

May 17, 2002

George Rezabek
Quemetco, Inc.
7870 West Morris Street
Indianapolis, IN 46231

Re: Exempt Construction and Operation Status,
097-15607-00079

Dear Mr. Rezabek:

The application for installation of kettle #9 from Quemetco, received on February 5, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that this additional kettle, to be located at 7870 West Morris Street, Indianapolis, Indiana, is classified as exempt from air pollution construction permit requirements:

- (a) Refining Kettle: Emission Unit ID Kettle #9. Kettle #9 has a capacity of 2.14 tons of lead per hour (180 ton capacity with two batches per week) and is heated by a 4.25 MMBtu natural gas burner. The kettle is used to refine lead. Emissions from the kettle are vented into the current ventilation system through baghouse #41, which discharges via stack #100. Burner emissions are vented through a combustion flue, stack ID S-118, with no controls.

The following conditions shall be applicable:

- (1)
 - (a) Pursuant to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.120, Subpart L, the Permittee shall not discharge or cause the discharge into the atmosphere from any pot furnace (kettle) any gases which exhibit ten percent (10%) opacity or greater.
 - (b) The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to Kettle #9 except when otherwise specified in 40 CFR 60, Subpart L.
- (2) Pursuant to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 14, (40 CFR 63, Subpart X), which are incorporated by reference with some exceptions as 326 IAC 20-13, the Permittee must operate the proposed kettle under the following conditions:
 - (a) Process fugitive emission sources shall be equipped with an enclosure hood ventilated to maintain a face velocity of at least 75 meters per minute (250 feet per minute) or be located in a total enclosure subject to general ventilation that maintains the building at a lower than ambient pressure to ensure in-draft through any doorway opening.
 - (b) Ventilation air from all enclosures hoods and total enclosures shall be conveyed to a control device. Gases discharged to the atmosphere from these control devices shall not contain lead compounds in excess of 2.0 milligrams of lead per dry standards cubic meter (0.00087 grains per dry standard cubic foot).
 - (c) The Permittee shall prepare and at all times operate according to a fugitive dust emissions standard operating procedures manual as described in 40 CFR 63.545. OES received a revised SOP manual on December 7, 1998.
 - (d) The Permittee shall prepare and at all times operate according to a standard operating procedures manual that describes in detail procedures for inspection, maintenance, and bag leak detection and corrective action plans for all baghouses that are used to control emissions from the new kettle (as outlined in 40 CFR 63.548). OES received a revised SOP manual on December 7, 1998.
IDEM Office of Air Quality (OAQ) and OES have baghouse control monitoring

requirements, however, it has been determined that 326 IAC 20-14 and 40 CFR 63, Subpart X fulfill these requirements.

- (e) The Permittee shall comply with the recordkeeping and reporting requirements outlined in 40 CFR 63.550.
 - (f) The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated in 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart X.
- (3) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), natural gas burner opacity shall meet the following:
- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (4) Pursuant to 326 IAC 6-1-2 (Particulate Emission Limitations), kettle #9 is limited to emissions of 0.03 grains per dry standard cubic foot (dscf).
- (5) Pursuant to 326 IAC 6-1-2 (Particulate Emission Limitations), the natural gas burner is limited to emissions of 0.03 grains per dry standard cubic foot (dscf).
- (6) Pursuant to 326 IAC 14, (40 CFR 63, Subpart X), the proposed kettle shall vent to stack #100. Pursuant to 326 IAC 20-13-2 (Emission limitations: lead standards for Quemetco, Inc.), stack #100 lead emissions shall not exceed 1 mg/dscm.
- (7) Quemetco, Inc. is subject to the operational and work practice standards outlined in 326 IAC 20-13-5, the compliance testing requirements in 326 IAC 20-13-6, the compliance requirements in 326 IAC 20-13-7, and the bag leak detection system requirements in 326 IAC 20-13-8.

This existing source has submitted their Part 70 application (T097-6201-00079) on June 28, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

An application or notification shall be submitted in accordance with 326 IAC 2 to OAQ and OES if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by John B. Chavez
John B. Chavez, Administrator
Office of Environmental Services

ajh

cc: file (2 copies)
Mindy Hahn, IDEM

**Indiana Department of Environmental Management
Office of Air Quality
and
Indianapolis Office of Environmental Services**

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Quemetco, Inc.
Source Location:	7870 W. Morris, Indianapolis, IN 46231
County:	Marion
SIC Code:	3341
Operation Permit No.:	T097-6201-00079
Operation Permit Issuance Date:	Not yet Issued
Exemption No.:	097-15607-00079
Permit Reviewer:	Amanda Hennessy

The Office of Air Quality (OAQ) and the City of Indianapolis Office of Environmental Services (OES) has reviewed a modification application from Quemetco, Inc. relating to the construction and operation of a new refining kettle.

