



TO: Interested Parties / Applicant

RE: Mi-Tech Metals, Inc. / E097-24335-00600

FROM: Felicia A. Robinson
Administrator
City of Indianapolis
Office of Environmental Services

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Indianapolis Office of Environmental Services, Air Permits at (317) 327-2234.

Enclosures



Air Quality Hotline: 317-327-4AIR | knozone.com

Department of Public Works
Office of Environmental Services

2700 Belmont Avenue
Indianapolis, IN 46221

317-327-2234
Fax 327-2274
TDD 327-5186
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June 4, 2007

Mr. Dave Hoyne
Materials Manager
Mi-Tech Metals, Inc.
4701 Massachusetts Avenue
Indianapolis, IN 46218

CERTIFIED MAIL 7000 0600 0023 5186 2552

Re: Exempt Construction and Operation Status
E097-24335-00600

Dear Mr. Hoyne:

The application from Mi-Tech Metals, Inc. received on February 20, 2007, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3 (Exemptions), it has been determined that the following tungsten composites and alloy products manufacturing operation located at 4701 Massachusetts Avenue, Indianapolis, Indiana, 46218, is classified as exempt from air pollution permit requirements:

- (a) Two (2) bag dumping stations for dry metal powder mixing identified as DM-1 and DM-2. DM-1 is located in Building # 1 and DM-2 is located in Building # 2. Combined mixing capacity of dry metal powders in DM-1 and DM-2 is 373.0 pounds per hour. DM-1 exhausts to a cartridge filter identified as CE-01 and to stack/vent S-1. CE-01 is integral to the process. DM-2 exhausts to a cartridge filter identified as CE-03 and to stack/vent S-3. CE-03 is integral to the process. DM-1 and DM-2 were each installed in 2001.
- (b) One (1) wet mixing station for mixing metal powders and volatile binders identified as WM. Maximum raw materials usage rate of 41.5 pounds per hour. Installed in 1981.
- (c) One (1) band saw process for cutting compressed "green" metal billets into smaller slabs with a band saw identified as BS. Maximum process rate is 681 pounds per hour. BS exhausts to a cartridge filter identified as CE-02 and to stack/vent S-2. CE-02 is integral to the process. Installed in 2001.
- (d) Three (3) electrically heated debinding ovens identified as DO-1 and DO-2 for the debinding of volatile binders from the compressed "green" billets prior to electric sintering. Combined maximum process rate of 165.0 pounds per hour. Equipped with no VOC emission control. Installed in 1981.
- (e) Electric sintering furnaces for sintering tungsten alloy products identified as SF. Hydrogen is used as a supplemental fuel in each electric sintering furnace. There are no supplements to the tungsten alloy products introduced into the sintering process at this source. There are no airborne emissions from the electric sintering process. Installed in 1981.



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- (f) Machining and lathing stations identified as ML for cutting, grinding, polishing or lathing miscellaneous manufactured tungsten composites and tungsten alloy products. Each machining and lathing station is a wet process whereby non VOC containing coolants are used in the process to cool the part being machined. The use of coolant is integral to the process. There are no airborne emissions from machining and lathing stations in ML due to the extreme density of the tungsten products being machined in ML. Installed in 1981.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 2-1.1-3 (Exemptions), the baghouses identified as CE-01 and CE-03 for dry mixing in DM-1 and DM-2 and the baghouse identified as CE-02 for band saw cutting in BS shall operate and shall be continuous operation at all times when dry mixing and band saw cutting are in operation. The use of coolants shall be continuous at all times when machining and lathing in ML is in operation.
- (b) 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:
- (1) 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.
 - (2) 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.
- (c) Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right of way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Indiana Department of Environmental Management (IDEM) Office of Air Quality (OAQ) and the City of Indianapolis Office of Environmental Services (OES) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,
Original Signed by:

Felicia A. Robinson
Administrator

MBC

Enclosure: Technical Support Document
Notice of Decision

cc: File
Air Compliance – Matt Mosier
IDEM, OAQ – Mindy Hahn
Marion County Health Department

**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:	Mi-Tech Metals, Inc.
Source Location:	4701 Massachusetts Avenue, Indianapolis, IN 46218
County:	Marion
SIC Code:	3499
Exemption No.:	E097-24335-00600
Permit Reviewer:	M. Caraher

The Indiana Department of Environmental Management (IDEM) Office of Air Quality (OAQ) and the City of Indianapolis Office of Environmental Services (OES) have reviewed an application from Mi-Tech Metals, Inc. relating to the operation of a tungsten composites and alloy products manufacturing operation under a standard industrial classification (SIC) code of 3499 (Fabricated Metal Products, Not Elsewhere Classified, including powdered metal products).

