

# MEMO

## ASTI Environmental

**Date:** November 9, 2020

**To:** Jeff Korniski, EGLE AQD

**CC:** Brian Kelly, EPA-OSC; Steve Kaiser, EPA; Dave Kline, EGLE; Rich Conforti, EGLE; Dennis Schreibeis, MSC Land Company, LLC; Todd Goss, MSC Land Company, LLC; Mark Fletcher, Stephens Environmental, LLC; Tom Wackerman, ASTI Environmental

**From:** Tim Francis, ASTI Environmental

**Subject:** Former McLouth Steel Remnant Steel Torch Cutting – Response to EGLE AQD Letter Dated October 5, 2020 (ASTI Project 10391)

This memorandum is in response to the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division letter sent October 5, 2020, pertaining to the torch cutting of remnant steel (skull) at the former McLouth Steel County Property. Skull cutting began on the subject property on August 21, 2020 and was suspended on September 21, 2020.

The skulls on site are approximately 8' diameter by 25' long with approximate volume of 1,257 cubic feet. Two and a half skulls have been processed and removed for recycling, and three and a half skulls remain on the property. The density of each is approximately 192 pounds per cubic foot. The weight of each skull is approximately 241,220 pounds (120.6 tons).

On behalf of MSC Land Company, LLC the following presents the EGLE requested information and provides MSC Land Company, LLC's response:

*EGLE Comment: A description of the exempt process or process equipment, including the date of installation.*

### **Process and Process Equipment**

MSC Land Company is performing demolition and remediation of the McLouth Steel site in preparation for redevelopment and must remove the skulls for off-site recycling and reuse. These skulls were historically created from a mixture of molten metal and metal oxides. A handheld Test-Alloy Plus identified the elements listed in the following table:

Elements Detected in Skull Sample	
Element	Percent Content
Fe	95.36
Si	1.61
Co	0.97
Mn	0.71
S	0.69
Zn	0.44
Ti	0.15
Zr	0.045

The contractor uses a portable propane cutting torch to dismantle the “skulls” into sections to accommodate their removal from the site by truck for recycling. The torch cutting process produces varying amounts of smoke and fumes dependent on the size of the skull, the duration of the cutting, and the skull composition. Two Dust Bosses (water spray device) are used to entrain particulate emissions created during the torch cutting process.

As part of the demolition process, the torch cutting of the skulls began on August 21, 2020.

*EGLE Comment: The specific exemption being used by the process or process equipment*

#### **Rule 285(j)(i) Permit Exemption for Portable Torch Cutting**

Torch cutting operations that are conducted as part of a dismantling or demolition operation are exempt from permitting if they do not violate specific criteria listed in the exemption. The torch cutting of the skulls is performed periodically and is a non-production activity, taking a limited time to complete all necessary skull cutting. Further, the contractor only dismantles the skulls when the weather permits due to self-imposed restrictions.

The exemption that applies to the torch cutting of these skulls is Rule 285(j)(i). This exemption is for portable torch cutting equipment. The exemption reads:

- (j) Portable torch cutting equipment that does not cause a nuisance or adversely impact surrounding areas and is used for either of the following:
  - (i) Activities performed on a non-production basis, such as maintenance, repair, and dismantling.

*EGLE Comment: An analysis demonstrating that Rule 278 does not apply to the process or process equipment.*

For the exemptions contained in Rule 285 to apply the exemption must show R 336.1278 (Rule 278) does not apply.

#### **R 336.1278 Exclusion from exemption**

“Rule 278(1) The exemptions specified in R 336.1280 to R 336.1290 do not apply to either of the following:

- (a) Any activity that is subject to prevention of significant deterioration of air quality regulations or new source review for major sources in nonattainment areas regulations.”

Rule 278(1)(a) does not apply because the composition of emissions during cutting does not contain nonattainment materials. In specific, we have no data that indicates ozone is created during the torch cutting. Sulfur dioxide is a product of propane combustion; however, the calculated emission rate is  $2.917 \times 10^8$  tons per year, below the criteria for significant deterioration.<sup>1</sup>

“Rule 278(1)(b) Any activity that results in an increase in actual emissions greater than the significance levels defined in R 336.1119. For the purpose of this rule, "activity" means the concurrent and related installation, construction, reconstruction, relocation, or modification of any process or process equipment.”

