are generally unused. The Drift Aquifer has generally been abandoned in favor of Detroit municipal water sources, but the Drift Aquifer may be used in the future so it is being monitored.
 - f. The bedrock units are non-water bearing Paleozoic Antrim Shale and Traverse Group limestones containing useable, but generally undesirable, water.
7. WDI has constructed Master Cell VI, Subcells A, B, C, D, E, and G Phase 1 with an eighty (80) mil thick density polyethylene synthetic membrane primary liner that exceeds the requirements of 40 C.F.R. § 761.75(b)(2) (*Synthetic membrane liners*) of a minimum thickness of 30 mils, and with additional safety features such as:
 - a. a sixty (60) or eighty (80) mil thick density polyethylene synthetic membrane secondary liner;

- b. sixty (60) inches of re-compacted clay between the primary and secondary synthetic membranes, which substantially exceeds the minimum compacted soil liner thickness specified in 40 C.F.R. § 761.75(b)(1);
 - c. thirty-six (36) inches of re-compacted clay below the primary liner;
 - d. a relatively impermeable clay dike surrounding Master Cell VI; and
 - e. a biaxial polymeric geo-grid to strengthen the base of Master Cell VI, Subcell E.
8. WDI proposed a modified design of the Master Cell VI, Subcell G, Phase 2 liner system. The proposed system is comprised of a Geosynthetic Clay Liner (GCL) in lieu of the previously approved compacted clay liner. WDI stated in its Proposed Permit Modification that GCL has the following benefits when compared to the compacted clay liner:
- a. GCL is man-made with superior consistency and reliability;
 - b. GCL has superior resistance to freeze-thaw damage and is preferred considering Michigan's climate;
 - c. GCL has superior resistance to settlement induced tensioning;
 - d. GCL reduces the need for compaction and is more consistent in achieving the approved grades; and
 - e. GCL has substantially lower hydraulic conductivity.
9. WDI stated that the modified engineering design for Master Cell VI, Subcell G Phase 2, is equivalent to the engineering design presented in Finding 7 for previously constructed Subcells. The engineered liner design includes:
- a. GCL primary and secondary liners;
 - b. eighty (80) mil thick density polyethylene synthetic geomembrane primary and secondary liners, each of which exceeds the minimum membrane thickness specified in 40 C.F.R. § 761.75(b)(2);
 - c. synthetic geomembrane liners separated by a sixty (60)-inch cohesive soil attenuation layer; and
 - d. a biaxial geo-grid and 2 feet of structural fill to strengthen the base of the Subcell.
10. WDI intends to incorporate GCL in Master Cell VI, Subcell G Phases 3 through 6, and Subcell F in a future TSCA Approval modification.

11. Pursuant to the prior TSCA Approval for the WDI Landfill, WDI conducted Settlement Monitoring on Master Cell V during the loading of Master Cell VI, Subcell E to assure the integrity of the liner under Master Cell VI, Subcell E.
12. According to the Hydrogeological Report submitted by WDI, which cited several related background reports prepared by its consultant over the years, the hydrogeological characteristics at the WDI Landfill site provide a level of hydrologic protection that exceeds the TSCA requirements specified in 40 C.F.R. § 761.75(b)(3) (*Hydrologic conditions*), including but not limited to the following:
 - a. The Clay Pan underlying the WDI Landfill covers a large area of at least 480 acres, and is effectively continuous and relatively impermeable. Testing has demonstrated no downward natural seepage of water through the clay pan. Breakthrough times for the Clay Pan are very long, and piezometers installed in the clay indicate that the water flux across the clay is very low.
 - b. There is no hydraulic connection between the base of the Master Cell VI (Subcells A, B, C, D, E, F and G) lowermost geomembrane and standing or flowing surface water. The Clay Pan serves as an aquiclude and naturally protects the Upper Aquifer below it. The unprotected, thin Upper Sand Unit resting on the Clay Pan was excavated during construction so that the liner for Master Cell VI, Subcell E rests either on a clay cap or on the Clay Pan.
 - c. The bottom of the liner system for Master Cell VI (Subcells A, B, C, D, E, F and G) is underlain by at least ten (10) feet of clay with a permeability of less than 1×10^{-7} cm/sec. The bottom of the liner system for Master Cell VI, Subcell E is underlain by at least ten (10) feet of clay with a permeability of less than 1×10^{-7} cm/sec and by Master Cell V.
 - d. The WDI Landfill has monitoring wells and leachate collection systems.
 - e. The naturally protected Lower Sand Drift Aquifer below the Clay Pan (the regulatory Upper Aquifer), along with the low permeability of the Clay Pan, helps maintain the potentiometric or artesian forces that result in the local no flow zone in the Clay Pan below Master Cell VI.
 - f. Municipal water supplies are no longer drawn from the Lower Sand Drift Aquifer. The nine wells of the Bridge Road-Rawsonville Road array were shut down in 1994, and the seven-well array in the City of Ypsilanti and the well along Superior Road Bridge were shut down in 1996. These wells are all upstream of the WDI Landfill. Some of these wells may be used in the future.
13. Master Cell VI is located above the 100-year flood level. Master Cell VI has stormwater runoff control structures, as required by 40 C.F.R. § 761.75(b)(4) (*Flood protection*).

