

**IN THE COURT OF COMMON PLEAS  
CUYAHOGA COUNTY, OHIO**

**STATE OF OHIO, EX. REL.**

**JIM PETRO  
ATTORNEY GENERAL OF OHIO,**

**Plaintiff,**

**vs.**

**HI TECMETAL GROUP, INC., ET AL.**

**Defendants.**

\_\_\_\_\_  
Judge: PEGGY FOLEY JONES

CV 03 509780

**JUDGE**

**CONSENT ORDER AND FINAL JUDGMENT ENTRY**

**WHEREAS** Plaintiff, State of Ohio, ex rel. Jim Petro, Attorney General of Ohio ("Plaintiff"), having filed the Complaint in this action against Defendants to enforce Ohio's hazardous waste laws found in Chapter 3734 of the Revised Code and the rules adopted thereunder; and Plaintiff and Defendants having consented to the entry of this Order; and

**WHEREAS**, Defendants do not admit the allegations set forth in the Complaint and deny any violation of any state or federal statute, regulation or common law;

**THEREFORE**, without trial or admission of any issue of law or of fact, and upon the consent of the parties hereto, it is hereby **ORDERED, ADJUDGED** and **DECREED** as follows:

**I. DEFINITIONS**

1. As used in this Consent Order:

- A. **"Approved Closure Plan"** means a closure plan that has been approved by the Director. The approved closure plan may be a closure plan approved by the Director as submitted by Defendants, or a closure plan approved by the Director after being submitted by Defendants and modified by the Director.
- B. **"Closure Plan"** means a plan that meets the requirements of Ohio Adm. Code Sections 3745-55-11 through 3745-55-20.
- C. **"Consent Order"** means this Consent Order and Final Judgment Entry and all appendices attached hereto. In the event of conflict between this Consent Order and any appendix, the Consent Order shall control.
- D. **"Contractor"** means the individual(s) or company or companies retained by or on behalf of Defendants to undertake and complete the work required by this Consent Order.
- E. **"Defendants"** means Hi Tecmetal Group, Inc. and Thermal Treatment Center, Inc. Unless otherwise specifically noted in this Consent Order, any requirement, obligation or liability imposed in this Consent Order upon Defendants is imposed jointly and severally.
- F. **"Director"** means Ohio's Director of Environmental Protection.
- G. **"Effective Date"** means the date the Cuyahoga County Court of Common Pleas enters this Consent Order.
- H. **"Facility"** or **"Facilities"** refers to all of the facilities where the alleged treatment, storage, disposal, or other placement of hazardous waste was conducted by Defendants, which are located at the following addresses: **Hydro-Vac**, owned by Hi Tecmetal Group, Inc. and located at 1177 Marquette Street, Cleveland, Ohio 44114;

**HiTech Aero**, owned by **Hi Tecmetal Group, Inc.** and located at 34800 Lakeland Boulevard, Eastlake, Ohio 44095; **Brite Brazing**, owned by **Hi Tecmetal Group, Inc.** and located at 5476 Lake Court, Cleveland, Ohio 44114; **Thermal Treatment Center, Inc.**, a subsidiary of **Hi Tecmetal Group, Inc.** and located at 28910 Lakeland Boulevard, Wickliffe, Ohio 44092; **Walker Heat Treating**, owned by **Thermal Treatment Center, Inc.** and located at 10601 Briggs Road, Cleveland, Ohio 44111; and **Commercial Induction**, owned by **Thermal Treatment Center** and located at 11116 Avon Avenue, Cleveland, Ohio 44105.

- I. **"Ohio EPA"** means the Ohio Environmental Protection Agency.
- J. **"Plaintiff"** means the State of Ohio by and through the Attorney General of Ohio.

## **II. JURISDICTION AND VENUE**

2. This Court has jurisdiction over the subject matter of this action, pursuant to R.C. Chapter 3734 and the rules adopted thereunder. This Court has jurisdiction over the parties. Venue is proper in this Court. The Complaint states a claim upon which relief can be granted.

## **III. PERSONS BOUND**

3. The provisions of this Consent Order shall apply to and be binding upon Plaintiff and Defendants, their agents, officers, employees, assigns, successors in interest and any person acting in concert or participation with them who receives actual notice of this Consent Order whether by personal service or otherwise. Defendants are ordered and enjoined to provide a copy of this Consent Order to each contractor they employ to perform work itemized herein.

#### **IV. SATISFACTION OF LAWSUIT AND RESERVATION OF RIGHTS**

4. Except as otherwise provided in this Consent Order, compliance with the terms of this Consent Order shall constitute full satisfaction of any civil liability of Defendants to Plaintiff for all claims alleged in the Complaint.

5. Nothing in this Consent Order, including the imposition of stipulated civil penalties, shall limit the authority of the State of Ohio to:

- A. Seek relief for claims or conditions not alleged in the Complaint;
- B. Seek relief for claims or conditions alleged in the Complaint that occur after the entry of this Consent Order;
- C. Enforce this Consent Order through a contempt action or otherwise for violations of this Consent Order;
- D. Bring any action against Defendants or against any other person, under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. §9601, et seq. and/or R.C. 3734.20 through 3734.27 to:
  - (1) recover natural resource damages, and/or (2) order the performance of, and/or recover costs for any removal, remedial or corrective activities not conducted pursuant to the terms of this Consent Order.
- E. Take any action authorized by law against any person, including Defendants, to eliminate or mitigate conditions at the

Facilities that may present an imminent threat to the public health or welfare, or the environment.

## **V. CLOSURE AND OTHER INJUNCTIVE RELIEF**

### **Standards for the Management of Hazardous Waste**

6. Defendants are ordered and enjoined to comply with all applicable provisions of the Ohio hazardous waste laws and rules as set forth in R.C. Chapter 3734 and Ohio Adm. Code Chapters 3745-50 through 3745-69, Ohio Adm. Code Chapters 3745-270 through 3745-279.

