



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND  
EMERGENCY RESPONSE

Mr. Michael Pitcher  
Manager, North America Operation  
Hydrodec North America, LLC  
2021 Steinway Blvd, SE  
Canton, OH 44707

JUN 26 2012

Dear Mr. Pitcher:

On April 23, 2012, EPA issued the "Draft Approval to Dispose and Commercially Store Polychlorinated Biphenyls (PCBs)" for Hydrodec's Canton, Ohio facility for public comment. The public comment period was open through June 12, 2012, and EPA received no substantive or adverse comments on the draft approval. As a result, EPA is now issuing Hydrodec, without changes to the draft approval, a final operating approval.

Your Demonstration Test Report dated March 19, 2010 informed the Office of Resource Conservation and Recovery (ORCR) of the U.S. Environmental Protection Agency (EPA) that Hydrodec North America, LLC's (Hydrodec's) catalytic hydrogenation technology successfully demonstrated destruction of polychlorinated biphenyls (PCBs) to levels of less than 2 parts per million (ppm). Additionally, Hydrodec submitted an application to EPA, dated May 20, 2010, for a PCB commercial storage approval.

EPA has determined that Hydrodec has demonstrated it is capable of operating its Catalytic Hydrogenation System in an effective and safe manner. EPA has also determined Hydrodec's commercial storage application meets all applicable requirements. This final approval is based upon EPA's conclusion that Hydrodec's treatment and storage operations, when conducted in accordance with the conditions of this approval, will not present an unreasonable risk of injury to public health or the environment.

As discussed in the cover letter that accompanied the draft approval seeking public comment, please note that this national approval is only applicable to Hydrodec's Canton, Ohio facility for its commercial storage pursuant to 40 CFR 761.65(d) and alternative treatment/destruction process pursuant to § 761.60(e). You have indicated that Hydrodec intends to construct a second permanent treatment operation at a different location that will have a treatment and storage process identical to the Canton, Ohio facility covered by this approval. Before PCB operations may begin at a new facility, Hydrodec shall (in accordance with this approval) submit a request to EPA to add the facility to this approval and receive EPA approval of that request. In accordance with this approval, such a request shall contain information necessary for EPA to issue a revised alternative treatment and commercial storage approval, including a summary of differences in the two facilities' storage and treatment process design and operations. EPA

would review such a request and could require an additional test demonstration. The request would also have to provide any necessary updates to closure plans, cost estimates, and financial assurance documentation (in accordance with the regulations and with the conditions in this approval).

Please contact Molly Finn of my staff at (703) 347-8785 if you have any questions regarding this approval.

Sincerely,



Suzanne Rudzinski, Director  
Office of Resource Conservation and Recovery

Enclosure

cc: Land and Chemicals Division Director  
USEPA Region V

PCB Coordinator  
USEPA Region V

Ohio EPA  
Division of Hazardous Waste Management Division  
Columbus, Ohio

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Approval to Treat and Commercially Store Polychlorinated Biphenyls (PCBs)

COMPANY

Hydrodec North America, LLC  
2021 Steinway Boulevard, SE  
Canton Ohio 44707

APPROVAL TYPE

National Approval to Treat and Commercially Store Polychlorinated Biphenyls (PCBs)

EFFECTIVE DATE

Date of signature

EXPIRATION DATE

Five years after date of signature, except as provided for in Condition A(22).

AUTHORITY

This Approval to operate an alternative PCB destruction technology and commercially store PCB waste is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act of 1976, Public Law No. 94-469, and the Federal PCB Regulations at 40 CFR Part 761.60(e) and 65(d), (48 Federal Register 13185, March 30, 1983).

BACKGROUND

Hydrodec North America, LLC (aka Hydrodec) owns and operates a facility located at 2021 Steinway Boulevard SE, Canton Ohio, 44707. This approval will permit Hydrodec to commercially store certain PCB containing waste material in quantities greater than 500 gallons at this site. This approval will also permit Hydrodec to operate a catalytic hydrogenation PCB treatment process at its facility in Canton, Ohio.

DEFINITIONS

"Analytical data" means: (a) a formal report from a chemical analysis laboratory; or (b) appropriate chemical instrument print outs with appropriate controls, standards, and written instrumental operating parameters and conditions; or (c) a statement that an



assumption is being used, in accordance with 40 CFR 761.2. Technical judgment or experience is not considered analytical data.

“Application” means the application submitted by Hydrodec for treatment, dated May 8, 2009, as well as for storage dated May 20, 2010. This also includes any subsequent submissions or revisions to these materials submitted by Hydrodec prior to the issuance of this Approval.

"Appropriate local jurisdiction" means the incorporated city where Hydrodec will be operating, or the county, if Hydrodec will be operating outside the boundary of an incorporated city.

“Appropriate Regional PCB coordinator” means the PCB Coordinator for the EPA region where Hydrodec will be operating. The PCB coordinators for each region are listed on the following website: <http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/coordin.htm>

“Approval” means the content of this document and the conditions within.

"Business hours" means 8:00 a.m. to 5:00 p.m. local time on weekdays, except United States Government Holidays.

"Day" means a calendar day, unless otherwise specified.

“Demonstration Test Report” means the Demonstration Test Report dated March 19, 2010 submitted by Hydrodec and includes any subsequent submissions or versions submitted by Hydrodec prior to the issuance of this Approval.

"Facility" means the geographically contiguous property unit (such as a single manufacturing plant) at which Hydrodec’s process treatment and storage operations are authorized by this Approval.

"Facility location" means a street address or a directional description which would allow a facility to be found by an EPA inspector.

"Lost time injury" or "lost workday injury" means an injury related to the operation of Hydrodec’s treatment process or commercial storage operations which results in an employee not performing his/her normal assignments during the workday and/or any successive workday(s) following the day of the injury.

“Office Director” means the Director of the Office of Resource Conservation and Recovery (ORCR), Office of Solid Waste and Emergency Response (OSWER), USEPA, Washington, DC. Phone Number: 703-308-8895. Mailing address:

USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N. W.



OSWER/ORCR, Mail Code: 5303P  
Washington, DC 20460

"Oils" mean transformer oils containing > 2 ppm PCBs and includes PCB oil (> 500 ppm); PCB contaminated transformer oil (> 50 ppm and < 500 ppm); and non-PCB transformer oil (< 2 ppm).

"Operations" means the process of storing and treating PCBs, including set-up, start-up of Hydrodec's process, preparation of PCB feed, decontamination of Hydrodec's treatment unit and supporting components and storage devices, and termination of storage and treatment.

"ORCR" means the Office of Resource Conservation and Recovery, which is an office within EPA's Office of Solid Waste and Emergency Response (OSWER).

"PCB" means polychlorinated biphenyls as defined in 40 CFR 761.3.

"PCB Item" means any PCB Article, PCB Article Container, PCB Container, PCB Equipment, or anything that deliberately or unintentionally contains or has as a part of it any PCB or PCBs, as defined in 40 CFR 761.3

"PCB Regulations" mean the PCB regulations under 40 CFR 761.

