

# Air Permitting in Michigan

Shane Nixon

Inspector

Air Quality Division

Cadillac District Office

231-876-4413

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# Goal

Provide you with a  
basic  
understanding of  
the air permitting  
in Michigan.



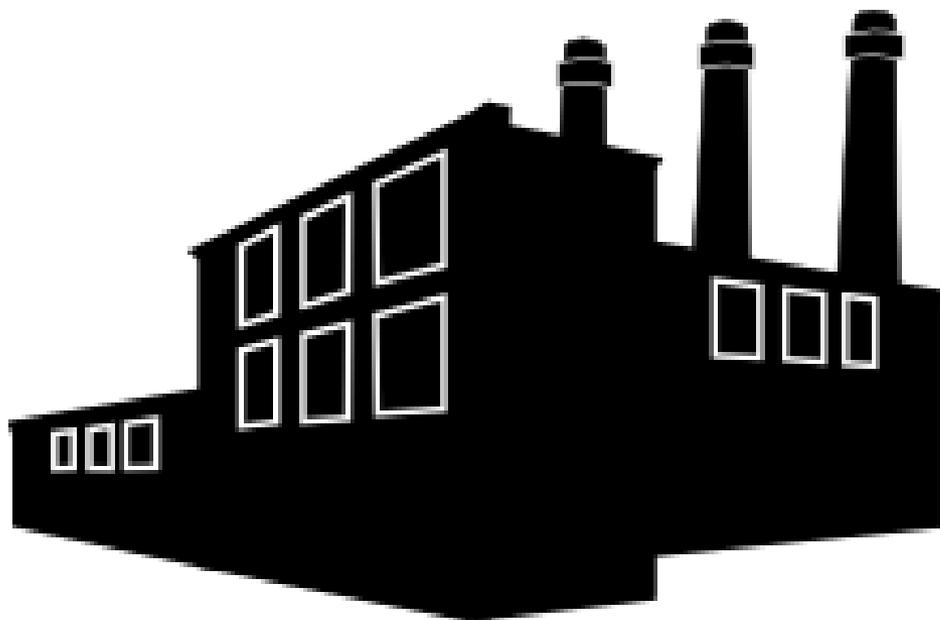
# What to know?

- Types of Sources
- Construction, modification, and reconstruction
- Air Permitting
  - Permit to Install Exemptions
  - Getting a permit