14. Master Cell VI is located on an area of relatively flat topography, as required by 40 C.F.R. § 761.75(b)(5) (*Topography*).
15. The requirements of 40 C.F.R. § 761.75(b)(6)(i) (*Water sampling*) have been met as follows:
 - a. all ground and surface water sample sites were sampled to establish background levels before PCB waste disposal began in Master Cell VI;
 - b. leachate from Master Cell V was tested to establish background levels before PCBs were disposed of in Master Cell VI, Subcell E;
 - c. on-site surface water (storm water) will be sampled pursuant to WDI's Surface Water Sampling and Analysis Plan; and
 - d. Quirk Drain, a surface water course designated under 40 C.F.R. § 761.75(c)(3)(ii), will be sampled for PCBs as required by National Pollution Discharge Elimination System (NPDES) Permit No. MI0056413, dated December 1, 2014.
16. WDI has certified that the WDI Landfill has a groundwater monitoring plan and requisite groundwater monitoring wells that meet the requirements of 40 C.F.R. § 761.75(b)(6)(ii) (*Groundwater monitor wells*). These wells include 28 wells monitored under the terms of WDI's Hazardous Waste Operating License and 11 wells monitored under the terms of the TSCA Approval. Additional wells will be added as the expansion area is constructed.
17. WDI is required to conduct analyses on all groundwater samples obtained from the TSCA monitoring wells, pursuant to 40 C.F.R. § 761.75(b)(6)(iii) (*Water analysis*).
18. The WDI Landfill has a compound leachate collection system in Master Cell VI that meets the specifications of 40 C.F.R. § 761.75(b)(7)(ii) (*Compound leachate collection*). The system consists of a Leachate Collection System (LCS) used to collect, monitor and remove leachate above the primary liner; and a Leak Detection, Collection and Removal System (LDCRS) designed to measure flow volumes, collect and analyze samples, and remove leachate above the secondary liner. The LCS currently utilizes ten collection sump pumps to remove leachate from the primary liner. The LDCRS currently utilizes ten additional sumps to monitor and remove leachate from the secondary liner. Leachate collected and removed from the LCS and the LDCRS is treated at WDI's on-site water treatment plant before being discharged to the local sanitary sewer system.
19. WDI's September 2011 Application indicates that operations at Master Cell VI of the WDI Landfill meet the requirements of 40 C.F.R. § 761.75(b)(8) (*Chemical waste landfill operations*), as follows:
 - a. WDI has procedures for placement of PCBs and segregation of other

incompatible wastes.

- b. The Waste Analysis Plan; Waste Delivery Procedures; Leachate Monitoring Plan; Leak Detection, Collection and Removal System Monitoring Plan; Personnel Training Program; Emergency Contingency Plan; and other information in the Application provide detailed explanations regarding recordkeeping; surface water handling; excavation and backfilling; waste segregation; vehicle and equipment movement; roadways; leachate collection systems; sampling and monitoring procedures; monitoring wells; emergency contingency plans; and security measures at the WDI Landfill.
 - c. The WDI Landfill will not accept ignitable wastes.
 - d. WDI will maintain records for all PCB disposal operations, as required by the TSCA PCB regulations.
20. The WDI Landfill has features required by 40 C.F.R. § 761.75(b)(9) (*Supporting facilities*), including the following:
- a. a fence around the site to prevent unauthorized persons and animals from entering, and full-time security personnel on site 24 hours per day;
 - b. roads adequate to support safe operations and maintenance of the Landfill, as described in the Waste Delivery Process section of the September 2011 Application and March 2018 Renewal Application; and
 - c. operating procedures to prevent safety problems or hazardous conditions resulting from spills and windblown materials, including a Personnel Training Program, an Emergency Contingency Plan, and Preparedness and Prevention Plans and Procedures that address worker safety, spill response and procedures to prevent releases to the atmosphere.
21. WDI's March 2018 Renewal Application, WDI's May 2018 Proposed Perming Modification and engineering diagrams, and WDI's September 2011 Application for the WDI Landfill and other submissions contain the information required by 40 C.F.R. § 761.75(c)(1).
22. WDI plans to fill the remaining authorized volume in Master Cell VI, Subcell E, and the 12 million cubic yards in the expansion area (Master Cell VI F & G), under this TSCA Approval.
23. WDI has the following current permits:
- a. Michigan Department of Natural Resources and Environmental Part 111 Hazardous Waste Management Facility Operating License for MID 048 090 633;

effective May 4, 2012 and expires May 4, 2022.

- b. Industrial Pretreatment Program, Class D Wastewater Discharge Permit Number D-11202 issued by the South Huron Valley Utility Authority; effective May 30, 2013, and expires May 29, 2018 (renewal submitted).
 - c. NPDES Permit Number MI0056413, issued by MDEQ; effective December 1, 2014, and expires October 1, 2018.
- 24. WDI has submitted a "Notification of PCB Waste Activity," Form 7710-53 (12-89), and received the unique EPA waste identification number MID 048 090 633.
 - 25. WDI submitted to the MDEQ a certificate of insurance for Closure and Post-Closure Care of the WDI Landfill, effective April 15, 2018 in the amounts of \$17,634,7157 for closure and \$11,887,432 for post-closure care.
 - 26. PCB waste in excess of 100 ppm is regulated pursuant to Part 147 of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. WDI's May 2012 Hazardous Waste Management Facility Operating License constitutes authorization pursuant to Part 147 of Act 451 to dispose of regulated PCB waste. The Operating License contains extensive requirements for management of PCB waste that are no less stringent in protection of health and the environment than the applicable TSCA requirements.
 - 27. WDI's May 2012 Hazardous Waste Management Facility Operating License makes applicable to management of PCB waste in Master Cell VI of the WDI Landfill many of the RCRA-equivalent requirements for hazardous waste disposal facilities set out in the Michigan regulations at Part 111 of Act 451, including requirements for closure, post-closure care and financial assurance.

CONDITIONS OF APPROVAL

The following Conditions, including specified requirements and provisions necessary to ensure that operation of the WDI Landfill does not present an unreasonable risk of injury to health or the environment from PCBs, are authorized pursuant to 40 C.F.R. § 761.75(c)(3). In addition, all requirements, conditions and limitations regarding disposal of PCB waste, contained in the Hazardous Waste Management Facility Operating License for the WDI Landfill issued by the MDEQ on May 4, 2012, including, but not limited to, those provisions referenced below, are incorporated as Conditions of this TSCA Approval.

SITE LOCATION

- 28. PCB disposal must be carried out entirely within Master Cell VI of the WDI Landfill, as described in WDI's September 2011 Application, March 2018 Renewal Application, and May 2018 Proposed Permit Modification.

RUN-ON RUNOFF SYSTEMS

29. WDI shall comply with the requirements in Part IV.C. (Design and Run-on, Runoff, and Contaminant Control) of the May 4, 2012 Hazardous Waste Management Facility Operating License, including:
 - a. operating and maintaining a run-on control system capable of preventing storm water flow onto the active portions of the WDI Landfill during peak discharge from a 24-hour, 25-year storm; and
 - b. operating and maintaining a runoff management system to collect and control storm water volume resulting from a 24-hour, 100-year storm, as provided in the Storm Water Management Standard Operating procedure for the WDI Landfill.