Rule 278(1)(b) does not apply because the torch cutting activity does not increase emissions over the significance levels highlighted in R336.1119. The table below provided air monitoring data collected during torch cutting, all stations for each date are below the NAAQS.

Former McLouth Steel County Property Site Preparation Project  
Perimeter PM 2.5 Air Monitoring Results - 24 hour average (mg/m<sup>3</sup>)

Date	Station 1	Station 2	Station 3	Station 4	Avg. wind speed(MPH):	Predominate wind direction:
	24-hr Avg.	24-hr Avg.	24-hr Avg.	24-hr Avg.		
9/3/20	0.007	0.011	0.005	0.006	6.24	W
9/11/20	0.012	0.010	0.002	0.005	6.69	ENE
9/17/20	0.007	0.003	0.010	0.005	8.08	NNE

“Rule 278(2) The exemptions specified in R 336.1280 to R 336.1290 do not apply to the construction of a new major source of hazardous air pollutants or reconstruction of a major source of hazardous air pollutants, as defined in and subject to 40 C.F.R. §63.2 and §63.5(b)(3), national emission standards for hazardous air pollutants, adopted by reference in R 336.1299.”

Rule 278(2) does not apply because the skull cutting activity is not a major source of hazardous air pollutants (HAPs). A major source is defined as 10 tons per year or 25 tons per year of any one HAP or any combination. See attached calculations in Attachment A.

“Rule 278(3) The exemptions specified in R 336.1280 to R 336.1290 do not apply to a construction or modification as defined in and subject to 40 C.F.R. part 61, national emission standards for hazardous air pollutants, adopted by reference in R 336.1299.”

Rule 278(3) does not apply because torch cutting of the skulls is a dismantling operation and would not constitute a construction or modification activity.

<sup>1</sup> NOTE: The National Ambient Air Quality Standards (NAAQS) are health-based pollution standards set by EPA. Areas of the state that are below the NAAQS concentration level are called attainment areas. The entire state of Michigan is in attainment for the following pollutants:

- Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter

Non-attainment areas are those that have concentrations over the NAAQS level. Portions of the state are in non-attainment for sulfur dioxide and ozone (The Subject Property is in a sulfur dioxide and ozone nonattainment area). The ozone non-attainment area is classified as marginal.

“Rule 278(4) The exemptions in R 336.1280 to R 336.1290 apply to the requirement to obtain a permit to install only and do not exempt any source from complying with any other applicable requirement or existing permit limitation.”

Rule 278(4) does not apply to the torch cutting activity because it is not regulated by any other permit limitations.

“Rule 2801(cc) “Major stationary source” is defined by industry and potential emissions”

Rule 2801(cc) does not apply because the source of emissions is not a listed stationary source; is not a major source for volatile organic compounds or oxides of nitrogen.

Attached to this memo is the completed worksheet titled “Appendix B Michigan Rule 278 Test” from the EGLE Permit to Install – Determining Applicability Guidebook (Attachment B). This project is new and is identified as Project Type 1 in the guidelines. If any of the criteria are met, then the Rule 278 exemption does not apply. As indicated in the attached, the thresholds in the table will not be met or are not applicable, and therefore the rule does not apply.

### **Emission Calculations**

Combustion emissions for propane were calculated using the AP 42 Chapter 1.5 emission factors. These calculations are attached to this memo (Attachment A) and are below the regulatory limits.

Calculations for metal and oxide emission are also attached (Attachment B). The EGLE Toxic Air Contaminates (TAC) Rule 227(1)(a) calculations spread sheet is also attached (Attachment B). Emissions and TAC calculations show that torch cutting emissions are below regulatory limits.

The attached uncontrolled emission calculations for combustion of propane and torch cutting are calculated based on AP 42 Chapter 12.5.1.7 Semi-finished Product Preparation and MAERS emission factors for torch cutting; and, AP 42 Chapter 1.5 Liquefied Petroleum Gas Combustion – Propane for combustion of gas associated with the torch. The emission control factor for the Dust Boss is assumed to be 20% based on observations. (Notwithstanding, without the Dust Bosses, we still meet the regulatory limits.) The Toxic Air Contaminant calculations demonstrate that the emissions from propane combustion and torch cutting are well below the limits set in Rule 290(ii) including the following:

“Rule 290(ii) less than 1,000 or 500 pounds per month, uncontrolled and controlled.”

Cobalt, manganese and zinc oxide emissions are below their respective TAC limits.