7. From the effective date of this Consent Order, Defendants are immediately ordered and permanently enjoined from disposing of any hazardous waste at each of the Facilities except in accordance with R.C. 3734.02(E) or R.C. 3734.02(F).

8. From the effective date of this Consent Order, Defendants are ordered and enjoined from storing any hazardous waste at each of the Facilities except in accordance with R.C. 3734.02(E) or R.C. 3734.02(F) or, for wastes generated at the Facilities, in accordance with Ohio Adm. Code 3745-52-34.

9. From the effective date of this Consent Order, Defendants are ordered and enjoined to determine if any waste they generate at each of the Facilities is a hazardous waste, as required by Ohio Adm. Code 3745-52-11.

10. From the effective date of this Consent Order, Defendants are ordered and enjoined to give manifests for their hazardous waste to the transporter of that waste and to designate the facility to which the hazardous waste is to be shipped, as required by Ohio Adm. Code 3745-52-20 and Ohio Adm. Code 3745-52-23. Defendants shall retain a copy of the manifests for three (3) years in accordance with Ohio Adm. Code 3745-52-

40(A). Further, Defendants shall submit an exception report to the Ohio EPA if Defendants have not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within forty-five (45) days of the date the waste was accepted by the initial transporter, as required by Ohio Adm. Code 3745-52-42(A)(2).

11. From the effective date of this Consent Order, Defendants are ordered and enjoined to determine if its hazardous waste is restricted from land disposal and, if the waste is so restricted, Defendants must comply with certain record keeping requirements, as required by Ohio Adm. Code 3745-270-07.

#### Closure

12. Within sixty (60) days after the effective date of this Consent Order, Defendants are ordered and enjoined to prepare for submittal to the Ohio EPA at the address set forth in Article VIII of this Consent Order, closure plans for each of the following Facilities in accordance with Ohio Adm. Code 3745-55-10 through 3745-55-20: Thermal Treatment Center, Inc.; Walker Heat Treating; Commercial Induction; and Hydro-Vac (collectively "Closure Facilities" or individually, "Site").

13. The Defendants are ordered and enjoined to submit the closure plans as identified in paragraph 12 above and complete all closure activities at the Facilities according to the following schedule:

#### Description of Task

Submit closure plan to Ohio EPA for exterior areas at the Walker Site

Submit closure plan to Ohio EPA for Salt Bath Room at the Walker Site

Submit closure plan to Ohio EPA for

#### Task Completion Date

by Wednesday, October 1, 2003

by August 1, 2004

**Atmospheric Room at the Walker Site** by October 1, 2004

**Proceed with completion of closure of the Thermal Treatment Center Old Salt Pit Room** by January 1, 2004

**Submit closure plan to Ohio EPA for the Thermal Treatment Center Dock Area** by October 3, 2005

**Submit closure plan to Ohio EPA for the Hydrovac Site** by January 1, 2005

**Submit closure plan to Ohio EPA for the Commercial Induction Site** by January 1, 2006

**Complete all closure activities at all Closure Facilities pursuant to the time frames set forth in the approved closure plan.**

14. Following review of the closure plans, if Ohio EPA determines that a closure plan is deficient and gives Defendants written notice of the deficiencies in the closure plan, Defendants are ordered and enjoined to submit to Ohio EPA a revised closure plan within thirty (30) days of receipt of the notice of deficiencies.

15. Following review of the revised plan, if Ohio EPA determines that the revised closure plan is deficient, Ohio EPA may modify the plan and approve the revised plan as modified by the Ohio EPA pursuant to Ohio Admin. Code §3745-55-12 and Ohio Admin. Code §3745-50-51.

16. Immediately upon receipt of notice of approval by Ohio EPA of each closure plan, either as originally submitted, as revised, or as revised and modified, Defendants are ordered and enjoined to implement that approved closure plan in the manner and pursuant to time frames set forth in that approved closure plan and Ohio Adm. Code 3745-55-13.

17. Within sixty (60) days of completion of closure, Defendants are ordered and enjoined to submit certification of closure to Ohio EPA, pursuant to Ohio Adm. Code

**Closure Cost Estimate, Financial Assurance and Financial Responsibility**

18. Within sixty (60) days after the effective date of each closure plan approval by the Ohio EPA, Defendants are ordered and enjoined to submit to Ohio EPA detailed closure cost estimates which are calculated pursuant to Ohio Adm. Code 3745-55-42 and 3745-55-44.

19. Within sixty (60) days after the effective date of each closure plan approval by the Ohio EPA, Defendants are ordered and enjoined to submit to Ohio EPA documentation of financial assurance for closure pursuant to Ohio Adm. Code 3745-55-43 and 3745-55-45.

20. Within sixty (60) days after the effective date of each closure plan approval by the Ohio EPA, Defendants are ordered and enjoined to submit to Ohio EPA documentation demonstrating financial responsibility pursuant to Ohio Adm. Code 3745-55-47.

**VI. IMPLEMENTATION OF SUPPLEMENTAL ENVIRONMENTAL PROJECT**

21. Within sixty (60) days of the effective date of this Consent Order, Defendants shall begin implementation of a Supplemental Environmental Project ("SEP") for the Thermal Treatment Center, Inc. as set forth in Appendix A to this Consent Order. Defendant shall provide Plaintiff verification of installation and implementation of the SEP by Friday, September 1, 2006.

22. Should Defendant fail to fully implement the SEP within the time frames established in Paragraph 21 of this Consent Order, Defendant shall deliver to Plaintiff a certified check for \$80,000 made payable to the order of "Treasurer, State of Ohio" by

October 2, 2006. The payment shall be deposited into the hazardous waste clean-up fund established pursuant to R.C. 3734.28.