Exempt Emission Units and Pollution Control Equipment

The source consists of the following exempt emission units:

- (a) Two (2) bag dumping stations for dry metal powder mixing identified as DM-1 and DM-2. DM-1 is located in Building # 1 and DM-2 is located in Building # 2. Combined mixing capacity of dry metal powders in DM-1 and DM-2 is 373.0 pounds per hour. DM-1 exhausts to a cartridge filter identified as CE-01 and to stack/vent S-1. CE-01 is integral to the process. DM-2 exhausts to a cartridge filter identified as CE-03 and to stack/vent S-3. CE-03 is integral to the process. DM-1 and DM-2 were each installed in 2001.
- (b) One (1) wet mixing station for mixing metal powders and volatile binders identified as WM. Maximum raw materials usage rate of 41.5 pounds per hour. Installed in 1981.
- (c) One (1) band saw process for cutting compressed "green" metal billets into smaller slabs with a band saw identified as BS. Maximum process rate is 681 pounds per hour. BS exhausts to a cartridge filter identified as CE-02 and to stack/vent S-2. CE-02 is integral to the process. Installed in 2001.
- (d) Three (3) electrically heated debinding ovens identified as DO-1 and DO-2 for the debinding of volatile binders from the compressed "green" billets prior to electric sintering. Combined maximum process rate of 165.0 pounds per hour. Equipped with no VOC emission control. Installed in 1981.
- (e) Electric sintering furnaces for sintering tungsten alloy products identified as SF. Hydrogen is used as a supplemental fuel in each electric sintering furnace. There are no supplements to the tungsten alloy products introduced into the sintering process at this source. There are no airborne emissions from the electric sintering process. Installed in 1981.
- (f) Machining and lathing stations identified as ML for cutting, grinding, polishing or lathing miscellaneous manufactured tungsten composites and tungsten alloy products. Each machining and lathing station is a wet process whereby non VOC containing coolants are

used in the process to cool the part being machined. The use of coolant is integral to the process. There are no airborne emissions from machining and lathing stations in ML due to the extreme density of the tungsten products being machined in ML. Installed in 1981.

Existing Approvals

There are no previous approvals for this source.

Air Pollution Control Justification as an Integral Part of the Process

- (a) The company has submitted the following justification such that the cartridge filter baghouse identified as CE-02 for the one (1) band saw process for cutting compressed "green" metal billets be considered as an integral part of the band saw cutting process identified as BS. The company has also submitted the following justification that the cartridge filter baghouses identified as CE-01 and CE-02 for the two (2) bag dumping stations for dry metal powder mixing identified as DM-1 and DM-2 be considered as an integral part of the dry mixing process.

- (1) Operation of the control equipment provides an overwhelming net economic benefit versus not operating the control equipment and, therefore, the pollution control equipment serves a primary purpose other than pollution control.

The control equipment installation cost is, approximately, \$27,000 per baghouse. The tungsten alloy powders mixed in DM-1 and DM-2 cost, approximately, \$48 per kilogram. The tungsten alloy powders collected from dry mixing and band saw cutting baghouses are shipped off-site and reclaimed. The reclaimed powders are then shipped back to Mi-Tech Metals for use in the tungsten composites manufacturing process. The reclamation process expense is, approximately, 1/20th or 5% of the original cost per kilogram of tungsten purchased.

Per the application submitted by Mi-Tech Metals, Inc., approximately, 244,000 kilograms of powders were processed in DM-1 and DM-2 in 2005 and, approximately, 600 kilograms were recovered. The 600 kilograms reclaimed from DM-1 and DM-2 in 2005 represented an annual savings of \$27,360 (600 kilograms x \$48 per kilogram x (1-0.05 reclamation expense)).

Per the application submitted by Mi-Tech Metals, Inc., CE-02 collects, approximately, 400 kilograms of cutting dust every 20 hours of band saw operation. As a result, every 400 kilograms of powders reclaimed represents a savings of \$18,240 (400 kilograms x \$48 per kilogram x (1-0.05 reclamation expense)).

- (b) The company has submitted the following justification such that the use of non VOC containing coolants in the machining and lathing stations identified as ML be considered as an integral part of the machining and lathing process.

- (1) Machining and lathing cannot operate without the use of coolants in the process and, therefore, the pollution control equipment serves a primary purpose other than pollution control.