“Rule 290(ii)(A) initial threshold screening levels (ITSL) greater than or equal to 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 1,000 or 500 pounds per month, respectively.”

Cobalt, manganese and zinc oxide emissions are below their respective ITSL.

“Rule 290(ii)(B) initial threshold screening levels greater than or equal to 0.04 micrograms per cubic meter and less than 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively.”

TAC emissions do not include chemicals within this range of ITSL).

“Rule 290(ii)(C) For carcinogenic air contaminants with initial risk screening levels greater than or equal to 0.04 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively.”

Cobalt, manganese and zinc oxide emissions are below their respective ITSL.

“Rule 290(ii)(D) with an initial threshold screening level or initial risk screening level less than 0.04 micrograms per cubic meter.”

Emissions with ITSL below 0.04 micrograms per cubic meter are not produced.

### **Torch Cutting Process to Reduce Emissions**

The following process was being conducted, and will continue to be conducted while torch cutting of the skulls to control smoke dispersion off-site. Reducing and controlling emissions from this operation is difficult at times due to the lack of consistency of the material being cut causing varying amounts of smoke and therefore we will continue to adjust both the wetting operations and the duration of cutting as necessary to minimize emissions.

The following processes will be conducted during torch cutting of the skulls to control smoke dispersion off-site:

1. Meeting with Site Project Manager each morning to determine approach for the day
2. Torch cutting will not be conducted closer than 300 feet from any property line.
3. Torch cutting will occur when sustained wind speeds of 5 – 12 MPH are present; wind speeds will be periodically monitored while torch cutting
4. A water truck and 2 Dust Bosses will be deployed to the torch cutting location for smoke suppression and fire control, if needed
  - i. One Dust Boss is operational during all torch cutting, and is adjusted as needed to maximize effectiveness
  - ii. The second Dust Boss will be deployed if a single unit is insufficient for smoke suppression
5. Torch cutting will cease when water trucks are refilling
6. If the crew determines that excess emissions are being produced, operations will cease for 5-10 minutes to allow the emissions to dissipate before operations resume
7. If wind speed increases to a level that renders the Dust Boss(es) ineffective, torch cutting will cease until wind speeds are acceptable
8. Perimeter particulate air monitoring as described in the Dust Control Plan will be conducted twice per week during torch cutting operations
9. In addition, conduct a five-day baseline monitoring program during torch cutting, using the perimeter monitoring system, and analyze for iron as an indicator parameter.

10. Conduct real-time air monitoring as described in the Dust Control Work Plan during torch cutting activities.

### Conclusions

The torch cutting of remnant steel (skulls) is part of the overall recycle and reuse initiatives at the Subject Property and is being conducted under the Rule 285(j)(i) exemption, specifically, operating a portable torch to perform dismantling of the remnant steel so it can be removed from site and recycled. Torch cutting is non-production, intermittent and of short duration, but is required to reduce the weight of the steel pieces to allow for transportation to the recycling location. As a proactive engineered control, we have deployed Dust Bosses to minimize the emissions and encapsulate particulate matter with water. Additionally, we are proactively applying self-imposed operating restrictions based on weather conditions during torch cutting of skulls.

Thank you,

*Tim Francis*

Tim Francis  
Project Manager  
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## Attachment A



JOB \_\_\_\_\_  
 SHEET NO. 1 OF 1  
 CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE \_\_\_\_\_

**SKULL DENSITY CALCULATION**

Formula:  $D = m/v$  or Density = Mass/Volume

Sample 1

Starting with 600ml of water

Method <https://sciencing.com/calculate-density-water-displacement-7373751.html>

Displacement of 130ml

Mass =	399.73	grams	0.881254519	lbs	453.592	g / lb
Volume =	130	cm <sup>3</sup>	0.004590907	ft <sup>3</sup>		
Density =	3.075	g / cm <sup>3</sup>	191.96	lb / ft <sup>3</sup>		
Width of Cut =	3	inches			Length of Skull =	25 ft
Diameter of Skull =	8	ft			Volume of Skull =	1,257 cu ft
Volume of Skull Cut =	12.57	ft <sup>3</sup>			Weight of Skull =	241,220 lbs
Weight of Skull Cut =	2,412.2	lbs			Weight of Skull =	120.6 tons
Time for One Skull Cut =	8	hrs				
Cut Rate =	301.5	lb / hour				