History

Quemetco, Inc. applied for a Part 70 permit on June 28, 1996. This application is currently under review and the permit has not been issued to date. In 1991, Quemetco, Inc. requested a permit for the installation of three (3) new refining kettles (#8, #9, and #10). The request was reviewed and approved on August 23, 1991. However, only kettle #8 was installed. Pursuant to the permit for refining kettles #8, #9, and #10, Installation Permit No. 9100079, the source had 12 months to commence construction of the permitted facilities. Quemetco, Inc. commenced construction of kettle #8. Quemetco, Inc. had to reapply for approval to construct kettle #9 since construction under the original permit had been suspended for longer than one year and the kettle is a different size than originally proposed.

This application, submitted on February 5, 2002, requests approval to add an additional lead refining kettle (#9) to their existing plant. The new 180 ton kettle, adjacent to existing Kettle #8, will be heated by a 4.25 MMBtu natural gas burner. The maximum production rate for the 180 ton kettle is 2 kettles per week, translating to a capacity of 2.14 tons of lead per hour. The new kettle will be used to further refine existing lead production to remove silver. The new kettle will not increase output capacity, but rather, adds another step in the refining process for a portion of the output, depending on input quality and output requirements.

Kettle #9 will vent to the existing ventilation system via baghouse #41 and stack #100. This will not change current SIP emission limits for stack #100.

Proposed Emission Unit

The source is proposing to construct the following new emission unit:

- (a) Refining Kettle: Emission Unit ID Kettle #9. Kettle #9 has a capacity of 2.14 tons of lead per hour (180 ton capacity with two batches per week) and is heated by a 4.25 MMBtu

natural gas burner. The kettle is used to refine lead. Emissions from the kettle are vented into the current ventilation system through baghouse #41, which discharges via stack #100. Burner emissions are vented through a combustion flue, stack ID S-118, with no controls.

Existing Approvals

The source applied for a Part 70 Operating Permit on June 28, 1996. This permit (T097-6201-00079) has not been issued to date. The source has been operating under previous approvals including, but not limited to, the following:

- a) Installation Permit(s) 10353, 10354, 10355 and 10356 issued by the City of Indianapolis in July 1972 for a lead smelting and refining operation and related equipment.
- b) Installation Permit 11005 issued by the City of Indianapolis in March 1984 for an Electric Arc Furnace and Furnace Feed System.
- c) Installation Permit(s) 11021 and 11022 issued by the City of Indianapolis in August 1984 for a Fume Scrubber on acid storage tanks on the wastewater treatment facility and one (1) 2.5 ton Lead Melting Kettle with a baghouse collector.
- d) Certificate(s) of Operation No(s). 08236, 08284, 08285, 08286, 08287, 08288, 08289, 08290 and 08291 issued by the City of Indianapolis in November 1984 for a lead smelting and refining operation and related equipment.
- e) Certificate of Operation No. 08466 issued by the City of Indianapolis in May 1985 for Fume Scrubber on acid storage tanks on the wastewater treatment facility.
- f) Certificate of Operation No. 0079-11 issued by the City of Indianapolis May 29, 1987 Fume Scrubber on acid storage tanks on the wastewater treatment facility.
- g) Installation Permit(s) 90079-01 through 90079-07 issued by the City of Indianapolis December 24, 1990 for six (6) Roof Vent baghouses for general ventilation and one (1) American Air Filter baghouse for building ventilation.
- h) Installation Permit 91079-01 issued by the City of Indianapolis April 1, 1991 for one (1) Roof Vent Baghouse # 7 controlling emissions from existing baghouses # 039 and # 040.
- i) Installation Permit 91079-02 issued by the City of Indianapolis August 23, 1991 for Kettle # 8, # 9 and # 10.
- j) Construction Permit No(s). 930079-01 through 930079-03 issued by the City of Indianapolis May 11, 1993 for an Electric Arc Furnace Slag Casting and a Reveratory Furnace Slag Casting Scrubber and Roof Vent Baghouse # 8 venting emissions from the charge room area.
- k) Construction Permit No. 950079-01 issued by the City of Indianapolis May 9, 1995 for one (1) 2500 kVa Electric Arc Slag Reduction Furnace and the addition of Roof Vent Bahouse # 9 exhausting the existing refinery area.
- l) Construction Permit No. 960079-03 issued by the City of Indianapolis May 13, 1996 for Stack # 100 venting emissions associated with existing baghouses # 036, 038, 040 and 041.
- m) Construction Permit No 960079-04 issued by the City of Indianapolis April 30, 1996 in replacement of CP No. 950079-01.