The use of coolants is necessary in the process because of the extreme heat generated in machining an extremely dense tungsten alloy composite. Tungsten is extremely dense with a specific gravity of 19.25. Tungsten bits are used in these processes in order to machine or lathe the part. Extreme heat would arise in these processes without the use of coolants. The extreme heat leads to excessive bit wear, excessive down time replacing bits and out of specification parts.

IDEM, OAQ, and OES have evaluated the justifications and agree that the baghouses identified as CE-01 and CE-03 for dry mixing in DM-1 and DM-2 and the baghouse identified as CE-02 for band saw cutting in BS will be considered as an integral part of the dry mixing and band saw cutting processes. IDEM, OAQ, and OES have also evaluated the justification for the use of non VOC containing coolants in the machining and lathing stations identified as ML and agree that use of these coolants will be considered as an integral part of the machining and lathing processes. Therefore, the permitting level will be determined using the potential to emit after baghouses CE-01, CE-02 and CE-03 and the use of coolants in machining and lathing. Operating conditions in the proposed permit will specify that the baghouses shall operate and the use of coolants shall be continuous at all times when the dry mixing, band saw cutting, and machining and lathing is in operation.

Enforcement Issue

IDEM, OAQ, and OES are aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled "Exempt Emission Units and Pollution Control Equipment". IDEM, OAQ, and OES are reviewing this matter and will take appropriate action. This Exemption satisfies the requirements of the construction permit rules.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
S-1	DM-1	20.0	0.75	1200	80.0
S-2	BS	20.0	0.75	1200	80.0
S-3	DM-2	20.0	0.75	1200	80.0

Recommendation

The staff recommends to the Administrator that the construction and operation 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 20, 2007, with additional information received on March 30, 2007, April 17, 2007, April 20, 2007, and on May 25, 2007. A plant tour was conducted on April 18, 2007.

Emission Calculations

See Appendix A (pages 1 through 3) of this document for detailed emission calculations.

Potential to Emit of the Source

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit 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, the department, or the appropriate local air pollution control agency."

Pollutant	Potential to Emit (tons/yr)
PM	0.69
PM 10	0.69
SO ₂	0.00
VOC	8.55
CO	0.0
NO _x	0.0

HAPs	Potential to Emit (tons/yr)
Trichloroethylene	3.16
Total	3.82

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM and PM10 are each less than five (5) tons per year. The potential to emit (as defined in 326 IAC 2-7-1(29)) of SO₂, CO and NO_x are each less than ten (10) tons per year. The potential to emit VOC is greater than five (5) tons per year but less than ten (10) tons per year and this source is not required to use pollution control equipment to comply with 326 IAC 8 (Volatile Organic Compound Rules). The potential to emit Lead or Lead compounds is less than two-tenths (0.2) tons per year. Therefore, pursuant to 326 IAC 2-1.1-3 (Exemptions), an Exemption will be issued to this source.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 2-1.1-3 (Exemptions), an Exemption will be issued to this source.
- (a) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM2.5	nonattainment
PM10	attainment
SO ₂	maintenance attainment
NO _x	attainment
8-hour Ozone	basic nonattainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as nonattainment for the 8-hour ozone standard. Therefore,

VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

- (b) Marion County has been classified as nonattainment for PM2.5 in 70 FR 943 dated January 5, 2005. Until U.S. EPA adopts specific New Source Review rules for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions, pursuant to the Non-attainment New Source Review requirements. See the State Rule Applicability for the source section.
- (c) Marion County has been classified as attainment or unclassifiable in Indiana for PM10, SO₂, NO₂, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (d) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

New Source PSD, Emission Offset, Part 70, or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	0.69
PM 10	0.69
SO ₂	0.00
VOC	8.55
CO	0.0
NO _x	0.0

- (a) This new source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.
- (b) This new source is not a major stationary source because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or greater and it is not in one of the 28 listed source categories.
- (c) These emissions were based on the application submitted by the company and information obtained in a plant tour on April 18, 2007.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and

- (c) any combination of HAPs is less than 25 tons per year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the Exemption for this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in the Exemption for this source.