AP 42 12.5.1.7 Semifinished Product Preparation

Maching Scarfing (Torch) = 0.1 lb/ton uncontrolled

lb / hr emission = material cut lb/hr / (2000 lb / ton) \* AP 42 emission factor lb/ton

Particulate Emission = 0.015076231 lb/hour Uncontrolled

Dust Boss Control Factor = 50%

Hours per Day = 8.0 hours / day 3 months of operation to complete project

Days per Year = 20 days / year

Potential to Emit = 0.0075 lbs / hour

Potential to Emit = 0.0603 lbs / day

Potential to Emit = 1.2061 lbs / month

Potential to Emit = 3.6183 lbs / year

Potential to Emit = 0.00181 tons / year

453.592 g / lb

3,785.41 cm<sup>3</sup> / gallon

Liquid Propane Density = 0.493 g / cm<sup>3</sup>

Liquid Propane Density = 4.11 lb / gallon

Propane Combution Rate = 15 lb / hour

Propane Combution Rate = 3.65 gallon / hour

Propane Combution Rate = 3.64583E-06 10<sup>3</sup> gallon / hour

**AP 41 Chapter 1.5 Liquefied Petroleum Gas Combustion - Propane**

PM	PM-10	SO <sub>2</sub>	NOX	CO <sub>2</sub>	CO
lb/10 <sup>3</sup> gallon	lb/10 <sup>3</sup> gallon	lb/10 <sup>3</sup> gallon	lb/10 <sup>3</sup> gallon	lb/10 <sup>3</sup> gallon	lb/10 <sup>3</sup> gallon
0.70	0.2	0.1	13	12500	7.50

Pounds / hour = 2.552E-06 7.292E-07 3.646E-07 4.740E-05 4.557E-02 2.734E-05

Pounds / day = 2.042E-05 5.833E-06 2.917E-06 3.792E-04 3.646E-01 2.187E-04

Ton / year = 2.042E-07 5.833E-08 2.917E-08 3.792E-06 3.646E-03 2.187E-06

Content Percent	Constituent	Content Fraction	TAC		Uncontrolled Emission lb / hour	Uncontrolled Emission lb / 8 hours	Controlled Emission lb / hour	Controlled Emission lb / 8 hours
			Regulated	CAS				
95.36%	Fe	0.9536	Iron oxide		1.44E-04	1.15E-03	7.19E-05	5.75E-04
1.61%	Si	0.0161			2.43E-06	1.94E-05	1.21E-06	9.71E-06
0.97%	Co	0.0097	cobalt	7440484	1.46E-06	1.17E-05	7.31E-07	5.85E-06
0.71%	Mn	0.0071	manganese	7439965	1.07E-06	8.56E-06	5.35E-07	4.28E-06
0.69%	S	0.0069			1.04E-06	8.32E-06	5.20E-07	4.16E-06
0.44%	Zn	0.0044	zinc oxide	1314132	6.63E-07	5.31E-06	3.32E-07	2.65E-06
0.15%	Ti	0.0015	titanium dioxide		2.26E-07	1.81E-06	1.13E-07	9.05E-07
0.045%	Zr	0.0005	zirconium		6.78E-08	5.43E-07	3.39E-08	2.71E-07
100%	TOTAL =	1.00						





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## Attachment B

## APPENDIX B – MICHIGAN RULE 278 TEST

To correctly answer the questions, compare the project’s PTE and expected emissions to the emission threshold levels in Table B-2 or Table B-3, depending upon the attainment status of the location of your facility. If any one of these thresholds is exceeded, apply for a Permit to Install, regardless of any permit exemptions that may apply. To help calculate your project’s PTE, go to [www.michigan.gov/deqair](http://www.michigan.gov/deqair) and click on “Clean Air Assistance,” then on “Potential to Emit” under the “Air Permitting” heading.

