

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Bodycote Thermal Processing
Attn: Chuck Kenny
1975 North Ruby Street
Melrose Park, Illinois 60610-1162

<u>Application No.:</u> 73031764	<u>I.D. No.:</u> 031186AAM
<u>Applicant's Designation:</u>	<u>Date Received:</u> March 23, 2006
<u>Subject:</u> Heat Treating of Metal Parts	
<u>Date Issued:</u>	<u>Expiration Date:</u>
<u>Location:</u> 1975 North Ruby Street, Melrose Park	

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of 31 gas-fired heat treating furnaces, 4 gas-fired gas generators, 2 gas-fired boilers, 3 salt quench tanks, 4 parts washers, 9 oil quench tanks, and 4 molten salt pots, pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special conditions:

- 1a. This federally enforceable state operating permit is issued:
 - i. To limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year of VOM, 10 tons/year for a single HAP and 25 tons/year for total HAP). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit.
 - ii. To limit emissions of volatile organic material from the source to less than 25/year. As a result, the source is excluded from the requirements for 35 Ill. Adm. Code Part 205, Emission Reduction Market System. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to the issuance of this permit, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.

- b. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 Ill. Adm. Code 212.321.
- 3. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hour) to exceed 200 ppm, corrected to 50 percent excess air, pursuant to 35 Ill. Adm. Code 216.121.
- 4a. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8 lbs/hour) of organic material into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 218 Subpart G: Use of Organic Material, shall apply only to photochemically reactive material.
- b. In the event that the operation of this emission unit results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
- 5. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
- 6a. Natural gas shall be the only fuel fired in the combustion equipment at the plant including the heat treating furnaces, gas generators, boilers, salt quench tanks and parts washers.
- b. Combined natural gas usage for the equipment indicated above shall not exceed the following limits:

Natural Gas Usage: 37.1 mmscf/month; 445 mmscf/year.
- c. Gas-fired fuel combustion emissions of nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), and particulate matter (PM) from the fuel combustion equipment:

<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
	<u>(LB/mmscf)</u>	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
NO _x	100	2.23	22.25
CO	84	1.87	18.69
VOM	5.5	0.13	1.22
SO ₂	0.6	0.02	0.13
PM	7.6	0.17	1.69

These emissions are based upon standard AP-42 emission factors at the maximum annual fuel usage.

- 7a. Cleaner usage, VOM content, and VOM emissions from all parts washers shall not exceed the following limits:

<u>Material</u>	<u>Cleaner Usage</u>		<u>VOM Content</u>	<u>VOM Emissions</u>	
	<u>(Lbs/Wk)</u>	<u>(Tons/Yr)</u>	<u>(Wt. %)</u>	<u>(Lbs/Wk)</u>	<u>(Tons/Yr)</u>
Cleaner	250	6.5	2.0	5.0	0.13

- b. The oil make-up rate, VOM content and VOM emissions for all oil quench tanks shall not exceed the following limits:

<u>Material</u>	<u>Oil Make-Up Rate</u>		<u>VOM Content</u>	<u>VOM Emissions</u>	
	<u>(Lbs/Mo)</u>	<u>(Tons/Yr)</u>	<u>(Wt. %)</u>	<u>(Lbs/Mo)</u>	<u>(Tons/Yr)</u>
Oil	12,500	46.6	100	6,250	23.3

These limits are based upon the maximum oil make-up rate, and maximum VOM emissions assuming 50% oil reclamation.

8. This permit is issued based on negligible emissions of particulate matter from each salt quench tank and molten salt pot. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
- 9a. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis

(or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

- b. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - i. Usage of materials (oil, cleaner, etc.) (lbs/month and tons/year);
 - ii. VOM and HAP content of materials used (weight % VOM and weight % HAP);
 - iii. Monthly and annual VOM and HAP emissions (lbs/month and tons/year) from all parts washers with supporting calculations (as calculated by the material usage, VOM content and HAP content);
 - iv. Monthly and annual VOM and HAP emissions (lbs/month and tons/year) from all oil quench tanks with supporting calculations (as calculated by the material usage, VOM content, HAP content, and waste oil shipped off site for reclamation);
 - v. Total natural gas usage for the fuel combustion emission units (mmscf/month and mmscf/year); and
 - vi. Monthly and annual emissions of CO, NO_x, PM, SO₂ and VOM from the combustion of natural gas with supporting calculations (as calculated by AP-42 emission factors) (lbs/month and tons/year).
 - c. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
10. If there is an exceedance of or deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance

Section in Springfield, Illinois within 30 days after the exceedance/deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce emissions and future occurrences.

11. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

If you have any questions on this, please call George Kennedy at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:GMK:psj

cc: Illinois EPA, FOS Region 1
Lotus Notes

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emissions from this facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, (e.g., 100 tons/year for volatile organic materials, nitrogen oxides, carbon monoxide and particulate matter, 25 tons/year for combined HAPs and 10 tons/year for an individual HAP) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

	E M I S S I O N S					Single HAP (Ton/Yr)	Combined HAPs (Ton/Yr)
	VOM (Ton/Yr)	NO _x (Ton/Yr)	CO (Ton/Yr)	SO ₂ (Ton/Yr)	PM (Ton/Yr)		
Combustion	1.22	22.25	18.69	0.13	1.69		
Parts Washers	0.13						
Oil Quench Tanks	23.30						
Salt Quench Tanks					1.76		
Molten Salt Pots					<u>1.76</u>		
Totals:	<u>24.65</u>	<u>22.25</u>	<u>18.69</u>	<u>0.13</u>	<u>5.21</u>	<u>< 10</u>	<u>< 25</u>

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