"PCB release" and "PCB spill" have the same meaning as "spill" as defined in EPA's PCB Spill Cleanup Policy in 40 CFR 761.123.

"Permanent operations" means those operations where, in any 365 consecutive day period, Hydrodec's treatment unit physically remains at a facility for 180 consecutive days or longer.

"Permits Branch" means the branch in EPA's Office of Resource Conservation and Recovery (ORCR) that drafts PCB approvals. The Permits Branch Chief phone and fax number are (703) 308-8428 and (703) 308-8609, respectively. The mailing address for the ORCR Permits Branch Chief is the following:

USEPA Headquarters  
1200 Pennsylvania Avenue, N.W.  
OSWER/ORCR/PIID/Permits Branch, Mail Code: 5303P  
Washington, DC 20460

"Process Failure" means the inability of Hydrodec's treatment unit to treat the feedstock to less than 2 ppm PCBs.

"2 ppm PCBs" treatment criterion is defined as follows:

- (a) When Aroclor patterns are detected in the chromatogram of treated material, the Aroclor will be quantified using Method 8080 (or EPA-approved

equivalent method, e.g. Method 680). In this instance, the criterion for PCBs in the treated sample is "less than 2 ppm total PCBs (as calculated by comparison of total areas or height to an external Aroclor standard having a similar pattern to the sample)," or

(b) When Aroclor patterns do not exist, the sample will be quantified using the Dry Color Manufacturing Association (DCMA) method (or EPA-approved equivalent method). In this instance, the criterion is "less than 2 ppm per PCB congener (or per resolvable gas chromatographic peak, as calculated by comparison to an external standard homolog peak having the nearest retention time to each appropriate PCB peak to be quantified)."

"Year" means 365 days.

## CONDITIONS OF APPROVAL

### A. General Conditions

#### 1. Site Location

The operation of the authorized storage facility and PCB treatment process shall be carried out at Hydrodec's North America, LLC facility located at 2021 Steinway, Blvd., SE, Canton, Ohio 44707.

This approval (Approval) is applicable only to Hydrodec's Canton, Ohio facility (Facility) for its PCB storage activities pursuant to 40 CFR 761.65 and alternative treatment/destruction process pursuant to 761.60(e). Hydrodec has indicated that a second permanent treatment operation may be constructed at a different location that will have a treatment and storage process identical to the Canton, Ohio facility covered by this Approval.

Before PCB operations may begin at an additional facility, Hydrodec shall submit a request to EPA to modify this Approval in order to add the facility to this Approval. Such a request shall contain information necessary for EPA to issue a revised alternative treatment and commercial storage approval, and shall include a summary of any differences in the two facilities' storage and treatment process design and operations. EPA will review the request and could require an additional test demonstration. This request shall also provide any necessary updates to the closure plans, cost estimates, and financial assurance documentation (in accordance with the PCB regulations and with the conditions in this Approval). Operations may commence at the additional facility only after EPA approves the addition of the facility to this Approval.

#### 2. Effect of Approval

(a) Hydrodec must operate its Facility in compliance with the provisions of Hydrodec's applications for both treatment and storage (Hydrodec Application), Demonstration Test Report, and the conditions of this Approval. Noncompliance with any provision of Hydrodec's Application, Demonstration Test Report, and/or any condition of this Approval shall be a violation of this Approval. In the event that the conditions of this Approval are inconsistent with the provisions of Hydrodec's Application and Demonstration Test Report, Hydrodec must comply with the conditions of this Approval.

(b) This Approval does not convey property rights of any part or any exclusive privilege, nor does it authorize any injury to persons or property, any invasion of other private rights or any infringement of state or local laws or regulations.

(c) Compliance with this Approval does not establish a defense to any other law that provides protection from any unreasonable risk to public health and



the environment, including the PCB Regulations.

(d) Compliance with this Approval does not relieve Hydrodec of the responsibility to comply with all other applicable federal, state, and local laws and regulations, including the PCB Regulations.

### 3. Severability

The conditions of this Approval are severable, and if any provision of this Approval or any application of any provision is held invalid, the remainder of this Approval shall not be affected thereby.

### 4. Approval Compliance

(a) Hydrodec must comply and operate the Facility in accordance with Section 6(e) of TSCA, 15 U.S.C § 2605(e), and the PCB Regulations.

(b) This Approval is based on the facts, representations, and certifications made by Hydrodec in the Hydrodec Application and Demonstration Test Report. In the event that the conditions of this Approval are inconsistent with the provisions of Hydrodec's Application and Demonstration Test Report, Hydrodec must comply with the conditions of this Approval.

(c) Hydrodec is liable for the actions of its employees, agents, contractors, subcontractors, and others who are involved in the operation of the Facility.

(d) This Approval is binding upon Hydrodec. Hydrodec shall be responsible hereunder for any violations by officers, directors, employees or agents of any company having a financial interest in Hydrodec.

(e) Except for the President and Chief Executive Officer (CEO) as described in Section 1 of Hydrodec's Application, shareholders shall not have control of the Facility operations relating to the storage and disposal of PCBs or PCB Items.

### 5. Duty to Report Noncompliance

If at any time Hydrodec becomes aware that it is operating the Facility in a manner that is not in compliance with this Approval or the PCB regulations, Hydrodec shall notify the Permits Branch Chief by telephone at (703) 308-8428 within 24 hours and shall submit a written report to EPA describing the inconsistencies within five (5) calendar days.

### 6. EPA Modification, Suspension, Revocation, and Termination of Approval

EPA reserves the right to modify, suspend, revoke, or terminate this Approval if:

(a) There is reason to believe that continued operation of the Facility presents an unreasonable risk to public health or the environment; or

(b) New regulations or standards become applicable rendering such modification, suspension, revocation, or termination appropriate; or

(c) EPA becomes aware of material false statements (e.g., misrepresentation(s), omission(s) of material fact(s)) from Hydrodec relating to this Approval, the Application, or the Demonstration Test Report; or

(d) EPA becomes aware of violations to applicable regulations or conditions of this Approval.

Upon request, Hydrodec shall provide information EPA deems necessary to determine whether cause exists for modification, suspension, revocation, or termination of this Approval. Hydrodec shall provide such information within the time frame specified in EPA's request.

EPA's right to modify, suspend, revoke, or terminate this Approval does not in any way preclude its right to commence appropriate enforcement action under any or all applicable statutes and regulations. EPA reserves any rights and remedies available to it under TSCA, the PCB Regulations, and any other federal laws or regulations for which EPA has jurisdiction, to enforce the provisions of this Approval.

#### 7. Scope of Approval

Hydrodec is permitted through this approval to do the following:

(a) Store PCB waste in the designated container storage areas and in the tanks listed in Condition B(1) of this Approval, subject to the terms and conditions of this Approval and the federal PCB regulations at 40 CFR Part 761. Any storage of PCBs and/or PCB Items not authorized in this Approval is prohibited.