# Types of Sources

# Types of Sources

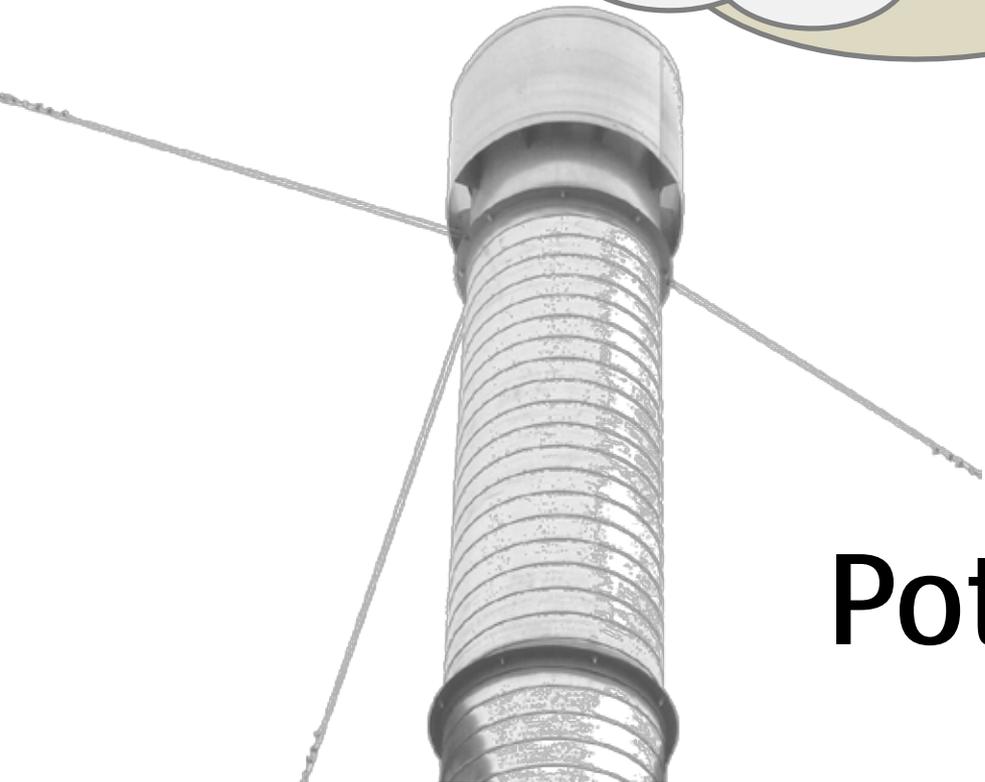
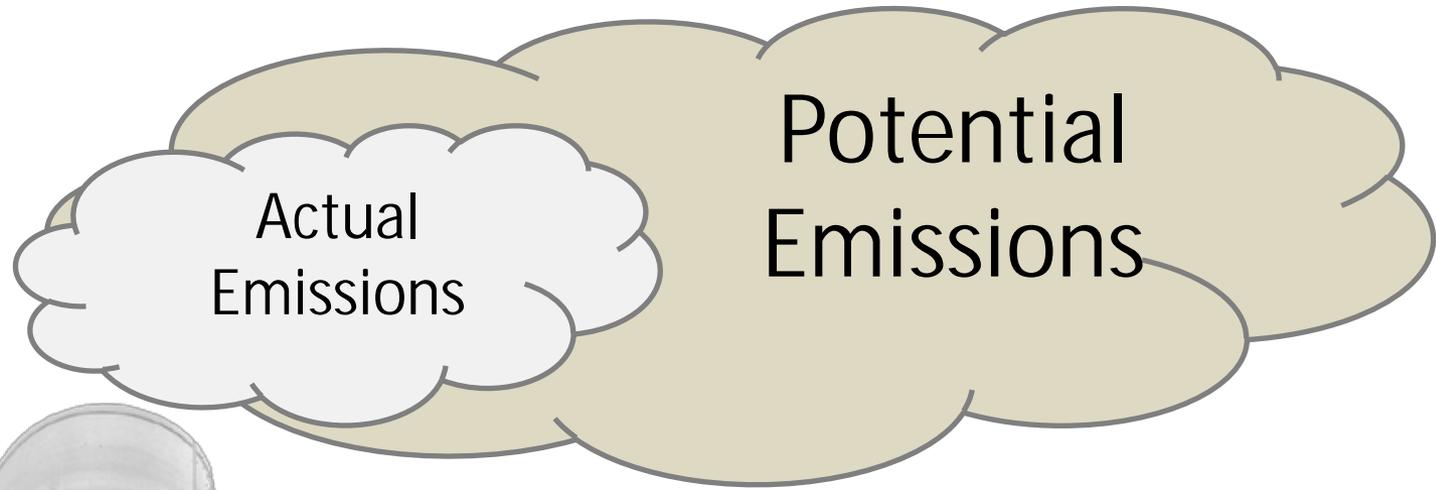
- “Major” and “minor” sources of air contaminants



Major ???



Minor???



**Potential to Emit**

# Potential to Emit (PTE)

$$\text{PTE} = (\text{maximum hourly emission rate of pollutant}) \times (\text{8760 hours})$$

- each process is operated at 100% of its design capacity;
- each process is operated 24 hours/day, 365 days/year;
- the materials emitting the highest amount of air contaminants are used or processed; and
- air pollution control equipment either is not in use or is turned off.

# Major Source

- Potential to Emit
  - > 100 tons/yr Criteria Air Pollutant
  - > 10 tons/yr single Hazardous Air Pollutant
  - > 25 tons/yr total Hazardous Air Pollutants

# Criteria Pollutants

- Carbon Monoxide (CO)
- Nitrogen oxides (NO<sub>x</sub>)
- Sulfur dioxide (SO<sub>2</sub>)
- Lead
- Particulate Matter (PM)
- Ground level Ozone (smog)

# Hazardous Air Pollutants (HAPs)

- HAPs are another family of air contaminants
- May cause serious illness and environmental damage
- CAAA of 1990 list 187 compounds considered to be HAPs.

# “Major Source” Thresholds

Type of Pollutant	Major Source tons/year
Particulate Matter (PM)	
Particulate Matter $\leq$ 10 microns in diameter (PM10)	100
Particulate Matter $\leq$ 2.5 microns in diameter (PM2.5)	100
Volatile Organic Compounds (VOCs)	100
Carbon Monoxide (CO)	100
Nitrogen Oxides (NOx)	100
Sulfur Dioxide (SO <sub>2</sub> )	100
Lead (Pb)*	100
Hazardous Air Pollutants (HAPs) <ul style="list-style-type: none"> <li>· Any single HAP</li> <li>· Any combination of HAPs</li> </ul>	10 25 *Lead compounds are HAPs
Greenhouse Gases (GHG)	100,000 on a CO <sub>2</sub> e basis, and 100 GHGs mass basis
Any other regulated air contaminant	100

# Construction, modification, and reconstruction

- Construction



- Reconstruction,
- Modification



# Why are these important?

AQD Permitting = Pre Construction



# Construction

## Example

New automated coating line:

1. Cost – \$1.5 million
2. 100 million BTU natural gas boiler
3. Aqueous parts wash
4. 6 robotic coating booths for prime, base and clear ~ 1500 gallons coating/month
5. A water-wash particulate control system
6. A regenerative thermal oxidizer (RTO) for VOC/HAP control.