<b>RULE 278 QUESTIONNAIRE</b>			
<b>PROJECT TYPE</b>	<b>RULE 278 CRITERIA</b>	<b>YES</b>	<b>NO</b>
<b>Major PSD Source (Rule 278(a))</b>			
2, 3, or 4	Is your facility an existing minor source classified under one of the PSD categories (see page B-4), and are you making a change that, by itself, has a PTE of 100 tons per year or more of any regulated air contaminant?		X
2, 3, or 4	Is your facility an existing minor source not classified under one of the source categories (see Table B-1), and are you making a change that, by itself, has a PTE of 250 tons per year or more of any regulated air contaminant?		X
<b>Major PSD Modification (Rule 278(a))</b>			
2, 3, or 4	<p>Are you making a <b>physical change</b> or <b>change in the method of operation</b> at an existing major PSD source which would result in both a <b>significant emissions increase</b> and a <b>significant net emissions increase</b> of a regulated air contaminant for which the area is designated as meeting the NAAQS?</p> <p><b><i>What is a physical change or change in the method of operation?</i></b></p> <p>The USEPA does not define what is a physical change or change in the method of operation. It does however, define what is excluded from being a physical or operational change: routine maintenance, repair, and replacement; use of alternative fuels (under certain circumstances); changes of ownership; the addition, replacement, or use of a pollution control project; and increases in operating hours or production rate, unless either are prohibited by permit condition. For a full listing of the exclusions, see 40 CFR 52.21(b)(2)(i) at <a href="http://www.gpoaccess.gov/cfr/retrieve.html">www.gpoaccess.gov/cfr/retrieve.html</a>.</p> <p><b><i>What are significant emissions increase and significant net emissions increase?</i></b></p> <p>Modifications at existing PSD sources are subject to the PSD regulations provided that it meets two parts: first, a significant emission increase will occur due to project, and secondly, a significant <u>net</u> emissions increase will occur, which takes into account emission changes from the whole facility. The available methods for determining significant emissions increase and significant <u>net</u> emissions increase are explained in the publication entitled, “PSD Workbook - A Practical Guide to Prevention of Significant Deterioration.” The workbook is located at <a href="http://www.michigan.gov/deqair">www.michigan.gov/deqair</a>. Click on “Air Permits,” and then “Permits to Install/New Source Review.”</p>		X

<b>RULE 278 QUESTIONNAIRE</b>			
<b>PROJECT TYPE</b>	<b>RULE 278 CRITERIA</b>	<b>YES</b>	<b>NO</b>
<b>Major Offset Source (Rule 278(b))</b>			
1	Are you constructing a new source that has a PTE of 100 tons per year or more of any regulated air contaminant?		X
2, 3, or 4	<p>Are you making a change at an existing minor source, and the change, by itself, has a PTE of 100 tons per year or more of any regulated air contaminant?</p> <p>Are you proposing the addition of a process or process equipment or a physical change in, or change in the method of operation of a process or process equipment at a major offset source which results in a <b>significant net emissions increase</b> of any air contaminant for which the area is designated as nonattainment of the NAAQS?</p> <p><b><i>What is a significant net emissions increase?</i></b></p> <p>The significant emissions levels are identified in Table B-3 (see page B-5). Any modification at an existing major source that <b>by itself</b> does not increase emissions above the significant levels is not considered to be a modification under the offset requirements. Any modification at an existing major source that <b>by itself</b> exceeds the significance levels may avoid offsets if the net emissions increase is below the levels in Table B-3. To determine if the net emissions increase is significant, follow these three steps:</p> <p><u>Step 1: Calculate the Net Emissions Change.</u></p> <p>Qualify emission increases and decreases made elsewhere in the facility.</p> <p><u>Step 2: Calculate Baseline</u></p> <p>Baseline = facility's actual annual emissions average over a representative 24-month period within the last 10 years.</p> <p><u>Step 3: Compare Net Emissions Change to Baseline</u></p> <p>Compare net emissions change to baseline. If the net emissions change minus the baseline exceeds the values in Table B-3, the change is a significant net emission increase. If the location of the facility is in a non-attainment area for the air contaminant, the significant net emissions increase is considered to be a modification under the offset requirements.</p> <p><b>Example:</b></p> <p>Russ Busses Inc.'s permitted VOC emissions are 450 tons per year (TPY). Their actual emissions are 200 TPY. Three years ago they installed a degreaser with a potential VOC emission of 20 TPY. Due to efficiency improvements, the company reduced emissions of VOC by 35 TPY. The company currently produces 15 busses per hour over a single 8-hour shift.</p> <p>Their PTI limits production to 10 hours per day and 20 busses per hour. The company is located in a nonattainment area for ozone.</p>		NA