(b) Treat PCB waste subject to the terms and conditions contained in this Approval and in conformance with Hydrodec's Application. In the event that the conditions of this Approval are inconsistent with the provisions of Hydrodec's Application and Demonstration Test Report, Hydrodec must comply with the conditions of this Approval. The PCB waste shall be treated using Hydrodec's Catalytic Hydrogenation System (CHS).

(c) Dispose of CHS liquid and non-liquid treatment residuals subject to the terms and conditions contained in the Approval.

#### 8. Restrictions on PCB Waste Acceptance for Storage and Disposal at Closure



At closure, Hydrodec shall treat any PCBs remaining in storage, or dispose of the PCBs in an approved PCB disposal facility.

#### 9. Compliance with Federal Regulations

(a) This Approval does not relieve Hydrodec from compliance with the federal PCB Regulations, including, but not limited to:

- i. 40 CFR §- §761, Subpart C – marking of PCBs and PCB Items;
- ii. 40 CFR §761.50 – storage and disposal applicability
- iii. 40 CFR §761.60 - disposal;
- iv. 40 CFR, §761.65 - storage for disposal;
- v. 40 CFR, §761.79 - decontamination;
- vi. 40 CFR §761 Subpart G - PCB spill cleanup policy
- vii. 40 CFR, §761.180 - records and monitoring; and
- viii. 40 CFR, §761, Subpart K, PCB waste disposal - records and reports.

(b) Prior to commencing treatment and/or commercial storage operations, Hydrodec must obtain any necessary federal, state or local permits or approvals. During the course of operations, Hydrodec shall comply with all conditions and requirements of such permits or approvals.

#### 10. Process Modification

(a) Except as provided in paragraph (b) below, Hydrodec must submit a written request to EPA for approval of any intended modification of this Approval or Hydrodec's Application or Demonstration Test Report. Such modifications shall only be made after receiving written approval from the ORCR Director or his or her representatives.

(b) Minor changes that keep this Approval current with routine changes to the facility or its operation, which do not reduce the capacity of the facility to protect human health or the environment and do not substantially alter the permit conditions, may be made without prior approval from EPA if Hydrodec submits a written notice of the modification to the ORCR Director within seven (7) calendar days after the change is put into effect. This notice must specify the changes being made to the Approval Conditions, Hydrodec Application or Demonstration Test Report and must explain why they are necessary.

The ORCR Director may request that Hydrodec submit additional information regarding the minor changes and/or reject the minor changes. If the modification is rejected, the ORCR Director will explain in writing the reasons for the rejection, and Hydrodec will comply with the original conditions of this Approval.

#### 11. Entry and Inspection



(a) Hydrodec shall allow, during business hours or other reasonable times during CHS operations or demonstration tests, EPA authorized representative(s) to conduct inspections for the purpose of determining compliance with this Approval and the PCB Regulations. Such inspection activities may include, but are not limited to:

- i. Conducting interviews
- ii. Inspecting and/or collecting copies of records and monitoring data
- iii. Taking sample(s)
- iv. Inspecting, observing, and documenting Hydrodec's activities, equipment, work practices, operations, and processes.

(b) Any denial of access or refusal to allow EPA authorized representative(s) to conduct an inspection shall be deemed a violation of this Approval.

## 12. Transfer of Ownership

This Approval may be transferred to a new owner or operator only after submittal of a new or amended application to and written approval by the ORCR Director. The date of transfer of this Approval shall be the date the ORCR Director provides written approval of the transfer. The ORCR Director will provide a final written decision within 90 days of receipt of the complete new or amended application. The ORCR Director will approve the transfer if the following conditions are met:

(a) The transferee has established financial assurance for closure pursuant to the PCB Regulations at 761.65(g) using a mechanism effective as of the date of final approval of the transfer, so that there will be no lapse in financial assurance for the transferred facility, and

(b) Hydrodec or the transferee has resolved any deficiencies (e.g., technical operations, closure plans, cost estimates) EPA has identified in Hydrodec's application for transfer of ownership.

## 13. PCB Releases and Spills

(a) If, during the term of this Approval, there is a spill or release of the equivalent of one pound or more by weight of PCBs, Hydrodec must notify the National Response Center at (800) 424-8802 within 24 hours of the spill.

PCB spills must be reported in accordance with the PCB spill reporting requirements prescribed under §311 of the Clean Water Act for discharges to navigable waters and under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for discharges to other media.

Additionally, releases or spills of PCBs which meet any of the criteria of 40 CFR §761.125(a)(1) paragraphs (i) - (iii), shall be reported, by telephone or in writing, to the appropriate Regional PCB Coordinator and the Permits Branch Chief in EPA's ORCR within five (5) business days.

(b) A written summary report about a reportable spill incident, as identified in the preceding paragraph, must be submitted to the Permits Branch Chief within five (5) business days following the incident. When EPA requests a detailed report on the incident, this report shall be submitted to the Permits Branch Chief within 15 business days following the request.

(c) No PCBs may be processed in that facility until the release problem has been corrected to the satisfaction of the Permits Branch Chief.

Any spills of PCBs or other fluids must be promptly controlled and cleaned up as provided in Hydrodec's Spill Prevention, Control and Countermeasures Plan (SPCC), and in accordance with the EPA PCB Spill Cleanup Policy (40 CFR Part 761, Subpart G). Any debris or solid wastes generated as a result of clean up or decontamination of a PCB spill or release must be disposed of in a facility approved to dispose of PCBs under 40 CFR 761 Subpart D.

A written report describing the spill, operations involved, cleanup actions, and changes in operation to prevent future spills must be submitted to the Permits Branch Chief within five (5) business days of the completion of cleanup activities.

#### 14. Safety and Health

(a) Hydrodec must take all necessary precautionary measures to ensure that operation of the CHS is in compliance with the applicable safety and health standards, as required by federal, state, and local laws and regulations and ordinances. Any lost-time injury occurring as a result of Hydrodec's commercial storage or CHS operations must be reported by telephone to the appropriate EPA Regional PCB Coordinator and ORCR's Permits Branch Chief by the next business day. A written report describing the accident must also be submitted within five (5) business days.

(b) Upon any unplanned suspension of the operation of the CHS which results during PCB processing, Hydrodec must prepare a document which shall include, at a minimum, the date and time of the suspension and an explanation of the circumstances causing the suspension of the operation. The document shall be sent to the EPA Region 5 PCB Coordinator and ORCR's Permits Branch Chief within five (5) days of any such suspension.

#### 15. Facility Security

The facility shall be secured (e.g., fence, alarm system, etc.) to ensure that only those individuals participating in the operations and approved visitors are allowed in the area.