# Construction

- You are clearing land
- You are putting in new plumbing for the water-wash system.
- You have put in anchors for the new coating booths
- You placed a concrete pad for the RTO
- The robots have been delivered and are sitting in your warehouse





Do I need a permit before I begin my:

- **CONSTRUCTION?**      **YES**
- **RECONSTRUCTION?**      **YES**
- **MODIFICATION?**      **MAYBE....**

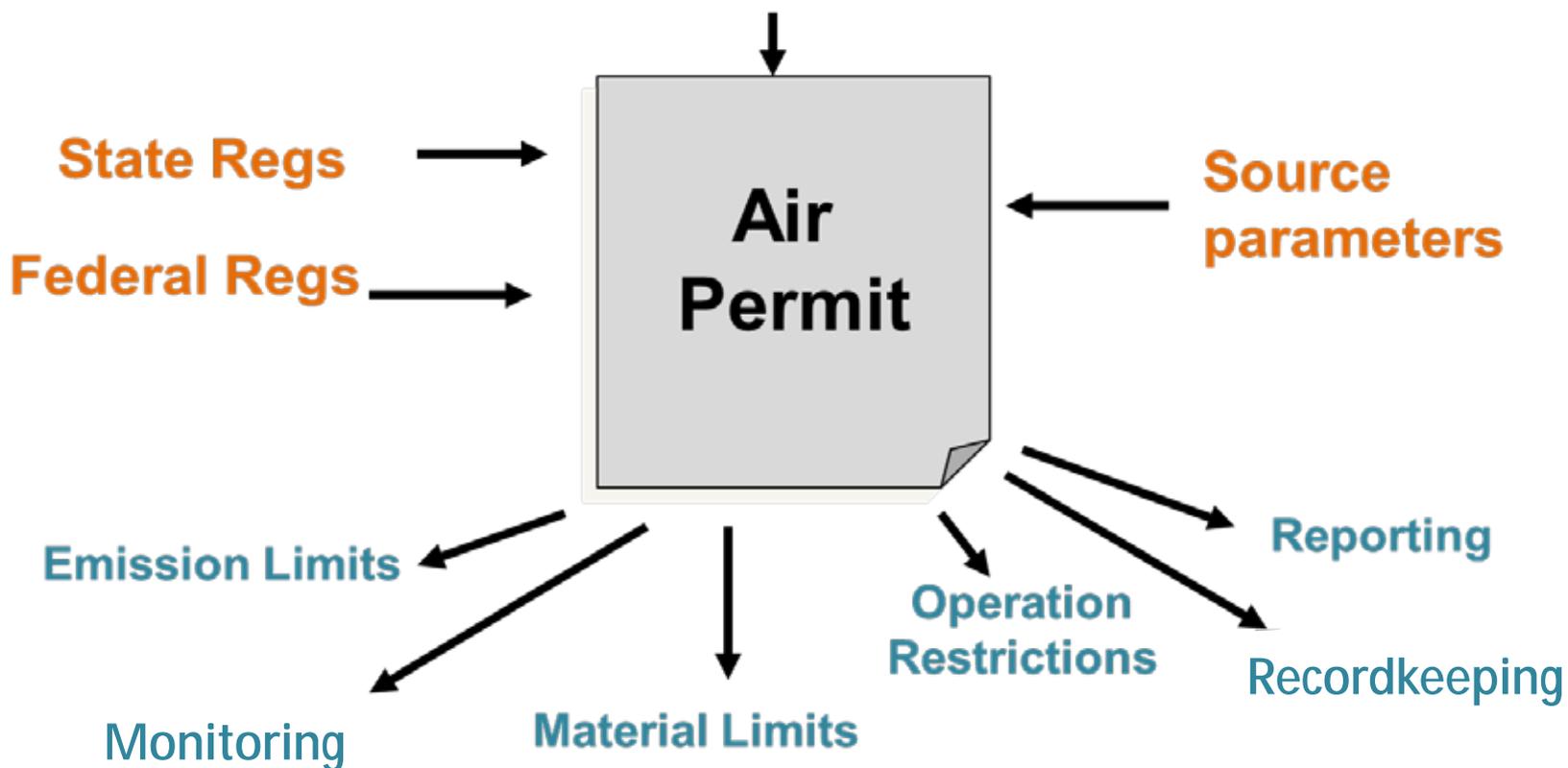


NMECC 2016

# Air Permitting

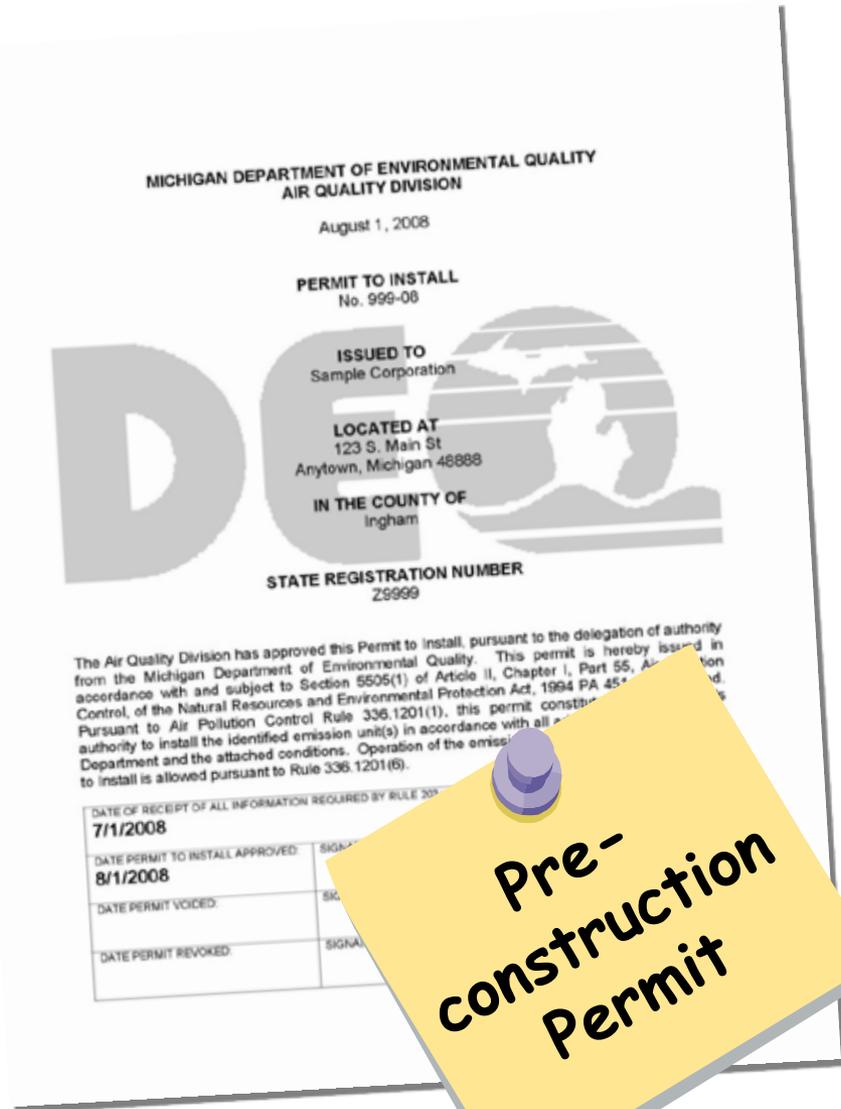
# Air Permitting

## Source Information



# Types of Permits

- Permit to Install (PTI)
- Renewable Operating Permit (ROP)



# Permit to Install

- A.K.A New Source Review Permit
- Applicable to any business regardless of size
- Pre-Construction Permit

# R336.1201 or Rule 201

**R 336.1201 Permits to install.**

Rule 201. (1) Except as allowed in R 336.1202 or R 336.1278 to R 336.1290, a person shall not install, construct, reconstruct, relocate, or modify any process or process

**R 336.1201 Permits to install.**

Rule 201. (1) Except as allowed in R 336.1202 or R 336.1278 to R 336.1290, a person shall not install, construct, reconstruct, relocate, or modify any process or process equipment, including control equipment pertaining thereto, which may emit any of the following, unless a permit to install which authorizes such action is issued by the department:

- (a) Any air pollutant regulated by title I of the clean air act and its associated rules, including 40 C.F.R. §§51.165 and 52.21.
- (b) Any air contaminant.

A person who plans to install, construct, reconstruct, relocate, or modify any such

enforceable. Each condition in a permit issued pursuant to this subtitle shall be identified as state-only enforceable.

(3) A permit to install may be approved subject to any condition, specified in writing, that is reasonably necessary to assure compliance with all applicable requirements.