- n) Construction Permit Amendment A0970079 to CP 960079-03 and 960079-04 issued by the City of Indianapolis December 23, 1997 to transfer SO₂ emissions from Stack # 111 back to Stack # 100.
- o) Construction Permit Amendment A0980079 to CP 960079-04 issued by the City of Indianapolis April 15, 1998 to delete reference to hot and cold slag processing rates to be run during performance stack testing.
- p) Administrative Amendment A097-12615-00079 received August 11, 2000 to change the name of the owner of the source from Quemetco, Incorporated to Quemetco West, LLC. The operating name of the source did not change and is being incorporated in to the existing Title V application received June 28, 1996.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
Kettle #9	Refine / Alloy Lead	15 ¹	1.25	770	110-135
Natural Gas Burner for Kettle #9	Heat up kettle	37 ²	2	950	110-135

¹ Height of kettle #9 stack is to the plenum where the stack will meet other exhaust flows.

² Height of natural gas burner stack is to the top of the pipe. These emissions do not mix with other stacks.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Exemption be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 5, 2002. Additional information was received on March 8, 2002 and March 15, 2002.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Pages 1 and 2).

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

Pollutant	Potential To Emit (tons/year) for Modification
PM	0.44
PM-10	0.44
SO ₂	0.01
VOC	0.10
CO	1.56
NO _x	1.86

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Lead	0.10

- (a) The modification’s potential to emit of lead is less than 0.2 tons per year, therefore, this modification is not subject to 326 IAC 2-7-10.5 (d) and (e).
- (b) This modification’s potential to emit lead is less than 0.2 tons per year, the potential to emit PM is less than 5 tons per year and all other emissions are less than permitting thresholds, therefore, this is an exemption under 326 IAC 2-1.1-3(d)(1)(G).
- (c) Fugitive Emissions
 Since this type of operation is one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there is an applicable New Source Performance Standard that was in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the entire source. This information reflects the 2000 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	not reported
PM-10	6.66
SO ₂	194.28
VOC	4.39
CO	187.83
NO _x	227.86
Lead	0.79

Limited Potential to Emit

The table below summarizes all applicable limits. N.L. indicates that there is no limit for that particular pollutant for that emission unit.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	LEAD
Natural Gas Burner	0.03 grains per dscf ¹	N.L.	N.L.	N.L.	N.L.	N.L.	N.L.
Kettle #9	10% opacity ²	N.L.	N.L.	N.L.	N.L.	N.L.	Stack #100 limit of 1 mg/dscm ³
	0.03 grains per dscf ¹						

¹ 326 IAC 6-1-2

² 326 IAC 12 (40 CFR 60.120, Subpart L)

³ 326 IAC 20-13-2

County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM-10	unclassifiable
SO ₂	maintenance attainment
NO ₂	attainment
Ozone	maintenance attainment
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

- (a) This emission unit is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.120, Subpart L). This NSPS is applicable to pot furnaces constructed or modified after June 11, 1973. On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, the Permittee shall not discharge or cause the discharge into the atmosphere from any pot furnace any gases which exhibit 10 percent opacity or greater.

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart L.

- (b) The kettle is subject to the National Emission Standards for Hazardous Air Pollutants, 326

IAC 14, (40 CFR 63. 544, Subpart X). The requirements of Subpart X that are applicable to this emission unit upon startup of operations are:

- (1) Process fugitive emission sources shall be equipped with an enclosure hood ventilated to maintain a face velocity of at least 75 meters per minute (250 feet per minute) or be located in a total enclosure subject to general ventilation that maintains the building at a lower than ambient pressure to ensure in-draft through any doorway opening.
- (2) Ventilation air from all enclosures hoods and total enclosures shall be conveyed to a control device. Gases discharged to the atmosphere from these control devices shall not contain lead compounds in excess of 2.0 milligrams of lead per dry standards cubic meter (0.00087 grains per dry standard cubic foot). At an emission rate of 2 mg of lead per dscm, total allowable emissions under this standard are 0.022 tpy. Therefore, PSD is not applicable.
- (3) The Permittee shall prepare and at all times operate according to a fugitive dust emissions standard operating procedures manual as described in 40 CFR 63.545. OES received a revised SOP manual on December 7, 1998.
- (4) The Permittee shall prepare and at all times operate according to a standard operating procedures manual that describes in detail procedures for inspection, maintenance, and bag leak detection and corrective action plans for all baghouses that are used to control emissions from the new kettle (as outlined in 40 CFR 63.548). OES received a revised SOP manual on December 7, 1998.
- (5) The Permittee shall submit the fugitive dust control standard operating procedures manual and the standard operating procedures manual for baghouses to IDEM, OAQ and OES. OES received a revised SOP manual on December 7, 1998.
- (6) The Permittee shall maintain the following records for a period of five (5) years:
 - (A) An identification of the date and time of all bag leak detection system alarms, their cause, and an explanation of the corrective actions taken.
 - (B) Any records required as part of the practices described in the standard operating procedures manual required under 40 CFR 63.545(a) for the control of fugitive dust.
 - (C) Any records required as part of the practices described in the standard operating procedures manual for baghouses required under 40 CFR 63.548(a).
 - (D) Records of the pressure drop.
- (7) The Permittee shall report the following:
 - (A) Records of all alarms from the bag leak detection system;
 - (B) A description of the procedures taken following each bag leak detection system alarm;
 - (C) A summary of the records maintained as part of the practices described in the standard operating procedures manual for baghouses, including an explanation of the periods when the procedures were not followed and the corrective actions taken;
 - (D) Identification of the periods when the pressure drop dropped below the levels established in 40 CFR 63.548(i), and an explanation of the corrective actions taken;
 - (E) A summary of the fugitive dust control measures performed during the

required reporting period including an explanation of the periods when the procedures were not followed and the corrective actions taken.

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart X.

State Rule Applicability - Entire Source

326 IAC 1-5-2 (Emergency Reduction Plans)

The source submitted an Emergency Reduction Plan (ERP) in May of 1998. The ERP has been verified to fulfill the requirements of 326 IAC 1-5-2 (Emergency Reduction Plans).

326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)

The source has taken a limit in its Title V permit so that 326 IAC 2-2 is not applicable to the source.

This modification's potential to increase emissions are less than significant emission increases (as defined in 326 IAC 2-2-1). Therefore, this modification is not significant for PSD purposes. The table below outlines the potential emission increases compared to significant PSD modification levels.

	PM	PM-10	SO ₂	VOC	CO	NOx	Lead
Potential increase (PTE in tons per year)	0.44	0.44	0.01	0.10	1.56	1.86	0.10
Significant PSD level (tons per year)	25	15	40	40	100	40	0.60
Is Modification Significant per PSD?	No	No	No	No	No	No	No

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of Nitrogen Oxides and is located in Marion County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 20-13 (Secondary Lead Smelters)

Quemetco, Inc. is subject to the operational and work practice standards outlined in 326 IAC 20-13-5, the compliance testing requirements in 326 IAC 20-13-6, the compliance requirements in 326 IAC 20-13-7, and the bag leak detection system requirements in 326 IAC 20-13-8. These requirements are applicable to the entire source.

State Rule Applicability - Individual Facilities

Kettle #9

LEAD

Applicability:

This source is not subject to 326 IAC 15-1-1 because it is not listed in 326 IAC 15-1-2.

This emission unit is subject to 326 IAC 20-1-2 because a standard is prescribed in 326 IAC 20-13 for the stack to which this unit emits. 326 IAC 20-13 incorporates by reference 40 CFR 63, Subpart X, with the following exceptions:

- (1) 63.543(a) and 63.543(j) concerning lead standards for process sources.
- (2) 63.544(c), 63.544(d), and 63.544(g) concerning lead standards for process fugitive sources.
- (3) 63.545(e) concerning lead standards for fugitive dust emissions.
- (4) 63.543(h) and 63.543(i) concerning compliance demonstrations for process sources.
- (5) 63.544(e) and 63.544(f) concerning compliance demonstrations for process fugitive sources.
- (6) 63.548(e) concerning bag leak detection system requirements.