WASTE IDENTIFICATION AND PLACEMENT

30. Any TSCA waste that fails the RCRA paint filter test (SW-846 Method 9095), for reasons other than incidental liquids, shall not be disposed of in Master Cell VI of the WDI Landfill. Incidental water produced during transport may be handled according to the TSCA regulations.
31. Ignitable waste, as defined in 40 C.F.R. § 761.75(b)(8)(iii), shall not be disposed of in Master Cell VI of the WDI Landfill.
32. Any PCB waste or hazardous waste not listed in Attachment 8 to the May 2012 Hazardous Waste Management Facility Operating License, or any incompatible nonhazardous waste that meets any of the criteria set out in Condition IV.B.3. of the Operating License shall not be disposed of in Master Cell VI of the WDI Landfill.
33. Wastes placed in Master Cell VI of the WDI Landfill must be capable of attaining sufficient strength to prevent subsidence, ponding on the waste or on the cap, and slope movement or creep.
34. Indications of slope failure or leachate escape from Master Cell VI or any of its Subcells shall trigger all emergency notification processes and shall subject WDI to immediate corrective action, including possible work stoppage, drainage control, emergency berm construction, soil reinforcement, and possible closure of Landfill.
35. Each load of PCB waste received at the WDI Landfill must be inspected, compared and reconciled with the manifest and the Waste Analysis Plan, Attachment 1 to the May 2012 Hazardous Waste Management Facility Operating License.
36. PCB waste must be logged into the Master Cell VI waste placement coordinate system, as provided in Condition D.2. of Part IV of the May 2012 Hazardous Waste Management Facility Operating License.

37. Vehicles that enter the active portion of the WDI Landfill must be washed clean of soil before leaving the Landfill, and vehicles delivering waste to, but not entering the active portion of the Landfill, must be washed at the wheel wash house or equivalent wash before entering the public road, as provided in the Waste Analysis Plan, Attachment 1 to the May 2012 Hazardous Waste Management Facility Operating License.
38. All waste transport vehicles must be inspected in accordance with the May 2012 Hazardous Waste Management Facility Operating License. Vehicles that leak PCB waste must be contained immediately and not leave the Landfill until the leak is stopped.
39. PCB waste may not be placed anywhere in Master Cell VI if the waste is incompatible with the geomembrane. PCB waste may not be placed on top of wastes that carry residual heat, such as warm, stabilized hazardous waste.

GROUNDWATER MONITORING

40. WDI shall conduct Groundwater Monitoring as provided in Part V.A. (Groundwater Monitoring Program) of the May 2012 Hazardous Waste Management Facility Operating License, and detailed in Attachment 9 (Groundwater Monitoring Program Sampling and Analysis Plan) of the Operating License.
41. As specified in the revised Attachment 9 of the May 2012 Operating License, the following groundwater wells are approved to monitor the Upper Aquifer around Master Cell VI for PCBs, pursuant to the requirements in 40 C.F.R. § 761.75(b)(6):
 - a. OB-21
 - b. OB-23R
 - c. OB-24
 - d. OB-34R
 - e. OB-40R
 - f. OB-48
 - g. OB-49
 - h. OB-50
 - i. OB-51
 - j. OB-52
 - k. OB-53

Proposed Wells

 - l. OB-54
 - m. OB-55
 - n. OB-56
 - o. OB-57
 - p. OB-58
 - q. OB-59
 - r. OB-60

42. As required by 40 C.F.R. § 761.75(b)(6)(iii) (*Water analysis*), samples from the above groundwater monitoring wells must be analyzed for the following parameters:
 - a. PCBs
 - b. pH
 - c. Specific conductance
 - d. Chlorinated organics
43. As provided in 40 C.F.R. § 761.75(b)(6)(iii), all data and records of the groundwater sampling and analysis shall be maintained as required in 40 C.F.R. § 761.180(d)(1), and current EPA sampling methods and analytical procedures shall be followed.
44. Wells used to measure water level elevations at Master Cell VI must not be purged or otherwise disturbed prior to measuring the static water level.

AMBIENT AIR MONITORING

45. WDI shall conduct Ambient Air Monitoring as provided in Part V. B. (Ambient Air Monitoring Program) of the May 2012 Hazardous Waste Management Facility Operating License, and detailed in Attachment 10 (Ambient Air Monitoring Program) of the Operating License.
46. Sample sites around the perimeter of WDI Landfill must be sampled for PCBs at a frequency prescribed by the Ambient Air Monitoring Program. The sample sites referenced in Figure 1 of the Ambient Air Monitoring Program consist of:
 - a. Site 5 (82975)
 - b. Site 6 (82981)
 - c. Site 7 (82977)
 - d. Site 8 (82982)
 - e. Site 9 (82983)
 - f. Site 10 (82984)
 - g. Site 11
47. As specified in the Ambient Air Monitoring Program, sampling and analytical methodology must use EPA Method TO-4A or TO-10A. The analytical method must achieve a minimum method detection limit of two hundredths micrograms per cubic meter (0.02 ug/m³). Twenty-four-hour time weighted average perimeter monitoring using a notification level of three tenth microgram per cubic meter (0.3 ug/m³) is acceptable.

SOIL MONITORING

48. WDI shall conduct a corrective action soil monitoring program for PCBs in “Area A” of the WDI Landfill, and a detection soil monitoring program for PCBs in “Area B” of the WDI Landfill, as provided in Part V.C. of the May 2012 Hazardous Waste Management Facility Operating License, and detailed in Attachment 11 (Soil Monitoring Program Sampling and Analysis Plan) of the Operating License.