## **VII. FACILITY ACCESS**

23. As of the effective date of this Consent Order, Plaintiff and its representatives and contractors shall have access at reasonable times to each and any Facility, and shall have access to any other property controlled by or available to Defendants to which access is necessary to effectuate the actions required by this Consent Order. Access shall be allowed for the purposes of conducting activities related to this Consent Order including but not limited to:

- A. Monitoring the work or any other activities taking place at any Facility;
- B. Verifying any data or information submitted to Plaintiff;
- C. Conducting investigations relating to contamination at or near any Facility;
- D. Obtaining samples;
- E. Assessing the need for, planning, or implementing additional response actions at or near any Facility;
- F. Inspecting and copying records, operating logs, contracts or other documents maintained or generated by Defendants or their agents, consistent with this Consent Order and applicable law; or
- G. Assessing Defendants' compliance with this Consent Order.

24. Nothing in this Consent Order shall be construed to limit the statutory authority of the Director or his authorized representatives to enter at reasonable times

upon any private or public property, real or personal, to inspect or investigate, obtain samples and examine or copy any records to determine compliance with R.C. Chapter 3734.

### **VIII. SUBMITTAL OF DOCUMENTS**

25. All documents required to be submitted to Ohio EPA pursuant to this Consent Order shall be submitted to the following addresses, or to such addresses as Ohio EPA may hereafter designate in writing:

Ohio Environmental Protection Agency  
Division of Hazardous Waste Management  
122 S. Front Street  
Columbus, Ohio 43215  
Attn: Manager, Compliance Assurance Section

Ohio EPA  
Northeast District Office  
2110 East Aurora Road  
Twinsburg, Ohio 44087  
Attn: DHWM Manager

### **IX. CIVIL PENALTY**

26. Defendants are ordered and enjoined to pay to the State of Ohio a total civil penalty in the amount of Three Hundred Fifty Thousand Dollars (\$350,000) after completion and certification of all closure activities as required by this Consent Order ("Total Civil Penalty"). The Defendants shall pay the civil penalty required under this Consent Order by December 31, 2006. The civil penalty required to be paid under this Consent Order shall be paid by delivering to Plaintiff, c/o Jena Suhadolnik, or her successor at the Office of the Attorney General of Ohio, Environmental Enforcement Section, 30 East Broad Street, 25th Floor, Columbus, Ohio 43215-3428 ("Ohio Attorney General's Office"), cashier's or certified checks in the amounts required under this Consent Order, payable to the order of "Treasurer, State of Ohio." One Hundred

Seventy-Five Thousand Dollars (\$175,000) of the civil penalty shall be deposited into the hazardous waste clean-up fund created by R.C. 3734.28 ("Hazardous Waste Division Civil Penalty"). Twenty-Five Thousand Dollars (\$25,000) of the civil penalty shall be designated for the Ohio EPA Division of Air Pollution Control and a cashier's or certified check in that amount shall be sent to Jena Suhadolnik at the Ohio Attorney General's Office as stated above ("Division of Air Pollution Control Civil Penalty"). Additionally, a copy of the cashier's or certified check for the Division of Air Pollution Control Civil Penalty shall be sent to:

Ohio EPA, Office of Fiscal Administration  
P.O. Box 1049  
Columbus, Ohio 43216-1049  
Attention: Brenda Case

A copy of the check shall also be sent to James A. Orlemann, Assistant Chief, Enforcement Section, or his successor, at the following address:

Division of Air Pollution Control  
Ohio Environmental Protection Agency  
P.O. Box 1049  
Columbus, Ohio 43216-1049

In lieu of Eighty Thousand Dollars (\$80,000) of the Total Civil Penalty, Defendant shall perform the Supplemental Environmental Project identified in Section VI above.

**27. Payment Schedule and Calculation:**

- A. Seventy Thousand Dollars (\$70,000) of the Total Civil Penalty from paragraph 23 above shall be paid based on the Defendant's ability to pay pursuant to the financial performance criteria set forth below. On or before December 31, 2006, Defendants shall pay a penalty not to exceed Seventy Thousand Dollars (\$70,000) minus any amounts deferred under Paragraph 24 (B) of this

**Consent Order.** Any amounts deferred from this payment shall be deemed cancelled due to Defendants' inability to pay.

**B.** For determining the payment identified in Paragraph 24.A. above, Defendants may request a deferral and shall use the following formula in determining the amount that may be deferred.

i. Defendants' payment may be limited to fifty percent (50%) of its annual Free Cash Flow to Equity (FCFE) from January 1, 2004 through December 31, 2006 where FCFE equals cash flow from operations plus proceeds from assets sales, subsidiary advances and debt, less necessary capital expenditures and necessary principal payments on debt. Necessary capital expenditures are investments in plant and equipment needed to continue ongoing operations of Defendants. Necessary principal payments are limited to those payments of principal that Defendants are contractually obligated to pay unrelated third parties. Investments, advances, transfers or other payments to subsidiaries, partnerships or affiliates of Defendants will not be included in the calculation of FCFE.

ii. On or before April 30, 2007 if Defendants wish to request a deferral, Defendants shall provide Plaintiff with a calculation of its deferral, including all inputs, and with audited financial statements for Defendants and all subsidiaries and affiliated

companies for the previous fiscal year. A list of all subsidiaries, division, affiliates and any other related entities shall be provided, regardless of whether audited financial statements are available for those entities. Plaintiff may request and Defendants shall supply other fiscal information that Plaintiff, in its judgment, views as necessary to determine the appropriateness of Defendants' request. Defendants shall supply requested information within 14 days of the request.

