003-48007-00400

AI ID: 14912

Fort Wayne Metals Research Products, LLC

PHN 260.747.4154
FAX 260.747.0398

9609 Ardmore Avenue
Fort Wayne, IN 46809

fwmetals.com

FORT WAYNE METALS

Turning knowledge into solutions.

June 18, 2024

Received
State of Indiana
JUN 26 2024
Dept of Environmental Mgmt
Office of Air Quality

LG 3

Indiana Department of Environmental Management
Office of Air Quality, Air Permits Administration
100 North Senate Ave.
Mail Code 61-53 IGCN 1003
Indianapolis, IN 46204-2251

Re: Fort Wayne Metals Research Products LLC
9609 Ardmore Avenue
Fort Wayne, IN 46809
Source ID 003-00400
Application for Minor Permit Revision

Dear Ms. Acker:

Enclosed is an application to make an amendment to the Fort Wayne Metals Research Products LLC (Fort Wayne Metals) Federally Enforceable State Operating Permit (FESOP) (003-42524-00400). The source consists of a campus of buildings with a mailing address of 9609 Ardmore Avenue, Fort Wayne, Indiana.

- Fort Wayne Metals has acquired a new building to be called TEC Plant at 9205 Avionics Drive. Some emission units are being relocated from the ABC Plant.
- In section D.3.2 Volatile Organic Compound (VOC) Limitations, currently we have (5) wire coating operations collectively identified as EU-24. We would like to clarify that each wire coating operation have a 15 lb limit per day.
- In section D.3.1 FESOP Limit for VOC, we would like to clarify that all of the wire coating operations collectively known as EU-24 combined will comply with the 10.0 ton per twelve (12) consecutive month period.

I have enclosed the following documents for the Minor Permit Revision request:

- Air Permit Application Cover Sheet
- GSD-01
- Detailed explanation of machine adds and changes
- Calculations

If you have any questions, or need any additional information, please contact me at Robert_Helton@FWMetals.com or at (260) 747-4154 ext. 2546.

Sincerely,
Robert Helton
Environmental Project & Compliance Specialist
Fort Wayne Metal Research Products, LLC

PART B: Pre-Application Meeting

Part B specifies whether a meeting was held or is being requested to discuss the permit application.

9. Was a meeting held between the company and IDEM prior to submitting this application to discuss the details of the project?

☒ No ☐ Yes: *Date:*

10. Would you like to schedule a meeting with IDEM management and your permit writer to discuss the details of this project?

☒ No ☐ Yes: *Proposed Date for Meeting:*

PART C: Confidential Business Information

Part C identifies permit applications that require special care to ensure that confidential business information is kept separate from the public file.

Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in the Indiana Administrative Code (IAC). To ensure that your information remains confidential, refer to the IDEM, OAQ information regarding submittal of confidential business information. For more information on confidentiality for certain types of business information, please review IDEM's Nonrule Policy Document Air-031-NPD regarding Emission Data.

11. Is any of the information contained within this application being claimed as **Confidential Business Information**?

☒ No ☐ Yes

PART D: Certification Of Truth, Accuracy, and Completeness

Part D is the official certification that the information contained within the air permit application packet is truthful, accurate, and complete. Any air permit application packet that we receive without a signed certification will be deemed incomplete and may result in denial of the permit.

For a Part 70 Operating Permit (TVOP) or a Source Specific Operating Agreement (SSOA), a "responsible official" as defined in 326 IAC 2-7-1(34) must certify the air permit application. For all other applicants, this person is an "authorized Individual" as defined in 326 IAC 2-1.1-1(1).

☒ *I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete.*

Jeremy Rohrs	President
Name *(typed)*	Title
[signature]	06/18/2024
Signature	Date

AIR PERMIT APPLICATION COVER SHEET

State Form 50639 (R4 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of this cover sheet is to obtain the core information needed to process the air permit application. This cover sheet is required for all air permit applications submitted to IDEM, OAQ. Place this cover sheet on top of all subsequent forms and attachments that encompass your air permit application packet.
- Submit the completed air permit application packet, including all forms and attachments, to **IDEM Air Permits Administration** using the address in the upper right hand corner of this page.
- IDEM will send a bill to collect the filing fee and any other applicable fees.
- Detailed instructions for this form are available on the Air Permit Application Forms website.

FOR OFFICE USE ONLY

PERMIT NUMBER: 003-48007-00400

DATE APPLICATION WAS RECEIVED:
Received
State of Indiana
JUN 26 2024
Dept of Environmental Mgmt
Office of Air Quality

1. Tax ID Number: No Longer Required

PART A: Purpose of Application

Part A identifies the purpose of this air permit application. For the purposes of this form, the term "source" refers to the plant site as a whole and NOT to individual emissions units.

2. Source / Company Name: Fort Wayne Metals Research Products LLC **3. Plant ID:** 003 – 00400

4. Billing Address: 9609 Ardmore Avenue

City: Fort Wayne **State:** IN **ZIP Code:** 46809 –

5. Permit Level: ☐ Exemption ☐ Registration ☐ SSOA ☐ MSOP ☒ FESOP ☐ TVOP ☐ PBR

6. Application Summary: *Check all that apply. Multiple permit numbers may be assigned as needed based on the choices selected below.*

☐ Initial Permit ☐ Renewal of Operating Permit ☐ Asphalt General Permit
☐ Review Request ☐ Revocation of Operating Permit ☐ Alternate Emission Factor Request
☐ Interim Approval ☐ Relocation of Portable Source ☐ Acid Deposition (Phase II)
☐ Site Closure ☐ Emission Reduction Credit Registry

☐ Transition (between permit levels) *From:* *To:*

☐ Administrative Amendment: ☐ *Company Name Change* ☐ *Change of Responsible Official*
☐ *Correction to Non-Technical Information* ☐ *Notice Only Change*
☐ *Other (specify):*

☒ Modification: ☒ *New Emission Unit or Control Device* ☐ *Modified Emission Unit or Control Device*
☐ *New Applicable Permit Requirement* ☐ *Change to Applicability of a Permit Requirement*
☐ *Prevention of Significant Deterioration* ☐ *Emission Offset* ☐ *MACT Preconstruction Review*
☐ *Minor Source Modification* ☐ *Significant Source Modification*
☒ *Minor Permit Modification* ☐ *Significant Permit Modification*
☐ *Other (specify):*

7. Is this an application for an initial construction and/or operating permit for a **"Greenfield" Source**? ☐ Yes ☒ No

8. Is this an application for construction of a new emissions unit at an **Existing Source**? ☒ Yes ☐ No

Continued on Next Page

OAQ GENERAL SOURCE DATA APPLICATION
GSD-01: Basic Source Level Information

State Form 50640 (R5 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Received
State of Indiana
JUN 26 2024
Dept of Environmental Mgmt
Office of Air Quality

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-01 is to provide essential information about the entire source of air pollutant emissions. GSD-01 is a required form.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

003-48007-00400

PART A: Source / Company Location Information

1. **Source / Company Name**: Fort Wayne Metals Research Products LLC | 2. **Plant ID**: 003 – 00400
3. **Location Address**: 9609 Ardmore Ave
   City: Fort Wayne | **State**: IN | **ZIP Code**: 46809 –
4. **County Name**: Allen | 5. **Township Name**:
6. **Geographic Coordinates**:
   Latitude: 40.99 | **Longitude**: -85.13
7. **Universal Transferal Mercadum Coordinates** *(if known)*:
   Zone: | **Horizontal**: | **Vertical**:
8. **Adjacent States**: Is the source located within 50 miles of an adjacent state?
   ☐ No ☒ Yes – *Indicate Adjacent State(s):* ☐ Illinois (IL) ☒ Michigan (MI) ☒ Ohio (OH) ☐ Kentucky (KY)
9. **Attainment Area Designation**: Is the source located within a non-attainment area for any of the criteria air pollutants?
   ☒ No ☐ Yes – *Indicate Nonattainment Pollutant(s):* ☐ CO ☐ Pb ☐ NO_x ☐ O_3 ☐ PM ☐ PM_{10} ☐ $PM_{2.5}$ ☐ SO_2
10. **Portable / Stationary**: Is this a portable or stationary source? ☐ Portable ☒ Stationary

PART B: Source Summary

11. **Company Internet Address** *(optional)*: www.FWMetals.com
12. **Company Name History**: Has this source operated under any other name(s)?
    ☐ No ☒ Yes – *Provide information regarding past company names in Part I, Company Name History.*
13. **Portable Source Location History**: Will the location of the portable source be changing in the near future?
    ☒ Not Applicable ☐ No ☐ Yes – *Complete Part J, Portable Source Location History, and Part K, Request to Change Location of Portable Source.*
14. **Existing Approvals**: Have any exemptions, registrations, or permits been issued to this source?
    ☐ No ☒ Yes – *List these permits and their corresponding emissions units in Part M, Existing Approvals.*
15. **Unpermitted Emissions Units**: Does this source have any unpermitted emissions units?
    ☐ No ☒ Yes – *List all unpermitted emissions units in Part N, Unpermitted Emissions Units.*
16. **New Source Review**: Is this source proposing to construct or modify any emissions units?
    ☐ No ☒ Yes – *List all proposed new construction in Part O, New or Modified Emissions Units.*
17. **Risk Management Plan**: Has this source submitted a Risk Management Plan?
    ☒ Not Required ☐ No ☐ Yes → Date submitted: EPA Facility Identifier: – –

Continued on Next Page

PART C: Source Contact Information

IDEM will send the original, signed permit decision to the person identified in this section. This person MUST be an employee of the permitted source.

18. Name of Source Contact Person: Robert Helton

19. Title *(optional)*: Environmental Project & Compliance Specialist

20. Mailing Address: 9609 Ardmore Ave

City: Fort Wayne	**State**: IN	**ZIP Code**: 46809 –

21. Electronic Mail Address *(optional)*: Robert_Helton@FWMetals.com

22. Telephone Number: (260) 747 – 4154	**23. Facsimile Number** *(optional)*: ( ) –

PART D: Authorized Individual/Responsible Official Information

IDEM will send a copy of the permit decision to the person indicated in this section, if the Authorized Individual or Responsible Official is different from the Source Contact specified in Part C.

24. Name of Authorized Individual or Responsible Official: Jeremy Rohrs

25. Title: President

26. Mailing Address: 9609 Ardmore Ave.

City: Fort Wayne	**State**: IN	**ZIP Code**: 46809 –

27. Telephone Number: (260) 747 – 4154	**28. Facsimile Number** *(optional)*: ( ) –

29. Request to Change the Authorized Individual or Responsible Official: Is the source officially requesting to change the person designated as the Authorized Individual or Responsible Official in the official documents issued by IDEM, OAQ? *The permit may list the title of the Authorized Individual or Responsible Official in lieu of a specific name.*

☒ No ☐ Yes – ***Change Responsible Official to***:

PART E: Owner Information

30. Company Name of Owner:

31. Name of Owner Contact Person:

32. Mailing Address:

City:	**State**:	**ZIP Code**: –

33. Telephone Number: ( ) –	**34. Facsimile Number** *(optional)*: ( ) –

34. Operator: Does the "Owner" company also operate the source to which this application applies?

☐ No – *Proceed to Part F below.*	☐ Yes – *Enter "SAME AS OWNER" on line 35 and proceed to Part G below.*

PART F: Operator Information

35. Company Name of Operator: Same as Part D

36. Name of Operator Contact Person:

37. Mailing Address:

City:	**State**:	**ZIP Code**: –

38. Telephone Number: ( ) –	**39. Facsimile Number** *(optional)*: ( ) –

Continued on Next Page

PART G: Agent Information

40. Company Name of Agent: N/A

41. Type of Agent: ☐ Environmental Consultant ☐ Attorney ☐ Other (specify):

42. Name of Agent Contact Person:

43. Mailing Address:

City:	**State**:	**ZIP Code**: –

44. Electronic Mail Address *(optional)*:

45. Telephone Number: ( ) –	**46. Facsimile Number** *(optional)*: ( ) –

47. Request for Follow-up: Does the "Agent" wish to receive a copy of the preliminary findings during the public notice period (if applicable) and a copy of the final determination? ☐ No ☐ Yes

PART H: Local Library Information

48. Date application packet was filed with the local library: N/A

49. Name of Library:

50. Name of Librarian *(optional)*:

51. Mailing Address:

City:	**State**:	**ZIP Code**: –

52. Internet Address *(optional)*:

53. Electronic Mail Address *(optional)*:

54. Telephone Number: ( ) –	**55. Facsimile Number** *(optional)*: ( ) –

PART I: Company Name History *(if applicable)*

Complete this section only if the source has previously operated under a legal name that is different from the name listed above in Section A.

56. Legal Name of Company	**57. Dates of Use**
Fort Wayne Metals Research Products Corp	to
	to
	to
	to
	to
	to
	to
	to
	to
	to

58. Company Name Change Request: Is the source officially requesting to change the legal name that will be printed on all official documents issued by IDEM, OAQ?

☒ No ☐ Yes – ***Change Company Name to***:

Continued on Next Page

PART J: Portable Source Location History *(if applicable)*

Complete this section only if the source is portable and the location has changed since the previous permit was issued. The current location of the source should be listed in Section A.

59. Plant ID	60. Location of the Portable Source	61. Dates at this Location
–	N/A	to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to

PART K: Request to Change Location of Portable Source *(if applicable)*

Complete this section to request a change of location for a portable source.

62. Current Location:

Address:

City: | **State:** | **ZIP Code:** –

County Name:

63. New Location:

Address:

City: | **State:** | **ZIP Code:** –

County Name:

Continued on Next Page

PART L: Source Process Description

Complete this section to summarize the main processes at the source.

64. Process Description	65. Products	66. SIC Code	67. NAICS Code
Cold drawing of metal wire	Medical Wires	3315	33122
pickling and annealing of wire	Medical Wires	3315	33122
Parts Washing of drawing dies	Medical Wires	3315	33122
Wire Cleaning	Medical Wires	3315	33122
Heat Treating and polishing of wire	Medical Wires	3315	33122

PART M: Existing Approvals *(if applicable)*

Complete this section to summarize the approvals issued to the source since issuance of the main operating permit.

68. Permit ID	69. Emissions Unit IDs	70. Expiration Date

PART N: Unpermitted Emissions Units *(if applicable)*

Complete this section only if the source has emission units that are not listed in any permit issued by IDEM, OAQ.

71. Emissions Unit ID	72. Type of Emissions Unit	73. Actual Dates		
		Began Construction	Completed Construction	Began Operation
	See Attachment			

PART O: New or Modified Emissions Units *(if applicable)*

Complete this section only if the source is proposing to add new emission units or modify existing emission units.

74. Emissions Unit ID	75. NEW	76. MOD	77. Type of Emissions Unit	78. Estimated Dates		
				Begin Construction	Complete Construction	Begin Operation
			See Attachment			

Air Permit Revision 2024:

All below machine moves, adds, removes, and changes are denoted on the new calculations.

Moves: Are denoted in on calculations.

- Move HAC4 from AVI to ABA
- Move PWR19 from ABC to TEC
- Move PWR1 from ABA to ABC
- Move MW005 from ABC to TEC
- Move TW003 from ABC to TEC
- Move PC1 from ABC to TEC
- Move BG14 from ABC to TEC
- Move BG15 from ABC to TEC
- Move BG16 from ABC to TEC
- Move BFR7 from ABA to ABB

Adds: Are denoted in red on calculations.

