

# Air Quality Regulations: 101

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## Discussion Points

- Why? What's the big deal?
- What air emissions are regulated?
  - NAAQS, HAP's, and TAC's
- How much? Potential to Emit and Determining Source Category
- How are emissions regulated?
  - Federal Regulations, State Rules, and Permits
- Tying it all together

## What air emissions are regulated?

As a company or factory, what emissions do I have to worry about?

- Pollutants with established National Ambient Air Quality Standards (NAAQS)
  - CO
  - NOx
  - SO<sub>2</sub>
  - PM
  - Lead
  - Ozone (VOC)

## NAAQS

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
[links to historical tables of NAAQS reviews]					
<a href="#">Carbon Monoxide (CO)</a>		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
<a href="#">Lead (Pb)</a>		primary and secondary	Rolling 3 month average	0.15 µg/m <sup>3</sup> (1)	Not to be exceeded
<a href="#">Nitrogen Dioxide (NO<sub>2</sub>)</a>		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb (2)	Annual Mean
<a href="#">Ozone (O<sub>3</sub>)</a>		primary and secondary	8 hours	0.070 ppm (3)	Annual fourth- highest daily maximum 8-hour concentration, averaged over 3 years
<a href="#">Particle Pollution (PM)</a>	PM <sub>2.5</sub>	primary	1 year	12.0 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m <sup>3</sup>	annual mean, averaged over 3 years
	PM <sub>10</sub>	primary and secondary	24 hours	35 µg/m <sup>3</sup>	98th percentile, averaged over 3 years
		primary and secondary	24 hours	150 µg/m <sup>3</sup>	Not to be exceeded more than once per year on average over 3 years
<a href="#">Sulfur Dioxide (SO<sub>2</sub>)</a>		primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

## Non-Attainment in Michigan

### What air emissions are federally regulated?

- Pollutants with established NAAQS
  - CO, NO<sub>x</sub>, SO<sub>2</sub>, PM, Lead, Ozone (VOC)
- Hazardous Air Pollutants (HAP's)-
  - 187 pollutants

### HAPs

List of 187

### What air emissions are state-only regulated?

- Toxic Air Contaminants (TACs or "Toxics")
  - Currently the TAC list is open ended which means that the number of TACs regulated in Michigan will change as new screening levels are developed
  - The current list of TACs contains screening levels for **1,249** chemicals.

### How Much? - Potential to Emit and Determining Source Category

I operate a company or factory- what quantity of emissions do I have to worry about?

- **Potential to Emit (PTE)**
  - PTE is the maximum amount of air contaminants that your facility could emit with the following conditions being applied:
    - 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.

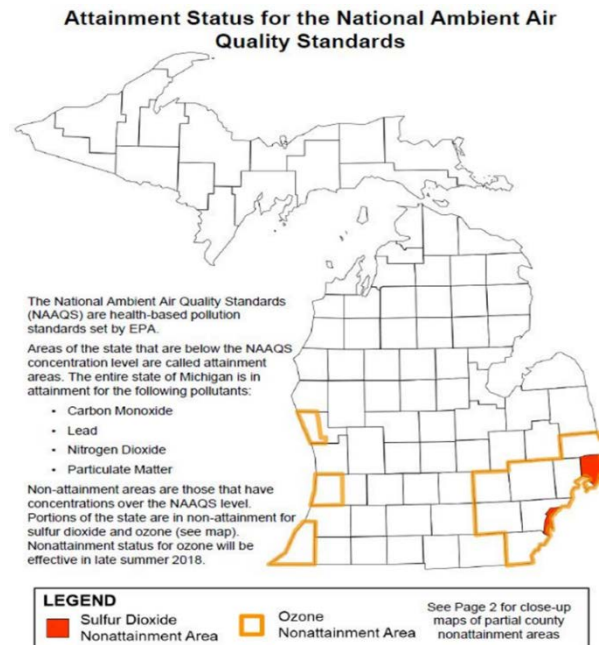
While actual emissions are based on the amount of contaminants your facility emits under normal operating conditions using actual usage data, PTE refers to the maximum amount or potential emissions of contaminants that your facility could release into the air based on the physical and operational design processes.

### Source Categories

- Major Source
  - 100 tons / year or more for CO, NO<sub>x</sub>, PM, VOC, SO<sub>2</sub>
  - 25 tons / year of any combined HAPs
  - 10 tons / year of any single HAP
- Minor Source
  - Emissions less than major levels
- Synthetic Minor
  - Permit conditions that prevent emissions greater than major source thresholds

### How are air emissions regulated?

- Federal Regulations
  - Title 40 Code of Federal Regulations
  - Part 60, New Source Performance Standards (NSPS) 40 CFR Part 60
  - 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAP)
  - 40 CFR Part 75, Continuous Emission Monitoring System (CEMS)
- State Rules—[www.michigan.gov/air](http://www.michigan.gov/air), click "State Air Laws and Rules" then click "Air Pollution Control Rules"



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- Permit Exemptions - [www.michigan.gov/air](http://www.michigan.gov/air), click “State Air Laws and Rules” then click “Part 2 Exemptions”
- Permits
  - Permits to Install (PTI’s)
  - Renewable Operating Permits (ROP’s)
  - Opt-Out PTI (Synthetic Minor)
- PTI’s
  - Operates as contract
  - Contains emission and material limits, operation and design restrictions
  - Contains monitoring/recordkeeping, testing sampling, and reporting requirements
  - Allows facility to begin construction or installation
  - Major sources must also obtain a Renewable Operating Permit (ROP)
- ROP’s (Title V)
  - Title V of the Clean Air Act is the explanation of Permits, or ROP’s
  - ROP’s are federal permits
  - Pulls together all of the requirements into a single document
  - Gives a better picture of air emissions at a facility.
  - All PTI’s and any other applicable air quality requirements will be incorporated into one permit
- Opt-Out PTI
  - Though this is for a source that has the potential to be a major source, yet the desire to remain a minor source
  - Permit includes emission limits, material limits, or design restrictions to prevent major source emissions

#### **Tying it all together Tying it all together**

- Why- Air emissions are regulated to ensure the comfortable enjoyment of life and health
- What- Regulated emissions include those identified in NAAQS, HAPs, and TACs
- How much?
  - Facilities use PTE to determine their category or source size for pollutants
- How regulated?
  - Depending on emissions, facilities may be required to comply with one or multiple NSPS’, NESHAP, or may be required to obtain a permit

#### **Should you need a Air Permit or a Federal Regulation Applies, what are your Responsibilities?**

##### Facility Duties

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Comply with conditions</li> <li>• Monitor emissions</li> <li>• Maintain records</li> <li>• Submit reports</li> <li>• Apply for new or modified permit if certain changes are made</li> </ul> | <ul style="list-style-type: none"> <li>• Monitor stack testing</li> <li>• Conduct inspections</li> <li>• Review emission reports</li> <li>• Review compliance certifications</li> <li>• Certify monitoring systems</li> <li>• Respond to complaints</li> </ul> |
|---|--|

#### **Common Questions**

- Is it possible to not need a permit yet have a NSPS or NESHAP that applies to me?
- How do the permit exemption rules (270-290) work?
- Is it better to ask for forgiveness than ask for approval?
- How do I get help determining whether I need a permit?