SURFACE WATER MONITORING

49. WDI shall conduct Surface Water Monitoring, as provided in Part V.D. of the May 2012 Hazardous Waste Management Facility Operating License, and detailed in Attachment 12 (Surface Water Monitoring Program Sampling and Analysis Plan) of the Operating License.
50. As specified in Attachment 12 of the May 2012 Operating License, surface water grab samples must be collected from the following locations, every quarter following a significant rain event, pursuant to the requirements in 40 C.F.R. § 761.75(b)(6):
 - a. SS – 1
 - b. SS – 2
 - c. SS – 5
 - d. SS – 6
 - e. SS – 7
 - f. SS – 8
 - g. SS-9
 - h. SS-10
 - i. SS-11 (proposed)
 - j. SS-12 (proposed)
51. Surface water from SS-3 must be sampled once a month when water is being discharged from the surface water management system.
52. As required by 40 C.F.R. § 761.75(b)(6)(iii) (*Water analysis*), the above surface water grab samples must be analyzed for the following parameters:
 - a. PCBs
 - b. pH
 - c. Specific conductance
 - d. Chlorinated organics
53. As provided in 40 C.F.R. § 761.75(b)(6)(iii), all data and records of the surface water sampling and analysis shall be maintained as required in 40 C.F.R. § 761.180(d)(1), and current EPA sampling methods and analytical procedures shall be followed.

LEACHATE MONITORING

54. WDI shall conduct Leachate Monitoring as provided in Part V.E. (Leachate Monitoring Program) of the May 2012 Hazardous Waste Management Facility Operating License and detailed in Attachment 13 (Leachate Monitoring Program Sampling and Analysis Plan) of the Operating License.
55. As specified in Attachment 13 of the May 2012 Operating License, each of the leachate collection sumps at the WDI Landfill must be measured and inspected weekly; leachate production volume from each of the leachate collection sumps must be determined monthly; and each of the leachate collection sumps must be sampled and analyzed annually, pursuant to the requirements in 40 C.F.R. § 761.75(b)(7) (*Leachate collection*).
56. Analysis of the samples from each of the existing leachate collection sumps in Master Cell VI of the WDI Landfill must comply with the requirements of 40 C.F.R. § 761.75(b)(6)(iii) (*Water analysis*) and include the following parameters:
 - a. PCBs
 - b. pH
 - c. Specific conductance
 - d. Chlorinated organics
57. WDI must perform the same annual PCB analysis on each additional leachate collection sump added to Master Cell VI.

LEAK DETECTION SYSTEM MONITORING

58. WDI shall conduct Leak Detection System Monitoring, as provided in Part V.F. (Leak Detection System Monitoring Program) of the May 2012 Hazardous Waste Management Facility Operating License and detailed in Attachment 14 (Leak Detection Monitoring Program Sampling and Analysis Plan) of the Operating License.
59. As provided in Part V.F. (Leak Detection System Monitoring Program) of the May 2012 Operating License and detailed in Attachment 14 of the Operating License, each leak detection sump in Master Cell VI of the WDI Landfill must be inspected weekly; the volume of liquid withdrawn from each leak detection sump must be recorded weekly; a sample of liquid from each leak detection sump must be subjected to a field analysis monthly; and each leak detection sump must be sampled, and the samples subjected to a full laboratory analysis, quarterly [or as soon as practicable if conditions set out in Section V.F.2(c) of the Operating License are triggered] for the parameters listed in Attachment 14 of the Operating License, including:
 - a. PCBs
 - b. pH
 - c. Specific conductance
 - d. Chlorinated organics

60. All notifications required in Part V.F. (Leak Detection System Monitoring Program) of the May 2012 Operating License regarding any statistically significant increase in a monitored parameter or a failure of the liner system in Master Cell VI of the WDI Landfill, must be given to EPA, as well as to the Director of the MDEQ. WDI must consult with EPA regarding any actions taken under Section V.F.10. of the Operating License in response to a release of contaminants from Master Cell VI.

LEACHATE/WATER COLLECTION, HANDLING AND DISPOSAL

61. Dilution to avoid applicability of the TSCA PCB regulations is prohibited.
62. WDI shall ensure that leachate depth over the primary liner in Master Cell VI of the WDI Landfill does not exceed one (1) foot.
63. Pursuant to the monthly testing requirements of 40 C.F.R. § 761.75(b)(7) (*Leachate collection*), each month WDI must collect a composite sample representing leachate from the Primary Leachate Collection System in Master Cell VI before treatment (by sampling the combined force main pipe leading into the water treatment plant), and a composite sample representing liquid from the Leak Detection, Collection and Removal System in Master Cell VI before treatment, and analyze each sample for:
- a. PCBs
 - b. pH
 - c. Specific conductance
 - d. Chlorinated organics
 - e. Physiochemical characteristics necessary to characterize the leachate for treatment and disposal
64. All leachate and all leak detector water, if any, from Master Cell VI must be sampled prior to mixing with leachate/water from other sources. All leachate/water from Master Cell VI with PCB concentrations of less than fifty (50) ppm must be treated at WDI's wastewater treatment plant in accordance with the Class D Waste Water Discharge Permit issued to WDI by the South Huron Valley Utility Authority or shipped off-site to a facility permitted to treat or dispose of PCB-contact wastewater.
65. All leachate/water from Master Cell VI with PCB concentrations of fifty (50) ppm or greater must be treated at a facility authorized to dispose of PCB wastewater, and stored in accordance with 40 C.F.R. Part 761, Subpart D storage requirements, pursuant to a Spill Prevention Control and Countermeasures (SPCC) plan, until removal for disposal.

SEDIMENT BASIN MONITORING

66. WDI shall conduct annual sediment basin monitoring for the North, South, and Northwest Sediment Basins at the WDI Landfill, as provided in Part V.H. of the May 2012 Hazardous Waste Management Facility Operating License, and detailed in Attachment 16 (Sediment Basin Monitoring Program Sampling and Analysis Plan) of the Operating License.

ANALYSIS

67. Chlorinated organics in the groundwater to be monitored under this Approval are the chlorine containing compounds listed in Attachment H to the Groundwater Monitoring Program Sampling and Analysis Plan (Attachment 9 of WDI's May 2012 Hazardous Waste Management Facility Operating License).
68. Chlorinated organics in the groundwater samples are to be analyzed by SW-846 Method 8260C (or future EPA updates).
69. The PCB levels in any air sample required by this Approval must be determined by using EPA Test Method TO-4A or TO-10A.
70. The PCB levels in any soil sample or solid sample required by this Approval must be determined by using:
 - a. Appropriate procedures identified by SW-846 Method 3500C (or future EPA updates) for organic extraction and sample preparation.
 - b. Procedures identified by SW-846 Method 3600C (or future EPA updates) for sample extract cleanup, when necessary/appropriate.
 - c. SW-846 Methods 8082A (as updated by EPA) for analytical measurement. The results must be reported as total PCBs, on a dry weight basis (103-105°C), calculated by comparison to Aroclor standards identified by SW-846 Methods 8082A when Aroclors are present. Identified Aroclors used for calculation of total PCBs also are to be reported.
71. The PCB levels in any leachate sample required by this Approval must be determined by using:
 - a. Appropriate procedures identified by SW-846 Method 3500C (or future EPA updates) for organic extraction and sample preparation.
 - b. Procedures identified by SW-846 Method 3600C (or future EPA updates) for sample extract cleanup, when necessary/appropriate.
 - c. SW-846 Methods 8082A (as updated by EPA) for analytical measurement.