## 16. Personnel Training

Hydrodec shall be responsible for ensuring that the personnel directly involved with the handling, storage or disposal of PCBs are demonstrably familiar with the requirements of this Approval. At a minimum, this must include:

- i. The types of PCB waste that may be treated using the CHS and the upper limit of PCB concentration that may be treated;
- ii. Requirements for approved storage and treatment units;
- iii. Basic recordkeeping requirements under this Approval and the location of records;
- iv. Notification requirements;
- v. Waste disposal requirements for process and by-product wastes generated during the operation of Hydrodec's PCB CHS process;
- vi. Safety, operation, and maintenance procedures;
- vii. Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- viii. Spill prevention and cleanup plan requirements;
- ix. Reporting requirements; and
- x. Requirements for spills and/or releases

## 17. Recordkeeping and Reporting

During the course of storage and treatment operations under this Approval, Hydrodec must maintain at the Facility a copy of this Approval, Hydrodec's Application, Demonstration Test Report, SPCC plan, and the sampling and analytical procedures used to determine PCB concentrations in untreated and treated materials.

Hydrodec shall collect and maintain any required records for five (5) years from the date of operations under this Approval.

(a) Hydrodec must maintain the monitoring records required in Condition C(6) of this Approval.

(b) Hydrodec must also maintain the records required by, and pursuant to, 40 CFR 761.180(f). If Hydrodec terminates operation of Hydrodec's CHS process, these records or their copies must be submitted to the Director of the Office of Resource Conservation and Recovery, USEPA, upon request by the Permits



Branch Chief.

(c) Hydrodec must record the inspections required by Conditions B(10)(a) and (b) of this Approval in an inspection log or summary. Records of inspections, maintenance, cleanup and disposal must be maintained in accordance with 40 CFR §761.180(a) and (b) and must be made available to EPA representatives upon request.

(d) Hydrodec shall monitor and record other facility-specific, PCB waste storage and disposal process data as necessary to prepare the annual records, annual document logs, and annual reports as required by the PCB Regulations at 761.180(b). Annual document logs and reports shall be maintained at the Facility for at least three (3) years after the Facility is no longer used for the storage or disposal of PCBs and PCB Items.

(e) Hydrodec shall retain all records required by this Approval or the federal PCB regulations at 40 CFR Part 761 during the course of any unresolved enforcement action regarding the facility or upon request by EPA.

A representative authorized by Hydrodec shall certify all reports and other information requested by EPA.

Any verbal notifications required by the Conditions of this Approval are to be communicated by telephone to the appropriate EPA Regional PCB Coordinator and ORCR contacts, as specified in the conditions, within the time frame specified. In addition, Hydrodec shall file written reports with the appropriate EPA Regional PCB Coordinator, and ORCR's Permits Branch Chief within the time frame specified in the aforementioned conditions.

#### 18. Certificate of Disposal

Hydrodec must prepare and retain a Certificate of Disposal for the PCB waste treated (disposed of) at the facility, and send the certificate of disposal to the generator identified in the manifest, as required in 40 CFR §761.218.

#### 19. Closure Costs and Closure Plan

(a) Prior to issuance of this Approval, Hydrodec submitted a closure plan and financial assurance for closure for the Canton, Ohio Facility. Financial assurance, under 40 CFR 761.65(e), (f), and (g), shall be maintained for this Facility.

(b) When the Director of ORCR approves a modification to the facility's closure plan under 40 CFR 761.65(e) and that modification increases the cost of closure, Hydrodec shall revise and submit to ORCR's Permits Branch Chief, the closure cost estimate and the financial assurance mechanism, if applicable, no later than 30 days after the modification is approved. If the increased cost of closure is due to increased storage capacity, the new or revised financial assurance mechanism must be in place prior to use of the modified portion of the

facility.

(c) Hydrodec shall update the Closure Cost Estimate annually for inflation and to reflect changes to disposal/closure costs.

(d) Hydrodec shall keep a copy of the current closure plan, closure cost estimate and financial assurance document(s) at the facility and make such documents available to EPA inspectors for review, upon request.

## 20. Financial Assurance

Hydrodec has indicated it has chosen a Closure Trust Fund to meet the financial assurance requirements set forth in the PCB Regulations at 761.65(g). Hydrodec shall maintain the Closure Trust Fund in accordance with 761.65(g)(1) to provide funding of proper closure of Hydrodec's operations under this Approval.

## 21. Closure

Upon completion of treating all PCB materials in the last PCB disposal shipment (and other shipments if not already treated), Hydrodec has 90 days to complete its closure activities. All porous materials (e.g. rubber hoses, contaminated rags, PPE) must be sent to a TSCA PCB disposal facility. Any liquids contaminated with PCBs may be treated through Hydrodec's CHS. Any non-porous material can be decontaminated to less than 10 µg/100 cm<sup>2</sup> in accordance with 40 CFR Part 761.79.

Hydrodec shall comply with the following closure schedule in accordance with 40 CFR 761.65(d):

- i. Notify the Permits Branch Chief, by telephone or in writing, at least 60 days prior to the date on which final closure of its PCB storage facility is expected to begin.
- ii. The date when Hydrodec "expects to begin closure" shall be no later than 30 days after the date on which Hydrodec received its final quantities of PCB waste. For good cause shown, EPA may extend the date for commencement of closure for an additional 30 day period.
- iii. Within 90 days after receiving the final quantity of PCB waste for storage, Hydrodec shall remove all PCB waste in storage at the facility in accordance with Hydrodec's closure plan. For good cause shown, EPA may approve a reasonable extension to the period for removal of the PCB waste.
- iv. Hydrodec shall complete closure activities in accordance with Hydrodec's closure plan and within 180 days after receiving the final quantity of PCB waste for storage at the facility. For good cause



shown, EPA may approve a reasonable extension to the closure period.

- v. During the closure period, all contaminated system component equipment, structures, and soils shall be disposed of in accordance with the disposal requirements of subpart D of 40 CFR 761, or, if applicable, decontaminated in accordance with the levels specified in the PCB Spills Cleanup Policy at subpart G of 40 CFR 761.
- vi. Within 60 days of completion of closure, Hydrodec shall submit to the Director, ORCR, by registered mail, a certification that the PCB storage facility has been closed in accordance with the closure plan. The certification shall be signed by the owner or operator and by an independent registered professional engineer.

## 22. Expiration/Renewal

(a) This national operating and storage Approval shall become effective upon signature and will expire five (5) years from the date of signature. In order to continue operating under this Approval pending EPA action on reissuance, Hydrodec must submit a written renewal application to EPA at least 90 days, but not more than 180 days, prior to the expiration date of this Approval.

(b) This Approval and its conditions herein will remain in effect beyond the Approval expiration date if Hydrodec has submitted a timely and complete Approval application (as described in Condition (a) above) and, through no fault of Hydrodec, EPA has not issued a renewed Approval, an Approval renewal application denial, or an official Approval termination.

(c) EPA may require Hydrodec to submit additional information and/or conduct additional testing (including sampling and monitoring) for Hydrodec's CHS treatment/storage process in connection with the renewal of this Approval.