Quemetco, Inc. as a source also has other limits and standards established in 326 IAC 20-13-2.

Limits:

326 IAC 20-13-2 (Emission limitations: lead standards for Quemetco, Inc.)

The proposed kettle will vent to the existing stack #100 which has an established limit of 1 mg/dscm. Stack #100's 1 mg/dscm limit will not change with the addition of kettle #9.

Based on the air flow from kettle #9, allowable potential emissions (not considering baghouse controls) at the limit of 1 mg/dscm are:

$$\frac{1 \text{ mg}}{\text{dscm}} \times \frac{770 \text{ cf}}{\text{min}} \times \frac{0.0283 \text{ cm}}{\text{cf}} \times \frac{60 \text{ min}}{\text{hr}} \times \frac{1 \text{ g}}{1000 \text{ mg}} \times \frac{0.002 \text{ lb}}{1 \text{ g}} \times \frac{8760 \text{ hr}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = \frac{0.011 \text{ ton}}{\text{year}}$$

Compliance Determination:

The baghouse is currently in compliance with this limit. The allowable emissions under this limit are below significance levels for PSD, therefore, 326 IAC 2-2 does not apply.

PARTICULATE MATTER

Applicability:

This unit is located in Marion County, not specifically listed in this rule, and the source has the potential to emit one hundred (100) tons per year of particulate matter per year. Therefore, this unit is subject to 326 IAC 6-1-2(a).

Limits:

326 IAC 6-1-2 (Particulate Emission Limitations)

Pursuant to 326 IAC 6-1-2 (Particulate Emission Limitations), this unit is limited to emissions of 0.03 grains per dry standard cubic foot (dscf).

Compliance Determination:

Emission Factor from AP-42 table 12.11-2 is 0.03 lb/ton of lead produced.

$$\frac{0.03 \text{ lb}}{\text{ton}} \times \frac{18771 \text{ tons}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lbs}} = \frac{0.28 \text{ ton}}{\text{year}} \quad \text{Or}$$

$$\frac{0.03 \text{ lb}}{\text{ton}} \times \frac{18771 \text{ tons}}{\text{year}} \times \frac{7000 \text{ grains}}{\text{lb}} \times \frac{1 \text{ min}}{770 \text{ cf}} \times \frac{1 \text{ hr}}{60 \text{ min}} \times \frac{1 \text{ year}}{8760 \text{ hr}} = \frac{0.00974 \text{ grains}}{\text{cf}}$$

Based on the emission factor, PM emissions from the kettle will be 0.00974 grains per dscf or

0.28 tons per year. This is in compliance with the 0.03 grains per dscf (which is equivalent to 0.86 tons per year based on an air flow of 770 cfm) standard in 326 IAC 6-1-2.

The allowable potential to emit of particulate matter of this unit is less than the limit established in 326 IAC 6-1-2. Both the allowable limit and the potential to emit are less than exemption levels.

Natural Gas Burner

PARTICULATE MATTER

Applicability:

This unit is located in Marion County, not specifically listed in this rule, and the source has the potential to emit one hundred (100) tons per year of particulate matter each year. Therefore, this unit is subject to 326 IAC 6-1-2(a).

Limits:

326 IAC 6-1-2 (Particulate Emission Limitations)

Pursuant to 326 IAC 6-1-2 (Particulate Emission Limitations), this unit is limited to emissions of 0.03 grains per dry standard cubic foot (dscf).

Compliance Determination:

Emission Factor from AP-42 table 1.4-2 is 7.6 lb/MMcf

$$\frac{7.6 \text{ lb}}{\text{Mmcf}} \times \frac{37.2 \text{ MMcf}}{\text{yr}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = \frac{0.14 \text{ ton}}{\text{year}}$$

$$\frac{7.6 \text{ lb}}{\text{Mmcf}} \times \frac{37.2 \text{ MMcf}}{\text{yr}} \times \frac{7000 \text{ grains}}{\text{lb}} \times \frac{1 \text{ minute}}{950 \text{ cf}} \times \frac{1 \text{ yr}}{8760 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min}} = \frac{0.00396 \text{ grains}}{\text{dscf}}$$

Based on the emission factor, PM emissions from the natural gas burner will be 0.00396 grains per dscf (or 0.14 tons per year). This is in compliance with the 0.03 grains per dscf standard in 326 IAC 6-1-2.