- Add TEC Center Building at 9205 Avionics Drive Fort Wayne, Indiana
- Add C11 to MCA
- Add BS502ABA to ABA. Placeholder
- Add BSW504NH to NHK. Placeholder
- Add BSW505NH to NHK. Placeholder
- Add SG501ABG. Placeholder
- Add SE513MC to MCA Placeholder
- Add SE514MC to MCA Placeholder
- Add F507ABH to ABH Placeholder
- Add C503ABG to ABG Placeholder
- Add DC502ABA to ABA Placeholder
- Add R501ABH to ABH Placeholder
- Add R509ABH to ABH Placeholder
- Add HAC502AV to AVI Placeholder
- Add US501ABG. Placeholder
- Add EU-20 Scrap Spooling. This was previously removed from the air permit but needs to be readded due to the use of IPA in the process.
- Add R135 to MCA
- Add AVI-RTU001
- Add AVI-RTU002
- Add AVI-RTU005
- Add AVI-RTU-006
- Add MCA-RTU014
- Add MCA-RTU015
- Add TEC-RTU001

- Add TEC-RTU002
- Add TEC-SAC001
- Add TEC-SAC002
- Add W246 to HAP Calculations. This was overlooked in the last amendment
- Add W250 to HAP Calculations. This was overlooked in the last amendment
- Add W253 to MCA
- Add W254 to MCA
- Add LA501ABG to ABG. Placeholder
- Add CL501ABG. Placeholder
- Add CL502ABG Placeholder
- Add HS2501ABB to ABB Placeholder

Change: Are denoted in orange **on calculations.**

- In section D.3.2 Volatile Organic Compound (VOC) Limitations, currently we have (5) with (2) Placeholders wire coating operations collectively identified as EU-24. We would like to clarify that each wire coating operation have a 15 lb limit per day.
- In section D.3.1 FESOP Limit for VOC, we would like to clarify that all of the wire coating operations collectively known as EU-24 combined will comply with the 10.0 ton per twelve (12) consecutive month period.
- Rename C502ABG to C11 and Move to MCA
- Rename TU170 to WD240
- Rename BS501ABA to BS6 & Move to TEC
- Rename BSW502NH to BSW11 & Move to TEC. Remove Control efficiency.
- Rename BSW503NH to BSW6 & Move to TEC. Remove Control efficiency.
- Rename W505ABH to W261
- Rename F503ABH to F133
- Rename F506ABH to F134
- Rename SE501MC to SE3
- Rename SE502MC to SE4
- Rename SE503MC to SE5
- Rename SE504MC to SE6
- Rename SE505MC to SE7
- Rename SE506MC to SE8
- Rename SE507MC to SE9 & Correct NOx Calculation in spreadsheet
- Rename SE508MC to SE10 & Correct NOx Calculation in spreadsheet
- Rename SE509MC to SE11 & Correct NOx Calculation in spreadsheet
- Rename SE510MC to SE12 & Correct NOx Calculation in spreadsheet
- Rename SE511MC to SE13 & Correct NOx Calculation in spreadsheet
- Rename SE512MC to SE14 & Correct NOx Calculation in spreadsheet
- Rename RS501Mc to CS19
- Rename C502ABG to C11 & Move to MCA
- Rename R502ABA to R134, Lower throughput, Usage & move to MCA

- Rename R503Mc to R141, Lower Throughput & Usage
- Rename R503ABG to R159 and move to ABB
- Rename R502ABH to R133
- Rename R503ABH to R121
- Rename R504ABH to R140, Lower Throughput, usage and move to MCA
- Rename R505ABH to R142 and move to MCA
- Rename RM506Av to RM78
- Rename RM507Av to RM79
- Rename RM508Av to RM80
- Rename RM509Av to RM83
- Rename RM510Av to RM84
- Rename RM511Av to RM87
- Rename RM516Av to RM85
- Rename RM517Av to RM86
- Rename RM518Av to RM81
- Rename RM519Av to RM82
- Rename LW501ABG to LW6
- Rename BW503ABG to BW61 & Move To AVI
- Rename BW504ABG to BW62 & Move To AVI
- Rename BW504ABG to BW63 & Move To ABA

Appendix A: Emission Calculations
HAP Summary

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Martatt

Uncontrolled Potential to Emit (tons/yr) of HAPs

Emission Unit	[illegible]	Part Washer	[illegible]	Grinding & Shaving	Straight & Cut	Wire Drawing	Rolling Mill	Welding	ABA ER Gen	FE ER Gen	McA ER Gen	[illegible]	Total HAP
Organic HAPs	EU-01	EU-04	EU-05	EU-07	EU-08	EU-10	EU-14	EU-15	EU-16	EU-16.1	EU-16.2	EU-24	
Acetaldehyde	-	-	-	-	-	-	-	-	1.44E-03	7.13E-04	7.13E-04	-	2.87E-03
Acrolein	-	-	-	-	-	-	-	-	8.87E-04	4.38E-04	4.38E-04	-	1.76E-03
Benzene	-	-	2.57E-04	-	-	-	-	-	7.59E-05	3.75E-05	3.75E-05	-	4.08E-04
Biphenyl	-	-	-	-	-	-	-	-	3.66E-05	1.81E-05	1.81E-05	-	7.27E-05
1,3-Butadiene	-	-	-	-	-	-	-	-	4.61E-05	2.28E-05	2.28E-05	-	9.16E-05
Cumene	-	-	-	-	-	-	-	-	-	-	-	7.25E-02	7.25E-02
Dichlorobenzene	-	-	1.47E-04	-	-	-	-	-	-	-	-	-	1.47E-04
Ethylbenzene	-	-	-	1.09E-03	9.88E-04	2.94E-04	9.97E-05	-	-	-	-	-	2.47E-03
Formaldehyde	-	-	9.19E-03	-	-	-	-	-	9.11E-03	4.50E-03	4.50E-03	-	2.73E-02
Glycol ethers	-	-	-	8.70E-01	-	2.36E-01	1.59E-01	-	-	-	-	-	1.26E+00
n-Hexane	-	-	2.21E-01	-	-	-	-	-	1.90E-04	9.38E-05	9.38E-05	-	2.21E-01
Methanol	-	-	-	-	-	-	-	-	4.31E-04	2.13E-04	2.13E-04	-	8.58E-04
Toluene	-	5.58E-04	4.17E-04	1.09E-03	9.88E-04	2.94E-04	9.97E-05	-	7.04E-05	3.48E-05	3.48E-05	-	3.58E-03
2,2,4-Trimethylpentane	-	-	-	-	-	-	-	-	4.31E-05	2.13E-05	2.13E-05	-	8.58E-05
Xylenes	-	-	-	1.09E-03	9.88E-04	2.94E-04	9.97E-05	-	3.17E-05	1.57E-05	1.57E-05	7.25E-02	7.51E-02
Inorganic HAPs													
Cadmium	-	-	1.35E-04	-	-	-	-	-	-	-	-	-	1.35E-04
Chromium	-	-	1.72E-04	-	-	-	-	9.86E-04	-	-	-	-	1.16E-03
Hydrogen fluoride	4.55	-	-	-	-	-	-	-	-	-	-	-	4.55E+00
Lead	-	-	6.13E-05	-	-	-	-	-	-	-	-	-	6.13E-05
Manganese	-	-	4.66E-05	-	-	-	-	2.89E-03	-	-	-	-	2.93E-03
Nickel	-	-	2.57E-04	-	-	-	-	3.29E-04	-	-	-	-	5.86E-04
Phosphorus	5.09E-02	-	-	-	-	-	-	-	-	-	-	-	5.09E-02
Hydrogen Chloride	8.05E-04	-	-	-	-	-	-	-	-	-	-	-	8.05E-04
Total Emissions	4.60	0.00	0.23	0.87	0.00	0.24	0.16	0.00	0.01	0.01	0.01	0.15	6.27

Controlled Potential to Emit after Issuance (tons/yr)

Emission Unit	[illegible]	Part Washer	[illegible]	Grinding & Shaving	Straight & Cut	Wire Drawing	Rolling Mill	Welding	ABA ER Gen	FE ER Gen	McA ER Gen	[illegible]	Total HAP
Organic HAPs	EU-01	EU-04	EU-05	EU-07	EU-08	EU-10	EU-14	EU-15	EU-16	EU-16.1	EU-16.2	EU-24	
Acetaldehyde	-	-	-	-	-	-	-	-	1.44E-03	7.13E-04	7.13E-04	-	2.87E-03
Acrolein	-	-	-	-	-	-	-	-	8.87E-04	4.38E-04	4.38E-04	-	1.76E-03
Benzene	-	-	2.57E-04	-	-	-	-	-	7.59E-05	3.75E-05	3.75E-05	-	4.08E-04
Biphenyl	-	-	-	-	-	-	-	-	3.66E-05	1.81E-05	1.81E-05	-	7.27E-05
1,3-Butadiene	-	-	-	-	-	-	-	-	4.61E-05	2.28E-05	2.28E-05	-	9.16E-05
Cumene	-	-	-	-	-	-	-	-	-	-	-	7.25E-02	7.25E-02
Dichlorobenzene	-	-	1.47E-04	-	-	-	-	-	-	-	-	-	1.47E-04
Ethylbenzene	-	-	-	1.09E-03	9.88E-04	2.94E-04	9.97E-05	-	-	-	-	-	2.47E-03
Formaldehyde	-	-	9.19E-03	-	-	-	-	-	9.11E-03	4.50E-03	4.50E-03	-	2.73E-02
Glycol ethers	-	-	-	8.70E-01	-	2.36E-01	1.59E-01	-	-	-	-	-	1.26E+00
n-Hexane	-	-	2.21E-01	-	-	-	-	-	1.90E-04	9.38E-05	9.38E-05	-	2.21E-01
Methanol	-	-	-	-	-	-	-	-	4.31E-04	2.13E-04	2.13E-04	-	8.58E-04
Toluene	-	5.58E-04	4.17E-04	1.09E-03	9.88E-04	2.94E-04	9.97E-05	-	7.04E-05	3.48E-05	3.48E-05	-	3.58E-03
2,2,4-Trimethylpentane	-	-	-	-	-	-	-	-	4.31E-05	2.13E-05	2.13E-05	-	8.58E-05
Xylenes	-	-	-	1.09E-03	9.88E-04	2.94E-04	9.97E-05	-	3.17E-05	1.57E-05	1.57E-05	7.25E-02	7.51E-02
Inorganic HAPs													
Cadmium	-	-	1.35E-04	-	-	-	-	-	-	-	-	-	1.35E-04
Chromium	-	-	1.72E-04	-	-	-	-	9.86E-04	-	-	-	-	1.16E-03
Hydrogen fluoride	4.55	-	-	-	-	-	-	-	-	-	-	-	4.55E+00
Lead	-	-	6.13E-05	-	-	-	-	-	-	-	-	-	6.13E-05
Manganese	-	-	4.66E-05	-	-	-	-	2.89E-03	-	-	-	-	2.93E-03
Nickel	-	-	2.57E-04	-	-	-	-	3.29E-04	-	-	-	-	5.86E-04
Phosphorus	5.09E-02	-	-	-	-	-	-	-	-	-	-	-	5.09E-02
Hydrogen Chloride	8.05E-04	-	-	-	-	-	-	-	-	-	-	-	8.05E-04
Total Emissions	4.60	0.00	0.23	0.87	0.00	0.24	0.16	0.00	0.01	0.01	0.01	0.15	6.27

Appendix A: Emission Calculations
PTE Summary

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Uncontrolled Potential to Emit (tons/yr)							
Emission Unit	PM	PM10	PM2.5[1]	SO2	NOx	VOC	CO
[redacted]	-	-	-	-	11.22	-	-
[redacted]	-	-	-	-	-	11.77	-
Parts Washing, EU-04	-	-	-	-	-	0.57	
[redacted]	0.23	0.93	0.93	0.07	12.26	0.67	10.30
[redacted]	0.17	0.17	0.17	-	-	4.90	-
[redacted]	9.16E-04	9.16E-04	9.16E-04	-	-	1.80	-
[redacted]	-	-	-	-	-	18.64	-
[redacted]	-	-	-	-	-	1.98	-
[redacted]	-	-	-	-	-	8.35	-
[redacted]	-	-	-	-	-	7.15	-
Rolling Mill Operations, EU-14	-		-	-	-	9.27	-
Welding, EU-15	0.55	0.55	0.55	-	-	-	-
ABA Emergency Generator, EU-16	1.33E-05	1.72E-03	1.72E-03	1.01E-04	0.70	2.04E-02	5.47E-02
FE Emergency Generator, EU-16.1	6.58E-06	8.52E-04	8.52E-04	5.02E-05	0.35	1.01E-02	2.70E-02
McA Emergency Generator, EU-16.2	6.58E-06	8.52E-04	8.52E-04	5.02E-05	0.35	1.01E-02	2.70E-02
Passivation, EU-17	-	-	-	-	0.07	-	-
[redacted]						1.52	
Shape Set, EU-22	0.60	0.60	0.60	-	-	-	-
Decapador, EU-23	0.02	0.02	0.02	-	-	-	-
[redacted]	-	-	-	-	-	67.85	-
[redacted]	-	-	-	-	-	4.13	-
BFR&AF Test Equipment, EU-26	-	-	-	-	-	1.83	-
Wet Grit Blaster, EU-27.1	1.18	0.83	0.83	-	-	-	-
Wet Grit Blaster, EU-27.2	1.80	1.80	1.80	-	-	-	-
Pressure Sand Blaster, EU-27.3	8.16	8.16	8.16	-	-	-	-
Wet Grit Blaster, EU-27.4	1.80	1.80	1.80	-	-	-	-
Ferguson Waste Acid Tank, EU-28	-	-	-	-	9.51E-05	-	-
Insignificant Activities							
Total Excluding Fugitives	**14.52**	**14.87**	**14.87**	**0.07**	**24.95**	**140.48**	**10.41**
Fugitive Emissions							
Paved Roads	7.33	1.47	0.36	-	-	-	-

Limited Potential to Emit after Issuance (tons/yr)							
Emission Unit	PM	PM10	PM2.5[1]	SO2	NOx	VOC	CO
[redacted]	-	-	-	-	11.19	-	-
[redacted]	-	-	-	-	-	11.77	-
Parts Washing, EU-04	-	-	-	-	-	0.57	-
[redacted]	0.23	0.93	0.93	0.07	12.26	0.67	10.30
[redacted]	0.17	0.17	0.17	-	-	4.90	-
[redacted]	0.00	0.00	0.00	-	-	1.80	-
[redacted]	-	-	-	-	-	18.64	-
[redacted]	-	-	-	-	-	1.98	-
[redacted]	-	-	-	-	-	8.35	-
[redacted]	-	-	-	-	-	7.15	-
Rolling Mill Operations, EU-14	-	-	-	-	-	9.27	-
Welding, EU-15	0.55	0.55	0.55	-	-	-	-
ABA Emergency Generator, EU-16	1.33E-05	1.72E-03	1.72E-03	1.01E-04	0.70	0.02	5.47E-02
FE Emergency Generator, EU-16.1	6.58E-06	8.52E-04	8.52E-04	5.02E-05	0.35	1.01E-02	2.70E-02
McA Emergency Generator, EU-16.2	6.58E-06	8.52E-04	8.52E-04	5.02E-05	0.35	1.01E-02	2.70E-02
Passivation, EU-17	-	-	-	-	0.07	-	-
[redacted]						1.52	
Shape Set, EU-22	0.60	0.60	0.60	-	-	-	-
Decapador, EU-23	0.02	0.02	0.02	-	-	-	-
[redacted]	-	-	-	-	-	10.00	-
[redacted]	-	-	-	-	-	4.13	-
Test Equipment EU-26	-	-	-	-	-	1.83	-
Wet Grit Blaster, EU-27.1	1.18	0.83	0.83	-	-	-	-
Wet Grit Blaster, EU-27.2	1.80	1.80	1.80	-	-	-	-
Pressure Sand Blaster, EU-27.3	8.16	8.16	8.16	-	-	-	-
Wet Grit Blaster, EU-27.4	1.80	1.80	1.80	-	-	-	-
Ferguson Waste Acid Tank, EU-28	-	-	-	-	9.5136E-05	-	-
Total Excluding Fugitives	**14.52**	**14.87**	**14.87**	**0.07**	**24.91**	**82.63**	**10.41**
Fugitive Emissions							
Paved Roads	7.33	1.47	0.36	-	-	-	-

Notes:
1. PM2.5 listed is direct PM2.5

Appendix A: Emission Calculations
Modification Summary

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Uncontrolled Potential to Emit (tons/yr) - New Emission Units									
Emission Unit	**PM**	**PM10**	**PM2.5[1]**	**SO2**	**NOx**	**VOC**	**CO**	**Single HAP**	**Total HAPs**
Pickling EU-01 (SE513MC, SE514MC)				-	0.32			0.22	2.20E-01
Annealing Ops EU-03 (F507ABH)	-	-	-	-	-	0.02	-	-	-
Combustion EU-05 (AVI-RTU001, AVI-RTU002, AVI-RTU005, AVI-RTU006, MCA-RTU014, MCA-RTU015, TEC-RTU001, TEC-RTU002, TEC-SAC001, TEC-SAC002)	0.02	0.09	0.09	0.01	1.16	0.06	0.97	0.02	0.02
Grind-Shave EU-07 (SG501ABG, BS502ABA, BSW504NH, BSW505NH)	0.00	0.00	0.00	-	-				
Straight & Cut EU-08 (C503ABG)	0.00	0.00	0.00	-	-	0.11	-	-	-
Cleaning Lines EU-09 (HAC502Av)	-	-	-	-	-	2.34	-	-	-
Dewatering Line EU-09a (US501ABG)						0.02			
Wire Draw EU - 10 (W246, W250, W253, W254)						0.16		0.06	0.06
Spool Respool EU-11 (R135, R501ABG, R501ABH, R509ABH)	-	-	-	-	-	0.25	-	-	-
Scrap Spooling EU-20	-	-	-	-	-	1.52	-	-	-
Polymide EU-24 (CL501ABG, CL502ABG)	-	-	-		-	19.39	-	0.02	0.04
HS1 Decore EU-25 (HS1501ABB)	-	-	-	-	-	0.15	-	-	-
Total	**0.02**	**0.09**	**0.09**	**0.01**	**1.48**	**24.03**	**0.97**	**0.33**	**0.35**
Administrative Amendment	<5	<5	<5	<10	<10	<10 or <5	<25	<10	<25
Minor Permit Revision	≥5<25	≥5<25	≥5<25	≥10<25	≥10<25	≥10<25	≥25<100	NA	NA
Significant Permit Revision	≥25	≥25	≥25	≥25	≥25	≥25	≥100	≥10	≥25