<b>RULE 278 QUESTIONNAIRE</b>			
<b>PROJECT TYPE</b>	<b>RULE 278 CRITERIA</b>	<b>YES</b>	<b>NO</b>
<b>Major Offset Source (Rule 278(b)) con't.</b>			
	<p>Question:</p> <p>The company proposes adding a second shift. Annual VOC emissions will increase to 250 TPY. Will this proposed change be considered a major modification under Offsets?</p> <p>Solution:</p> <ul style="list-style-type: none"> <li>• Adding a second shift will exceed their current permitted production limit of 10 hours per day, thus this is considered a change in the method of operation.</li> <li>• The net emissions change will be: <math>250 - 35 + 20 = 235</math> TPY.</li> <li>• The VOC baseline emission is 200 TPY.</li> <li>• The net emission change minus the baseline emission (<math>235 - 200</math>) equals 35 TYP which is lower than the significance threshold of 40 TYP.</li> </ul> <p>Thus this change is not a major modification under the Offset requirements. Even though this example passes the Rule 278 test, it will still need a new PTI to allow them to increase its operating schedule above the schedule in their permit.</p>		
<b>Expected Emissions (Rule 278 (c))</b>			
1,2,3, or 4	Will the expected actual emission of air contaminants resulting from the proposed project equal or exceed the significant levels found in Table B-3?		X
<b>Major HAP Source (Rule 278 (d))</b>			
1,2,3, or 4	Will the potential to emit of a single HAP, or combination of HAPS, resulting from the proposed project equal or exceed 10 or 25 tons per year, respectively?		X

Table B-1

PSD Source Categories
<ul style="list-style-type: none"> <li>• Coal cleaning plants with thermal dryers</li> <li>• Kraft pulp mills</li> <li>• Portland cement plants</li> <li>• Primary zinc smelters</li> <li>• Iron and steel mills</li> <li>• Primary aluminum ore reduction plants</li> <li>• Primary copper smelters</li> <li>• Municipal incinerators capable of charging more than 50 tons of refuse per day</li> <li>• Hydrofluoric acid plants</li> <li>• Petroleum refineries</li> </ul>
<ul style="list-style-type: none"> <li>• Lime plants</li> <li>• Phosphate rock processing plants</li> <li>• Coke oven batteries</li> <li>• Sulfur recovery plants</li> <li>• Carbon black plants with a furnace process</li> <li>• Primary lead smelters</li> <li>• Fuel conversion plants</li> <li>• Sintering plants</li> <li>• Secondary metal production plants</li> <li>• Chemical process plants</li> </ul>
<ul style="list-style-type: none"> <li>• Fossil fuel boilers (or combination thereof) totaling more than 250,000,000 BTU per hour heat input</li> <li>• Petroleum storage and transfer units with a total storage capacity of more than 300,000 barrels or petroleum storage vessels with a capacity of more than 40,000 gallons</li> <li>• Taconite ore processing plants</li> <li>• Glass-fiber processing plants</li> <li>• Charcoal production plants</li> <li>• Fossil fuel-fired steam electric plants of more than 250,000,000 BTU per hour heat input</li> <li>• Phosphate fertilizer plants</li> <li>• Sulfuric acid plants</li> <li>• Nitric acid plants</li> </ul>

**Table B-2**

<b>Significant Net Emission Increase Thresholds for Attainment Areas</b>	
<b>Air Contaminant</b>	<b>Emission Rate (tons per year)</b>
Carbon monoxide	100
Nitrogen oxides	40
Sulfur dioxide	40
Particulate matter	25
PM-10	15
Volatile organic compounds	40
Lead	0.6
Asbestos	0.007
Beryllium	0.0004
Mercury	0.1
Vinyl chloride	1.0
Fluorides	3
Sulfuric acid mist	7
Total reduced sulfur compounds (including H <sub>2</sub> S)	10
Reduced sulfur compounds (including H <sub>2</sub> S)	10
Municipal waste combustor acid gases (measured as SO <sub>2</sub> and HCL)	40
Municipal waste combustor metals	16
Municipal waste combustor organics	3.5 x 10 <sup>-6</sup>

From the federal PSD regulations (40 CFR 52.21)

**Table B-3**

<b>Significant Net Emission Increase Thresholds for Non-Attainment Areas</b>	
<b>Air Contaminant</b>	<b>Emission Rate (tons per year)</b>
Carbon monoxide	100
Nitrogen oxides	40
Sulfur dioxide	40
Particulate matter	25
PM-10	15
Volatile organic compounds	40
Lead	0.6

From the definition of "significant" in Michigan Rule 119(e) as used in Michigan Rule 220