## 23. Public Participation

Public participation is required under this Approval. The public participation shall take the form of a public notice followed by a 30-day comment period with public review of the draft Approval and any related documents. If additional facilities are later requested to be added to this Approval, or if EPA later issues Hydrodec a draft renewal approval (e.g., in five years), the Director of ORCR shall determine whether the public participation shall take the form of a public notice or public notice followed by a 30-day comment period with public review of the draft Approval and any related documents.

EPA will determine whether a public meeting is necessary based on whether a public meeting has been requested and based on the comments and questions received. If a public meeting is conducted, the purpose of such meeting shall be



to provide an opportunity for the public to provide formal comments and oral testimony on the draft approval.

After the close of the public comment period or public meeting, if one is held, EPA shall make a decision on the authorization of operations and on what additional or revised conditions, if any, shall be in the Approval. The decision will be based on review of comments during the 30-day comment period and comments made during the public meeting.

24. Prior Written Notice

Hydrodec must send a non-confidential, written notice at least 30 days before it begins to treat or store PCBs under this Approval or within five (5) days of resuming treatment after a shutdown of PCB treatment for 30 or more consecutive days to ORCR's Permits Branch Chief and depending upon the location of the facility, the appropriate EPA Regional PCB Coordinator and the appropriate state and local government officials.

The notice must include:

- (a) The facility name, address, and phone number;
- (b) The names, titles, addresses, and telephone numbers of the addressees required to be notified above;
- (c) Estimated amount and types of PCBs (Aroclor, etc.) to be stored and treated, as well as estimates of the concentrations of PCBs in the material. The estimates shall be based on analytical data from a representative sample of the material to be disposed of and/or historic analytic data from similar material.

**B. Storage of PCBs**

1. Approved PCB Storage Areas

Hydrodec is authorized to store PCB contaminated oil in dedicated oil storage tanks, at or below the capacity limits specified below. The capacity represents the total waste storage limits for PCBs.

Additionally, four (4) 350-gallon totes and eight (8) 55-gallon drums are approved to temporarily store for 30 days, PCB contaminated oil and other PCB waste (such as PPE) in the loading/unloading building.

<b>PCB Storage Areas</b>	<b>PCBs Stored</b>	<b>Capacity (gallons)</b>
Tank Farm 1, Dike C	PCB Oil	8,200
Tank Farm 2, Dike C	PCB Oil	8,200
Building F 1	PCB Oil	8,200
Building F 2	PCB Oil	2,500
Totes in loading/unloading bldg.	PCB Oil	1,400
55 gallon drums in loading/unloading bldg.	PPE	440

Total storage in tanks = 27,100 gallons

Total storage in containers = 1,840 gallons

**Total liquid storage capacity = 28,500 gallons**

**Total non-liquid storage capacity = 440 gallons**

2. Design Requirements of Storage Areas

The PCB container/tank storage units shall be maintained in accordance with the specifications in Hydrodec's Application and shall meet the requirements at 40 CFR §761.65.

Hydrodec's facility shall meet the following storage criteria in accordance with 40 CFR 761.65(b)(1):

- (i) Adequate roof and walls to prevent rain water from reaching the stored PCBs and PCB Items;
- (ii) An adequate floor that has continuous curbing with a minimum 6

inch high curb. The floor and curbing must provide a containment volume equal to at least two times the internal volume of the largest PCB Article or PCB Container or 25 % of the total internal volume of all PCB Articles or PCB Containers stored there, whichever is greater;

- (iii) No drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area;
- (iv) Floors and curbing constructed of Portland cement, concrete, or a continuous, smooth, non-porous surface (as defined in 761.3), which prevents or minimizes the penetration of PCBs;
- (v) Not located at a site that is below the 100 year flood water elevation.

Hydrodec's storage facility must also comply with the 40 CFR 761.65(c)(3) marking requirements found at 40 CFR 761.40(a)(10): Each storage area used to store PCBs and PCB Items for disposal shall be marked as illustrated in Figure 1 in 40 CFR 761.45(a).

Hydrodec may also comply with 40 CFR 761.65(c)(1), which allows certain PCB Items to be stored temporarily for 30 days in locations that do not comply with the requirements of 761.65(b).

### 3. Types of PCB Storage Allowed

- (a) Container Storage Units: Hydrodec is authorized to store non-liquid and liquid PCBs in containers listed in Approval Condition B(1)
- (b) Tank Units: Hydrodec is authorized to store and/or treat PCB liquids and CHS treatment residuals in tanks listed in Approval Condition B(1)

Hydrodec is authorized to store PCBs in container storage units, as well as tank units. These units must meet the requirements of 40 CFR 761.65(c)(6).

Stationary storage containers for liquid PCBs can be larger than the containers specified in 761.65(c)(6) provided they meet the requirements of 761.65(c)(7).

Additionally, any container used to store or treat PCB waste that contains  $\geq 50$  ppm PCBs shall be decontaminated in accordance with 40 CFR §761.79.

### 4. Maximum PCB Storage

No more than a total of 28,500 gallons of liquid PCB waste and 440 gallons of non-liquid PCB waste shall be stored in the approved storage units at Hydrodec's facility.

### 5. Marking and Dating Requirements



(a) The approved PCB storage areas identified in Approval Condition B(1), shall be marked as required in 40 CFR §761.40(a)(10).

(b) PCB containers/tanks holding waste containing PCBs at concentrations of  $\geq 50$  ppm shall be marked as required by 40 CFR §761.40(a)(1).

(c) PCB containers/tanks shall be dated in accordance with 40 CFR §761.65(c)(8). PCB waste storage areas shall be managed so that the PCB item can be located by the removal from service date or by the item's unique tracking number.

(d) For PCB waste storage tanks identified in Condition B(1)(b), Hydrodec shall comply with the recordkeeping requirements of 40 CFR §761.65(c)(8).

#### 6. Aisle Space Requirement and Row Width Limits

(a) Adequate aisle space within the container/tank storage units must be maintained at all times to allow access for purposes of inspection and spill response for leaking containers.

(b) Containers stored on pallets in the container storage units shall be stored in rows no more than one pallet wide when using a standard pallet size of 48"x 48" leaving a minimum 24-inch aisle between the rows and between the rows and walls.

#### 7. Container Stacking

Containers shall be stacked subject to the following limitations:

(a) Larger containers shall not be stacked on top of smaller containers unless the weight of the upper container tier can be safely supported;

(b) Containers shall not be stacked more than three-high.

#### 8. Management of PCB Containers/Tanks in Storage

(a) PCB containers/tanks shall always be closed during storage, except when adding or removing their contents, and must not be opened, handled or stored in a manner which may damage them or cause leakage.

(b) PCB containers/tanks shall be stored so that required PCB labels, dates removed from service, and other identification information can be easily read by any inspector.

#### 9. Moveable equipment

(a) Pursuant to 40 CFR 761.65(c)(4), and except as provided below, sampling equipment, tools, and moveable equipment used for handling PCB waste in a PCB container/tank storage area, and that has come in direct contact

with PCB waste, shall not be removed from that container/tank storage area unless it has been decontaminated in accordance with 40 CFR 761.79.