Appendix A: Emission Calculations
EU-01 Pickling Operation

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

1. NOx and HF

	Emissions After Controls				Uncontrolled PTE				Emissions After Control		Uncontrolled PTE		
	NOx		HF		NOx		HF		HCl		HCl		
	(lb/hr)	(tpy)	(lb/hr)	(tpy)	Control Efficiency[1]	(tpy)	Control Efficiency[2]	(tpy)	(lb/hr)	(tpy)	Control Efficiency	(tpy)	
Ferguson Plant[3] (ST8, ST9, ST11, ST13)	1.75	7.67	0.02	1.75	0%	7.67	0%	1.75	-	-	-	-	
Ferguson Plant (3618 Ferguson Rd)[3] TABAR	0.0013	0.01	0.0251	0.11	0%	0.01	0%	0.11	1.84E-04	8.05E-04	0%	8.04E-04	
Ferguson Plant (3618 Ferguson Rd)[3] ABRITUSE	0.0064	0.03	0.0396	0.17	0%	0.03	0%	0.17	-	-	-	-	
MacArthur Plant[4]	0.29	1.27	0.01	0.68	0%	1.27	0%	0.68	-	-	-	-	
SE8D1MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE3
SE8D2MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE4
SE8D3MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE5
SE8D4MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE6
SE8D5MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE7
SE8D6MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE8
SE8D7MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE9 & Correct NOx Calculation
SE8D8MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE10 & Correct NOx Calculation
SE8D9MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE11 & Correct NOx Calculation
SE8D10MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE12 & Correct NOx Calculation
SE8D11MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE13 & Correct NOx Calculation
SE8D12MC	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11	-	-	-	-	Rename SE14 & Correct NOx Calculation
[redacted]	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11					[redacted]
[redacted]	0.04	0.16	0.0013	0.11	0%	0.16	0%	0.11					
BDI (LNAG3)[5]	Negl.	Negl.	Negl.	Negl.	0%	Negl.	0%	Negl.	-	-	-	-	
BAI (HSCI)[6]	Negl.	Negl.	Negl.	Negl.	0%	Negl.	0%	Negl.	-	-	-	-	
BCI (LSTB1)	0.0063	0.00	0.0062	0.04	0%	0.04	0%	0.04	-	-	-	-	
SCIE1 (LEB1)	0.0062	0.00	0.0040	0.02	0%	0.00	0%	0.02	-	-	-	-	
SCIE7 (LEB7)	0.0062	0.00	0.0040	0.02	0%	0.00	0%	0.02	-	-	-	-	
SCIE1 (LZB1)	0.0062	0.00	0.0040	0.02	0%	0.00	0%	0.02	-	-	-	-	
Total	**2.56**	**11.19**	**0.13**	**4.55**	**0.00**	**11.22**		**4.55**	**0.00**	**0.00**	**0.00**	**0.00**	

Notes:
1 NOx control taken as 0% because the wet scrubber is not a control technology for NOx
2 HF control efficiency has not been determined in an approved stack test. Conservative value for wet scrubbers controlling gaseous pollutants is applied
3 Emissions after control (lb/hr) are results from October 28, 2015 stack test (ACES 190328)
4 Emissions after control (lb/hr) are results from October 29, 2015 stack test (ACES 190329)
5 HAI controlled by NOZ Scrubber
6 Determined Negligible based on calculations from the Titanium Metal Products Pickling Line worksheet

	0.03	0.4 0.05	1.8

Methodology
Emissions After Controls (tons/yr) = Emissions After Controls (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)
Uncontrolled PTE (tons/yr) = Emissions After Controls (tons/yr) / (1 - Control Efficiency (%)/100)

Appendix A: Emission Calculations
EU-03 Annealing Operations[1]

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year	Throughput		Processing Aid[2]		VOC Usage		Potential to Emit VOC[3]	
		Permitted	(lb product/ yr)	(lb product/ hr)	Density (lb/gal)	VOC Content	(gal/yr)	(lb VOC/ lb product)	(lb/hr)	(tons/yr)
ABA Plant (9609 Ardmore Ave.)										
F20	Niti Intermediate Furnace	2015	222,598.57	25.41	6.58	100%	5.29	1.56E-04	3.97E-03	1.74E-02
F27	Niti FW Furnace	2015	20,236.95	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F30	Intermediate Furnaces	2015	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F31	Niti NHP Furnace	2015	566,093.97	64.62	6.58	100%	4.41	5.13E-05	3.31E-03	1.45E-02
F32	Fine Wire Furnace	2015	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F33	Niti Intermediate Furnace	2015	222,598.57	25.41	6.58	100%	5.29	1.56E-04	3.97E-03	1.74E-02
F34	Niti Intermediate Furnace	2015	222,598.57	25.41	6.58	100%	5.29	1.56E-04	3.97E-03	1.74E-02
F36	Fine Wire Furnace	2015	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F43	Niti FW Furnace	2015	20,236.95	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F44	Finewire Furnace	2015	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01
F45	Intermediate Furnaces	2015	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F46	BB Furnace	2015	80,133.80	9.15	6.58	100%	2.21	1.81E-04	1.66E-03	7.26E-03
F48	Niti Intermediate Furnace	2015	222,598.57	25.41	6.58	100%	5.29	1.56E-04	3.97E-03	1.74E-02
F49	Fine Wire Furnace	2015	20,060.40	2.29	6.58	100%	6.48	2.13E-03	4.87E-03	2.13E-02
F50	Fine Wire Furnace	2015	20,060.40	2.29	6.58	100%	6.48	2.13E-03	4.87E-03	2.13E-02
F59	Intermediate Furnaces	2015	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F60	Niti NHP Furnace	2015	566,093.97	64.62	6.58	100%	4.41	5.13E-05	3.31E-03	1.45E-02
F61	Niti NHP Furnace	2015	566,093.97	64.62	6.58	100%	4.41	5.13E-05	3.31E-03	1.45E-02
F63	Niti Intermediate Furnace	2015	222,598.57	25.41	6.58	100%	5.29	1.56E-04	3.97E-03	1.74E-02
F65	Intermediate Furnaces	2015	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F75	Niti FW Furnace	2017	20,236.95	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F85	Niti FW Furnace	2017	20,236.95	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F87	Niti Intermediate Furnace	2017	222,598.57	25.41	6.58	100%	5.29	1.56E-04	3.97E-03	1.74E-02
F92	Niti Intermediate Furnace	2018	222,598.57	25.41	6.58	100%	5.29	1.56E-04	3.97E-03	1.74E-02
F102	Niti Intermediate Furnace	2018	222,598.57	25.41	6.58	100%	5.29	1.56E-04	3.97E-03	1.74E-02
F116	Niti FW Furnace	2019	20,236.96	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F126	Niti NHP Furnace	2019	566.09	0.06	6.58	100%	4.41	5.13E-02	3.31E-03	1.45E-02
F127	Intermediate Furnace	2019	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F129	Fine Wire Furnace	2019	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F501ABA	Niti Intermediate Furnace	2019	222,598.57	25.41	6.58	100%	5.31	1.57E-04	3.99E-03	1.75E-02
F504ABA	Niti Intermediate Furnace	2019	222,598.58	25.41	6.58	100%	5.31	1.57E-04	3.99E-03	1.75E-02
F505ABA	Furnace	2019	20,236.96	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F507ABA	Intermediate Furnaces	2019	40,907.66	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F509ABA	Niti FW Furnace	2022	20,236.96	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F510ABA	Niti FW Furnace	2022	20,236.96	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F511ABA	Furnace	2022	20,236.96	2.31	6.58	100%	3.31	1.08E-03	2.49E-03	1.09E-02
F512ABA	Fine Wire Furnace	2022	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01
ABA Total										**1.48**
Avionics Plant (9307 Avionics Dr.)										
F11	Intermediate Furnaces	2015	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F21	Fine Wire Furnace	2015	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F26	Fine Wire Furnace	2015	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F37	Fine Wire Furnace	2015	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F38	SLT Furnace	2015	122,736.26	14.01	6.58	100%	7.35	3.94E-04	5.52E-03	2.42E-02
F42	Intermediate Furnaces	2015	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F51	Fine Wire Furnace	2015	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F52	Fine Wire Furnace	2015	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F64	SLT Furnace	2015	122,736.26	14.01	6.58	100%	7.35	3.94E-04	5.52E-03	2.42E-02
F66	Intermediate Furnaces	2015	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F70	SLT Furnace	2015	122,736.26	14.01	6.58	100%	7.35	3.94E-04	5.52E-03	2.42E-02
F95	Fine Wire Furnace	2018	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F96	Intermediate Furnaces	2018	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F121	SLT Furnace	2019	122,736.26	14.01	6.58	100%	7.35	3.94E-04	5.52E-03	2.42E-02
F502Av	Intermediate Furnaces	2019	40,907.95	4.67	6.58	100%	6.48	1.04E-03	4.87E-03	2.13E-02
F503Av	Fine Wire Furnace	2019	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
F504Av	Fine Wire Furnace	2019	23,220.60	2.65	6.58	100%	6.48	1.84E-03	4.87E-03	2.13E-02
Avionics Total										**3.74E-01**
McArthur Plant (3401 McArthur Dr.)										
F13	Finewire Furnace	2015	39022.51	4.45	6.58	100.00%	208.00	3.51E-02	1.56E-01	6.84E-01
F17	Finewire Furnace	2015	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01
F19	Finish Furnace	2015	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
F78	Finish Furnace	2015	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
F82	Finish Furnace	2017	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
F83	Finish Furnace	2017	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
F97	Breakdown Furnace	2018	20,355.77	2.32	6.58	100%	73.53	2.38E-02	5.52E-02	2.42E-01
F503Mc	Finish Furace	2020	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
F504Mc	Breakdown Furnace	2020	20,355.77	2.32	6.58	100%	73.53	2.38E-02	5.52E-02	2.42E-01
F505Mc	Breakdown Furnace	2020	20,355.77	2.32	6.58	100%	73.53	2.38E-02	5.52E-02	2.42E-01
LF-2	Finish Furnace	2015	16,043.96	1.83	6.58	100%	4.90	2.01E-03	3.68E-03	1.61E-02
LF-3	Finish Furnace	2015	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
LF-4	Breakdown Furnace	2015	20,355.77	2.32	6.58	100%	73.53	2.38E-02	5.52E-02	2.42E-01
LF-5	Finish Furnace	2015	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
LF-6	Breakdown Furnace	2015	20,355.77	2.32	6.58	100%	73.53	2.38E-02	5.52E-02	2.42E-01
LF-7	Finish Furnace	2015	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
LF-8	Finish Furnace	2015	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
LF-9	Finish Furnace	2015	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02
LF-10	Breakdown Furnace	2015	20,355.77	2.32	6.58	100%	73.53	2.38E-02	5.52E-02	2.42E-01
McArthur Total										**2.77**

Appendix A: Emission Calculations
EU-03 Annealing Operations[1]

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlett

Machine #	Description	Year	Throughput		Processing Aid[2]		VOC Usage		Potential to Emit VOC[3]		
		Permitted	(lb product/ yr)	(lb product/ hr)	Density (lb/gal)	VOC Content	(gal/yr)	(lb VOC/ lb product)	(lb/hr)	(tons/yr)	
ABH Plant (4202 Piper Dr.)											
F8	BB Furnace	2015	80,133.80	9.15	6.58	100%	2.21	1.81E-04	1.66E-03	7.26E-03	
F14	Intermediate Furnace	2015	192,801.38	22.01	6.58	100%	6.62	2.26E-04	4.97E-03	2.18E-02	
F23	Intermediate Furnace	2015	192,801.38	22.01	6.58	100%	6.62	2.26E-04	4.97E-03	2.18E-02	
F25	BB Furnace	2015	80,133.80	9.15	6.58	100%	2.21	1.81E-04	1.66E-03	7.26E-03	
F28	Finewire Furnace	2015	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F41	BB Furnace	2015	80,133.80	9.15	6.58	100%	2.21	1.81E-04	1.66E-03	7.26E-03	
F73	BB Furnace	2017	80,133.80	9.15	6.58	100%	2.21	1.81E-04	1.66E-03	7.26E-03	
F76	BB Furnace	2017	80,133.80	9.15	6.58	100%	2.21	1.81E-04	1.66E-03	7.26E-03	
F79	Finewire Furnace	2018	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F81	Finewire Furnace	2018	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F84	Intermediate Furnace	2016	192,801.38	22.01	6.58	100%	6.62	2.26E-04	4.97E-03	2.18E-02	
F86	Finewire Furnace	2018	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F89	Finewire Furnace	2018	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F91	Finewire Furnace	2018	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F93	Finewire Furnace	2018	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F94	Finewire Furnace	2018	39,025.51	4.45	6.58	100%	269.00	3.51E-02	1.56E-01	6.84E-01	
F122	Finewire Furnace	2019	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F123	Finewire Furnace	2019	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F503ABH	Finewire Furnace	2019	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	Rename F131
F504ABH	Intermediate Furnace	2019	192,801.38	22.01	6.58	100%	6.62	2.26E-04	4.97E-03	2.18E-02	
F505ABH	Intermediate Furnace	2019	192,801.38	22.01	6.58	100%	6.62	2.26E-04	4.97E-03	2.18E-02	
F506ABH	Finewire Furnace	2022	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	Rename F134
[redacted]	Intermediate Furnace	2024	192,801.38	22.01	6.58	100%	6.62	2.26E-04	4.97E-03	2.18E-02	[redacted]
ABH Total										5.84	
JBA Plant (6901 South Hanna St.)											
F4	Finish Furnace	2015	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02	
F9	Finewire Furnace	2015	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F15	Finewire Furnace	2015	20,060.40	2.29	6.58	100%	138.40	4.54E-02	1.04E-01	4.55E-01	
F67	Breakdown Furnace	2015	8,375.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02	
F90	Finish Furnace	2017	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02	
F97	Finish Furnace	2018	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02	
F99	Breakdown Furnace	2019	20,355.77	2.32	6.58	100%	73.53	2.38E-02	5.52E-02	2.42E-01	
F100	Breakdown Furnace	2019	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02	
F501ABD	Finish Furnace	2019	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02	
F502ABD	Finish Furnace	2019	8,374.96	0.96	6.58	100%	4.90	3.85E-03	3.68E-03	1.61E-02	
F503ABD	Finish Furnace	2020	8,375.96	0.96	6.58	100%	5.90	4.63E-03	4.43E-03	1.94E-02	
JBA Total										1.28	
TOTAL										11.75	

Note:

1. TSD App A, FESOP No. 003-34737-00400, issued July 22, 2015 included potential to emit NOx for annealing operations. On further review, IDEM, OAQ finds that the NOx PTE of these operations is negligible because the furnaces use inert (hydrogen or argon) atmospheres and are electrically heated. Material is finished before annealing so there is no nitric acid present that might form NOx during processing.

2. Processing aid used in furnaces is isopropyl alcohol.

3. Units which have no reported emissions do not use a processing aid containing VOCs (IPA). If these units begin processing with VOCs, updated throughputs will be needed.