- iii. After reviewing the deferral request, Plaintiff may accept, reject entirely or decrease the amount of the deferral.
- iv. If Plaintiff rejects or decreases the amount of the deferral, Defendants shall, within thirty days of Plaintiff's decision, pay the additional amount indicated by Plaintiff or submit to this Court a request to resolve the disputed amount. In any action to resolve the dispute, Defendants shall have the burden of proving by a preponderance of the evidence their entitlement to the deferral under the formula in this paragraph. The rules of discovery shall apply to any such proceeding.

#### **X. STIPULATED PENALTIES**

28. In the event that Defendants fail to comply with any requirement or deadline contained in this Consent Order or any requirement or deadline contained in any document approved in accordance with this Consent Order. Defendants are liable for and shall pay stipulated penalties in accordance with the following schedule for each failure

to comply:

- A. For each day of each failure to comply with a requirement or deadline of this Consent Order, up to and including thirty (30) days-- One Hundred Dollars (\$100.00) per day for each requirement or deadline not met.
- B. For each day of each failure to comply with a requirement or deadline of this Consent Order, from thirty-one (31) to sixty (60) days-- Two Hundred Dollars (\$200.00) per day for each requirement or deadline not met.
- C. For each day of each failure to comply with a requirement or deadline of this Consent Order, over sixty (60) days-- Three Hundred Dollars (\$300.00) per day for each requirement or deadline not met.

29. Any payment required to be made under the provisions of this Section of the Consent Order shall be made by delivering to Plaintiff, c/o Jena Suhadolnik or her successor at the Office of the Attorney General of Ohio, Environmental Enforcement Section, 30 East Broad Street, 25th Floor, Columbus, Ohio 43215-3428, cashier's or certified check or checks made payable to the order of "Treasurer, State of Ohio," for the appropriate amount within thirty (30) days from the date of the failure to meet the requirement or deadline of this Consent Order. The payment of the stipulated penalty shall be accompanied by a letter briefly describing the type of violation, deadline or requirement not met and the date upon which the violation of this Consent Order occurred. This penalty shall be deposited into the hazardous waste clean-up fund created by R.C. 3734.28.

30. The payment of stipulated penalties by Defendants and the acceptance of such stipulated penalties by Plaintiff pursuant to this Article shall not be construed to

limit Plaintiff's authority to seek additional relief pursuant to R.C. Chapter 3734, including civil penalties under R.C. 3734.13, or to otherwise seek judicial enforcement of this Consent Order, for the same violation for which a stipulated penalty was paid or for other violations.

#### **XI. COMPLIANCE WITH APPLICABLE LAWS, PERMITS AND APPROVALS**

31. All activities undertaken by Defendants pursuant to this Consent Order shall be undertaken in accordance with the requirements of all applicable federal, state and local laws, rules, regulations and permits or other. Defendants shall submit timely applications and requests for any such permits and approvals. Where such laws appear to conflict with the other requirements of this Consent Order, Defendants are ordered and enjoined to immediately notify Ohio EPA of the potential conflict. Defendants are ordered and enjoined to include in all contracts or subcontracts entered into for work required under this Consent Order, provisions stating that such contractors or subcontractors, including their agents and employees, shall perform all activities required by such contracts or subcontracts in compliance with all applicable laws and rules. This Consent Order is not a permit issued pursuant to any federal, state or local law or rule.

#### **XII. POTENTIAL FOR FORCE MAJEURE**

32. If any event occurs which causes or may cause a delay of any of the injunctive relief requirements of this Consent Order, as set out in Section V of the Consent Order, in addition to any requirements set forth under applicable state law, Defendants shall notify the Ohio EPA in writing, within fourteen (14) days of the event, describing in detail the anticipated length of the delay, the precise cause or causes of the delay, the measures taken and to be taken by the Defendant to prevent or minimize the

delay and the timetable by which measures will be implemented. Defendant will adopt all reasonable measures to avoid or minimize any such delay, including making timely requests for extension of time to the Plaintiff as required by applicable law to complete the closure activities required under this Consent Order.

33. In any action by the Plaintiff to enforce any of the provisions of this Consent Order, Defendant may raise that it is entitled to a defense that its conduct was caused by reasons entirely beyond its control such as, by way of example and not limitation, acts of God, strikes, acts of war or civil disturbances. While the Plaintiff does not agree that such a defense exists, it is, however, hereby agreed upon by Defendant and the Plaintiff that it is premature at this time to raise and adjudicate the existence of such a defense and that the appropriate point at which to adjudicate the existence of such a defense is at the time that a proceeding to enforce this Consent Order, if any, is commenced by the Plaintiff. At that time, Defendant will bear the burden of proving that any delay was or will be caused by circumstances entirely beyond the control of Defendant. Failure by Defendant to comply with the notice requirements of this Section shall render this Section void and of no force and effect as to the particular incident involved and shall constitute a waiver of Defendant's right to request an extension of its obligations under this Consent Order based on such incident. An extension of one date based on a particular incident does not mean that Defendant qualifies for an extension of a subsequent date or dates. Defendant must make an individual showing of proof regarding each incremental step or other requirement for which an extension is sought. Acceptance of this Consent Order without a Force Majeure Clause does not constitute a waiver by Defendant of any rights or defenses it may have under applicable law.

### **XIII. RETENTION OF JURISDICTION**

34. This Court shall retain jurisdiction of this action for the purpose of enforcing this Consent Order.

### **XIV. COSTS**

35. Defendants shall pay the court costs of this action.

### **XV. ENTRY OF CONSENT ORDER AND JUDGMENT BY CLERK**

36. Upon signing of this Consent Order by the Court, the clerk is directed to enter it upon the journal. Within three (3) days of entering the judgment upon the journal, the clerk is directed to serve upon all parties notice of the judgment and its date of entry upon the journal in the manner prescribed by Rule 5(B) of the Ohio Rules of Civil Procedure and note the service in the appearance docket.