72. The results of analyses of leachate samples required by this Approval must be reported as total PCBs calculated by comparison to Aroclor standards identified by EPA Test Method SW-846 Method 8082A. Identified Aroclors used for calculation of total PCBs are also to be reported.
73. Chlorinated organics in the surface water to be monitored under this Approval are the chlorine containing compounds listed in Table 2 of the Surface Water Monitoring Program Sampling and Analysis Plan (Attachment 12 of WDI's May 2012 Hazardous Waste Management Facility Operating License).
74. Chlorinated organics in the surface water samples are to be analyzed by SW-846 Method 8260B (or future EPA updates), with the provision that any reported 1,2 dichloroethene will include the sum of both isomers (cis and trans).
75. Chlorinated organics in the leachate to be monitored under this Approval are the chlorine containing compounds of the Volatile Organic Parameters (8260) and Semi-Volatile Organic Parameters (8270) identified/listed in Figure 7 of the Leachate Monitoring Program Sampling and Analysis Plan (Attachment 13 of WDI's May 2012 Hazardous Waste Management Facility Operating License).
76. Chlorinated organics in leachate samples are to be analyzed by SW-846 Method 8260B (or future EPA updates) for the volatile compounds, and by SW-846 Method 8270D (or future EPA updates) for the semi-volatile compounds. It is recognized that in many cases the detection limits shown in the Figure 7 of the Leachate Monitoring Program Sampling and Analysis Plan will not be attained for leachate due to sample dilutions or matrix effects.
77. Chlorinated organics in the leak detection water to be monitored under this Approval are the chlorine containing compounds identified/listed in Attachment E of the Leak Detection System Monitoring Program Sampling and Analysis Plan (Attachment 14 of WDI's May 2012 Hazardous Waste Management Facility Operating License).
78. Chlorinated organics in leak detection water samples are to be analyzed by SW-846 Method 8260B (or future EPA updates).
79. Analysis for PCBs, pH, specific conductance, and chlorinated organics must be performed in accordance with the Quality Assurance Manual for WDI's contract laboratory, included in Attachment 9 (Groundwater Monitoring Program Sampling and Analysis Plan) of WDI's May 2012 Hazardous Waste Management Facility Operating License.
80. EPA must approve of the removal of statistically significant increases from monitoring data.
81. Upon demand, WDI must provide EPA split sample material. EPA will spike this

material, and WDI must arrange for its laboratory to analyze the spiked samples. The laboratory must be the one that WDI utilizes to analyze samples of the same matrix. The laboratory must provide sample results to EPA and to WDI at the same time.

RECORDKEEPING

82. WDI must comply with the recordkeeping requirements set out at 40 C.F.R. § 761.75(b)(8)(iv) and 40 C.F.R. § 761.180(b), including the requirements to maintain annual records on the disposition of PCB waste at the WDI Landfill and a written annual document log containing the information required by 40 C.F.R. § 761.180(b)(2).
83. As required by 40 C.F.R. § 761.180(b)(1), the annual records for the WDI Landfill shall include:
 - a. all signed and numbered manifests for each PCB waste shipment received at the Landfill for the calendar year;
 - b. all Certificates of Disposal generated by or received at the Landfill for the calendar year; and
 - c. all records of inspections and cleanups at the Landfill for the calendar year.
84. As required by 40 C.F.R. § 761.180(b)(2), WDI shall prepare, by July 1 for the previous calendar year, an annual document log that includes:
 - a. the name, address, phone number, and EPA identification number of the holder of the TSCA Approval, and the calendar year of the log;
 - b. the unique manifest number of every manifest received at the Landfill during the calendar year, and from each manifest the following information:
 - i. the generator's name for each shipment of PCB waste;
 - ii. the quantity of PCB waste disposed of expressed in cubic yards of waste and kilograms of PCB waste;
 - iii. the serial number (if available) or other means of identifying each PCB Article (e.g., properly drained transformer) and the weight of the PCB Article in kilograms;
 - iv. a unique number identifying each PCB Container, a description of the contents of each PCB Container;
 - v. a unique number identifying each PCB Article Container, a description of the contents of each PCB Article Container;

- vi. the first date the PCBs, PCB Articles and PCB Items were removed from service for disposal; and
 - vii. the date the PCB waste was placed in the Landfill.
 - c. the quantity and PCB concentration of leachate produced from Master Cell VI of the WDI Landfill with a PCB concentration of one (1) ppm or greater; and
 - d. the disposal destination of all leachate produced from Master Cell VI of the WDI Landfill with a PCB concentration at or greater than one ppm.
85. As required by 40 C.F.R. § 761.180(b), the annual records and annual document logs must be maintained for at least twenty (20) years after Master Cell VI is no longer used for the disposal of PCB waste. The required documents must be kept at one central location, and must be available for inspection by authorized representatives of EPA.
86. As required by 40 C.F.R. § 761.180(d), WDI shall collect and maintain for at least twenty (20) years after Master Cell VI is no longer used for the disposal of PCB waste, the following:
- a. all water analyses obtained under this Approval and the applicable TSCA regulations; and
 - b. all operationing records, including the burial coordinates of wastes, obtained under this Approval and the applicable TSCA regulations.
87. As required by 40 C.F.R. § 761.180(f), WDI shall maintain for at least twenty (20) years after Master Cell VI is no longer used for the disposal of PCB waste, the following:
- a. all documents, correspondence and data provided by WDI to any State and local governmental agencies pertaining to disposal of PCB waste at the WDI Landfill;
 - b. all documents, correspondence and data provided by and State any local governmental agencies to WDI pertaining to disposal of PCB waste at the WDI Landfill; and
 - c. all applications and related correspondence sent from WDI to governmental agencies regarding specified permits for the WDI Landfill.