Methodology:

Throughput (lb/hr) = Throughput (lb/yr) x 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = VOC Usage (gal/yr) x Processing Aid Density (lb/gal) x VOC Content (%)/100 / Throughput (lb product/yr)
VOC PTE (lb/hr) = Throughput (lb product/hr) x VOC Usage (lb VOC/lb product)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

Appendix A: Emission Calculations
EU-04 Parts Washers

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

1. VOC

Unit ID	Location	Description	Cleaning Chemical	Number of Units	Throughput (parts/hr)	Cleaner Usage (lb/part)	VOC Content	VOC Vapor Pressure[1] (mm Hg)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)	
ABA Plant (9609 Ardmore Ave.)											
PWR1	Maintenance	Crystal Clean model #2725	Mirachem M2750	1	1.04	0.023	0.96%	<0.1	2.30E-04	1.01E-03	Move to ABC
ABB Plant (9733 Ardmore Ave.)											
PWR11	Maintenance	Crystal Clean model #2725	Mirachem M2750	1	0.21	1.20E-02	0.96%	<0.1	2.40E-05	1.05E-04	
Avionics Plant (9307 Avionics Dr.)											
PWR12	Maintenance	Crystal Clean model #1602	Mirachem M2750	1	0.83	0.15	0.96%	<0.1	1.20E-03	5.25E-03	
Ferguson Plant (3618 Ferguson Rd.)											
PWR16	Die Room	Crystal Clean model #2725	Mirachem M2750	1	63.00	2.00E-03	0.96%	<0.1	1.21E-03	5.30E-03	
PWR17	Shavers	Crystal Clean model #2725	Mirachem M2750	1	1.04	2.30E-02	0.96%	<0.1	2.30E-04	1.01E-03	
PWR25	Maintenance	Crystal Clean model #2740	Mirachem M2750	1	0.83	0.15	0.96%	<0.1	1.20E-03	5.25E-03	
McArthur Plant (3401 McArthur Dr.)											
PWR18	Maintenance	Crystal Clean model #2725	Mirachem M2750	1	1.04	2.30E-02	0.96%	<0.1	2.30E-04	1.01E-03	
ABC Plant (9733 Ardmore Ave.)											
PWR19	Maintenance	Crystal Clean model #1602	Mineral Spirits 142+	1	0.21	1.20E-02	100%	<1	2.50E-03	1.10E-02	Move to TEC
Nighthawk Plant (4010 Piper Dr.)											
PWR20	Maintenance	Crystal Clean model #1602	Mineral Spirits 142+	1	0.21	1.20E-02	100%	<1	2.50E-03	1.10E-02	
ABH Plant (4202 Piper Dr.)											
PWR21	Maintenance	Crystal Clean Model #2725	Mirachem M2750	1	1.04	0.023	0.96%	<0.1	2.30E-04	1.01E-03	
PWR2	Die Room	Small Container with lid	Isopar L	1	104.17	3.29E-06	100%	0.31	3.42E-04	1.50E-03	
PWR22	Maintenance	Tabletop	Mineral Spirits 142+	1	10.00	0.012	100%	<1	0.12	5.26E-01	
PWR26	Die Room	Tabletop ultrasonic	Microclean[3]	1	20.83	0.023	0.04%	NA	1.92E-04	8.39E-04	
JBA Plant (6901 South Hannah St.)											
PWRJAMES1		Crystal Clean Model #2725	Mirachem M2750	1	1.04	2.30E-02	0.96%	<0.1	2.30E-04	1.01E-03	
TEC Plant (9205 Avionics Drive.)											
Total										0.57	

Notes:
1. VOC composite partial vapor pressure as described at 326 IAC 8-3-8(b)(1)
2. Labeca Die Cleaner is an in-house formulation consisting of: 3.9 gallons RO water, 400 ml ammonium hydroxide solution, and 50 ml of household pine oil cleaner. Based on worst-case VOC content of the commercial cleaner, the mixture contains less than 1% VOC by weight.
3. 326 IAC 8-3-1(d)(1)(B) solvent exemplit contains <1% VOC by weight.

Methodology
PTE (lb/hr) = Number of Units x Throughput (parts/hr) x Cleaner Usage (lb/part) x VOC Content (%)/100
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

2. Hazardous Air Pollutants

Unit ID	Location	Cleaning Chemical	VOC PTE (tons/yr)	Weight Percent Toluene	Toluene Emissions (tons/yr)
ABA Plant (9609 Ardmore Ave.)					
PWR1	Maintenance	Mirachem M2750	1.01E-03	0%	0
ABB Plant (9733 Ardmore Ave.)					
PWR11	Maintenance	Mirachem M2750	1.05E-04	0%	0
Avionics Plant (9307 Avionics Dr.)					
PWR12	Maintenance	Mirachem M2750	5.25E-03	0%	0
Ferguson Plant (3618 Ferguson Rd.)					
PWR16	Die Room	Mirachem M2750	5.30E-03	0%	0.00E+00
PWR17	Shavers	Mirachem M2750	1.01E-03	0%	0
PWR 25	Maintenance	Mirachem M2750	5.25E-03	0%	0
McArthur Plant (3401 McArthur Dr.)					
PWR18	Maintenance	Mirachem M2750	1.01E-03	0%	0
ABC Plant (9733 Ardmore Ave.)					
PWR19	Maintenance	Mineral Spirits 142+[2]	1.10E-02	0.10%	1.10E-05
Nighthawk Plant (4010 Piper Dr.)					
PW2R0	Maintenance	Mineral Spirits 142+[2]	1.10E-02	0.10%	1.10E-05
ABH Plant (4202 Piper Dr.)					
PWR21	Maintenance	Mirachem M2750	1.01E-03	0%	0
PWR2	Die Room	Isopar L	1.50E-03	0%	0
PWR22	Maintenance	Mineral Spirits 142+[2]	5.26E-01	0.10%	5.26E-04
PWR26	Die Room	Microclean[3]	8.39E-04	0.00%	0.00E+00
JBA Plant (6901 South Hanna St.)					
PRWJAMES1		Mirachem M2750[2]	1.01E-03	1.00%	1.01E-05
Total					5.53E-04

Notes:
1. Table 3, 40 CFR 63, Subpart MMMM, indicates that hydrotreated naphtha (CASRN 64742-48-9), the solvent making up Isopar L, contains no HAPs
2. Default HAP content for hydrotreated light distillate (CASRN 64742-47-8) from Table 3, 40 CFR 63, Subpart MMMM

Methodology
HAP Emissions (tons/yr) = VOC PTE (tons/yr) x Weight % HAP

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Unit	Year	Maximum Heat Input Capacity (MMBtu/hr)
ABA Plant (9609 Ardmore Ave.)		
ABA-RTU026	2004	0.31
ABA-RTU027	2004	0.11
ABA-SAC029	2004	0.25
ABA-SAC031b	2004	0.25
ABA-SAC032b	2004	0.25
ABA-SAC033b	2004	0.25
ABA-RTU039	2014	0.31
ABA-SAC040a	2014	0.06
ABA-SAC041a	2014	0.25
ABA-SAC043a	2014	0.58
ABA-SAC044a	2014	0.58
ABA-SAC045a	2014	0.06
ABA-RTU-64	2019	0.09
ABA-RTU-65	2019	0.16
ABA-RTU-66	2019	0.12
ABA-RTU-67	2019	0.06
ABA-RTU-68	2019	0.12
ABA-RTU-69	2019	0.16
ABA-RTU-70	2019	0.12
ABA-RTU-71	2019	0.12
ABB Plant (9733 Ardmore Ave.)		
ABB-RTU001	2004	0.40
ABB-RTU002	2004	0.25
ABB-RTU003	2004	0.40
ABB-SAC004b	2004	0.06
ABB-SAC005a	2004	0.14
ABB-SAC006a	2004	0.10
ABB-SAC007a	2004	0.10
ABB-SAC008a	2004	0.10
ABB-SAC009a	2004	0.10
ABB-RTU010	2004	0.25
Avionics Plant (9307 Avionics Dr.)		
HVAC-1a	1997	0.74
HVAC-2a	1997	0.74
UH-1	2004	0.02
[redacted]	2024	0.49
[redacted]	2024	0.49
AVI-RTU003	2004	0.62
[redacted]	2024	0.31
[redacted]	2024	0.31
Ferguson Plant (3618 Ferguson Rd.)		
FER-SAC001a	2002	0.12
FER-RTU002	2010	0.37
FER-RTU003	2019	0.35
FER-RTU004	2011	0.25
FER-RTU005	2003	0.33
FER-SAC007a	1998	0.12
FER-RTU008	2001	0.60
FER-RTU009	2011	0.13
FER-UUA011	2002	1.50
FER-UUA012	1998	1.50
FER-SAC012b	2002	0.12
FER-RTU014	2006	0.25
McArthur Plant (3401 McArthur Dr.)		
MCA-RTU001	2008	0.19
MCA-RTU002	2008	0.30
MCA-RTU003	2008	0.30
MCA-RTU004	2008	0.30
MCA-RTU005	2008	0.33
MCA-RTU006	2008	0.33
MCA-RTU007	2008	0.15
MCA-UUA008	2008	0.90
MCA-RTU009	2008	0.13
MCA-SAC10b	2008	0.06
MCA-RTU011	2008	0.15
[redacted]	2024	0.49
[redacted]	2024	0.49
ABG Plant (9433 Ardmore Ave.)		
ABG-RTU001	2017	0.15
ABG-RTU002	1998	0.14
ABG-RTU003	1998	0.12
ABG-RTU004	1998	0.14
ABG-RTU005	2010	0.23
ABG-RTU006	2010	0.68
ABG-RTU007	2010	0.11
ABG-RTU008	2010	0.11
ABG-UH001	2009	0.09
ABG-UH002	2009	0.10
Hoffman Plant (4010 Piper Dr.)		
NHK-RTU001	2012	0.40
NHK-RTU002	2006	0.40
NHK-RTU003	2006	0.23
NHK-RTU004	2006	0.23
NHK-RTU005	2009	0.25
NHK-SAC006b	2012	0.09
NHK-RTU007	1997	0.18
NHK-SAC12b	2012	0.09
NHK-SAC14b	2014	0.06
NHK-RTU016	2018	0.13
ABH Plant (4202 Piper Drive)		
ABH - RTU001	2018	0.33
ABH - RTU002	2018	0.12
ABH - RTU004	2018	0.33
ABH - RTU005	2018	0.33
ABH - RTU006	2018	0.33
ABH - RTU007	2018	0.12
ABH - RTU008	2018	0.19
F-1	2018	0.05
F-2	2018	0.05
SUB Plant 9733 Ardmore Ave.		
SNB-RTU003	2011	0.45
SNB-RTU004	2011	0.45
JBA 8901 South Hanna St.		
HBA1	2020	0.33
HBA2	2020	0.33
HBA3	2020	0.33
HBA4	2020	0.33
HBA5	2020	0.33
HBA6	2020	0.33
HBA7	2020	0.33
HBA8	2020	0.33
JBB Plant (8903 S Hanna St.)		
JBB-RTU001	2020	0.12
ABD Plant (4030 Piper Drive)		
ABD-RTU001	2022	0.11
ABD-RTU002	2022	0.19
ABD-ARU001	2022	0.75
ABD-RAD001	2022	0.08
ABD-RAD002	2022	0.08
ABD-UH001,004	2022	0.13
TEC Plant ()		
[redacted]	2024	0.12
[redacted]	2024	0.12
[redacted]	2024	0.12
[redacted]	2024	0.12
		26.55

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
28.55	1020	245.2

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.60	100 **see below	5.5	84
Potential Emission in tons/yr	0.23	0.93	0.93	0.07	12.26	0.67	10.30

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	n-Hexane	Toluene	Total - Organics
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.80	3.4E-03	
Potential Emission in tons/yr	2.6E-04	1.5E-04	9.2E-03	0.22	4.2E-04	0.23

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	Total - Metals
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	0.00	2.1E-03	
Potential Emission in tons/yr	6.1E-05	1.3E-04	1.7E-04	0.00	2.6E-04	6.7E-04
					Total HAPs	0.23
					Worst HAP	0.22

Methodology is the same as above.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
EU-07 Grinding & Shaving Operation

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00499
Reviewer: Chase Marlatt

1. VOC and PM

Machine #	Description	Year Permitted	Throughput		PM=PM10=PM2.5 before controls			PM=PM10=PM2.5 after controls			Coolant			Cleaner			VOC			
					Emission Factor[1]	Potential to Emit			Potential to Emit								Usage	Potential to Emit		
			(lb product/ yr)	(lb product/ hr)	(lb/ ton product)	(lb/hr)	(tons/yr)	Control Efficiency	(lb/hr)	(tons/yr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Density (lb/gal)	Usage (gal/yr)	VOC Content	(lb VOC/ lb product)	(lb/hr)	(tons/yr)	
Ferguson Plant (3618 Ferguson Rd.)																				
SH1[1]	Shaver	2015	1,358,135	155.04	--[2]	--	--	--	--	--	7.81	473.80	18.17%	--	--	--	4.93E-04	0.08	0.34	
SH2	Shaver	2015	1,358,135	155.04	--	--	--	--	--	--	7.81	473.80	18.17%	--	--	--	4.55E-04	0.08	0.34	
SH4	Shaver	2022	1,358,138	155.04	--	--	--	--	--	--	7.81	473.80	18.17%	--	--	--	4.55E-04	0.08	0.34	
SH501FER	Shaver	2022	1,358,139	155.04	--	--	--	--	--	--	7.81	473.80	18.17%	--	--	--	4.55E-04	0.08	0.34	
Nighthawk Plant (4616 Piper Dr.)																				
BSV2	Bandsaw	-	18,221	2.08	0.10	1.04E-04	4.56E-04	95%	--	2.28E-05	NA	NA	NA	--	--	--	--	--	--	
BSV4	Bandsaw	-	18,221	2.08	0.10	1.04E-04	4.56E-04	95%	--	2.28E-05	NA	NA	NA	--	--	--	--	--	--	
BSV7	Bandsaw	-	18,221	2.08	0.10	1.04E-04	4.56E-04	95%	--	2.28E-05	NA	NA	NA	--	--	--	--	--	--	
BSV501NH	Bandsaw	2023	18,221	2.08	0.10	1.04E-04	4.56E-04	95%	--	2.28E-05	NA	NA	NA	--	--	--	--	--	--	
BSV502NH	Bandsaw	2023	18,221	2.08	0.10	1.04E-04	4.56E-04	0%	--	4.56E-04	NA	NA	NA	--	--	--	--	--	--	Rename to BSV503 & Move to TEC
BSV503NH	Bandsaw	2023	18,221	2.08	0.10	1.04E-04	4.56E-04	0%	--	4.56E-04	NA	NA	NA	--	--	--	--	--	--	Rename to BSV504 & Move to TEC
[redacted]	Bandsaw	2024	18,221	2.08	0.10	1.04E-04	4.56E-04	0%	--	4.56E-04	NA	NA	NA	--	--	--	--	--	--	[redacted]
[redacted]	Bandsaw	2024	18,221	2.08	0.10	1.04E-04	4.56E-04	0%	--	4.56E-04	NA	NA	NA	--	--	--	--	--	--	
PG1	pedestal grinder	-	18,221	2.08	0.10	1.04E-04	4.56E-04	--	1.04E-04	4.56E-04	NA	NA	NA	--	--	--	--	--	--	
PG2	pedestal grinder	-	18,221	2.08	0.10	1.04E-04	4.56E-04	--	1.04E-04	4.56E-04	NA	NA	NA	--	--	--	--	--	--	
PG3	pedestal grinder	-	18,221	2.08	0.10	1.04E-04	4.56E-04	--	1.04E-04	4.56E-04	NA	NA	NA	--	--	--	--	--	--	
PG501NH	pedestal grinder	2023	18,221	2.08	0.10	1.04E-04	4.56E-04	--	1.04E-04	4.56E-04	NA	NA	NA	--	--	--	--	--	--	
PG502NH	pedestal grinder	2023	18,221	2.08	0.10	1.04E-04	4.56E-04	--	1.04E-04	4.56E-04	NA	NA	NA	--	--	--	--	--	--	
PG503NH	pedestal grinder	2023	18,221	2.08	0.10	1.04E-04	4.56E-04	--	1.04E-04	4.56E-04	NA	NA	NA	--	--	--	--	--	--	
BG9	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BS3	Belt sander	2022	14,359.42	1.64	0.1	8.21E-05	3.60E-04	--	8.21E-05	3.60E-04	NA	NA	NA	--	--	--	--	--	--	
McArthur Plant (3401 McArthur Dr.)																				
CG2[6]	Centerless grinder	2015	26,606	3.04	--	--	--	--	--	--	--	--	--	6.55	157.44	100.00%	0.04	0.13	0.55	
CG3[2]	Centerless grinder	2015	79,133.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
CG4[2]	Centerless grinder	2015	79,133.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
CG5[2]	Centerless grinder	2015	79,133.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
CG6[2]	Centerless grinder	2015	79,133.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
CG7[2]	Centerless grinder	2015	79,133.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
CG10[2]	Centerless Grinder	2019	79,140.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
CG12[2]	Centerless Grinder	2018	79,133.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
CG13	Centerless Grinder	2019	79,141.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
CG502MC[2]	Centerless Grinder	2020	79,143.67	9.03	--	--	--	--	--	--	7.81	459.76	18.17%	--	--	--	8.43E-03	0.08	0.33	
BG35	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG36	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
Ew Band Saw	Bandsaw	2023	2,312,640.00	264.00	0.1	1.32E-02	5.78E-02	--	1.32E-02	5.78E-02	NA	NA	NA	-	-	-	-	-	-	
BS12	Belt Sander	2023	2,313,640.00	264.11	0.1	1.32E-02	5.78E-02	95%	1.32E-02	8.60E-04	NA	NA	NA	-	-	-	-	-	-	
Avionics Plant (9307 Avionics Dr.)																				
CG1[5]	Centerless grinder - samples only		23.65	0.0027	--[3]	--	--	--	--	--	0.64	4.00	10.00%	--	--	--	1.09E-02	0.00	1.25E-04	
CG501AV[5]	Centerless grinder - samples only	2020	23.65	0.0027	--[3]	--	--	--	--	--	0.64	4.00	10.00%	--	--	--	1.09E-02	0.00	1.25E-04	
ABG Plant (9673 Ardmore Ave.)																				
BG4	Grinder	2015	49,190.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG7	Grinder	2018	49,190.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG12	Grinder	2018	49,190.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG21	Grinder	2018	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG23	Grinder	2019	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG25	Grinder	2020	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG32	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG34	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG37	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG33	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG511ABG	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG512ABG	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG513ABG	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG514ABG	Grinder	2022	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG515ABG	Grinder	2022	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG516ABG	Grinder	2022	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG517ABG	Grinder	2022	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG518ABG	Grinder	2022	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG519ABG	Grinder	2022	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BG520ABG	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	8.60	
BG521ABG	Grinder	2023	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BS501ABG	Belt sander	-	14,359.42	1.64	0.1	8.21E-05	3.60E-04	--	8.21E-05	3.60E-04	NA	NA	NA	--	--	--	--	--	--	
BS502ABG	Belt sander	-	14,359.42	1.64	0.1	8.21E-05	3.60E-04	--	8.21E-05	3.60E-04	NA	NA	NA	--	--	--	--	--	--	
BS1	Belt sander	-	14,359.42	1.64	0.1	8.21E-05	3.60E-04	--	8.21E-05	3.60E-04	NA	NA	NA	--	--	--	--	--	--	
EG1	Electrode Grinder	-	250.77	0.03	0.1	1.60E-06	7.02E-06	--	1.60E-06	7.02E-06	NA	NA	NA	--	--	--	--	--	--	
CNC1	CNC Machine	2022	262,800	30.00	0.1	1.50E-03	6.57E-03	--	1.50E-03	6.57E-03	NA	NA	NA	--	--	--	--	--	--	
G11	Surface Grinder	2023	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
[redacted]	Surface Grinder	2024	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	[redacted]
ABA Plant (9699 Ardmore Ave.)																				
BS501ABA	Belt sander	2020	14,035.46	1.60	0.1	8.01E-05	3.51E-04	--	8.01E-05	3.51E-04	NA	NA	NA	--	--	--	--	--	--	Rename to BS502 & Move to TEC
[redacted]	Belt sander	2024	14,035.46	1.60	0.1	8.01E-05	3.51E-04	--	8.01E-05	3.51E-04	NA	NA	NA	--	--	--	--	--	--	[redacted]
ABB Plant (9711 Ardmore Ave.)																				
BG20	Grinder	2010	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
ABC Plant (9733 Ardmore Ave.)																				
BG14	Grinder	2018	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	Move to TEC
BG15	Grinder	2018	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	Move to TEC
BG16	Grinder	2018	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	Move to TEC
JBA (8891 South Harris Rd.)																				
BG13	Grinder	2021	49,191.77	5.62	0.1	2.81E-04	1.23E-03	--	2.81E-04	1.23E-03	NA	NA	NA	--	--	--	--	--	--	
BS11	Belt sander	-	14,359.42	1.64	0.1	8.21E-05	3.60E-04	--	8.21E-05	3.60E-04	NA	NA	NA	--	--	--	--	--	--	
BS501JBA	Belt sander	2023	14,359.42	1.64	0.1	8.21E-05	3.60E-04	--	8.21E-05	3.60E-04	NA	NA	NA	--	--	--	--	--	--	
BS502JBA	Belt sander	2023	14,359.42	1.64	0.1	8.21E-05	3.60E-04	--	8.21E-05	3.60E-04	NA	NA	NA	--	--	--	--	--	--	
BS503JBA	Belt sander	2023	14,359.42	1.64	0.1	8.21E-05	3.60E-04	--	8.21E-05	3.60E-04	NA	NA	NA	--	--	--	--	--	--	
Total							1.70E-01			1.10E-01									4.80	