### **XVI. AUTHORITY TO ENTER INTO THE CONSENT ORDER**

37. Each signatory for a corporation represents and warrants that he/she has been duly authorized to sign this document and so bind the corporation to all terms and conditions thereof.

**IT IS SO ORDERED:**

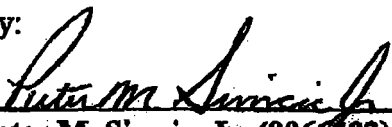
  
**JUDGE**  
**CUYAHOGA COUNTY COURT**  
**OF COMMON PLEAS**

11-14-03  
**DATE**

**Approved:**


**Jim Petro**  
**Ohio Attorney General**

**By:**

  
**Peter M. Sincic, Jr. (0066382)**  
**Marcus J. Glasgow (0069454)**  
**Assistant Attorneys General**  
**Environmental Enforcement Section**  
**30 East Broad Street, 25th Floor**  
**Columbus, Ohio 43215-3428**  
**Telephone: (614) 466-2766**  
**Facsimile: (614) 644-1926**

*Attorneys for Plaintiff*  
*State of Ohio*

**By:**

  
**Terence C. Profughi**  
**CEO**  
**Hi TecMetal Group, Inc.**  
**1101 East 55th Street**  
**Cleveland, Ohio 44103**  
**Telephone: (216) 881-8100**  
**Facsimile: (216) 426-6692**

*Authorized representative of Defendants*

**By:**

  
**Paul D. Jesse (0058664)**  
**Benesch, Friedlander, Coplan & Aronoff, L.L.P.**  
**88 East Broad Street, Suite 900**  
**Columbus, Ohio 43215**  
**Telephone: (614) 223-9300**  
**Facsimile: (614) 223-9330**

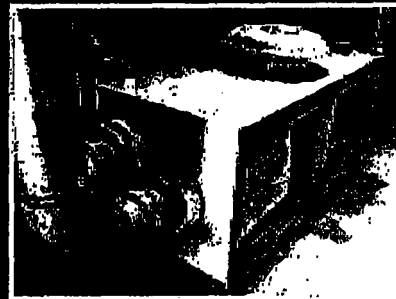
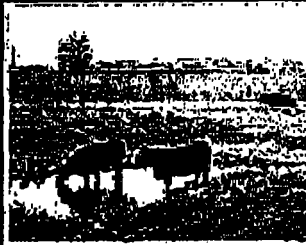
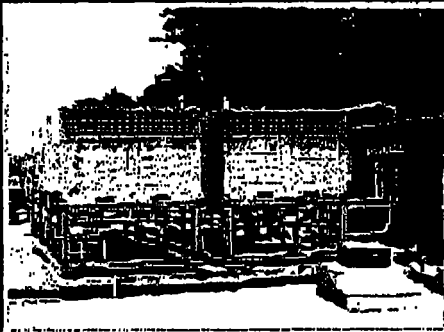
*Attorneys for Defendants*

## ***Appendix A***

POWER

THE FUTURE OF ENERGY

# STM POWER THE CLEAN ENERGY CHOICE



**STM**  
**POWER**  
The Future of Energy

## FUTURE

STM Power, the world's leading developer of external combustion engine technology, harnesses energy from virtually any heat source, and turns it into valuable electrical power and hot water for commercial and industrial applications.

Established on the principles of the Stirling cycle, STM Power has developed an innovative engine that is revolutionizing the way energy is produced, distributed and consumed.

STM Power has been leading the process of commercializing external combustion engines for more than a decade, and has made technological breakthroughs allowing it to design and produce

Stirling cycle engines that are versatile, reliable, efficient, and competitively priced.

Increasing demand for clean, affordable distributed generation technologies, combined with the advantages offered by engines based on the Stirling cycle have generated renewed commercial interest in Stirling engines.

STM Power's solution, the PowerUnit, provides our customers with the most cost-effective, low emission and low maintenance distributed generation technology on the market today. Our integrated engine/generator unit provides 55 kilowatts (kW) of continuous electric power, yet with a fraction of the emissions and maintenance requirements of comparable internal combustion engines.

## PRODUCTS

### Electricity On-Site

The STM combustor mounted to the engine is capable of burning a wide variety of conventional fuels including diesel, kerosene, alcohol, natural gas, hydrogen and propane, resource recovery fuels such as flare gas and coal-bed methane, or renewable biogas fuels from landfills or digesters (sewage or agricultural waste).

Because the products of combustion never come into contact with any precision moving parts or lubricants due to the use of an external combustion configuration, the STM PowerUnits are able to burn low BTU, dirty gases that are otherwise flared or vented off, while reducing the maintenance required on the engine and extending its life.

And the continuous external combustion process allows precise control of emissions, making the STM PowerUnit not only extremely fuel-flexible, but environmentally friendly as well.

### Waste Not. Generate More.

The STM Powerunit is capable of converting otherwise wasted heat, such as the exhaust from an incinerator, kiln, furnace, thermal oxidizer, or other process producing a heat stream above 1400° F (760° C) directly into electricity without producing any incremental emissions.

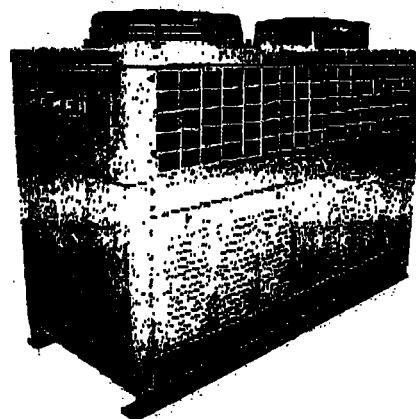
The heat source could also be an external combustor separate from the PowerUnit, which is designed to burn a number of materials specifically for the purpose of supplying heat to an STM engine. This option is most advantageous when the fuel is a renewable resource or material which would otherwise be wasted or require disposal at some cost. Examples include solid waste, biomass or various liquids. The external heat could also be exhaust from other energy generation devices such as reciprocating engines, gas turbines or fuel cells.