(b) Sampling equipment, tools and moveable equipment used for handling PCBs in one storage area may be transferred to and used in another PCB storage area at the Hydrodec facility without prior decontamination, provided the equipment is containerized during the transfer or other appropriate measures are taken to prevent the spread of PCB contamination and exposure to unprotected personnel en route between the two storage areas.

#### 10. Inspection Requirements

(a) All PCB containers stored within the PCB container storage units and all PCB storage tanks shall be checked for leaks at least once every 30 days. Any leaking PCB container and its contents shall be transferred immediately to properly marked non-leaking containers. Any spilled or leaked materials shall be immediately cleaned up and the materials and residues containing PCBs shall be disposed of in accordance with 40 CFR 761.61. Records of inspections, maintenance, cleanup and disposal must be maintained in accordance with 40 CFR 761.180(a) and (b).

(b) The condition of floor, joints and curbing in each of the approved PCB container storage units and storage tank enclosures shall be inspected at least once every 30 days. Any needed repairs noted during such inspections shall be made in a timeframe to prevent any spills from being released from the containment area, but no longer than 30 days from the date of the inspection, unless a longer repair period is authorized by the Permits Branch Chief.

#### 11. Dilution Prohibitions

In the event that non-PCB oil is mixed at Hydrodec's Facility with PCB oil at any concentration > 2 ppm, the resulting oil (for purposes of waste classification/designation) will be classified at the highest concentration of the PCB oil introduced into that tank. Similarly, for purposes of waste classification/designation, the concentration in a tank is determined by the highest concentration of PCB added to it.

#### 12. Recordkeeping and Reporting

Hydrodec shall conduct all storage recordkeeping and reporting requirements as required in general Condition A(17).

### **C. Treatment of PCBs using Hydrodec's Catalytic Hydrogenation System**

#### 1. Feedstock Restriction:

(a) Under the conditions of this approval, Hydrodec may process MODEF (Mineral Oils Dielectric Fluid) that were found in electrical transformers



and electric equipment.

(b) Under this Approval, the maximum PCB concentration Hydrodec may treat with their CHS process is 2,000 ppm.

(c) Hydrodec may not treat the following:

- i. Liquid PCBs at a concentration greater than 2,000 ppm
- ii. Materials which are non-liquid (e.g., soil, debris, sludge, rags)

(d) Prior to treatment, the oil must be sampled and analyzed by gas chromatography for the concentration of PCBs in accordance with EPA-approved procedures that are outlined in the "Draft Guidelines for Permit Applications and Demonstration Test Plans for PCB Disposal by Non-Thermal Alternate Methods," August 21, 1986.

## 2. Sampling Plan for Treated PCB Oil to Ensure Compliance:

(a) Hydrodec must sample in accordance with their Sampling and Monitoring Plan as described in their Demonstration Test Plan to ensure compliance with the treatment standards. Any deviations from this plan shall first be submitted to and approved by EPA before they can be used.

(b) Hydrodec must collect composite samples from the treated oil. The composite samples must be representative of the treated PCB contaminated oil and must be analyzed in duplicate by gas chromatography for PCB concentrations. If PCBs are found to be present in the treated oil in concentrations greater than 2 ppm PCBs, then Hydrodec must handle the oil as if it contained the original concentration of PCBs as found in the oil prior to processing. It must be stored in an appropriate manner and either reprocessed through Hydrodec's CHS until process operations have indicated complete removal (less than 2 ppm PCBs) or sent to an off-site TSCA approved commercial PCB waste disposal/storage facility. Note that condition C(7) limits the number of times Hydrodec can re-treat the waste oil through the treatment process to achieve the < 2 ppm treatment level to five (5) times.

## 3. Operating Conditions and Restrictions

Hydrodec shall operate the CHS process under the following conditions whenever PCBs are being treated:

- Waste Feed oil flow rate: less than 650 kg/hour
- Temperature: 280-330 °C
- Reactor Pressure: greater than 495 psi
- Recycle gas flow: greater than 17.5 kg/hour
- Scavenger flow: greater than 5 kg/hour
- Quench Wastewater: greater than 80 kg/hour



- Maximum PCB Concentration: 2,000 ppm
- Aroclor: 1260 and below

#### 4. Operating Controls

If there is a process upset, which causes the CHS treatment process to shut down or not operate correctly, Hydrodec shall redirect any untreated PCB-contaminated oil to an emergency tank or auxiliary feed tank where it can be redirected back into the process at a later time.

#### 5. Process Waste Restriction:

(a) Process waste containing less than 2 ppm PCBs, generated from the Hydrodec process while treating PCB material, may be disposed of as non-PCB waste, but must comply with other disposal requirements of local, state, or federal regulations.

Any process waste containing 2 ppm PCBs or greater, generated from the Hydrodec process while treating PCB material, must be disposed of as if it contained the original concentration (i.e., according to requirements delineated in 40 CFR 761.60)). The original concentration is defined as that level of PCBs in the material that was treated.

(b) If the CHS treatment process generates water containing greater than 3 ppb PCBs, Hydrodec must either:

- i. Send the water off-site for disposal in a TSCA approved PCB incinerator;
- ii. Process the water through a carbon filtration process until the water contains less than 0.5 ppb PCBs, at which point the water has no disposal restrictions. The spent carbon after filtration must be incinerated in a TSCA approved incinerator in accordance with 40 CFR 761.70, alternative technology approved under 40 CFR 761.60(e), or sent to an approved TSCA landfill (if there is no free flowing liquid); or
- iii. Treat the contaminated water in the CHS process.

Prior to treating water under option (ii) or (iii) above, Hydrodec must first notify the Permits Branch Chief and demonstrate the process can successfully treat the water to less than 0.5 ppb PCBs. The demonstration may be conducted during Hydrodec's commercial operations if the process description and a sampling plan (e.g., carbon breakthrough analysis) are first submitted to and approved by the Permits Branch Chief.

## 6. Monitoring and Recording

During the course of treatment operations under this Approval, Hydrodec shall monitor and collect the following:

- i. Continuous and short interval data of the rate and quantity of PCBs treated in the CHS process and operating conditions listed in Condition C(3) of this Approval;
- ii. The volume and PCB concentration of the PCB oil and contaminated water pre and post treatment. The volumes and pre/post treatment concentrations will be used to quantify the amount of PCBs destroyed in the CHS treatment process or captured in the carbon system, as well as quantify the amount of PCBs that ultimately are sent off-site;
- iii. The date, time, and duration of each operation;
- iv. The name and address of each client whose PCB wastes were treated by Hydrodec's CHS process;
- v. The name, address, and telephone number of the operator and supervisor.

These documents must be: 1) compiled within 60 days following completion of the treatment; 2) kept at one centralized location at the Facility; and 3) made available for inspection by EPA's authorized representatives upon request.

The records must be compiled and maintained in accordance with the time(s) and location(s) specified in Condition A(17).