Notes
1 Uncontrolled machine scarfing (SCC 3-03-009-33), AP-42 Table 12.5-1 (10/86)
2 Coolant: Castrol Vecta SL 550-US (SDS ver. 00, draft 3/2/2013), 40% in water
3 Particulate emissions are considered negligible for machining operations that use a coolant
4 VOC emissions negligible because these units do not use a coolant
5 Coolant: Excel PFN 15 LE, which does not have VOC content. Isopropyl alcohol (IPA) is used to wipe down finished product.
6 Coolant Vasco

Methodology
Throughput (lb product/hr) = Throughput (lb product/yr) / 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Coolant Density (lb/gal) x Coolant Usage (gal/yr) x Coolant VOC Content (%VOC) / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr) VOC
PTE (lb/hr) = Emission Factor (lb/ton product) x Product Throughput (lb/hr) / 2,000 (lb/ton) PM
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

2. Hazardous Air Pollutants

Machine #	VOC PTE (tons/yr)	Weight % Ethylbenzene[1]	Weight % Glycol Ethers	Weight % Toluene[1]	Weight % Xylenes[1]	Ethylbenzene Emissions (ton/yr)	Glycol ethers Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylenes Emissions (ton/yr)	Total HAP Emissions (ton/yr)
Ferguson Plant (3418 Ferguson Rd.)										
SH1	0.34	0.025%	20.00%	0.025%	0.025%	8.41E-05	6.73E-02	8.41E-05	8.41E-05	6.75E-02
SH2	0.34	0.025%	20.00%	0.025%	0.025%	8.41E-05	6.73E-02	8.41E-05	8.41E-05	6.75E-02
SH501FER	0.34	0.025%	20.00%	0.025%	0.025%	8.41E-05	6.73E-02	8.41E-05	8.41E-05	6.75E-02
SH4	0.34	0.025%	20.00%	0.025%	0.025%	8.41E-05	6.73E-02	8.41E-05	8.41E-05	6.75E-02
McArthur Plant (3401 McArthur Dr.)										
CG3	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
CG4	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
CG5	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
CG9	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
CG7	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
CG12	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
CG10	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
CG13	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
CG500Mc[1]	0.33	0.025%	20.00%	0.025%	0.025%	8.34E-05	6.67E-02	8.34E-05	8.34E-05	6.70E-02
Avalon Plant (2307 Avalon Dr.)										
CG3[1]	1.29E-04	0.025%	20.00%	0.025%	0.025%	3.21E-08	2.57E-05	3.21E-08	3.21E-08	2.58E-05
CG501Av[1]	1.29E-04	0.025%	20.00%	0.025%	0.025%	3.21E-08	2.57E-05	3.21E-08	3.21E-08	2.58E-05
Total Potential Emissions						1.06E-03	8.70E-01	1.06E-03	1.06E-03	8.73E-01

Notes:

1. *Includes default HAP content of aliphatic solvent groups from Table 4, 40 CFR 63, Subpart MMMM, for white mineral oil (petroleum) (CASRN 8042-47-5) and distillates (petroleum), hydrotreated light naphthenic (CASRN 64742-53-6) for worst-case analysis.*

METHODOLOGY

HAPS Emissions (tons/yr) = VOC PTE (tons/yr) x Weight % HAP

Appendix A: Emission Calculations
EU-08 Straight & Cut Operations

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

1. VOC and PM

Machine #	Description	Year Permitted	Throughput		PM=PM10=PM2.5			Coolant[2]			VOC			
					Emission Factor[1] (lb/ ton product)	Potential to Emit					Usage	Potential to Emit		
			(lb product/ yr)	(lb product/ hr)		(lb/hr)	(tons/yr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	(lb VOC/ lb product)	(lb/hr)	(tons/yr)	
McArthur Plant (3401 McArthur Dr.)														
RS1 (C4)	Straight & cut	2015	13,557.47	1.55	-[3]	--	--	8.42	65.24	30%	1.21E-02	0.02	0.08	
RS2 (C13)	Straight & cut	2015	13,557.47	1.55	--	--	--	8.42	65.24	30%	1.21E-02	0.02	0.08	
RS6 (C6)	Straight & cut	2015	13,557.47	1.55	--	--	--	8.42	65.24	30%	1.21E-02	0.02	0.08	
RS14 (C18)	Straight & cut	2015	13,557.47	1.55	--	--	--	8.42	65.24	30%	1.21E-02	0.02	0.08	
RS503Mc	Straight & cut	2019	13,557.47	1.55	--	--	--	8.42	65.24	30%	1.21E-02	0.02	0.08	Rename to C519
RS502Mc	Straight & cut	2019	13,557.47	1.55	--	--	--	8.42	65.24	30%	1.21E-02	0.02	0.08	
ABG Plant (9823 Ardmore Ave.)														
C5[5]	Cutter	2019	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C7[5]	Cutter	2016	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C10[5]	Cutter	2016	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C14[5]	Cutter	2010	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C17[5]	Cutter	2016	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C19[5]	Cutter	2017	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C20[5]	Cutter	2016	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C21[5]	Cutter	2018	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C3	Cutter	2021	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C8	Cutter		2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	
C502ABG	Cutter	2023	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	Rename to C11 & Move to MCA
C503ABG	Cutter	2024	2,207.52	0.25	0.10	1.26E-05	5.52E-05	6.58	33.09	100%	9.86E-02	0.02	0.11	Rename to C12 & Move to MCA
ABD Plant (9733 Ardmore Ave.)														
CRK3	Cork Cutting Saw	2021	10,161.60	1.16	0.10	5.80E-05	2.54E-04	-	-	-	-	-	-	
Total							**0.16E-04**						**1.80**	

Notes:
1. Uncontrolled machine scarfing (SCC 3-03-009-32), AP 42 Table 12.5-1 (10/86), selcted a conservative worst-case emission factor
2. Coolant: DuBois GX Cool 2192YSK (SDS ver. 2, 5/21/2015), 10% in water
3. Particulate emissions are considered negligible for machining operations that use a coolant
4. VOC emissions negligible because these units do not use a coolant
5 Units use isopropyl alcohol as a processing aid.

Methodology
Throughput (lb product/hr) = Throughput (lb product/yr) / 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Coolant Density (lb/gal) x Coolant Usage (gal/yr) x Coolant VOC Content (%)/100 / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr) *VOC*
PTE (lb/hr) = Emission Factor (lb/ton product) x Product Throughput (lb/hr) / 2,000 (lb/ton) *PM*
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

2. Hazardous Air Pollutants

Machine #	VOC PTE (tons/yr)	Weight % Ethylbenzene[1]	Weight % Toluene[1]	Weight % Xylenes[1]	Ethylbenzene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylenes Emissions (ton/yr)	Total HAP Emissions (ton/yr)	
McArthur Plant (3401 McArthur Dr.)									
RS1 (C4)	0.08	0.20%	0.20%	0.20%	1.65E-04	1.65E-04	1.65E-04	4.94E-04	
RS2 (C13)	0.08	0.20%	0.20%	0.20%	1.65E-04	1.65E-04	1.65E-04	4.94E-04	
RS6 (C6)	0.08	0.20%	0.20%	0.20%	1.65E-04	1.65E-04	1.65E-04	4.94E-04	
RS14 (C18)	0.08	0.20%	0.20%	0.20%	1.65E-04	1.65E-04	1.65E-04	4.94E-04	
RS503Mc	0.08	0.20%	0.20%	0.20%	1.65E-04	1.65E-04	1.65E-04	4.94E-04	Rename to C519
RS502Mc	0.08	0.20%	0.20%	0.20%	1.65E-04	1.65E-04	1.65E-04	4.94E-04	
Total Potential Emissions					**9.88E-04**	**9.88E-04**	**9.88E-04**	**2.96E-03**	

Notes:
1. Includes default HAP content of aliphatic solvent groups from Table 4, 40 CFR 63, Subpart MMMM for distillates (petroleum), hydrotreated light naphthenic (CASRN 64752-53-6) for worst-case analysis.

METHODOLOGY
HAPS Emissions (tons/yr) = VOC PTE (tons/yr) x Weight % HAP

Appendix A: Emission Calculations
EU-09 Cleaning Lines

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Cleaner			VOC			
					Density	Usage	VOC Content	Usage	Potential to Emit		
			(lb product/yr)	(lb product/hr)	(lb/gal)	(gal/yr)		(lb VOC/lb product)	(lb/hr)	(lb/day)	(tons/yr)
ABA Plant (9609 Ardmore Ave.)											
DC10	Isopar L	2015	30,388.31	3.47	6.38	306.39	100%	6.43E-02	0.22	5.36	0.98
DC501ABA	Isopar L	2022	27,653.37	3.16	6.38	278.82	100%	6.43E-02	0.20	4.87	0.89
[redacted]	Isopar L	2024	27,653.37	3.16	6.38	278.82	100%	6.43E-02	0.20	4.87	0.89
ABB Plant (9733 Ardmore Ave.)											
HAC1=TU224,225,34	HAC[1]	2010	167,739.56	19.15	6.38	195.23	100%	7.43E-03	0.14	3.41	0.62
HAC2=TU228, 229, 41	HAC[1]	2010	167,739.56	19.15	6.38	195.23	100%	7.43E-03	0.14	3.41	0.62
Avionics Plant (9307 Avionics Dr.)											
HAC4 (TU150, TU154)	HAC[1]	2015	40,695.16	4.65	6.38	182.5	100%	2.86E-02	0.13	3.19	0.58
HAC7 (TU56, TU38)	HAC[1]	2015	40,695.16	4.65	6.38	182.5	100%	2.86E-02	0.13	3.19	0.58
DC1	Isopar L[2]	2015	30,388.31	3.47	6.38	306.39	100%	6.43E-02	0.22	5.36	0.98
DC2	Isopar L	2015	30,388.31	3.47	6.38	306.39	100%	6.43E-02	0.22	5.36	0.98
DC3	Isopar L	2015	30,388.31	3.47	6.38	306.39	100%	6.43E-02	0.22	5.36	0.98
DC4	Isopar L	2015	30,388.31	3.47	6.38	306.39	100%	6.43E-02	0.22	5.36	0.98
DC5	Isopar L	2015	30,388.31	3.47	6.38	306.39	100%	6.43E-02	0.22	5.36	0.98
DC6	Isopar L	2015	30,388.31	3.47	6.38	306.39	100%	6.43E-02	0.22	5.36	0.98
DC11	Isopar L	2015	30,388.31	3.47	6.38	306.39	100%	6.43E-02	0.22	5.36	0.98
DC12	Isopar L	2019	27,653.37	3.16	6.38	278.82	100%	6.43E-02	0.20	4.87	0.89
DC501Av	Isopar L	2019	27,653.37	3.16	6.38	278.82	100%	6.43E-02	0.20	4.87	0.89
DC502Av	Isopar L	2019	27,653.37	3.16	6.38	278.82	100%	6.43E-02	0.20	4.87	0.89
DC503Av	Isopar L	2019	27,653.37	3.16	6.38	278.82	100%	6.43E-02	0.20	4.87	0.89
DC504Av	Isopar L	2019	27,653.37	3.16	6.38	278.82	100%	6.43E-02	0.20	4.87	0.89
HAC501Av	HAC[1]	2019	40,695.16	4.65	6.38	182.5	100%	2.86E-02	0.13	3.19	0.58
[redacted]	HAC[1]	2024	101,737.90	11.61	6.38	456.25	100%	2.86E-02	0.33	7.98	1.46
ABH Plant (4010 Piper Drive)											
HAC3=TU226, 227, 46	HAC[1]	2010	150,758.30	17.21	6.38	45.64	100%	0.00	0.03	0.80	0.15
Total											**18.64**

Note:
The source includes unlisted cleaning processes that use aqueous solutions and do not generate emissions of regulated pollutants.
1. Source stopped using Isopropyl alcohol as a drying agent in HAC- processes prior to October 31, 2017. Source has since resumed use of Isopropyl Alcohol Wipes as of June 6, 2018.
2. Table 3, 40 CFR 63, Subpart MMMM, indicates that hydrotreated naphtha (CASRN 64742-48-9), the solvent making up Isopar L, contains no HAPs
4. Units do not generate emissions of regulated pollutants. CIP100 is a caustic cleaner, other solutions are also aqueous.