Finally, the external heat source could be concentrated solar power from an array of mirrors focused on the STM engine. The solar PowerUnit can even be combined with an STM combustor, so that the unit can produce power even when the sun is not available.

## ADVANTAGES

STM Power has refined external combustion technology to become a world leader in industrial and commercial distributed generation applications of Stirling cycle engines. Here are some of the reasons why:

- Scalable solutions** Systems are scalable using competitively priced, environmentally friendly 55 kW modules, which can be equipped with low cost integral heat exchangers for combined heat and power (CHP) applications.
- **Fuel versatility** Fuel-fired PowerUnits can accept a broad range of liquid and gaseous fuels, including renewables and biogas. Heat-fired PowerUnits can convert any good quality heat source, including solar heat, directly into electricity.
- **Ultra-low emissions** STM PowerUnits are designed to meet the most stringent mandated emissions requirements, including 2003 CARB limits, without after-treatment.
- High fuel efficiency** The STM PowerUnit provides levels of efficiency equal or superior to other energy conversion technologies. It has a 30% electrical efficiency and 80% total system efficiency in CHP applications delivering 310,000 BTU/hr in the form of hot water.
- **No fuel compression** The STM PowerUnits are designed for fuel pressures as low as 0.25 psig, so they do not require costly fuel compressors and their associated parasitic losses and maintenance.
- **Quiet and low vibration** The STM engine is extremely smooth and quiet and produces negligible vibration, making it possible to install the PowerUnit without vibration isolation devices or external sound attenuation, thereby lowering installation costs.
- **Low maintenance** The STM engine has less than half the number of moving parts as a reciprocating internal combustion engine, and these parts never come into contact with any products of combustion. The result is a reliable product that requires very little fuel treatment and generally requires maintenance only once a year in full-time operation. All of this means low maintenance costs.
- **Predictable, low power costs** STM Power can help manage your energy costs. Fuel flexibility, high energy efficiency, easy installation with minimal fuel compression or fuel treatment expense, and low maintenance all translate into low and stable energy costs for you.

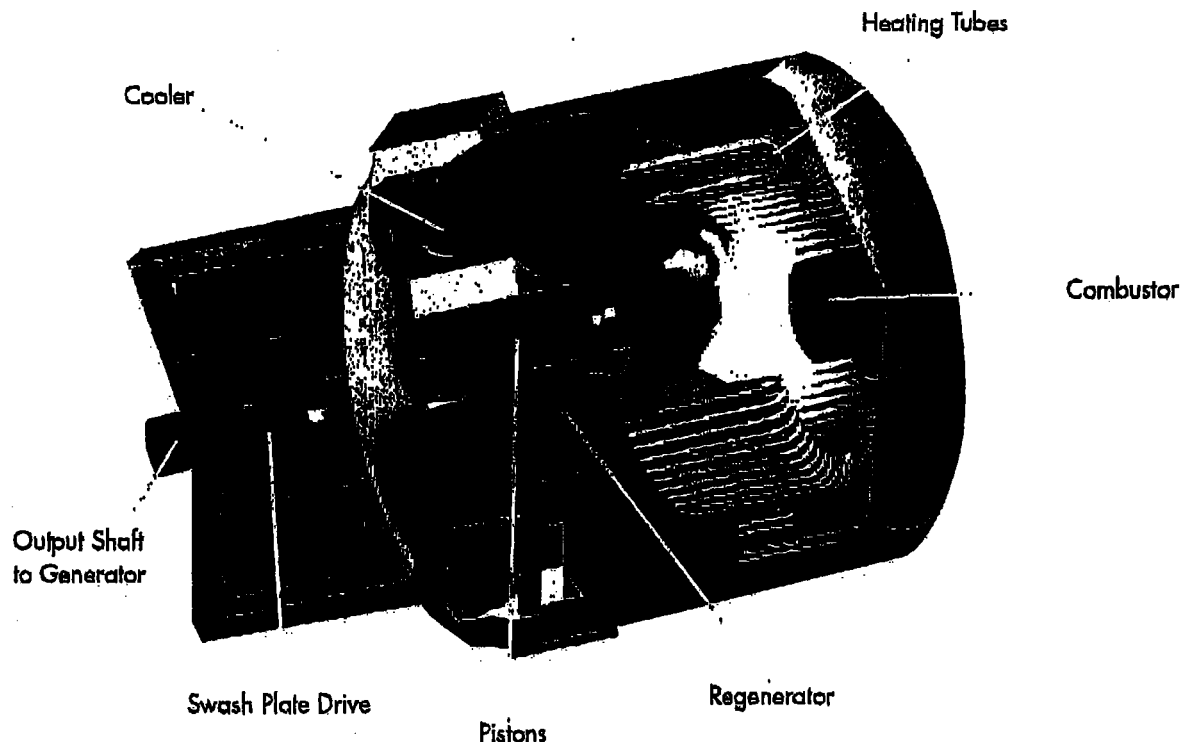


# TECHNOLOGY

STM's Stirling engine is a heat engine in which a gaseous working medium, in this case hydrogen, is sealed within the machine. A portion of the engine is maintained at a constant high temperature by burning fuel in the combustor or from an external heat stream and another portion at a constant low temperature. The working gas is transferred back and forth between the hot and cold portions of the machine by the movement of the engine's pistons. Expansion at the hot end pushes on the top of each of four pistons to produce power and also compresses the cold gas below each

piston. The reciprocating motion of the pistons is converted to rotary motion via a swash plate drive, which powers the generator. A regenerator is used between the hot and cold portions of the engine to increase efficiency.