REPORTING

88. WDI must submit to EPA a Quarterly Report within sixty (60) days following the end of each calendar quarter. The Report must include the following data for the quarter:
- a. all water elevation data, water table maps for the monitored aquifer and a north-south cross section showing the landfill, the aquifer and water elevations;
 - b. volume of liquid and analytical results from the Leachate Collection System for Master Cell VI, and from the Leak Detection, Collection and Removal System
 - c. a tabular summary of all PCB analytical results of air monitoring, groundwater, and surface water sampling;
 - d. all PCB analytical data reports from the air monitoring, surface water sampling, and groundwater sampling; and
 - e. a summary of the number of cubic yards and kilograms of PCB waste placed in Master Cell VI for the quarter, in addition to the requirements listed in 40 C.F.R. § 761.180(b)(3).
89. As required by 40 C.F.R. § 761.180(b)(3), WDI must submit to EPA an annual report by July 15 of each year for the previous calendar year and must include data for the previous calendar year. For each respective year, the annual report must contain a summary of the written annual disposal log records and annual records, and the following additional information:
- a. sample site locations for leachate/water, groundwater, air, surface water, storm water, soil, and sediment samples must be posted/plotted on maps and cross sections;
 - b. a graphical time plot of all analytical data from groundwater quality sampling;
 - c. piezometric surface elevation contour maps and cross sections for each quarter, showing Master Cell VI, flow paths and flow rates;
 - d. a graphical time plot of all leachate/water analytical data produced from the Leachate Collection System for Master Cell VI, and from the Leak Detection, Collection and Removal System;
 - e. a summary of the final PCB concentration of each batch of leachate/water treated on-site;
 - f. a graphical comparison between leachate quantity pumped/generated during the reported year and the leachate quantities pumped/generated from previous years

together with the concentration, treatment method, and disposition of leachate with greater than or equal to one ppm PCB as pumped from the cell;

- g. a summary of the number of cubic yards and kilograms of PCB waste disposed of in the calendar year, in addition to the requirements listed in 40 C.F.R. § 761.180(b)(3);
 - h. a graphical time plot of analysis of all TSCA surface water, soil, sediment and air monitoring results;
 - i. closure and post-closure financial assurance estimates adjusted annually;
 - j. a summary of the status of the approved TSCA PCB Subcells within Master Cell VI, including:
 - i. identification of Subcell and Phase which was constructed during the calendar year;
 - ii. identification of Subcell and Phase which actively accepted PCB waste during the calendar year;
 - iii. identification of Subcell and Phase which was closed during the calendar year; and
 - iv. remaining volume capacity in approved Master Cell VI at the end of the calendar year;
 - k. a summary of any notifications made in Conditions 91, 92, 93, and 95; and
 - l. any additional information as may be required by the Director of the Land and Chemicals Division, EPA, Region 5.
90. any additional information as may be required by the Director of the Land and Chemicals Division, EPA, Region 5. WDI must provide to EPA every PCB and construction report sent to MDEQ including Construction Quality Assurance and Construction Quality Completeness documents; the results of local air monitoring work around the Master Cell VI working faces, including any temporary air monitoring site locations; any interim cleanup action results; and any MDEQ cleanup approvals.

NOTICE

- 91. Within one working day of when it knows or should have known of applicable analytical results, WDI must notify EPA by telephone of any statistically significant increase in monitored parameters in groundwater, surface water, or Leak Detection, Collection and Removal System samples from the WDI Landfill. WDI also must provide a written notification of such increase within seven (7) days.
- 92. Within one working day of when it knows or should have known of applicable

monitoring results, WDI must notify EPA by phone if the leachate over the primary liner of Master Cell VI exceeds one (1) foot depth, or the volume of water or leachate from Master Cell VI exceeds the mean value plus three (3) standard deviations calculated from the last two years records for the sample point. If the depth of leachate over the primary liner exceeds one foot due to needed maintenance and the leachate depth is restored to less than one foot within 72 hours, then notification by phone is not necessary.

93. Within one working day of when it knows or should have known of applicable monitoring results, WDI must notify EPA by telephone of any WDI Landfill perimeter air station sample result of three tenths micrograms per cubic meter ($0.3 \mu\text{g}/\text{m}^3$) of PCB or greater. WDI also must provide a written notification of such a result within seven (7) days.
94. For the required telephone notification, WDI must contact the EPA Region 5 Office, Land and Chemicals Division, RCRA/TSCA Programs Section, at (312) 886-7435. Required written notification shall be sent to:

Division Director, Land and Chemicals Division (LR-17J)
c/o RCRA/TSCA Programs Section
U.S. Environmental Protection Agency
77 W. Jackson Blvd.
Chicago, Illinois 60604
95. If there is a spill or release of anything from Master Cell VI of the WDI Landfill which poses a threat to health or the environment, the event must be reported immediately to the EPA Region 5 Office, Land and Chemicals Division, RCRA/TSCA Programs Section at (312) 886-7435. In addition, WDI must abide by all other applicable federal, State and local notification and reporting requirements regarding such an incident.

SAFETY AND HEALTH REQUIREMENTS

96. EPA may subject the WDI Landfill to operational changes if twenty-four (24)-hour perimeter air monitoring sample results exceed five tenths microgram per cubic meter ($0.5 \mu\text{g}/\text{m}^3$) of PCBs.
97. EPA may subject the WDI Landfill to temporary work stoppage if twenty-four (24) hour perimeter air monitoring sample results exceed one microgram per cubic meter ($1.0 \mu\text{g}/\text{m}^3$) of PCBs.
98. PCBs must not be found in the air above Master Cell VI of the WDI Landfill at levels that constitute unacceptable work conditions using criteria compatible with those of the Occupational Safety and Health Agency (OSHA).
99. Operational changes and cleanups at Master Cell VI of the WDI Landfill must be completed in accordance with applicable TSCA PCB regulations.