(4) If a person decides not to install, construct, reconstruct, relocate, or modify the process or process equipment as authorized by a permit to install, then the person, or the authorized agent pursuant to R 336.1204, shall notify the department, in writing, and upon receipt of the notification by the department, the permit to install shall become void. If the installation, reconstruction, or relocation of the equipment for which a permit has

# R336.1202 or Rule 202

## **R 336.1202 Waivers of approval.**

Rule 202. (1) If the requirement for approval of a permit to install before construction will create an undue hardship to the applicant, the applicant may request a waiver to proceed with construction from the department. The application for a waiver shall be in writing, shall explain the circumstances that will cause the undue hardship, and shall be signed by the owner or his or her authorized agent. The application shall be acted upon by the department within 30 days. If a waiver is granted, the applicant shall submit pertinent plans and specifications for approval as soon as is reasonably practical. The applicant, after a waiver is granted, shall proceed with the construction at his or her own risk; however, operation of the equipment shall not be authorized until the application for a permit to install has been approved by the department. After construction, modification, relocation, or installation has begun or been completed, if the plans, specifications, and completed installations do not meet department approval, then the application for a permit to install shall be denied, unless the alterations required to effect approval are made within a reasonable time as specified by the department.

(2) The provisions of subrule (1) of this rule shall not apply to any of the following:

# When is a Permit to Install Required?

- Air permit is required if a process or activity emits an air contaminant.
- Unless, process or activity is specifically exempted in rules.

# When is a Permit to Install Not Required?

Permit Not Required if:

- Process is exempt
- No air emissions
- Grandfathered

**Installed before  
August 15, 1967.  
Never been  
modified.**

# Ask Yourself?

- When was this installed?
- Does it emit air contaminants?
- Could there be an available exemption?



# Permit to Install Exemptions

## Rule 278

**“What’s  
Significant?”**

- \* Rule 278
  - \* Major PSD & HAPs sources
  - \* Excludes projects with “significant” emissions from being exempt

# Permit to Install Exemptions

Rule 119(e) = "Significant"

<b>Pollutant</b>	<b>Emission Rate</b>
<b>CO</b>	<b>100 tons per year (tpy)</b>
<b>SO<sub>2</sub></b>	<b>40 tpy</b>
<b>Nitrogen Oxides</b>	<b>40 tpy</b>
<b>PM10 and PM2.5</b>	<b>15 tpy and 10 tpy</b>
<b>VOC</b>	<b>40 tpy</b>



# Permit to Install Exemptions

## Rule 278

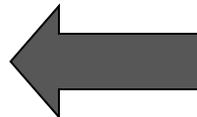
- Rule 278 applies to entire project
- Compare significant emissions thresholds to entire project



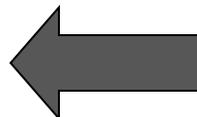
**ENTIRE  
PROJECT!**

**Is a Permit  
Required to  
Install the  
Generators?**

**15 tons NOx**

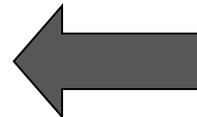


**15 tons NOx**



**Installed  
within 18  
months**

**15 tons NOx**



# Is there an exemption?

- (iii) Changes in a process or process equipment to the extent that such changes do not alter the quality and nature, or increase the quantity, of the emission of the air contaminant beyond the level which has been described in and allowed by an approved permit to install, permit to operate, or order of the department.
- (d) Reconstruction or replacement of air pollution control equipment with equivalent or more efficient equipment.
- (e) Installation, construction, or replacement of air pollution control equipment for an existing process or process equipment for the purpose of complying with the national emission standards of hazardous air pollutants regulated under section 112 of part A of title I of the clean air act, 84 Statutes 1685, 42 U.S.C. §7412.
- (f) Installation or construction of air pollution control equipment for an existing process or process equipment if the control equipment itself does not actually generate a significant amount of criteria air contaminants as defined in R 336.1119(e) or a meaningful quantity of toxic air contaminants.
- (g) Internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input.
- (h) Vacuum pumps in laboratory or pilot plant operations.

- (g) Internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input.
- (h) Vacuum pumps in laboratory or pilot plant operations.
- (i) Brazing, soldering, welding, or plasma coating equipment.

solutions.

- (iv) Atmosphere generators used in connection with metal heat treating processes.
- (v) Equipment used exclusively for sintering of glass or metals, but not exempting equipment used for sintering metal-bearing ores, metal scale, clay, flyash, or metal compounds.
- (vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, plastics, concrete, rubber, paper stock, wood, or wood products which meets any of the following:
  - (A) Equipment used on a nonproduction basis.
  - (B) Equipment has emissions that are released only into the general in-plant environment.
  - (C) Equipment has externally vented emissions controlled by an appropriately designed and operated fabric filter collector that, for all specified operations with metal, is preceded by a mechanical precleaner.