State Rule Applicability – Entire Source

326 IAC 2-1.1-5 (Non-attainment New Source Review)

This source is not major under nonattainment NSR because it has the potential to emit less than 100 tons of PM10 (as a surrogate for PM2.5). Therefore, the Non-attainment New Source Review requirements are not applicable.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 326 IAC 2-3 (Emission Offset)

This source is not a major stationary source because no attainment regulated pollutant emissions are equal to or greater than two hundred fifty (250) tons per year, this source is not one of the 28 listed source categories under 326 IAC 2-2 or 326 IAC 2-3 and no attainment or nonattainment regulated pollutant emissions are equal to or greater than one hundred (100) tons per year. There have been no modifications or revisions to this source that were major modifications pursuant to 326 IAC 2-2 or 326 IAC 2-3. Therefore, 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 326 IAC 2-3 (Emission Offset) are each not applicable to the source.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this tungsten composites and alloy products manufacturing operation will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply to this source.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1(a)(1), (2), and (3), this source is not subject to 326 IAC 2-6 (Emission Reporting) because, as an Exemption, it is not required to have an operating permit under 326 IAC 2-7, it does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year, and it is not located in Lake or Porter Counties.

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 the permit:

- (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 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 6-4 (Fugitive Dust Emissions)

This source is subject to the provisions of 326 IAC 6-4 for fugitive dust emissions. The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right

of way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County) and 326 IAC 6.5-6 (Marion County)

This source has the potential to emit particulate of less than one hundred (100) tons per year and has actual emissions less than ten (10) tons per year. Mi-Tech Metals, Inc. is not specifically identified in 326 IAC 6.5-6 (Marion County). Therefore, 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County) and 326 IAC 6.5-6 (Marion County) does not apply to this source.

326 IAC 8 (Volatile Organic Compound Rules)

This source does not perform any activities specifically identified in 326 IAC 8-2 through 326 IAC 8-12. Therefore, this source is not subject to 326 IAC 8 (Volatile Organic Compound Rules).

326 IAC 8-1-6 (General Volatile Organic Compound Reduction Requirements)

This source commenced construction and operation after January 1, 1980. Neither the source nor any specific emission unit at this source has the potential to emit twenty five (25) tons per year or more of volatile organic compounds (VOC). Therefore, this source is not subject to 326 IAC 8-1-6 (General Provisions Relating to VOC Rules: General Reduction Requirements for New Facilities).

326 IAC 8-13 (Sinter Plants)

This source is not an integrated iron and steel manufacturing source located in Lake or Porter County. Therefore, 326 IAC 8-13 (Sinter Plants) does not apply to this source.

326 IAC 11 (Emission Limitations for Specific Types of Operations)

This tungsten alloy composites manufacturing operation does not perform any specific type of operation identified in 326 IAC 11 (Emission Limitations for Specific Types of Operations). Therefore, this source is not subject to 326 IAC 11 (Emission Limitations for Specific Types of Operations).

326 IAC 12 (New Source Performance Standards)

See discussion under Federal Rule Applicability – Entire Source of this Technical Support Document.

326 IAC 14 (Emission Standards for Hazardous Air Pollutants)

There are no provisions under 326 IAC 14 (Emission Standards for Hazardous Air Pollutants) and 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants) applicable to any specific emission unit or operation at this source. Therefore, this source is not subject to the provisions of 326 IAC 14 (Emission Standards for Hazardous Air Pollutants) and 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

326 IAC 20 (Hazardous Air Pollutants)

This source is not a major source of hazardous air pollutants (HAP) and does not perform operations specifically identified in 326 IAC 20. Therefore, this source is not subject to 326 IAC 20 (Hazardous Air Pollutants) and 40 CFR Part 63 (National Emission Standards for Hazardous Air Pollutants).

State Rule Applicability – Individual Facilities

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

The two (2) bag dumping stations for dry metal powder mixing identified as DM-1 and DM-2, the one (1) band saw process for cutting compressed “green” metal billets into smaller slabs with a band saw identified as BS, and the machining and lathing stations identified as ML each have potential emissions of less than 0.551 pounds per hour (see Appendix A pages 1 and 3). Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from the requirements of 326 IAC 6-3 (Particulate Emission

Limitations for Manufacturing Processes). Therefore, 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) does not apply to this source.

Conclusion

The construction and operation of this tungsten composites and alloy products manufacturing operation shall be subject to the conditions of Exemption E097-24335-00600.