100. WDI must follow the inspection guidelines in General Inspection Schedule, Attachment 2 to the May 2012 Hazardous Waste Management Facility Operating License.
101. All workers at WDI must receive training as provided in the WDI Personnel Training Program, Attachment 3 to the May 2012 Hazardous Waste Management Facility Operating License.
102. Master Cell VI of the WDI Landfill must remain secured to restrict public access at all times.

INSPECTION

103. EPA reserves the right of its employees and authorized representatives to perform inspections, review records, and take samples at the WDI Landfill at any reasonable time.

CLOSURE AND POST-CLOSURE

104. Closure of Master Cell VI of the WDI Landfill must be approved in writing by EPA prior to closure, and shall be implemented pursuant to updated Closure and Post-closure Plans approved in writing by the Director of the Land and Chemicals Division, Region 5, EPA.
105. WDI has submitted a Closure Plan (Attachment 5 of the May 2012 Hazardous Waste Management Facility Operating License) and Post-closure Plan (Attachment 6 of the Operating License) for Master Cell VI of the WDI Landfill. Within one hundred and eighty (180) days prior to closure of Master Cell VI, WDI shall provide updates of these Plans to EPA for review and approval.
106. The updated Closure and Post-closure Plans for Master Cell VI of the WDI Landfill shall comply with applicable RCRA requirements at 40 C.F.R. Part 264, Subpart G, as provided in Part II. J (*Closure*) and K (*Postclosure*) of the May 2012 Hazardous Waste Management Facility Operating License, and shall include any additional provisions necessary to ensure that Master Cell VI does not present an unreasonable risk of injury to health and the environment from PCBs during closure and the post-closure period. The updated Closure and Post-closure Plans must comply with the RCRA requirements at 40 C.F.R. § 264.310 (*Closure and post-closure care*) and include detailed descriptions of how Master Cell VI will be closed and the long-term care that will be provided after closure; updated closure and post-closure cost estimates; and an updated demonstration of financial responsibility for implementing closure and providing post-closure care throughout the post-closure period.
107. The current Closure Plan for Master Cell VI of the WDI Landfill requires installation of a final cap, and the Post-closure Plan provides for maintenance of the cap during the post-closure period. The final cap design must be approved in writing by EPA.

108. The current Post-closure Plan for Master Cell VI of the WDI Landfill contains a post-closure period of thirty (30) years applicable to RCRA hazardous waste landfills. At any time prior to closure of Master Cell VI or during the post-closure period in the EPA-approved Post-closure Plan for Master Cell VI, EPA may extend the post-closure period upon finding that an extended period of post-closure care is necessary to ensure that Master Cell VI does not present an unreasonable risk of injury to health or the environment from PCBs. Regardless, of any such extension, WDI shall maintain the approved final cap on Master Cell VI in perpetuity.
109. Upon closure, WDI must remediate areas outside of Master Cell VI of the WDI Landfill contaminated by PCBs in excess of one ppm or ten micrograms of PCBs per hundred square centimeters (10 µg/100 cm²). WDI may cap and seed areas which remain contaminated by PCBs at a level greater than one (1) ppm but less than ten (10) ppm, with ten (10) inches of clean soil.

FINANCIAL ASSURANCE FOR CLOSURE AND POST-CLOSURE CARE

110. WDI must establish and maintain financial assurance for closure for Master Cell VI of the WDI Landfill, based on a closure cost estimate established pursuant to the RCRA requirements at 40 C.F.R. § 264.142 (*Cost estimate for closure*), and utilizing financial assurance mechanisms set out at 40 C.F.R. § 264.143 (*Financial assurance for closure*).
111. WDI must establish and maintain financial assurance for post-closure care for Master Cell VI of the WDI Landfill, based on a post-closure cost estimate established pursuant to the RCRA requirements at 40 C.F.R. § 264.144 (*Cost estimate for post-closure care*), and utilizing financial assurance mechanisms set out at 40 C.F.R. § 264.145 (*Financial assurance for post-closure care*).
112. As required under the RCRA regulations at 40 C.F.R. §§ 264.142 and 264.144, WDI must adjust the closure and post-closure care cost estimates for Master Cell VI of the WDI Landfill for inflation annually, which may require an increase in the financial assurance.
113. WDI must revise the closure and post-closure care cost estimates for Master Cell VI of the WDI Landfill within thirty (30) days of any modification or change that increases such costs, including any extension of the post-closure time period. This may require an increase in the financial assurance.
114. WDI must submit proof of financial assurance for closure and post-closure care for Master Cell VI of the WDI Landfill to EPA annually. If EPA determines that the amount of financial assurance is inadequate to ensure that Master Cell VI does not present an unreasonable risk of injury to health or the environment from PCBs, WDI must obtain additional financial assurance funding. Failure to do so will result in a termination of WDI's authority to dispose of PCBs in Master Cell VI or, if Master Cell VI has been closed, may subject WDI to civil or criminal penalties under TSCA.

TRANSFER OF OWNERSHIP

115. The requirements under this Approval for closure and post-closure care of Master Cell VI of the WDI Landfill shall transfer to any new owner of the Landfill.
116. WDI must notify EPA, at least one hundred and eighty (180) days before transferring ownership of Master Cell VI of the WDI Landfill, where a new Approval must be issued, or thirty (30) days before transferring ownership of Master Cell VI where the Approval is current and the new owner's records in Condition 119 are complete.
117. WDI must similarly notify State and local agencies before transferring ownership of Master Cell VI of the WDI Landfill.
118. Should the transferor fail to timely provide EPA with the required written documentation of sale or transfer of Master Cell VI of the WDI Landfill, this Approval may be terminated.
119. At least sixty (60) days before the transfer of Master Cell VI of the WDI Landfill, the prospective transferee must submit to EPA:
 - a. a written statement identifying the name, address and telephone number of the transferee;
 - b. copies of the transferee's last four (4) years of federal income tax returns, including all schedules;
 - c. a notarized affidavit signed by the transferee which states that the transferee will abide by the transferor's Approval;
 - d. a listing of past environmental violations by the transferee, its employees or assigns;
 - e. the qualifications of the principals and key employees;
 - f. proof of financial assurance acceptable to EPA and funding in a manner similar to that set forth at 40 C.F.R. §§ 264.142 and 145; and
 - g. any other applicable materials to document compliance with the requirements of 40 C.F.R. § 761.75.
120. After reviewing the notification, affidavit, financial assurance, and background information, EPA will either issue an amended Approval in the transferee's name or require the transferee to apply for a new TSCA PCB disposal Approval. In the latter

case, the transferee must abide by the transferor's Approval until the EPA issues the new Approval.