# Permit to Install Exemptions

Significance Level

<b>Pollutant</b>	<b>Emission Rate</b>
<b>CO</b>	<b>100 tpy</b>
<b>SO2</b>	<b>40 tpy</b>
<b>Nitrogen Oxides</b>	<b>40 tpy</b>
<b>PM10 and PM2.5</b>	<b>15 tpy and 10 tpy</b>
<b>VOC</b>	<b>40 tpy</b>

One Project  
45 tons NOx

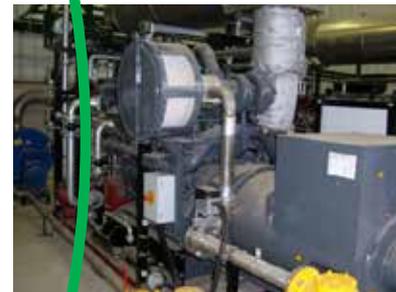
Is a Permit  
Required to  
Install the  
Generators?

15 tons NOx ←

15 tons NOx ←

15 tons NOx ←

**YES!**



One more  
time...

Is there an exemption?

**NO**

**Permit  
Required**

**YES**

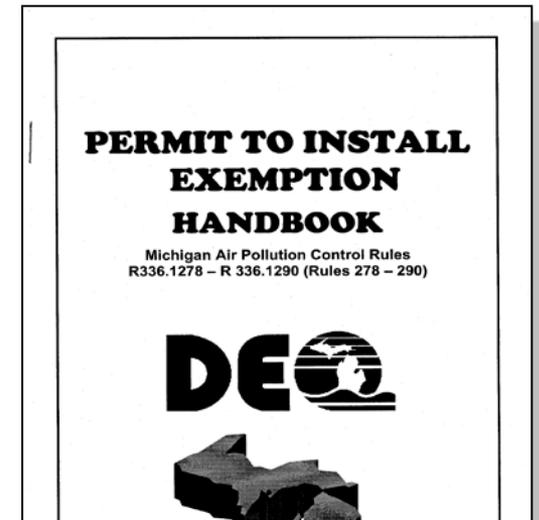
Are emissions from project less than significant?

**NO**

**Permit  
Required**

**YES**

**Permit NOT  
Required (exempt)**



# Tracking Exemptions



- Verify exemption with District office\*
- Keep exemption determination in file

\* The inspector will not tell you what exemption to use, but they will likely inform you of their concerns regarding your determination.

**What if I need a  
permit?**

# Permit to Install

Cannot begin  
construction  
or installation  
until permit  
issued





# The Air Permit Application

- Free!!!
- Find it at [www.michigan.gov/air](http://www.michigan.gov/air)

<b>DEQ</b> MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR QUALITY DIVISION				<b>PERMIT TO INSTALL APPLICATION</b>		<small>FOR DEQ USE ONLY APPLICATION NUMBER</small>	
<small>For authority to install, construct, reconstruct, relocate, or modify process, fuel-burning or refuse burning equipment and/or control equipment. Permits to install are required by administrative rules pursuant to Section 5505 of 1994 PA 451, as amended.</small>							
<small>Please type or print clearly. The "Application Instructions" and "Information Required for an Administratively Complete Permit to Install Application" are available on the Air Quality Division (AQD) Permit Web Page at <a href="http://www.deq.state.mi.us/lps">http://www.deq.state.mi.us/lps</a>. Please call the AQD at 517-373-7023 if you have not been contacted within 15 days of your application submittal.</small>							
1. FACILITY CODES: State Registration Number (SRN) and North American Industry Classification System (NAICS)							
SRN		NAICS					
2. APPLICANT NAME: (Business License Name of Corporation, Partnership, Individual Owner, Government Agency)							
3. APPLICANT ADDRESS: (Number and Street)						MAIL CODE:	
CITY: (City, Village or Township)			STATE:	ZIP CODE:		COUNTY:	
4. EQUIPMENT OR PROCESS LOCATION: (Number and Street - if different than item 3)							
CITY: (City, Village or Township)			ZIP CODE:		COUNTY:		
5. GENERAL NATURE OF BUSINESS:							
6. EQUIPMENT OR PROCESS DESCRIPTION: (A Description MUST Be Provided Here. Include Emission Unit IDs. Attach additional sheets if necessary, number and date each page of the submittal.)							
7. REASON FOR APPLICATION: (Check all that apply.)							
<input type="checkbox"/> INSTALLATION / CONSTRUCTION OF NEW EQUIPMENT OR PROCESS							
<input type="checkbox"/> RECONSTRUCTION / MODIFICATION / RELOCATION OF EXISTING EQUIPMENT OR PROCESS - DATE INSTALLED:							
<input type="checkbox"/> OTHER - DESCRIBE							
8. IF THE EQUIPMENT OR PROCESS THAT WILL BE COVERED BY THIS PERMIT TO INSTALL (PTI) IS CURRENTLY COVERED BY ANY ACTIVE PERMITS, LIST THE PTI NUMBER(S):							
9. DOES THIS FACILITY HAVE AN EXISTING RENEWABLE OPERATING PERMIT (ROP)? <input type="checkbox"/> NOT APPLICABLE <input type="checkbox"/> PENDING APPLICATION <input type="checkbox"/> YES							
PENDING APPLICATION OR ROP NUMBER:							
10. AUTHORIZED EMPLOYEE:				TITLE:		PHONE NUMBER: (include Area Code)	
SIGNATURE:				DATE:		E-MAIL ADDRESS:	
11. CONTACT: (if different than Authorized Employee. The person to contact with questions regarding this application)						PHONE NUMBER: (include Area Code)	
CONTACT AFFILIATION:						E-MAIL ADDRESS:	
12. IS THE CONTACT PERSON AUTHORIZED TO NEGOTIATE THE TERMS AND CONDITIONS OF THE PERMIT TO INSTALL? <input type="checkbox"/> YES <input type="checkbox"/> NO							
<b>FOR DEQ USE ONLY - DO NOT WRITE BELOW</b>							