The STM engine is capable of utilizing any heat source, provided that it contains sufficient energy at a high enough temperature and at a sufficient flow rate. This heat can be provided either from a heat source external to the STM engine or be produced by the combustion of a wide variety of fuels within STM's combustor, which is mounted directly to the engine.



STM 4-Piston Stirling Engine

## POWER'S VERSATILE ENERGY SOLUTIONS



- All STM PowerUnits can be operated in the CHP (combined heat and power) mode, in which waste heat produced as a byproduct of the electrical generation process is recovered and utilized.
- STM PowerUnits can achieve up to 80% total system efficiencies with low-cost heat exchangers integral to the unit.
- Recovered heat in the form of hot water can be used for space heating or in commercial or industrial processes.



### Biogas

- Uses low BTU gas (down to 250 BTU per SCF) from landfill sites, wastewater treatment plants, and agricultural digesters.
- No fuel compression required, Requires only 0.25 to 2.0 psig gas pressure.
- Minimal fuel treatment required; external combustion process is insensitive to siloxanes and to fluctuations in the heating value of the fuel.



### Waste Heat and Biomass

- Operates directly on industrial waste heat, generating electricity using no incremental fuel and producing no incremental emissions.
- Improves energy economics and protects against process disruption in the event of a power loss when operated in grid-independent mode.
- Converts heat from an external biomass combustor directly to electricity without the need to produce syngas or steam.
- Can burn most syngas in a fuel-fired PowerUnit or use the heat from an external burner.



- Operates on concentrated solar energy.
- Hybrid solar units can also burn conventional or biogas fuels at night to maximize asset utilization.
- Smaller, more efficient and lower cost than photovoltaics.

**Electric output**

55 kWe continuous duty  
277/480 VAC, 3-Phase, 60 Hz  
220/380 VAC, 3-Phase, 50 Hz  
Grid parallel or grid independent modes

**Heat output at 55 kWe**

91 kWth, 310,000 BTU/hr  
e.g. 10 GPM @ 72°F temp rise

**Fuel requirements**

0.25-2.0 psig inlet gas pressure  
11,375 BTU/kWh

**Efficiency**

30% net electric efficiency  
80% CHP efficiency

**Noise level**

58 dBA at 7 meters

**Dimensions**

Length 102" (259 cm), Width 34" (86 cm)  
Without Radiator: Height 43" (110 cm)  
Weight 3200 lbs (1455 kg)  
With Radiator: Height 68" (173 cm)  
Weight 3500 lbs (1591 kg)

**Codes and Standards**

Compliant with UL 2200, CE, CSA,  
UL 1741, IEEE 1547, CARB

**Warranty**

One year, parts and labor, no limitation  
on operating hours or starts.  
Extended service agreements available.

**Company Profile**

STM Power is a SunDish Field Ann Arbor, Michigan based company that designs, develops, assembles, and sells ultra-low emissions, external combustion (Stirling cycle) engine products. With 34 active patents and 57 worldwide patents and pending applications, we are a leader in using Stirling cycle engines as industrial prime movers. In 1996, we were awarded a contract by the U.S. Navy to develop a Stirling cycle engine for the process of growing its distribution network with quality companies and capable of creating total power solutions for our customers.

Corporate Office/Sales and Service  
275 Mettys Drive  
Ann Arbor, MI 48103

Tel: 734-995-1755 • Fax: 734-995-0610

Finance and Business Development  
1655 North Fort Myer Drive • Suite 825  
Arlington, VA 22209

Tel: 703-248-0454 • Fax: 703-248-8124

The following are trademarks, service marks and/or slogans of STM Power: STM, STM Power, The Future of Energy, PowerUnit and SunDish. All rights reserved.

\* Note, all specifications are in CHP configuration.  
Specifications subject to change without notification.

FILED

2006 DEC -8 P 1:57

GERALD E. FIRST  
CLERK OF COURTS  
CUYAHOGA COUNTY

IN THE COURT OF COMMON PLEAS  
CUYAHOGA COUNTY, OHIO

STATE OF OHIO, ex rel.  
BETTY D. MONTGOMERY  
ATTORNEY GENERAL OF OHIO,

Plaintiff,

vs.

HI TECMETAL GROUP, INC., et al.

Defendants.

CASE NO.: CV 03 509780

JUDGE: PEGGY FOLEY JONES

JOINT MOTION TO AMEND  
CONSENT ORDER

Plaintiff, State of Ohio by its Attorney General (hereinafter "Plaintiff" or "State of Ohio") and Defendant, Hi Tecmetal Group, Inc., *et al.* (hereinafter "Defendants") entered into a Consent Order filed with this Court on November 14, 2003. The parties have agreed to changes involving the completion of specific tasks by certain, revised dates. Therefore, the parties now jointly move this Court to amend the November 14, 2003 Consent Order in the following way:

- Replace original paragraphs "**V. CLOSURE AND OTHER INJUNCTIVE RELIEF, Closure,**" **number 12 and number 13**, with the following text:

12. Defendants are ordered and enjoined to prepare for submittal to the Ohio EPA at the address set forth in Article VIII of this Consent Order, closure plans for each of the following Facilities in

accordance with Ohio Adm. Code 3745-55-10 through 3745-55-20; Thermal Treatment Center, Inc.; Walker Heat Treating; Commercial Induction; and Hydro-Vac (collectively "Closure Facilities" or individually, "Site").