121. If the transferee is required to apply for a new TSCA PCB Approval, the transferee must submit to the Director of the Land and Chemicals Division, EPA, Region 5 a complete Application, pursuant to the requirements of 40 C.F.R. § 761.75.

BANKRUPTCY

122. In the event that WDI, or its successor or assigns, declares bankruptcy, WDI shall immediately provide written notice of such to the Director of the Land and Chemicals Division, Region 5, EPA.

DRAFT

MODIFICATIONS

Any major modification of this Approval requires the written approval of the Director of the Land and Chemicals Division, EPA, Region 5. If there is any question as to whether a change in operations at the WDI Landfill, or any other proposed modification, is a major or minor modification, such question should be submitted to an appropriate representative(s) of EPA as soon as possible. In such cases, EPA will determine whether a proposed change is major or minor. No oral modifications shall be granted.

Any minor modification of this Approval requires written approval of the Chief, RCRA Branch, Land and Chemicals Division, EPA, Region 5. No oral modifications shall be granted.

APPROVAL EXPIRATION

WDI's authorization to place PCB waste in Master Cell VI of the WDI Landfill will expire five (5) years after the date the Approval is executed by the Director, Land and Chemical Division, EPA, Region 5. WDI must submit a written request to the Director, at least one hundred and eighty (180) days prior to the expiration date, for a renewal of the Approval to extend this expiration date. The authorization to place PCB waste in Master Cell VI will remain in effect beyond the expiration date if WDI has submitted a timely, complete and adequate request for renewal of the Approval and, through no fault of WDI, the Division Director has not issued a renewal of the Approval.

SUSPENSION AND TERMINATION OF PCB DISPOSAL AUTHORIZATION

WDI's failure to comply with any provision of this Approval, TSCA, the PCB regulations at 40 C.F.R. Part 761, or any other applicable federal, State or local requirement may constitute a sufficient basis for suspension or termination of WDI's authorization to dispose of PCB waste in Master Cell VI of the WDI Landfill.

WDI's PCB disposal authorization may also be terminated if the Director of the Land and Chemicals Division, EPA, Region 5 determines that Master Cell VI of the WDI Landfill poses an unreasonable risk of injury to health or the environment.

The Director of the Land and Chemicals Division, EPA, Region 5 may reinstate WDI's authorization to dispose of PCB waste in Master Cell VI of the WDI Landfill or remove any disposal restrictions, if it is determined that any unsafe practices have been eliminated and unsafe conditions have been changed.

SEVERABILITY

All terms and conditions of this Approval are severable. If any provision of this Approval or any application of any provision, is changed, amended or held invalid, the remaining terms and conditions will still be valid and not affected thereby.

RESERVATIONS

Nothing in this Approval relieves WDI from the duty to comply with all applicable federal and State laws and regulations, including, but not limited to CERCLA, RCRA and TSCA and the regulations promulgated under those statutes.

Violation of this Approval, TSCA or the PCB regulations may subject WDI to civil or criminal enforcement action and associated penalties.

EPA reserves the right to impose additional Conditions of Approval if EPA finds such Conditions are necessary to ensure that operation of Master Cell VI of the WDI Landfill does not present an unreasonable risk of injury to health or the environment from PCBs, or if EPA issues new regulations or standards for TSCA PCB landfills.

EPA may require the removal of some or all of the PCBs disposed of in Master Cell VI of the WDI Landfill if EPA finds such actions are necessary to ensure that the Landfill does not present an unreasonable risk of injury to health or the environment from PCBs.

WDI is responsible for the actions of its agents, assigns, employees, and contractors regarding compliance with this Approval and all federal, State and local regulations applicable to operation of the WDI Landfill, including, but not limited to, emergency notification and reporting requirements.

WAIVER

EPA hereby waives for Master Cell VI of the WDI Landfill the requirement for a fifty-foot distance between the bottom of the landfill liner and the historical high groundwater table, set out at 40 C.F.R. § 761.75(b)(3). This requirement is waived because of Finding 6(b) herein which states the bottom of Master Cell VI is underlain by a clay pan that meets regulatory requirements consisting of ten (10) feet of clay with a permeability of 10⁻⁷ cm/sec, and Findings 7 and 15 which state that Master Cell VI is constructed with safety features that exceed regulatory requirements, such as two double-thick synthetic membrane liners with a thick clay interliner; a compound leachate collection system; and a leak detection, collection and removal system.

APPROVAL

In accordance with 40 C.F.R. § 761.75 and the Findings above, EPA has determined that WDI's Application is consistent with TSCA, and that Master Cell VI of the WDI Landfill, when operated in compliance with the Conditions of Approval, does not present an unreasonable risk of injury to health or the environment from PCBs. Provided that the Conditions of Approval described above are met, WDI's March 29, 2018, PCB TSCA Renewal Application and May 16, 2018, Proposed Permit Modification - Upgrades to MC VI-G Phase 2 Liner Design, Revision 1, for an amended Approval is granted.

WDI is authorized to dispose of PCB waste in the unfilled portion of its previously approved and constructed Master Cell VI (Subcells A through E), with an approved volume of 4,325,000 cubic yards, of the WDI Landfill, and may dispose of up to another 12,005,603 cubic yards of PCB waste in Master Cell VI, Subcells F and G, after these Subcells are constructed and certified by the MDEQ.

Date: _____

Michael D. Harris
Acting Division Director
Land and Chemicals Division
United States Environmental Protection Agency
Region 5

ATTACHMENTS

1. Hazardous Waste Management Facility Operating License issued to Wayne Disposal, Inc. (MID 048 090 633) by the Michigan Department of Environmental Quality(MDEQ) on May 4, 2012.
2. Administrative Record Index, Wayne Disposal, Inc. (MID 048 090 633).

DRAFT

ATTACHMENT 1
HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE
MAY 4, 2012

DRAFT

ATTACHMENT 2
ADMINISTRATIVE RECORD INDEX