Methodology
Throughput (lb product/hr) = Throughput (lb product/yr) / 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Cleaner Density (lb/gal) x Cleaner Usage (gal/yr) x Cleaner VOC Content (%)/100 / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

Appendix A: Emission Calculations
EU-09a Dewatering Line

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Cleaner			VOC			
			(lb product/yr)	(lb product/hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/lb product)	Potential to Emit (lb/hr)	(lb/day)	(tons/yr)
WR1	Dewater[3]	2017	606,966.82	69.29	6.58	441.21	100%	4.78E-03	0.33	7.95	1.45
WR2	Dewater[3]	2017	5,464,652	623.82	6.58	137.88	100%	1.66E-04	0.10	2.49	0.45
US4	Dewater[3]	2017	100.27	0.01	6.58	5.52	100%	0.36	4.15E-03	9.95E-02	0.02
US16	Dewater[3]	2017	100.27	0.01	6.58	5.52	100%	0.36	4.15E-03	9.95E-02	0.02
US17	Dewater[3]	2023	100.27	0.01	6.58	5.52	100%	0.36	4.15E-03	9.95E-02	0.02
[redacted]	Dewater[3]	2024	100.27	0.01	6.58	5.52	100%	0.36	4.15E-03	9.95E-02	0.02
Total											**1.96**

Note:
The source includes unlisted cleaning processes that use aqueous solutions and do not generate emissions of regulated pollutants.
3. WR- and US- cleaners use Isopropyl alcohol

Methodology
Throughput (lb product/hr) = Throughput (lb product/yr) / 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Cleaner Density (lb/gal) x Cleaner Usage (gal/yr) x Cleaner VOC Content (%)/100 / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

Appendix A: Emission Calculations
EU-10 Wire Drawing

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid[1]			VOC			
			(lb product/ yr)	(lb product/ hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/ lb product)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)	
ABA Plant (9609 Ardmore Ave)											
CD2	Finewire WD	2018	5,671.54	0.65	6.58	12.10	100%	1.40E-02	0.01	0.04	
TU170	Finewire WD	2018	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02	Rename TU170 to WD240
W19	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W20	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W24	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W43	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W47	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W49	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W55	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W61	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W62	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W65	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W69	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W75	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W76	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W80	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W81	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W83	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W84	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.66	100%	6.96E-05	0.00	0.01	
W95	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W96	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W97	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W98	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W101	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W105	Intermediate WD	2017	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02	
W106	Intermediate WD	2017	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02	
W107	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W110	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W111	Niti FW WD	2017	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W112	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W118	BB WD	2017	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02	
W119	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00	
W124	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W125	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W136	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W137	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W138	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W144	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W145	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W146	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W147	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W148	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W149	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W150	Niti NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W151	Niti NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W154	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W158	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W167	Niti NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W168	Niti NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W169	Niti NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W170	Niti NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W171	Niti NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W172	Niti NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W173	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W174	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W178	DFT WD	2015	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W181	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W184	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W185	Niti FW WD	2015	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W192	Niti Intermediate WD	2015	157,014.13	17.92	6.58	1.65	100%	6.91E-05	0.00	0.01	
W194	Finewire WD	2018	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02	
W195	Niti NHP WD	2018	101,690.60	11.61	6.58	3.47	100%	2.25E-04	0.00	0.01	
W199	Fine Wire WD	2018	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W200	Fine Wire WD	2018	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01	
W204	Niti FW WD	2018	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W225	Niti NHP WD	2019	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W226	Niti NHP WD	2019	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W227	Niti FW WD	2019	8,341.91	0.95	6.58	1.66	100%	1.31E-03	0.00	0.01	
W228	Fine Wire WD	2020	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W229	Fine Wire WD	2020	1,399.02	0.16	6.58	1.20	100%	5.64E-03	0.00	0.00	
W230	Niti FW WD	2022	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W231	Niti FW WD	2022	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W232	Niti FW WD	2022	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W233	Niti FW WD	2019	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W234	Niti FW WD	2022	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W235	Niti FW WD	2022	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W236	Niti FW WD	2022	8,341.91	0.95	6.58	1.65	100%	1.30E-03	0.00	0.01	
W503ABA	Niti Intermediate WD	2019	157,014.13	17.92	6.58	1.66	100%	6.96E-05	0.00	0.01	
W504ABA	Niti Intermediate WD	2019	157,014.13	17.92	6.58	1.66	100%	6.96E-05	0.00	0.01	
W507ABA	BB WD	2019	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02	
W510ABA	Niti Intermediate WD	2021	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
W511ABA	Niti Intermediate WD	2021	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00	
									Total:	0.56	

Appendix A: Emission Calculations
EU-10 Wire Drawing

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid[1]			VOC		
			(lb product/ yr)	(lb product/ hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/ lb product)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)
ABB Plant (9733 Ardmore Avenue)										
TU3	IPA drawing	2018	37,133.74	4.24	6.58	88.24	100%	1.56E-02	0.07	0.29
TU242	IPA drawing	2018	37,133.74	4.24	6.58	88.24	100%	1.56E-02	0.07	0.29
TU243	IPA drawing	2018	37,133.74	4.24	6.58	88.24	100%	1.56E-02	0.07	0.29
W63	IPA drawing	2018	37,133.74	4.24	6.58	88.24	100%	1.56E-02	0.07	0.29
W121	IPA drawing	2018	37,133.74	4.24	6.58	88.24	100%	1.56E-02	0.07	0.29
									Total:	**1.45**
Avionics Plant (9307 Avionics Dr.)										
FW12	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW13	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW14	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW15	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW16	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW17	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW18	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW19	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW20	Flat Wire WD		774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW21	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW22	Flat Wire WD	2017	774.72	0.09	6.58	5.18	100%	4.40E-02	0.00	0.02
FW23	Flat Wire WD	2018	22,990.99	2.62	6.58	5.18	100%	1.48E-03	0.00	0.02
FW24	Flat Wire WD	2020	22,990.99	2.62	6.58	5.18	100%	1.48E-03	0.00	0.02
FW502AV	Flat Wire WD	2020	22,991.99	2.62	6.58	5.18	100%	1.48E-03	0.00	0.02
FW503AV	Flat Wire WD	2020	22,991.99	2.62	6.58	5.18	100%	1.48E-03	0.00	0.02
TH1	Turkshead WD	2017	23,605.43	2.69	6.58	12.10	100%	3.37E-03	0.01	0.04
TH2	Turkshead WD	2017	23,605.43	2.69	6.58	12.10	100%	3.37E-03	0.01	0.04
TH3	Turkshead WD	2017	23,605.43	2.69	6.58	12.10	100%	3.37E-03	0.01	0.04
TH501AV	Turkshead WD	2020	23,605.43	2.69	6.58	12.10	100%	3.37E-03	0.01	0.04
TH502AV	Turkshead WD	2020	23,606.43	2.69	6.58	12.10	100%	3.37E-03	0.01	0.04
W27	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W28	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W34	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W40	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W41	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W44	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W45	Intermediate WD	2017	38,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02
W46	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W53	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W54	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W67	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W73	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W74	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W108	Ultrafine WD	2017	23,170.77	2.65	6.58	10.37	100%	2.94E-03	0.01	0.03
W109	Ultrafine WD	2017	23,170.77	2.65	6.58	10.37	100%	2.94E-03	0.01	0.03
W134	Intermediate WD	2017	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02
W135	Intermediate WD	2017	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02
W141	Schmidt WD	2017	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W142	Schmidt WD	2005	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W153	Intermediate WD	2018	110,334.49	12.60	6.58	6.48	100%	3.86E-04	0.00	0.02
W156	Ultrafine WD	2017	23,170.77	2.65	6.58	10.37	100%	2.94E-03	0.01	0.03
W162	Ultrafine WD	2017	23,170.77	2.65	6.58	10.37	100%	2.94E-03	0.01	0.03
W164	Ultrafine WD	2017	23,170.77	2.65	6.58	10.37	100%	2.94E-03	0.01	0.03
W501Av	Ultrafine WD	2019	23,170.77	2.65	6.58	10.37	100%	2.94E-03	0.01	0.03
W238	Schmidt WD	2019	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W503Av	Intermediate WD	2019	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02
W504Av	Finewire WD	2019	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W505Av	Finewire WD	2019	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W239	Schmidt WD	2019	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W507Av	Schmidt WD	2019	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W508Av	Schmidt WD	2019	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W509Av	Ultrafine WD	2019	23,170.77	2.65	6.58	10.37	100%	2.94E-03	0.01	0.03
									Total:	**1.14**

Appendix A: Emission Calculations
EU-10 Wire Drawing

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid[1]			VOC		
			(lb product/yr)	(lb product/hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/lb product)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)
ABH Plant (4204 Piper Dr.)										
W21	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W22	BB WD	2015	286,344.70	32.69	6.58	2.21	100%	5.08E-05	0.00	0.01
W23	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W30	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W33	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W35	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W36	BB WD	2015	286,344.70	32.69	6.58	2.21	100%	5.08E-05	0.00	0.01
W37	BB WD	2015	286,344.70	32.69	6.58	2.21	100%	5.08E-05	0.00	0.01
W38	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W39	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W48	Intermediate WD	2017	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02
W50	BB WD	2015	286,344.70	32.69	6.58	2.21	100%	5.08E-05	0.00	0.01
W52	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W56	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W57	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W58	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W59	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W60	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W64	BB WD	2015	286,344.70	32.69	6.58	2.21	100%	5.08E-05	0.00	0.01
W66	Finewire WD	2017	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W70	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W71	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W72	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W77	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W78	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W79	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W82	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W85	Intermediate WD	1995	79,663.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W86	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W87	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W88	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W89	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W90	BB WD	2015	286,344.70	32.69	6.58	2.21	100%	5.08E-05	0.00	0.01
W91	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W92	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W93	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W99	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W100	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W102	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W103	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W104	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W113	BB WD	2017	173,365.73	19.79	6.58	51.84	100%	1.97E-03	0.04	0.17
W115	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W116	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W117	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W120	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W122	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W123	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W126	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W127	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W129	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W130	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W131	Intermediate WD	2015	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W132	Intermediate WD	2002	79,662.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W133	Intermediate WD	2017	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02
W139	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W152	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W157	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W161	Schmidt WD	2017	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W175	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W176	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W179	Finewire WD	2018	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W180	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W182	Schmidt WD	2017	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W186	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W187	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W188	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W189	Ultrafine WD	2018	12,309.96	1.41	6.58	5.48	100%	2.93E-03	0.00	0.02
W190	Ntl NHP WD	2015	101,690.60	11.61	6.58	1.46	100%	9.45E-05	0.00	0.00
W191	DFT WD	2015	11,445.51	1.31	6.58	1.68	100%	9.66E-04	0.00	0.01
W193	schmidt intermediate	2019	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W196	Intermediate WD	2018	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02
W197	Intermediate WD	2018	36,571.92	4.17	6.58	6.48	100%	1.17E-03	0.00	0.02
W198	schmidt intermediate	2019	46,431.43	5.30	6.58	12.96	100%	1.84E-03	0.01	0.04
W200	DFT WD	2018	11,445.51	1.31	6.58	1.68	100%	9.66E-04	0.00	0.01
W201	Fine Wire WD	2018	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W202	Finewire WD	2018	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W203	Finewire WD	2018	12,577.49	1.44	6.58	1.85	100%	9.68E-04	0.00	0.01
W503ABH	schmidt intermediate	2019	79,663.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W504ABH	schmidt intermediate	2019	79,663.93	9.09	6.58	0.53	100%	4.38E-05	0.00	0.00
W505ABH	Finewire	2019	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W506ABH	Finewire	2019	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W507ABH	Finewire	2019	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W508ABH	Finewire	2019	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02
W509ABH	BB	2019	173,365.73	19.79	6.58	51.84	100%	1.97E-03	0.04	0.17
									Total:	**1.54**

Rename W261

Appendix A: Emission Calculations
EU-10 Wire Drawing

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput (lb product/yr)	Throughput (lb product/hr)	Processing Aid[1] Density (lb/gal)	Processing Aid[1] Usage (gal/yr)	Processing Aid[1] VOC Content	VOC Usage (lb VOC/lb product)	VOC Potential to Emit (lb/hr)	VOC Potential to Emit (tons/yr)	
Nighthawk Plant (4010 Piper Dr.)											
W51	Fine Wire WD	2015	12,309.96	1.41	6.58	6.45	100%	3.45E-03	0.00	0.02	
W94	R&D WD		28.08	0.00	6.58	21.06	100%	4.94E+00	0.02	0.07	
W114	R&D WD		70.19	0.01	6.58	21.06	100%	1.97E+00	0.02	0.07	
W159	R&D WD		1,403.85	0.16	6.58	21.06	100%	9.87E-02	0.02	0.07	
W163	R&D WD		350.96	0.04	6.58	21.06	100%	3.95E-01	0.02	0.07	
									Total:	**0.30**	
JBA (6901 South Hanna St.)											
TU167	Intermediate WD[2]	2017	66,259.54	7.56	7.81	112.31	18%	2.41E-03	0.02	0.08	
TU168	Intermediate WD[2]	2014	66,259.54	7.56	7.81	56.15	18%	1.20E-03	0.01	0.04	
TU501ABD	Intermediate WD[2]	2019	66,259.54	7.56	7.81	112.31	18%	2.41E-03	0.02	0.08	Rename to W251 and Move to MCA
TU502ABD	Intermediate WD[2]	2019	66,259.54	7.56	7.81	112.31	18%	2.41E-03	0.02	0.08	Rename to W252 and Move to MCA
W29	Finewire WD	2017	12,577.49	1.44	6.58	6.48	100%	3.39E-03	0.00	0.02	
W68	Finewire WD	2017	12,577.49	1.44	6.58	6.48	100%	3.39E-03	0.00	0.02	
W143	Intermediate WD	2017	20,604.45	2.35	6.58	11.03	100%	3.52E-03	0.01	0.04	
W155	Intermediate WD	2017	20,604.45	2.35	6.58	11.03	100%	3.52E-03	0.01	0.04	
W165	BB	2017	173,365.73	19.79	6.58	51.84	100%	1.97E-03	0.04	0.17	
W166	BB	2011	173,365.73	19.79	6.58	51.84	100%	1.97E-03	0.04	0.17	
W205	Intermediate WD[2]	2019	169,747.34	19.38	7.81	56.15	18%	4.69E-04	0.01	0.04	
W206	Intermediate WD[2]	2019	169,747.34	19.38	7.81	56.15	18%	4.69E-04	0.01	0.04	
W207	Intermediate WD[2]	2019	169,747.34	19.38	7.81	56.15	18%	4.69E-04	0.01	0.04	
W205	Intermediate WD[2]	2019	169,747.34	19.38	7.81	56.15	18%	4.69E-04	0.01	0.04	
W206	Intermediate WD[2]	2019	169,747.34	19.38	7.81	56.15	18%	4.69E-04	0.01	0.04	
W207	Intermediate WD[2]	2019	169,747.34	19.38	7.81	56.15	18%	4.69E-04	0.01	0.04	
W208	BB	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W209	BB	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W210	BB	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W211	BB	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W212	BB	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W213	BB	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W214	Finish	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W215	Finish	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W501ABD	Intermediate WD	2019	20,604.45	2.35	6.58	11.03	100%	3.52E-03	0.01	0.04	
W516ABD	Finish	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W517ABD	Finish	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
W518ABD	Finish	2019	33,949.27	3.88	6.58	56.15	100%	1.09E-02	0.04	0.18	
									Total:	**3.04**	
McArthur Plant (3401 McArthur Dr.)											
W246	Wet Draw[2]	2024	66,259.54	7.56	7.81	112.31	18%	2.41E-03	0.02	0.08	
W250	Wet Draw[2]	2024	66,259.54	7.56	7.81	112.31	18%	2.41E-03	0.02	0.08	
[redacted]	Wet Draw[2]	2024	66,259.54	7.56	7.81	112.31	18%	2.41E-03	0.02	0.08	[redacted]
[redacted]	Wet Draw[2]	2024	66,259.54	7.56	7.81	112.31	18%	2.41E-03	0.02	0.08	[redacted]
									Total:	**0.32**	
Total										**6.35**	

Notes:
1. *Units use isopropyl alcohol as a processing aid except as noted.*
2. *Unit uses Vicafil SL 500 (10% in water) as a processing aid.*

Methodology
Throughput (lb product/hr) = Throughput (lb product/yr) / 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Processing Aid Density (lb/gal) x Processing Aid Usage (gal/yr) x Processing Aid VOC Content (%)/100 / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

2. Hazardous Air Pollutants

Machine #	VOC PTE (tons/yr)	Weight % Ethylbenzene[1]	Weight % Glycol Ethers	Weight % Toluene[1]	Weight % Xylenes[1]	Ethylbenzene Emissions (ton/yr)	Glycol ethers Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylenes Emissions (ton/yr)	Total HAP Emissions (ton/yr)	
ABD Plant 9733 Ardmore Ave											
TU167	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02	
W165	0.17	0.025%	20.00%	0.025%	0.025%	4.26E-05	3.41E-02	4.26E-05	4.26E-05	3.42E-02	
TU168	0.04	0.025%	20.00%	0.025%	0.025%	9.96E-06	7.97E-03	9.96E-06	9.96E-06	8.00E-03	
W166	0.17	0.025%	20.00%	0.025%	0.025%	4.26E-05	3.41E-02	4.26E-05	4.26E-05	3.42E-02	
TU501ABD	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02	Rename to W251
W205	0.04	0.025%	20.00%	0.025%	0.025%	9.96E-06	7.97E-03	9.96E-06	9.96E-06	8.00E-03	
W206	0.04	0.025%	20.00%	0.025%	0.025%	9.96E-06	7.97E-03	9.96E-06	9.96E-06	8.00E-03	
W207	0.04	0.025%	20.00%	0.025%	0.025%	9.96E-06	7.97E-03	9.96E-06	9.96E-06	8.00E-03	
TU502ABD	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02	Rename W252
[redacted]	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02	[redacted]
[redacted]	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02	[redacted]
[redacted]	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02	[redacted]
[redacted]	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02	[redacted]
W505ABD	0.04	0.025%	20.00%	0.025%	0.025%	9.96E-06	7.97E-03	9.96E-06	9.96E-06	8.00E-03	
W506ABD	0.04	0.025%	20.00%	0.025%	0.025%	9.96E-06	7.97E-03	9.96E-06	9.96E-06	8.00E-03	
W507ABD	0.04	0.025%	20.00%	0.025%	0.025%	9.96E-06	7.97E-03	9.96E-06	9.96E-06	8.00E-03	
Total						**2.94E-04**	**2.36E-01**	**2.94E-04**	**2.94E-04**	**2.36E-01**	