# Permit to Install Application

Basic Source Information  
Stack info; Process and site information; emission estimates; etc.

## MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR QUALITY DIVISION PERMIT TO INSTALL APPLICATION INSTRUCTIONS

### INFORMATION:

A permit to install is required to install, construct, reconstruct, relocate, or modify any process or process equipment, including control equipment pertaining thereto, which may emit an air contaminant (R 336.1201). A process is an action, operation, or a series of actions or operations at a source that emits or has the potential to emit an air contaminant. Process equipment is all equipment, devices, and auxiliary components, including air pollution control equipment, stacks, and other emission points, used in a process. An emission unit is any part of a stationary source that emits or has the potential to emit an air contaminant. Air pollution control equipment is any method, process, or equipment that removes, reduces, or renders less noxious air contaminants discharged into the atmosphere. An application may be submitted for one or more interrelated processes at a source.

### ADDITIONAL REQUIREMENTS:

An administratively complete application must include reasonable responses to all requests for information on the application form and in these instructions. Additional detailed information may be attached to the application form and must be submitted in duplicate. In addition to the general information requested on the application form, the following information must be included for the application to be considered administratively complete.

- A. **Process Description** - In addition to the general process description which must be included in Item 6 on the application form, attach a written description in appropriate detail of each process covered by this application. State the size and type along with the make and model (if known) of the proposed process equipment, including any air pollution control equipment. Create a unique descriptive identifier (Emission Unit ID) for each emission unit. Specify the proposed operating schedule of the process equipment in hours per day, days per week, and weeks per year. Provide details of the type and feed rate of each material used in or produced by the process, in pounds per hour or similar measure. Describe any fuels and associated firing devices used in the process. Describe any waste generated by the process or equipment and methods of disposal or treatment. Applications for complex or multiple processes should also include a block diagram showing the flow of materials and intermediate and final products.
- B. **Regulatory Discussion** - Describe all federal, state, or local air pollution control regulations which you believe are applicable to the proposed process or process equipment. Include a discussion of how you believe the proposed process or process equipment complies with these regulations.
- C. **Control Technology Analysis** - Describe how the air contaminant emissions from the proposed process equipment will be controlled or otherwise minimized. Provide sufficient control method detail to show the extent and efficiency of any air pollution control devices. Air pollution control includes pollution prevention or other methods which result in reduced emissions from the process.
- D. **Emissions Summary and Calculations** - Explain clearly and in appropriate detail the nature, quantity (both controlled and uncontrolled), concentration, particle size, pressure, temperature, etc. of all air contaminants, including all toxic air contaminants, that are reasonably anticipated to be discharged to the atmosphere due to the operation of the source. Summarize these emissions calculations in tabular form for all equipment covered by the application and for each stack/vent.
- E. **Stack/Vent Parameters** - For each stack or vent related to the proposed process equipment provide the following information (including ranges if appropriate): the minimum height above the ground, maximum internal diameter or dimensions, discharge orientation (e.g., vertical, horizontal), maximum exhaust volume flow rate in cubic feet per minute (indicate actual or standard), maximum exhaust gas temperature, a description of any rain protection device, and location of any stack testing ports.
- F. **Site Description and Process Equipment Location Drawings** - Submit legible scale drawings which show a plan view of the owner's property to the boundary lines. Locate and identify the proposed equipment. Locate and identify all adjacent properties, include outline and height of all structures within 150 feet of proposed equipment and show any fence lines. Locate and identify all stacks/vents or other emission points related to the proposed process equipment and indicate the distance to the nearest property line. Indicate the scale of the plan and north direction on the drawing.