Appendix A: Emission Calculations

Company Name: Mi-Tech Metals, Inc.
Address City IN Zip: 4701 Massachusetts Avenue, Indianapolis, IN 46218
Permit No.: E097-24335-00600
Reviewer: M. Caraher
Date: May 31, 2007

Potential to Emit after Intergral Cartridge Filter Controls in Emission Unit DM-1, DM-2 and BS

Emission Unit DM-1 (utilizing cartridge filter CE-01)	PM/PM10 emissions	
	0.05	lbs/hr
	0.23	tons/year
0.005 gr/dscf x 1200 dscf/min x 60 min/hr x pound/7000 gr =		
0.005 gr/dscf x 1200 dscf/min x 60 min/hr x 8760 hr/year x pound/7000 gr x ton/2000 pounds =		
Emission Unit DM-2 (utilizing cartridge filter CE-03)	PM/PM10 emissions	
	0.05	lbs/hr
	0.23	tons/year
0.005 gr/dscf x 1200 dscf/min x 60 min/hr x pound/7000 gr =		
0.005 gr/dscf x 1200 dscf/min x 60 min/hr x 8760 hr/year x pound/7000 gr x ton/2000 pounds =		
Emission Unit BS (utilizing cartridge filter CE-02)	PM/PM10 emissions	
	0.05	lbs/hr
	0.23	tons/year
0.005 gr/dscf x 1200 dscf/min x 60 min/hr x pound/7000 gr =		
0.005 gr/dscf x 1200 dscf/min x 60 min/hr x 8760 hr/year x pound/7000 gr x ton/2000 pounds =		
Sum Total		0.69 tons/year

Methodology

Outlet grain loading after control of 0.005 grains/dscf of PM/PM10 guaranteed by cartridge filter manufacturer, see 5/25/07 letter.

Emissions in pounds per hour = grains/dscf x exhaust air flow rate in dscf/minute x 60 minutes/hour x 7000 grains/pound

Emissions in tons per year = emissions in pounds per hour x 8760 hours/year x ton/2000 pounds

PM10 emissions equivalent to PM emissions

Appendix A: Emission Calculations

Company Name: Mi-Tech Metals, Inc.
Address City IN Zip: 4701 Massachusetts Avenue, Indianapolis, IN 46218
Permit No.: E097-24335-00600
Reviewer: M. Caraher
Date: May 31, 2007

Wet Mixing (WM) and Debinding Ovens (DO-1 & DO-2) Potential to Emit

Chemical	Gallons	density	Pounds	wt %VOC	lbs VOC	%HAPs	lbs HAPs	lbs Trichloroethylene	lbs Toluene	lbs Methanol
MT Blend	660.00	9.12	6019.20	100.00%	6019.20	70.00%	4213.44	3611.52	601.92	
Ethanol Blend	220.00	6.69	1471.80	95.00%	1398.21	10.00%	147.18			147.18
Paraloid	385.00	8.56	3296.36	71.00%	2340.41	0.00%	0.00			
Zinc Stearate			150.00	0.00%	0.00	0.00%	0.00			
Total Pounds Wet Mixed in 2004 in 5000 hours =			207432.00		9757.82		4360.62	3611.52	601.92	147.18
lbs VOC or HAP/1000 lbs Wet Mixed & Debinded =					47.04		21.02	17.41	2.90	0.71
					VOC		Total HAPs		Highest Individual HAP	
					Actual	Potential	Actual	Potential	Actual	Potential
Tons Per Year From Wet Mixing and Debinding Ovens					4.88	8.55	2.18	3.82	1.81	3.16

Methodology:

Sum Total VOC/HAP usage is introduced in the Wet Mixing process and is lost in the Wet Mixing process and in the Debinding process. Assume all VOC/HAP used is emitted.

Total Pounds Wet Mixed includes powders and VOC/HAP

No water exists in the blend materials. Therefore, lbs VOC/gal = lbs VOC/gal less water

lbs VOC loss = gallons chemical used x density of blend x wt % VOC

lbs HAP loss = gallons chemical x density of blend x wt % HAP

Potential Emissions = lbs raw material wet mixed/hr x lbs VOC or HAP emitted/1000 lbs wet mixed per year x ton/2000 lbs

**Appendix A: Emission Calculations
Source Wide Emissions Summary**

Company Name: Mi-Tech Metals, Inc.
Address City IN Zip: 4701 Massachusetts Avenue, Indianapolis, IN 46218
Permit No.: E097-24335-00600
Reviewer: M. Caraher
Date: May 31, 2007

Plant Wide Emissions Summary (tons per year)							Highest Single	Combination
	PM	PM10	NO_x	SO₂	VOC	CO	HAP	HAP
Dry Mixing	0.46	0.46	0.00	0.00	0.00	0.00	0.00	0.00
Wet Mixing & Debinding Ovens	0.00	0.00	0.00	0.00	8.55	0.00	3.16	3.82
Band Saw	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Machining & Lathing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sintering Furnaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potential to Emit	0.69	0.69	0.00	0.00	8.55	0.00	3.16	3.82