Notes:
1. *Includes default HAP content of aliphatic solvent groups from Table 4, 40 CFR 63, Subpart MMMM, for white mineral oil (petroleum) (CASRN 8042-47-5) for worst-case analysis.*

METHODOLOGY
HAPS Emissions (tons/yr) = VOC PTE (tons/yr) x Weight % HAP

Appendix A: Emission Calculations
EU-11 Spool/Respool Operations

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid			VOC			
					Density	Usage	VOC Content	Usage	Potential to Emit		
			(lb product/ yr)	(lb product/ hr)	(lb/gal)	(gal/yr)		(lb VOC/ lb product)	(lb/hr)	(tons/yr)	
ABA Plant (9609 Ardmore Ave.)											
LR7	Spooling	2015	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R39	Spooling	2015	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R38	Spooling	1997	6,685.24	0.76	6.58	27.58	100%	2.71E-02	0.02	0.09	
R74	Spooling	2010	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R96	Spooling	2015	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R99	Spooling	2015	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R100	Spooling	2015	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R104	Spooling	2015	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R125	Spooling	2020	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R502ABA	Spooling	2020	9,360.80	1.08	6.58	9.11	100%	6.34E-03	0.01	0.03	Rename to R134 (Lower Throughput and Usage and move to MCA)
R503ABA	Spooling	2020	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R504ABA	Spooling	2022	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R505ABA	Spooling	2022	9,976.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
									Total:	**0.75**	
ABB Plant (9733 Ardmore Ave.)											
LR9	Spooling	2015	63,341.54	7.23	6.58	13.24	100%	1.38E-03	0.01	0.01	
R30	Spooling	2015	2,069.67	0.24	6.58	6.62	100%	2.10E-02	0.00	0.02	
R56	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R61	Spooling	2015	2,069.67	0.24	6.58	6.62	100%	2.10E-02	0.00	0.02	
R62	Spooling	2015	2,069.67	0.24	6.58	6.62	100%	2.10E-02	0.00	0.02	
R92	Spooling	2015	2,069.67	0.24	6.58	6.62	100%	2.10E-02	0.00	0.02	
R120	Spooling	2020	2,069.67	0.24	6.58	6.62	100%	2.10E-02	0.00	0.02	
LR501ABB	Spooling	2019	63,341.54	7.23	6.58	13.24	100%	1.38E-03	0.01	0.04	
LR502ABB	Spooling	2019	63,341.54	7.23	6.58	13.24	100%	1.38E-03	0.01	0.04	
LR503ABB	Spooling	2019	63,341.54	7.23	6.58	13.24	100%	1.38E-03	0.01	0.04	
LR504ABB	Spooling	2019	63,341.54	7.23	6.58	13.24	100%	1.38E-03	0.01	0.04	
									Total:	**0.35**	
Avionics Plant (9307 Avionics Dr.)											
R31	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R32	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R33	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R34	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R35	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R36	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R37	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R41	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R43	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R45	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R46	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R47	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R48	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R49	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R50	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R51	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R52	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R53	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R54	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R64	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R65	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R66	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R67	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R68	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R69	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R70	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R71	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R75	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R76	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R80	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R83	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R84	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R85	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R86	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R87	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R88	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R101	Spooling	2015	747,295.38	85.31	6.58	33.09	100%	2.91E-04	0.02	0.11	
R102	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
TU45	Spooling	2017	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R111	Spooling	2018	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R112	Spooling	2018	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R118	Spooling	2019	40,109.89	4.58	6.58	17.26	100%	2.83E-03	0.01	0.06	
R122	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R126	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R127	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R128	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R129	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R130	Spooling	2019	40,109.89	4.58	6.58	9.11	100%	1.43E-03	0.01	0.03	
R131	Spooling	2020	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R506AV	Spooling	2020	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
LR501AV	Spooling	2020	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R509AV	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R510AV	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R511AV	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	

Appendix A: Emission Calculations
EU-11 Spool/Respool Operations

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid			VOC			
			(lb product/ yr)	(lb product/ hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/ lb product)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)	
R512AV	Spooling	2019	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R513AV	Spooling	2023	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R514AV	Spooling	2023	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R515AV	Spooling	2023	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R516AV	Spooling	2023	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
									Total:	1.87	
McArthur Plant (3401 McArthur Dr.)											
LS1	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
LS2	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
LS3	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
LS5	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
LS6	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
R7	Spooling	2013	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
R11	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R12	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R13	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R14	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R16	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03	
R23	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R24	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R25	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R26	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R40	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
R77	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
R117	Spooling	2019	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
R119	Spooling	2019	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03	
R503Mc	Spooling	2020	7,708.80	0.88	6.58	8.62	100%	5.65E-03	0.00	0.02	Rename to R141 & Lower Throughput and Usage
R504Mc	Spooling	2020	10,687.20	1.22	6.58	9.11	100%	5.61E-03	0.01	0.03	Rename to R142
									Total:	0.80	
ABG Plant (9823 Ardmore Ave.)											
R91	Spooling	2015	747,295.38	85.31	6.58	33.09	100%	2.91E-04	0.02	0.11	
R123	Spooling	2019	747,296.38	85.31	6.58	33.09	100%	2.91E-04	0.02	0.11	
R132	Spooling	2020	747,297.38	85.31	6.58	33.09	100%	2.91E-04	0.02	0.11	
R503ABG	Spooling	2020	747,297.38	85.31	6.58	33.09	100%	2.91E-04	0.02	0.11	Rename R159 and move to ABB
R504ABG	Spooling	2024	747,298.38	85.31	6.58	33.09	100%	2.91E-04	0.02	0.11	Add New Unit
									Total:	0.44	
ABH Plant (4202 Piper Dr)											
LR5	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R5	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R6	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R27	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R42	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R44	Spooling	2015	6,685.25	0.76	6.58	27.58	100%	2.71E-02	0.02	0.09	
R55	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R57	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R58	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R59	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R60	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R63	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R72	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R73	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R76	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R79	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R81	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R82	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R93	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R94	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R95	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R97	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R98	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R105	Spooling	2017	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R106	Spooling	2017	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R107	Spooling	2017	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R108	Spooling	2017	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R109	Spooling	2017	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R110	Spooling	2017	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R113	Spooling	2018	6,685.25	0.76	6.58	27.58	100%	2.71E-02	0.02	0.09	
R114	Spooling	2018	6,685.25	0.76	6.58	27.58	100%	2.71E-02	0.02	0.09	
R115	Spooling	2017	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R116	Spooling	2017	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R501ABH	Spooling	2024	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	Add New Unit
R502ABH	Spooling	2019	40,109.89	4.58	6.58	17.26	100%	2.83E-03	0.01	0.06	Rename R133
R503ABH	Spooling	2019	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	Rename R121
R504ABH	Spooling	2019	7,708.80	0.88	6.58	8.62	100%	5.65E-03	0.00	0.02	Rename to R140, Lower Throughput and Usage and Move to MCA
R505ABH	Spooling	2019	40,109.89	4.58	6.58	17.26	100%	2.83E-03	0.01	0.06	Rename to R142 and Move to MCA
R506ABH	Spooling	2019	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R507ABH	Spooling	2019	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R508ABH	Spooling	2019	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	
R509ABH	Spooling	2019	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06	Add New Unit
									Total:	2.45	

Appendix A: Emission Calculations
EU-11 Spool/Respool Operations

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid			VOC		
			(lb product/ yr)	(lb product/ hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/ lb product)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)
Nighthawk Plant (4010 Piper Dr.)										
R15	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03
R17	Spooling	2015	4,204.80	0.48	6.58	9.11	100%	1.43E-02	0.01	0.03
									Total:	**0.06**
JBA (6901 South hanna St.)										
R18	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06
R19	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06
R20	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06
R21	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03
R22	Spooling	2015	9,046.12	1.03	6.58	9.8	100%	7.13E-03	0.01	0.03
R29	Spooling	2015	9,975.85	1.14	6.58	17.26	100%	1.14E-02	0.01	0.06
									Total:	**0.29**
Total										**7.01**

Methodology
Throughput (lb product/hr) = Throughput (lb product/yr) / 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Processing Aid Density (lb/gal) x Processing Aid Usage (gal/yr) x Processing Aid VOC Content (%)/100 / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

Appendix A: Emission Calculations
EU-14 Rolling Mill VOC Emissions

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid[1]			VOC		
			(lb product/ yr)	(lb product/ hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/ lb product)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)
ABA Plant (9609 Ardmore Ave.)										
RM29	Ultrafine Rolling Mill	2015	2160.89	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM31	Ultrafine Rolling Mill	2015	2160.89	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM6	Finedintermed. RM	2019	3470.43	0.40	6.58	19.19	100%	3.64E-02	0.01	0.06
RM502ABA	Ultrafine Rolling Mill	2019	2160.89	0.25	6.58	19.19	100%	5.84E-02	0.01	0.06
RM503ABA	Ultrafine Rolling Mill	2019	2160.89	0.25	6.58	19.19	100%	5.84E-02	0.01	0.06
RM504ABA	Finedintermed. RM	2019	3470.43	0.40	6.58	19.19	100%	3.64E-02	0.01	0.06
RM505ABA	Finedintermed. RM	2019	3470.43	0.40	6.58	19.19	100%	3.64E-02	0.01	0.06
RMX2	UF RM Extension	2020	2160.89	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
SM1	Strip Mill	2020	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
SM2	Strip Mill	2020	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
SM3	Strip Mill	2020	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
									Total:	**0.69**

Appendix A: Emission Calculations
EU-14 Rolling Mill VOC Emissions

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid[1]			VOC		
			(lb product/yr)	(lb product/hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/lb product)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)
Avionics Plant (9307 Avionics Dr.)										
RM1	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM2	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM3	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM4	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM5	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM7	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM8	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM9	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM10	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM11	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM12	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM13	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM14	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM15	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM16	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM17	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM18	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM19	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM20	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM21	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM22	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.08
RM23	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM24	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM25	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM26	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM27	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM28	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM32	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM33	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM34	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM35	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM36	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM37	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM38	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM39	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM40	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM41	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM42	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM43	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM44	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM45	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM46	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM51	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM52	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM53	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM54	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM55	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM56	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM57	Ultrafine Rolling Mill	2015	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM58	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM61	Intermediate RM	2018	4124.97	0.47	6.58	19.20	100%	3.06E-02	0.01	0.06
RM62	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM63	Fine/Intermed. RM	2015	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM64	Ultrafine Rolling Mill	2018	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM65	Ultrafine Rolling Mill	2018	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM 66	Ultrafine Rolling Mill	2018	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM 67	Ultrafine Rolling Mill	2018	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM80	Fine/Intermed. RM	2018	11794.19	1.35	6.58	104.79	100%	9.64E-02	0.09	0.24
RM 68	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM 69	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM 70	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM71	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM 72	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM 73	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM 74	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM 76	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM 77	Fine/Intermed. RM	2018	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM501Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM502Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM503Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-03	0.01	0.06
RM504Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM505Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM506Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM507Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM508Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM509Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM510Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM512Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM513Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM514Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM515Av	Fine/Intermed. RM	2019	3470.43	0.40	6.58	19.20	100%	3.64E-02	0.01	0.06
RM516Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM517Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM518Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM519Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RM520Av	Ultrafine Rolling Mill	2019	2160.69	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX3	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX4	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX5	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX6	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX7	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX8	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX9	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX10	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX11	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX12	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX13	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX14	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX15	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX16	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX17	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX18	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX19	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX20	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX21	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX22	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX23	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX24	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX25	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX501AV	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX502AV	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX503AV	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX504AV	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
RMX505AV	UF RM Extension	2020	2160.68	0.25	6.58	19.20	100%	5.85E-02	0.01	0.06
									Total:	**7.55**
IRA Plant (6901 South Hanna St.)										
RM47	Intermediate RM[1]	2018	4124.97	0.47	7.61	112.31	16%	3.66E-02	0.02	0.08
RM49	Intermediate RM[1]	2017	4124.97	0.47	7.61	112.31	16%	3.66E-02	0.02	0.08
RM60	Intermediate RM[1]	2018	4124.97	0.47	7.61	112.31	16%	3.66E-02	0.02	0.08
RM501Mc	Intermediate RM[1]	2019	4127.31	0.47	7.61	112.31	16%	3.66E-02	0.02	0.08
RM501ABD	Intermediate RM[1]	2020	4124.97	0.47	7.61	112.31	16%	3.66E-03	0.02	0.08
									Total:	**0.40**
McArthur Plant (3401 McArthur Dr.)										
RM099	Breakdown RM	2023	735,840	84.00	6.58	19.20	100%	1.72E-04	0.01	0.06
RM89	Breakdown RM[1]	2024	735,840	84.00	6.58	19.20	100%	1.72E-04	0.01	0.06
RM91	Breakdown RM[1]	2024	735,840	84.00	7.61	112.31	100%	1.15E-03	0.10	0.44
WF10	Cooler	2024	1,051,200	120.00	6.58	19.20	100%	1.20E-04	0.01	0.06
									Total:	**0.63**
Total:										**9.37**

Notes:
1. Units use isopropyl alcohol as a processing aid except as noted.
2. Unit uses Vicalil St. 500 (10% in water) as a processing aid

Methodology
Throughput (lb product/hr) = Throughput (lb product/yr) / 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Processing Aid Density (lb/gal) x Processing Aid Usage (gal/yr) x Processing Aid VOC Content (%)/100 / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

Rename to RM78
Rename to RM79
Rename to RM80
Rename to RM81
Rename to RM84
Rename to RM87

Rename to RM85
Rename to RM86
Rename to RM81
Rename to RM82

Appendix A: Emission Calculations
EU-14 Rolling Mill VOC Emissions

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		Processing Aid[1]			VOC		
			(lb product/ yr)	(lb product/ hr)	Density (lb/gal)	Usage (gal/yr)	VOC Content	Usage (lb VOC/ lb product)	Potential to Emit (lb/hr)	Potential to Emit (tons/yr)

2. Hazardous Air Pollutants

Machine #	VOC PTE (tons/yr)	Weight % Ethylbenzene[1]	Weight % Glycol Ethers	Weight % Toluene[1]	Weight % Xylenes[1]	Ethylbenzene Emissions (ton/yr)	Glycol ethers Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylenes Emissions (ton/yr)	Total HAP Emissions (ton/yr)
JBA Plant (6901 South Hanna St.)										
RM49	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02
RM60	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02
RM47	0.08	0.025%	20.00%	0.025%	0.025%	1.99E-05	1.59E-02	1.99E-05	1.99E-05	1.60E-02
RM501Nc	0.08	0.025%	20.00%	0.025%	0.025%	2.00E-05	1.60E-02	2.00E-05	2.00E-05	1.61E-02
RM501ABD	0.08	0.025%	120.00%	0.025%	0.025%	1.99E-05	9.56E-02	1.99E-05	1.99E-05	9.57E-02
Total Potential Emissions						**9.97E-05**	**1.59E-01**	**9.97E-05**	**9.97E-05**	**0.16**

Notes
1. Includes default HAP content of aliphatic solvent groups from Table 4, 40 CFR 63, Subpart MMMM, for white mineral oil (petroleum) (CASRN 8042-47-5) for worst-case analysis

METHODOLOGY
HAPS Emissions (tons/yr) = VOC PTE (tons/yr) x Weight % HAP

Appendix A: Emission Calculations
Welding and Thermal Cutting

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Madar

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Submerged Arc	0	0		0.036	0.011			0.0000	0.0000	0.0000	0.0000	0.0000
Metal Inert Gas (MIG) carbon steel (Maintenance)	4	0.0125		0.0055	0.0005			0.0003	0.0000	0.0000	0.0000	0.0000
Metal Inert Gas (MIG) carbon steel (Maintenance)	1	0.5		0.0055	0.0005			0.0028	0.0003	0.0000	0.0000	0.0003
Stick (E7018 electrode)	0	0		0.0211	0.0009			0.0000	0.0000	0.0000	0.0000	0.0000
Tungsten Inert Gas (TIG) carbon steel (Maintenance)	2	0.0025		0.0055	0.0005			0.0001	0.0000	0.0000	0.0000	0.0000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene (Maintenance)	6	0.5	5	0.1622	0.0005	0.0001	0.0003	0.1217	0.0004	0.0001	0.0001	0.0007
Oxymethane	0	0	0	0.0815	0.0002		0.0002	0.0000	0.0000	0.0000	0.0000	0.0000
Plasma** (Maintenance)	1	0.25	5	0.0039				0.0002	0.00E+00	0.00E+00	0.00E+00	0.0000
EMISSION TOTALS												
Potential Emissions lbs/hr								0.13	0.00	0.00	0.00	0.00
Potential Emissions lbs/day								3.02	0.01	0.00	0.01	0.02
Potential Emissions tons/year								5.5[illegible]E-01	0.00	0.00	0.00	4.[illegible]E-03