13. The Defendants are ordered and enjoined to submit the closure plans as identified in paragraph 12 above and complete all closure activities at the Facilities according to the following schedule:

<u>Description of Task</u>	<u>Task Completion Date</u>
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Submit a revised, amended closure plan for the Walker Site (Exterior Area, Salt Bath Room and Atmospheric Room)	by December 18, 2006
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Submit an amended closure plan for the Thermal Treatment Center Old Salt Pit Room	by December 31, 2006
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Submit closure plan to Ohio EPA for the Hydrovac Site	by January 1, 2007
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Submit closure plan to Ohio EPA for the Commercial Induction Site	by February 1, 2007
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Defendants must complete all closure activities at all Closure Facilities pursuant to the time frames set forth in the approved closure plan.

- Replace original paragraphs "VI. IMPLEMENTATION OF SUPPLEMENTAL ENVIRONMENTAL PROJECT," number 21 and number 22, with the following text:

21. Defendants shall begin implementation of a Supplemental Environmental Project ("SEP") for the Thermal Treatment Center, Inc. as set forth in Appendix A to this Consent Order. Defendant shall provide Plaintiff verification of installation and implementation of the SEP by December 1, 2007.

22. Should Defendant fail to fully implement the SEP within the time frames established in Paragraph 21 of this Consent Order, Defendant shall deliver to Plaintiff a certified check for \$80,000 made payable to the order of "Treasurer, State of Ohio" by December 29, 2007. The payment shall be deposited into the hazardous waste clean-up fund established pursuant to R.C. 3734.28.
- Replace original paragraph **"IX. CIVIL PENALTY," number 26**, with the following text:

26. Defendants are ordered and enjoined to pay to the State of Ohio a total civil penalty in the amount of Three Hundred Fifty Thousand Dollars (\$350,000) as required by this Consent Order ("Total Civil Penalty"). The civil penalty required to be paid under this Consent Order shall be paid by delivering to Plaintiff, c/o Martha Sexton, or her successor at the Office of the Attorney General of Ohio, Environmental Enforcement Section, 30 East Broad Street, 25th Floor, Columbus, Ohio 43215-3428 ("Ohio Attorney General's Office"), cashier's or certified checks in the amounts required under this Consent Order, payable to the order of "Treasurer, State of Ohio."

The penalty shall be paid as follows:

a). Two hundred Forty-Five Thousand Dollars (\$245,000) of the civil penalty shall be deposited into the hazardous waste clean-up fund created by R.C. 3734.28 ("Hazardous Waste Division Civil Penalty"). Defendants shall pay the Two hundred Forty-Five Thousand Dollars (\$245,000) civil penalty on or prior to December 31, 2008.

b). Twenty-Five Thousand Dollars (\$25,000) of the civil penalty shall be designated for the Ohio EPA Division of Air Pollution Control and a cashier's or certified check in that amount shall be sent to Martha Sexton, or her successor at the Ohio Attorney General's Office as stated above ("Division of Air Pollution Control Civil Penalty") no later than December 31, 2008. Additionally, a copy of the cashier's or certified check for the Division of Air Pollution Control Civil Penalty shall be sent to:

Ohio EPA, Office of Fiscal Administration  
P.O. Box 1049  
Columbus, Ohio 43216-1049  
Attention: Brenda Case

A copy of the check shall also be sent to James A. Orlemann, Assistant Chief, Enforcement Section, or his successor, at the following address:

Division of Air Pollution Control  
Ohio Environmental Protection Agency  
P.O. Box 1049  
Columbus, Ohio 43216-1049

c). In lieu of Eighty Thousand Dollars (\$80,000) of the Total Civil Penalty, Defendant shall satisfactorily complete the Supplemental Environmental Project identified in Section VI, above. The determination as to whether satisfactory compliance with the Supplemental Environmental Project has occurred is at the sole discretion of the State of Ohio.

- Replace original paragraph **"IX. Civil Penalty, Payment Schedule and Calculation," number 27**, with the following text:

27. Should Defendant fail to pay any civil penalty by the due date specified under paragraph 26 of this Consent Order, even if later cured by making the payment thereafter, defendant will still be

liable for stipulated penalties as detailed in Section X of this Consent Order for the failure to timely pay as required by paragraph 26.

- Replace original paragraph “X. **Stipulated Penalties,**” number 28, with the following text:

28. In the event that Defendants fail to comply with any requirement or deadline contained in this Consent Order or any requirement or deadline contained in any document approved in accordance with this Consent Order, Defendants are liable for and shall pay stipulated penalties in accordance with the following schedule for each failure to comply:

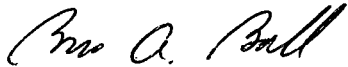
- a) For each day of each failure to comply with a requirement or deadline of this Consent Order, up to and including thirty (30) days; One Hundred Dollars (\$100.00) per day for each requirement or deadline not met.
- b) For each day of each failure to comply with a requirement or deadline of this Consent Order, from thirty-one (31) to sixty (60) days; Two Hundred Dollars (\$200.00) per day for each requirement or deadline not met.
- c) For each day of each failure to comply with a requirement or deadline of this Consent Order, over sixty (60) days; Three Hundred Dollars (\$300.00) per day for each requirement or deadline not met.

Plaintiff will not assert a claim for stipulated penalties pursuant to Paragraphs 28, 29 or 30 for deficiencies originating prior to the date of this amended consent decree based on any requirement or deadline provided in the foregoing original paragraphs. Paragraphs 28, 29 and 30 remain applicable based on the requirements and deadlines contained in this amended consent decree, or in any

document approved in accordance with the amended consent decree.

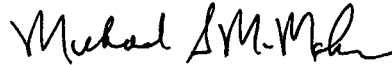
Respectfully submitted,

**JIM PETRO**  
**ATTORNEY GENERAL**



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(614) 466-5246  
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