## 7. Process Failure

If the analytical testing, as described in Condition C(2) reveals that Hydrodec's CHS process has not been able to achieve the required less than 2 ppm PCB after five runs, then Hydrodec must stop operation of the process.

Hydrodec must notify the appropriate EPA Regional PCB Coordinator and ORCR's Permits Branch Chief during the same business day as the failure, or if the failure occurred outside normal business hours, then it should be reported the next regular business day.

In addition, a written report must be submitted to EPA within five (5) days of the date that Hydrodec's process failed describing the occurrence. The unit shall not resume operations until the problem has been corrected to the satisfaction of the Permits Branch Chief. EPA reserves the right to impose additional monitoring, sampling and analysis requirements in order to investigate any process equipment failure.

## 8. Equipment Transport



PCB-contaminated equipment (i.e., process equipment, tanks, etc.) shall only be transported off-site for disposal/treatment/decontamination, in accordance with 40 CFR 761.40 and the U.S. Department of Transportation (USDOT) requirements of Title 49, CFR Part 172. Such requirements include placarding the equipment and labeling all PCBs.

In accordance with 761.65(c)(4), no item of movable equipment that is used for handling of PCBs and PCB items in the storage units and that comes in direct contact with PCBs shall be removed from the storage unit unless it has been decontaminated as specified in 761.79.

#### 9. Recordkeeping and Reporting

Hydrodec shall conduct all treatment recordkeeping and reporting requirements as required in general Condition A(17).

#### 10. Laboratory Requirements

Hydrodec shall only use its onsite laboratory in Canton, Ohio using SW-846 Method 8082 or ASTM D4059 (Standard Test Method for Analysis of Polychlorinated Biphenyls in Insulating Liquid by Gas Chromatography). Hydrodec shall submit a written request to the Permits Branch Chief prior to any intended modification to the laboratory procedures, including cleanup, extraction or method of analysis. EPA, at its discretion, will give Hydrodec a Performance Evaluation (PE) sample to determine the efficacy of the change in analytical procedure. If a PE sample is given, it should meet the criteria of agreement of 70-130% to be considered effective. If the requested modification is deemed adequate by EPA, EPA will provide Hydrodec with written authorization to use the modified analytical procedure.

#### 11. Additional Hydrodec Process Units

Hydrodec must submit, for approval, a written pre-operation report and request to operate to the Director of the Office of Resource Conservation and Recovery at least 60 days from the date Hydrodec intends to operate additional Hydrodec CHS units. This report/request should contain the following information:

- (a) Date of manufacture of the unit, or date unit installed on-site;
- (b) Identification and/or serial number of the unit;
- (c) Certification by an independent, registered professional engineer addressing whether the new Hydrodec CHS unit is substantially similar to the original demonstrated unit(s) in terms of engineering design, hardware, process capacity, quality, and workmanship such that the new unit is expected to have



equivalent treatment efficiencies and emission profiles. This certification shall identify any differences that may affect treatment efficiency relative to the currently operating treatment unit;

(d) Certification by the Chief Executive Officer of Hydrodec signifying that Hydrodec's unit construction has been completed, and that the completed construction of the additional CHS unit was evaluated by a registered professional engineer as required above;

(e) A list of all non-substantive changes made to the design and construction of the new Hydrodec unit which are not identical to the original Hydrodec CHS unit.

EPA, at its discretion, may request Hydrodec to demonstrate the additional CHS unit at the facility where the additional CHS unit is to be operated.

## 12. Process Modifications

If Hydrodec wants to process oils different than MODEF (Mineral Oil Dielectric Fluid), for example, oils originating from PCB transformers and PCB contaminated transformers, Hydrodec shall notify EPA of its intent, and, EPA, at its discretion, may require an amendment to the Approval. Hydrodec shall not process different oil or media absent receiving approval from EPA.

APPROVAL

1. Approval to store and dispose of PCBs pursuant to 40 CFR part 761.65(d) and 761.60(e) is hereby granted to Hydrodec North America LLC, Inc. of Canton, Ohio subject to the conditions expressed herein, and consistent with the materials and data included in the Application and Demonstration Test Report filed by the company. EPA reserves the right to impose additional conditions when it has reason to believe that the continued operation of Hydrodec's process presents an unreasonable risk to public health or the environment, new information requires changes, or EPA issues new regulations or standards for issuing permits.

Any departure from the conditions of this Approval or the terms expressed in the Application or Demonstration Test Report must receive prior written authorization from the Director of ORCR.

2. This Approval to store and dispose of PCBs does not relieve Hydrodec of the responsibility to comply with all applicable federal, state and local regulations. Violations of any applicable regulations will be subject to enforcement action, and may result in termination of this Approval. This Approval may be rescinded at any time due to Hydrodec's failure to comply with the terms and conditions herein, failure to disclose all relevant facts, or for any other reasons which the Director of ORCR deems necessary to protect public health and the environment.

3. Hydrodec shall be responsible for the actions of any authorized Hydrodec employees when those actions are within the scope of operating Hydrodec's CHS unit and auxiliary components, and shall assume full responsibility for compliance with all applicable federal, state and local regulations, including, but not limited to, any advance or emergency notification and accident reporting requirements.

4. EPA reserves the right for its employees or agents to inspect Hydrodec's PCB storage and disposal activities covered by this Approval and at any reasonable time.

6/28/12  
Date

Suzanne Rudzinski  
Suzanne Rudzinski, Director  
Office of Resource Conservation and Recovery

## APPENDIX I

### BACKGROUND

Section 6(e)(1)(A) of the Toxic Substances Control Act (TSCA) requires that EPA establish standards for the disposal of polychlorinated biphenyls (PCBs). The rules implementing section 6(e)(1)(A) were published in the Federal Register of May 31, 1979 (44 FR 31514) and recodified in the Federal Register of May 6, 1982 (47 FR 19527). Those rules require, among other things, that various types of PCBs and PCB Articles be disposed of in EPA-approved landfills (40 CFR 761.75), incinerators (40 CFR 761.70), high efficiency boilers (40 CFR 761.60), or by alternative methods (40 CFR 761.60(e)) that demonstrate a level of performance equivalent to EPA-approved incinerators or high efficiency boilers. The May 31, 1979 Federal Register notice also designated Regional Administrators as the approval authority for PCB disposal facilities.

On March 30, 1983, EPA issued a procedural rule amendment to the PCB rule (48 FR 13185). This amendment transferred the review and approval authority of mobile and other PCB disposal facilities that are used in more than one region to the Office of Pesticides and Toxic Substances (OPTS). The purpose of the amendment was to eliminate duplication of effort in the US EPA regional offices and to unify EPA's approach to PCB disposal facilities that are used in more than one region. In 2007, this authority was transferred to the ORCR to better unify EPA's approach to cleanup and disposal of wastes.

The PCB regulations at 40 CFR 761.65(d) require that all commercial storers of PCB waste have approval from EPA. If the commercial storage area is ancillary to a facility approved for disposal by the ORCR, the commercial storage approval shall be granted by ORCR.