The potential to emit is less than the allowable limit established in 326 IAC 6-1-2. Both the potential to emit and the established allowable limit are less than exemption levels.

Compliance Requirements

The compliance monitoring requirements for this source are in the source's standard operating procedures manuals. The source must prepare and operate according to a standard operating procedures manual for baghouses as outlined in 40 CFR 63.548 and a fugitive dust emissions standard operating procedures manual as described in 40 CFR 63.545. The source already has prepared and operates according to the required baghouse standard operating procedures manual.

In addition, the Permittee is also subject to the operational and work practice standards outlined in 326 IAC 20-13-5 and the bag leak detection system requirements in 326 IAC 20-13-8.

Conclusion

The operation of kettle #9 shall be subject to the conditions of the attached proposed Exemption No. 097-15607-00079.

Appendix A: Emission Calculations

Potential to Emit Summary

Company Name: Quemetco, Inc.
Address City IN Zip: 7870 West Morris Street

Plt ID: 97-15607-00079
Reviewer: Amanda Hennessy
Date: March, 2002

	Lead (Pb)	PM	SO2	NOx	VOC	CO
Natural Gas Combustion	Negligible	0.141	0.011	1.862	0.102	1.564
Kettle #9 Emissions	0.09	0.28	Negligible	Negligible	Negligible	Negligible
Kettle #9 Fugitive Emissions	0.01	0.02	Negligible	Negligible	Negligible	Negligible
TOTAL EMISSIONS	0.1	0.441	0.011	1.862	0.102	1.564

Appendix A: Emission Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 10

Company Name: Quemetco, Inc.
Address City IN Zip: 7870 West Morris Street
Plt ID: 97-15607-00079
Reviewer: Amanda Hennessy
Date: March, 2002

Natural Gas Burner for Kettle 9

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
4.25	37.23

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.141	0.141	0.011	1.862	0.102	1.564

Methodology

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low Nox Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-03-006-03

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

gasc10.wk4 9/95

Kettle 9

Capacity (tons of lead produced per year)

18771

	PM	Lead	Fugitive PM	Fugitive Lead
Emission Factor (lb / ton of lead produced)	0.03	0.01	0.002	0.0006
Potential Emissions in Tons per year	0.281565	0.093855	0.018771	0.0056313

Capacity = 2.14 tons per hour * 8769 hours/year = 18771 tons per year

Tons per hour = (2 kettles per week* 180 tons per kettle) / (7 days/week * 24 hrs/day)

Emission Factors from AP 42, Chapter 12.11, Table 12.11-2

Emission (tons/yr) = Capacity (tons of metal /year) x Emission Factor (tons of pollutant / tons of metal)

Potential to Emit of Applicable Limits

Company Name: Quemetco, Inc.
Address City IN Zip: 7870 West Morris Street
Plt ID: 97-15607-00079
Reviewer: Amanda Hennessy
Date: March, 2002

Kettle

Particulate Matter

Limit: 0.03 grains / dscf

Potential for emissions of particulate matter after limit: 0.86 ton / year

$$0.03 \text{ grains/dscf} * 1 \text{ lb} / 7000 \text{ grains} * 770 \text{ cf/min} * 60 \text{ min/hr} * 8760 \text{ hr/year} * 1 \text{ ton}/2000 \text{ lb}$$

Lead

Stack Limit: 1 mg/dscm

Potential for emissions of lead after limit: 0.011 tons per year

$$1 \text{ mg/dscm} * 0.0283 \text{ cm}^3/\text{cf} * 770 \text{ cf/min} * 60 \text{ min/hr} * 8760 \text{ hr/yr} * 0.001 \text{ g/mg} * 0.002 \text{ lb}/1 \text{ g} * 1 \text{ ton}/2000 \text{ lb}$$

Natural Gas Burner

Particulate Matter

Limit: 0.03 grains / dscf

Potential for emissions of particulate matter after limit: 1.07 tons per year

$$0.03 \text{ grains/dscf} * 1 \text{ lb} / 7000 \text{ grains} * 950 \text{ cf/min} * 60 \text{ min/hr} * 8760 \text{ hr/year} * 1 \text{ ton}/2000 \text{ lb}$$

	Particulate Matter	Lead
Allowable potential for emissions after limits		
Kettle	0.86	0.011
Natural Gas Burner	1.07	0
Total	1.93	0.011

Predicted emissions based on emission factors (PTE) indicate that the source will never reach the emissions allowed by these limits.