Methodology:
*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for
Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick
Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)
Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Emission Unit ID's

LBA Plant (9609 Ardmore Ave.)		
[illegible]	Butt Welder	
[illegible]	Butt Welder	
BW010	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	MIG Welder	
[illegible]	TIG Welder (Maintenance)	
ARA-OC1	Oxyacetylene Cutter (Maintenance)	
Ferguson Plant (2019 Ferguson Rd.)		
[illegible]	MIG Welder (Maintenance)	
Fe-OC1	Oxyacetylene Cutter (Maintenance)	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
ABG Plant (9609 Ardmore Ave.)		
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Stretch Butt Welder	
LA1	Laser Ablation	
LA2	Laser Ablation	
LA3	Laser Ablation	
LA4	Laser Ablation	
LA5	Laser Ablation	
[illegible]	Plasma Cutter	
[illegible]	Plasma Cutter	
[illegible] (TIG Welder)	Tig Welder	
[illegible]	Plasma Welder	
[illegible]	Plasma Welder	
[illegible]	Plasma Welder	
[illegible]	Tig Welder	
[illegible] ABG	Plasma Welder	
LW1	Laser Welder	
LW2	Laser Welder	
LW3	Laser Welder	
LW4	Laser Welder	
LW5	Laser Welder	
[illegible] ABG	Laser Welder	Rename LW6
[illegible] ABG	Laser Welder	
[illegible] ABG	Laser Welder	
[illegible] ABG	Laser Welder	
[illegible] ABG	Butt Welder	[illegible]
[illegible] ABG	Butt Welder	[illegible]
[illegible] ABG	Butt Welder	[illegible]
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
[illegible] ABG	Butt Welder	
PC301 ABG	Plasma Cutter	
[redacted]	Laser Ablation	[redacted]
ABH Plant (4202 Piper Dr.)		
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	TIG Welder	
ABH-OC1	Oxyacetylene Cutter	
ABH-PC1	Plasma Cutter	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
ABC Plant (9733 Ardmore Dr.)		
[illegible]	MIG Welder	Move to TEC
[illegible]	TIG Welder	Move to TEC
PC1	Plasma Welder (Maintenance)	Move to TEC
James Plant (6091 South Hanna St.)		
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	MIG Welder (Maintenance)	
Avionics Plant (3047 Avionics Dr.)		
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	MIG Welder (Maintenance)	
[illegible]	TIG Welder (Maintenance)	
[illegible]	Oxyacetylene Cutter (Maintenance)	
[illegible]	Plasma Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
McArthur Plant (3401 McArthur Dr.)		
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	Butt Welder	
[illegible]	TIG Welder	
[illegible]	Plasma Welder	
[illegible]	Oxyacetylene Cutter (Maintenance)	
Nighthawk Plant (4910 Piper Dr.)		
[illegible]	Butt Welder	

Appendix A: Emission Calculations
EU-20 Scrap Wire Spooling

Company Name: Fort Wayne Metals Research Products Corp
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
Permit Number: 003-38833-00400
Reviewer:
Date:

Machine #	Description	Year Permitted	Throughput		Processing Aid[1] Usage (lb/yr)	VOC		
			(lb product/ hr)	(lb product/ yr)		Usage (lb VOC/ lb product)	Potential to Emit (lb/hr)	Potential to Emit (tpy)
Avionics Plant (9307 Avionics Dr.)								
NA	Scrap Wire Spooling	2015	14.00	122,617.52	723.576	5.90E-03	0.08	0.36
ABH Plant (Piper Drive								
NA	Scrap Wire Spooling	2015	23.05	201,925.56	2325.02	1.15E-02	0.27	1.16
Total								**1.52**

Notes:

1. Units use isopropyl alcohol as a processing aid except as noted.

Methodology
Throughput (lb product/yr) = Throughput (lb product/hr) x 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Processing Aid Density (lb/gal) x Processing Aid Usage (lb/yr) / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr)
PTE (tpy) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

Appendix A: Emission Calculations
ES-24 Polyimide coating

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Mallatt

1. VOC and PM

Emissions Unit ID / ABG Plant - 9823 Ardmore Avenue	Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Application Method	Transfer Efficiency
CL4	Pyre-M.L. RC 5019	9.09	85.00%	0%	85.00%	0%	9.70%	5.91E-02	2.26	7.73	7.73	1.03	24.73	4.51	0	flow	100%
	Pyre-M.L. T 8585 (thinner)	8.51	100.00%	0%	100.00%	0%	0%	5.91E-02	2.26	8.51	8.51	1.13	27.22	4.97	0	flow	100%
	Pyre-M.L. T 8585 (cleanup)	8.51	100.00%	0%	100.00%	0%	0%	2.53E-03	2.26	8.51	8.51	0.05	1.17	0.21	0	flow	100%
CL6	Pyre-M.L. RC 5019	9.09	85.00%	0%	85.00%	0%	9.70%	5.91E-02	2.26	7.73	7.73	1.03	24.73	4.51	0	flow	100%
	Pyre-M.L. T 8585 (thinner)	8.51	100.00%	0%	100.00%	0%	0%	5.91E-02	2.26	8.51	8.51	1.13	27.22	4.97	0	flow	100%
	Pyre-M.L. T 8585 (cleanup)	8.51	100.00%	0%	100.00%	0%	0%	2.53E-03	2.26	8.51	8.51	0.05	1.17	0.21	0	flow	100%
CL7	Pyre-M.L. RC 5019	9.09	85.00%	0%	85.00%	0%	9.70%	5.91E-02	2.26	7.73	7.73	1.03	24.73	4.51	0	flow	100%
	Pyre-M.L. T 8585 (thinner)	8.51	100.00%	0%	100.00%	0%	0%	5.91E-02	2.26	8.51	8.51	1.13	27.22	4.97	0	flow	100%
	Pyre-M.L. T 8585 (cleanup)	8.51	100.00%	0%	100.00%	0%	0%	2.53E-03	2.26	8.51	8.51	0.05	1.17	0.21	0	flow	100%
CL8	Pyre-M.L. RC 5019	9.09	85.00%	0%	85.00%	0%	9.70%	5.91E-02	2.26	7.73	7.73	1.03	24.73	4.51	0	flow	100%
	Pyre-M.L. T 8585 (thinner)	8.51	100.00%	0%	100.00%	0%	0%	5.91E-02	2.26	8.51	8.51	1.13	27.22	4.97	0	flow	100%
	Pyre-M.L. T 8585 (cleanup)	8.51	100.00%	0%	100.00%	0%	0%	2.53E-03	2.26	8.51	8.51	0.05	1.17	0.21	0	flow	100%
CL9	Pyre-M.L. RC 5019	9.09	85.00%	0%	85.00%	0%	9.70%	5.91E-02	2.26	7.73	7.73	1.03	24.73	4.51	0	flow	100%
	Pyre-M.L. T 8585 (thinner)	8.51	100.00%	0%	100.00%	0%	0%	5.91E-02	2.26	8.51	8.51	1.13	27.22	4.97	0	flow	100%
	Pyre-M.L. T 8585 (cleanup)	8.51	100.00%	0%	100.00%	0%	0%	2.53E-03	2.26	8.51	8.51	0.05	1.17	0.21	0	flow	100%
[redacted]	Pyre-M.L. RC 5020	9.09	85.00%	0%	85.00%	0%	9.70%	5.91E-02	2.26	7.73	7.73	1.03	24.73	4.51	0	flow	100% [redacted] holder
	Pyre-M.L. T 8585 (thinner)	8.51	100.00%	0%	100.00%	0%	0%	5.91E-02	2.26	8.51	8.51	1.13	27.22	4.97	0	flow	100%
	Pyre-M.L. T 8585 (cleanup)	8.51	100.00%	0%	100.00%	0%	0%	2.53E-03	2.26	8.51	8.51	0.05	1.17	0.21	0	flow	100%
[redacted]	Pyre-M.L. RC 5021	9.09	85.00%	0%	85.00%	0%	9.70%	5.91E-02	2.26	7.73	7.73	1.03	24.73	4.51	0	flow	100% [redacted] holder
	Pyre-M.L. T 8585 (thinner)	8.51	100.00%	0%	100.00%	0%	0%	5.91E-02	2.26	8.51	8.51	1.13	27.22	4.97	0	flow	100%
	Pyre-M.L. T 8585 (cleanup)	8.51	100.00%	0%	100.00%	0%	0%	2.53E-03	2.26	8.51	8.51	0.05	1.17	0.21	0	flow	100%

Total Potential to Emit — **Add worst case coating to all solvents** — **11.07** | **265.57** | **67.85** | **0.00**

Potential to Emit After Issuance — **--** | [redacted]

METHODOLOGY
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

2. Hazardous Air Pollutants

Emissions Unit ID / ABG Plant - 9823 Ardmore Avenue	Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Cumene[1]	Weight % Xylenes[1]	Cumene Emissions (ton/yr)	Xylenes Emissions (ton/yr)	Total HAP Emissions (ton/yr)
CL4	Pyre-M.L. RC 5019	9.09	5.91E-02	2.26	0%	0%	0	0	0
	Pyre-M.L. T 8585 (thinner)	8.51	5.91E-02	2.26	0.20%	0.20%	9.94E-03	9.94E-03	1.99E-02
	Pyre-M.L. T 8585 (cleanup)	8.51	2.53E-03	2.26	0.20%	0.20%	4.25E-04	4.25E-04	8.51E-04
CL6	Pyre-M.L. RC 5019	9.09	5.91E-02	2.26	0%	0%	0	0	0
	Pyre-M.L. T 8585 (thinner)	8.51	5.91E-02	2.26	0.20%	0.20%	9.94E-03	9.94E-03	1.99E-02
	Pyre-M.L. T 8585 (cleanup)	8.51	2.53E-03	2.26	0.20%	0.20%	4.25E-04	4.25E-04	8.51E-04
CL7	Pyre-M.L. RC 5019	9.09	5.91E-02	2.26	0%	0%	0	0	0
	Pyre-M.L. T 8585 (thinner)	8.51	5.91E-02	2.26	0.20%	0.20%	9.94E-03	9.94E-03	1.99E-02
	Pyre-M.L. T 8585 (cleanup)	8.51	2.53E-03	2.26	0.20%	0.20%	4.25E-04	4.25E-04	8.51E-04
CL8	Pyre-M.L. RC 5019	9.09	5.91E-02	2.26	0%	0%	0	0	0
	Pyre-M.L. T 8585 (thinner)	8.51	5.91E-02	2.26	0.20%	0.20%	9.94E-03	9.94E-03	1.99E-02
	Pyre-M.L. T 8585 (cleanup)	8.51	2.53E-03	2.26	0.20%	0.20%	4.25E-04	4.25E-04	8.51E-04
CL9	Pyre-M.L. RC 5019	9.09	5.91E-02	2.26	0%	0%	0	0	0
	Pyre-M.L. T 8585 (thinner)	8.51	5.91E-02	2.26	0.20%	0.20%	9.94E-03	9.94E-03	1.99E-02
	Pyre-M.L. T 8585 (cleanup)	8.51	2.53E-03	2.26	0.20%	0.20%	4.25E-04	4.25E-04	8.51E-04
[redacted]	Pyre-M.L. RC 5020	9.09	5.91E-02	2.26	0%	0%	0	0	0 [redacted]
	Pyre-M.L. T 8585 (thinner)	8.51	5.91E-02	2.26	0.20%	0.20%	9.94E-03	9.94E-03	1.99E-02
	Pyre-M.L. T 8585 (cleanup)	8.51	2.53E-03	2.26	0.20%	0.20%	4.25E-04	4.25E-04	8.51E-04
[redacted]	Pyre-M.L. RC 5021	9.09	5.91E-02	2.26	0%	0%	0	0	0 [redacted]
	Pyre-M.L. T 8585 (thinner)	8.51	5.91E-02	2.26	0.20%	0.20%	9.94E-03	9.94E-03	1.99E-02
	Pyre-M.L. T 8585 (cleanup)	8.51	2.53E-03	2.26	0.20%	0.20%	4.25E-04	4.25E-04	8.51E-04
Total Potential Emissions							7.25E-02	7.25E-02	1.45E-01

Notes
1. Includes default HAP content of aromatic naphtha (CASRN 64742-95-6) from Table 3 -40 CFR 63, Subpart MMMM

METHODOLOGY
HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emission Calculations
EU-26 BFR & AF Test Equipment

Company Name: Fort Wayne Metals Research Products LLC
Source Address: 9609 Ardmore Avenue, Ft. Wayne, Indiana 46809
FESOP AA No.: 003-47423-00400
Reviewer: Claire Marlatt

Machine #	Description	Year Permitted	Throughput		BFR & AF Test Equipment			VOC				
					Density	Usage	VOC Content	Usage	Potential to Emit			
			(lb product/ yr)	(lb product/ hr)	(lb/gal)	(gal/yr)		(lb VOC/ lb product)	(lb/hr)	(lb/day)	(tons/yr)	
ABA Plant (9609 Ardmore Ave)												
BFR7	test equipment[1]	2019	30.30	0.0035	6.58	71.18	100%	15.46	0.05	1.28	0.23	Move to ABB
BFR501ABA	test equipment[1]	2019	30.30	0.0035	6.58	71.18	100%	15.46	0.05	1.28	0.23	
BFR502ABA	test equipment[1]	2019	30.30	0.0035	6.58	71.18	100%	15.46	0.05	1.28	0.23	
HP6	test equipment[1]	2015	135.23	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
HP7	test equipment[1]	2015	135.23	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
HP8	test equipment[1]	2019	135.23	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
HP9	test equipment[1]	2015	135.23	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
ABB Plant (9733 Ardmore Ave)												
AF501ABB	test equipment[1]	2019	0.40	0.0000	6.58	9.13	100%	150.19	0.01	0.16	0.03	
BFRT2	test equipment[1]	2011	0.40	0.0000	6.58	47.45	100%	780.55	0.04	0.86	0.16	
BFRT4	test equipment[1]	2008	0.40	0.0000	6.58	47.45	100%	780.55	0.04	0.86	0.16	
BFR5	test equipment[1]	2019	0.40	0.0000	6.58	47.45	100%	780.55	0.04	0.86	0.16	
HP11	test equipment[1]	2019	1.83	0.0002	6.58	3.65	100%	13.12	0.00	0.07	0.01	
McArthur Plant (3401 McArthur Dr.)												
BFR8	test equipment[1]	2019	21.90	0.0025	6.58	18.25	100%	5.48	0.01	0.33	0.06	
HP12	test equipment1	2020	135.23	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
Avionics Plant (9307 Avionics Dr.)												
BFR501AV	test equipment1		21.90	0.0025	6.58	18.25	100%	5.48	0.01	0.33	0.06	
HP10	test equipment[1]	2019	2.01	0.0002	6.58	3.65	100%	11.95	0.00	0.07	0.01	
ABG Plant (9823 Ardmore Ave.)												
HP1	test equipment[1]	2015	135.05	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
HP3	test equipment[1]	2016	135.05	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
HP4	test equipment[1]	2017	135.05	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
HP501ABG	test equipment1		135.05	0.0154	6.58	15.97	100%	0.78	0.01	0.29	0.05	
SMB Plant 9733 Ardmore Ave.												
XT1	test equipment[1]	2018	6.13	0.0007	6.58	2.11	100%	2.26	0.00	0.04	0.01	
XT2	test equipment[1]	2021	6.13	0.0007	6.58	2.11	100%	2.26	0.00	0.04	0.01	
Total											1.83	

Note:
1. Uses isopropyl alcohol or denatured alcohol for temperature control

Methodology
Throughput (lb product/hr) = Throughput (lb product/yr) / 8,760 (hr/yr)
VOC Usage (lb VOC/lb product) = Test Chemical Density (lb/gal) x Test Chemical Usage (gal/yr) x Test Chemical VOC Content (%)/100 / Throughput (lb product/yr)
PTE (lb/hr) = VOC Usage (lb/lb product) x Product Throughput (lb/hr)
PTE (tons/yr) = PTE (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)

FORT WAYNE METALS

9609 Ardmore Avenue
Fort Wayne, IN 46809

fwmetals.com

CERTIFIED MAIL®

7021 2720 0002 9255 6776

quadient
FIRST-CLASS MAIL
IMI
$006.75
06/20/2024 ZIP 46809
043M31219496

US POSTAGE

Received
State of Indiana
JUN 26 2024
Dept of Environmental Mgmt
Office of Air Quality

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
ATTN: Incoming Application
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251