The Hydrodec Catalytic Hydrogenation was conceived by Hydrodec Australia. Hydrodec North America is an associated company of Hydrodec Australia. The Hydrodec CHS unit is designed to destroy PCBs in transformer oils.

Hydrodec North America, LLC (Hydrodec) provides services to customers using its proprietary Catalytic Hydrogenation System (CHS). The CHS refines used oils and organic chemicals. The Canton facility uses four identical reactor trains. The final products (from the destruction of organic contaminants) include ethane, methane, carbon dioxide, hydrogen, water, biphenyl polymers and hydrogen chloride.

The Canton, Ohio facility receives and manages used oil and can, by catalytic hydrogenation, recycle used oils. The site uses two feed tanks able to hold 8,200 gallons each of oils contaminated with PCBs with concentrations of up to 2,000 ppm PCBs.



Hydrodec has one facility located in Canton, Ohio and preliminary plans for a second facility in a different location. Hydrodec anticipates building CHS facilities in more than one EPA Region.

To obtain a Toxic Substance Control Act (TSCA) PCB Disposal Approval and PCB Commercial Storage Approval, Hydrodec submitted to EPA a "PCB 60(e) Approval Permit Application," dated May 8, 2009, for a TSCA PCB demonstration approval, as well as a "PCB Storage Permit Application," dated May 20, 2010.

In October 2009, Hydrodec conducted performance demonstration tests of their CHS treatment process. Representatives of EPA's ORCR observed this demonstration. Results of the demonstration are included in the document entitled, "Demonstration Test Report, PCB Disposal by Non-Thermal Methods, Hydrodec North America LLC" dated March 19, 2010.

## APPENDIX II

### FINDINGS

1. Hydrodec's CHS treatment process consists of hydrogenation treatment of PCB contaminated transformer oil, the reactor effluent, and the reactor gases. Hydrodec's unit destroys PCBs from contaminated oils by liberating chlorine from the PCBs in the reactor system. Components of the CHS treatment process include the following:

- a. Feedstock oil tanks
- b. Reactor feed heater
- c. CHS reactor
- d. Gas/liquid separator
- e. Oil/water separator
- d. Catalytic oxidizer

#### Process Description:

##### Hydrogenation:

The PCB-contaminated transformer oil is collected in feedstock tanks which feed an oil surge tank. From the feed oil surge tank, the oil is introduced to the CHS treatment process. The oil is pre-heated by passing it counter-current to a hot hydrogenation reactor effluent stream in a heat exchanger. Fresh and recycled hydrogen, together with a scavenger, are then introduced. The combined flow is then heated to the reaction temperature before entering the CHS reactor which is comprised of a double packed bed of a conventional hydro-treating catalyst.

##### Reactor Effluent:

The product oil (reactor bottoms) leaving the reactor is first cooled in a heat exchanger against the incoming feed oil. The oil is then passed through a gas/liquid separator. The product oil is then washed with de-mineralized water and sent to an oil/water separator. From the oil/water separator, the product oil (which is the oil refined to less than 2 ppm PCBs) is sent to the product tank. Wastes from the separators (e.g., light oil, waters and salts) are sent to a waste tank.

##### Reactor Gas:

The reactor gases (containing excess hydrogen) are water quenched and sent to a gas/liquid separator, then to a vapor knock-out unit. The gas is then recycled to a compressor and to the reactor feed. To prevent buildup of non-condensable gases, some of the recycled gases are bled to an intermittent gas purge, and then sent to a catalytic oxidizer.

2. The CHS treatment process is designated as an alternate PCB disposal method or more specifically, an alternate PCB thermal disposal process, which refines the oil, destroys the PCBs in the oil, and returns the oil to an “as new” condition for reuse.
3. The CHS process is highly automated, but many of the CHS unit operating parameters can be controlled with manual safety override. In addition, a shutdown sequence may be initiated manually by the operator. An automated Emergency Shut Down System is also actively employed whenever the plant is operational.
4. Hydrodec’s facility includes storage units intended to store oil contaminated with PCBs. As required in 40 CFR 761.65(d)(4), EPA finds Hydrodec has satisfied the requirements set forth in 40 CFR 761.65(d)(2). EPA also finds Hydrodec has met the requirements of 40 CFR 761.65(d)(3). These findings are based on the information included in Hydrodec’s commercial storage application and as observed by EPA representatives at the facility.
5. Due to the design aspects, operating parameters, and safety measures, EPA finds that the demonstrated performance of Hydrodec’s CHS treatment process is equivalent to the performance of a TSCA PCB incinerator and that the operation of the CHS treatment process and storage of PCB contaminated oil does not pose an unreasonable risk of injury to health or the environment.



### APPENDIX III

#### Summary of Results from Hydrodec's PCB Demonstration, October 19-22, 2009

	<b>Hydrodec Feed Oil (ppm PCB)</b>	<b>EPA Feed Oil (ppm PCB)</b>	<b>Hydrodec Product Oil (ppm PCB)</b>	<b>EPA Product Oil (ppm PCB)</b>
<b>Run # 1</b>	1892	2215.26	< 1	< 1
<b>Run # 3</b>	2074	2242.42	< 1	< 1
<b>Run # 4</b>	1952	2219.96	< 1	< 1
<b>Average</b>	1972.67	2225.88	< 1	< 1

The average PCB concentration of the oil feedstock during the Demonstration Test, using Runs # 1, 3, and 4 was 1972.67 ppm. EPA rounds this number to a PCB concentration of 2000 ppm. As a result, this operating approval includes a maximum PCB feed concentration limitation of 2000 ppm to the CHS process.

## APPENDIX IV

### CHS Treatment Operating Conditions

The CHS treatment process operated at the following conditions during the Demonstration Test. These conditions were considered when developing the operating conditions used in this final Approval. Operating conditions may be added, removed, or edited if deemed appropriate by EPA.

	<b>Run # 1</b>	<b>Run # 2**</b>	<b>Run # 3</b>	<b>Run # 4</b>
<b>Date of Run</b>	10/20/2009	10/21/2009	10/22/2009	10/23/2009
<b>Waste Feed Oil Flow Rate (kg/hr)</b>	650	651	650	651
<b>Batch Volume Feed (gal)</b>	1170	588	1170	1176
<b>Feed PCB Concentration (mg/kg)</b>	1892	1921	2074	1952
<b>Reaction time (min)</b>	340	172	360	325
<b>Reactor Temperature (°C)</b>	305	305	305	305
<b>Reactor Pressure (psi)</b>	514	509	511	509
<b>Set Point on Scavenger (ppm)</b>	100	100	100	100
<b>Scavenger flow (1-15 kg/hr)</b>	5.4	3.6	7.1	7.4
<b>Quench Wastewater (kg/hr)</b>	85	50.7	82.6	82.9
<b>Final PCB concentration (ppm)</b>	< 1	< 1	< 1	< 1

\*\* Run # 2 rejected by EPA due to the occurrence of process leakage and process shutdown during the demonstration

# Process Flow Diagram