Additional information beyond that identified above may be required to complete the technical review of any individual application. Further information or clarification concerning permits to install, including the document "Information Required for an Administratively Complete Application," can be obtained from the address listed below, the Internet, or by calling (517) 373-7023.

### ADDITIONAL REQUIREMENTS FOR USE OF ELECTRONIC APPLICATION:

The electronic version of the Permit to Install Application is a WORD template. This template may be downloaded and completed electronically. The department is not accepting electronic submittal of the application. Create three (3) paper copies of the application. Mail three (3) copies of this application along with two (2) copies of any plans, specifications, or drawings required by the above instructions to the address below. The application must include the original signature of an authorized employee of the applicant certifying the truth of the information in the application. Applicant should retain a copy of the application.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION - PERMIT SECTION  
P.O. BOX 30260  
LANSING, MI 48908-7760

For Priority/Express Mail:  
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION - PERMIT SECTION  
CONSTITUTION HALL, 3<sup>RD</sup> FLOOR NORTH  
525 W ALLEGAN  
LANSING, MI 48933

FOR DEQUE APPLICATION NUMBER

It to Install Application" are 7-284-6804 if you have not

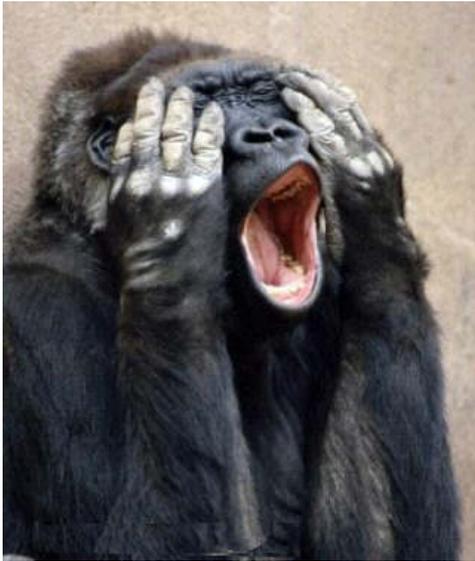
ANY ACTIVE PERMITS, APPLICATION  YES

NUMBER: (include Area Code) ADDRESS:

NUMBER: (include Area Code)

YES  NO

DATE APPLICATION DENIED: SIGNATURE: A PERMIT CERTIFICATE WILL BE ISSUED UPON APPROVAL OF A PERMIT TO INSTALL



# Need Help With your Application??

- AQD District & Permit Staff
- Contact the Office of Environmental Assistance (OEA)
- PTI Workshop (details available on our website)



# The Air Permit

- Contains requirements source is subject to
- Contract between state of MI and business

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION

August 1, 2008

**PERMIT TO INSTALL**  
No. 999-08



**ISSUED TO**  
Sample Corporation

**LOCATED AT**  
123 S. Main St  
Anytown, Michigan 48888

**IN THE COUNTY OF**  
Ingham

**STATE REGISTRATION NUMBER**  
Z9999

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>7/1/2008</b>	
DATE PERMIT TO INSTALL APPROVED: <b>8/1/2008</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

# Permit to Install

- The permit will identify requirements.
- Emission and material Limits
- Operational Restrictions
- Recordkeeping, monitoring, reporting

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION

August 1, 2008

**PERMIT TO INSTALL**  
No. 999-08

**ISSUED TO**  
Sample Corporation

**LOCATED AT**  
123 S. Main St  
Anytown, Michigan 48888

**IN THE COUNTY OF**  
Ingham

**STATE REGISTRATION NUMBER**  
29999

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(8).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>7/1/2008</b>	
DATE PERMIT TO INSTALL APPROVED: <b>8/1/2008</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

# What if I Don't Have a Permit?

- Initiate application process ASAP!
- Contact district office

**Don't wait for an  
inspector to find  
the violation!**



# NEED MORE AIR?

[www.michigan.gov/air](http://www.michigan.gov/air)

(For all your Air Quality needs)

Thank you!

Any Questions?

