



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Ozone RACT

Trace McDonald

Environmental Engineer

mcdonaldt@michigan.gov

517-582-3570

Marissa Stegman

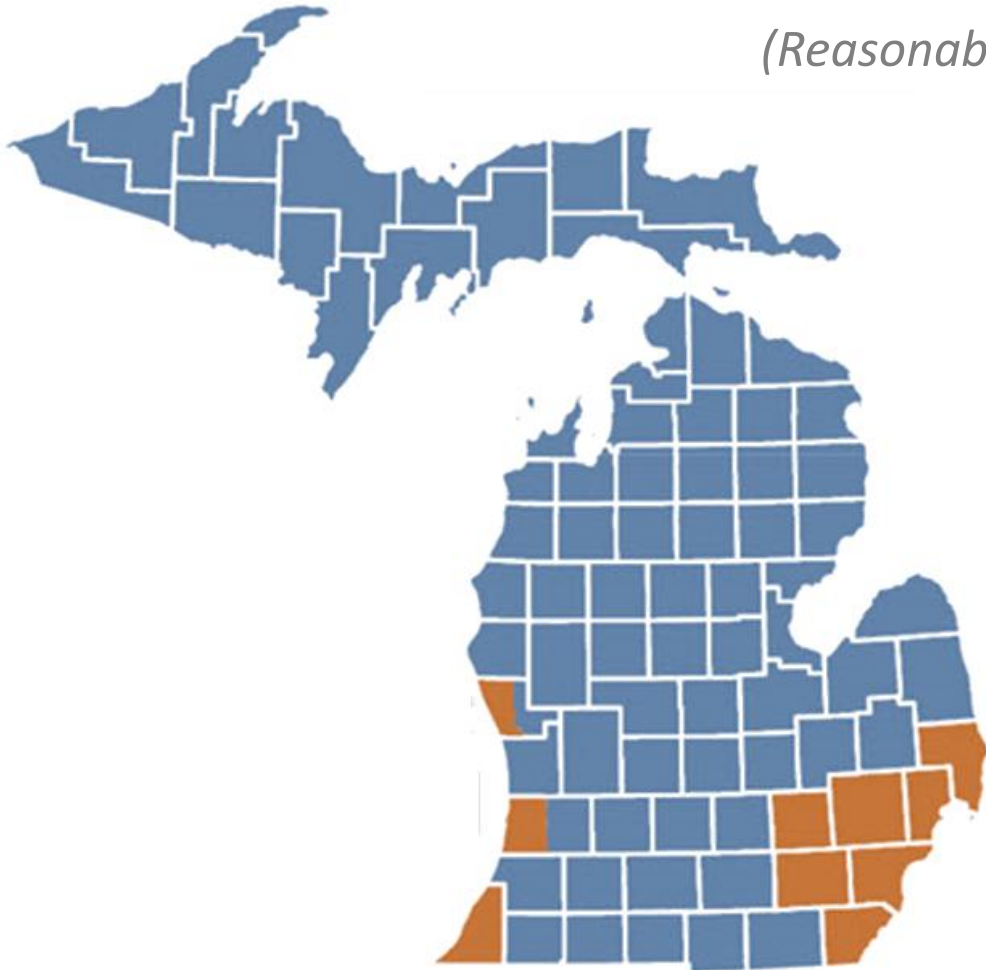
Environmental Quality Analyst

stegmanm1@michigan.gov

517-582-3601

Introduction to RACT

(Reasonably Available Control Technology)



CAA Requirement	Marginal	Moderate
New Source Review Offsets	1 to 1.1	1 to 1.15
Attainment Date	3 years (2021)	6 years (2024)
VOC and NOx RACT	No	Yes
15% VOC Reasonable Further Progress Reductions	No	Yes
Basic Inspection & Maintenance Program	No	Yes

CAA RACT Requirements

	Non-Major Source	Major Source
CTG Source	Must Address *per CAA	Must Address *per CAA
Non-CTG Source	No Requirements	Must Address *per CAA

How can we address these sources?

Update Current RACT Rules

New Rulemaking

Confirm Existing Rules are sufficient

Negative Declarations

- CTG: Control Technique Guideline document by EPA
- Major Source: Facilities with the potential to emit (PTE) of 100 tons per year (tpy) of VOC's and/or NOx

To address new(er) CTG's or different NAA's than the past....

...update current RACT rules

Rule*	CTG Category
R606 & 607	Design Criteria for State 1 Vapor Control Systems - Gasoline Service Stations
R608	Bulk Gasoline Plants
R609 & 627	Gasoline Tank Trucks and Vapor Collection Systems
R610, 621, & 632	Coating Rules for automotive and miscellaneous metal and plastic parts
R624	Flexible Package Printing
R628	Compound Leaks from Synthetic Organic Chemical Polymer and Resin Manufacturing Equipment

...or new rulemaking

CTG Category
Wood Furniture Manufacturing
Offset Lithographic Printing and Letterpress Printing
Miscellaneous Industrial Adhesives
Fiberglass Boat Manufacturing Materials (*TBD)
Oil and Gas RACT Updates (specific areas TBD)
Industrial Cleaning Solvents
Non-CTG major sources

* In some cases, a new rule may have to be created based on an existing rule

Confirm Existing Rules reflect current CTG

Rule	Category
604-605	Storage of Petroleum Liquids in Fixed-Roof Tanks
609	Hydrocarbons from Tank Truck Gasoline Loading Terminals
610	Cans/Coils/Fabrics & Insulation of Magnet Wire Coatings
610?	Insulation of Magnet Wire coating
611-614	Solvent Metal Cleaning
615-617	Refinery Vacuum Producing Systems, Wastewater Separators, and Process Unit Turnarounds
618	Use of Cutback Asphalt
619	Perchloroethylene Dry Cleaning Systems
622	Leaks from Petroleum Refinery Equipment
623	Petroleum Liquid Storage in External Floating Roof Tanks
625	Manufacture of Synthesized Pharmaceutical Products
628 & 631?	Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins
629	Equipment Leaks from Nat Gas/Gas Processing Plants

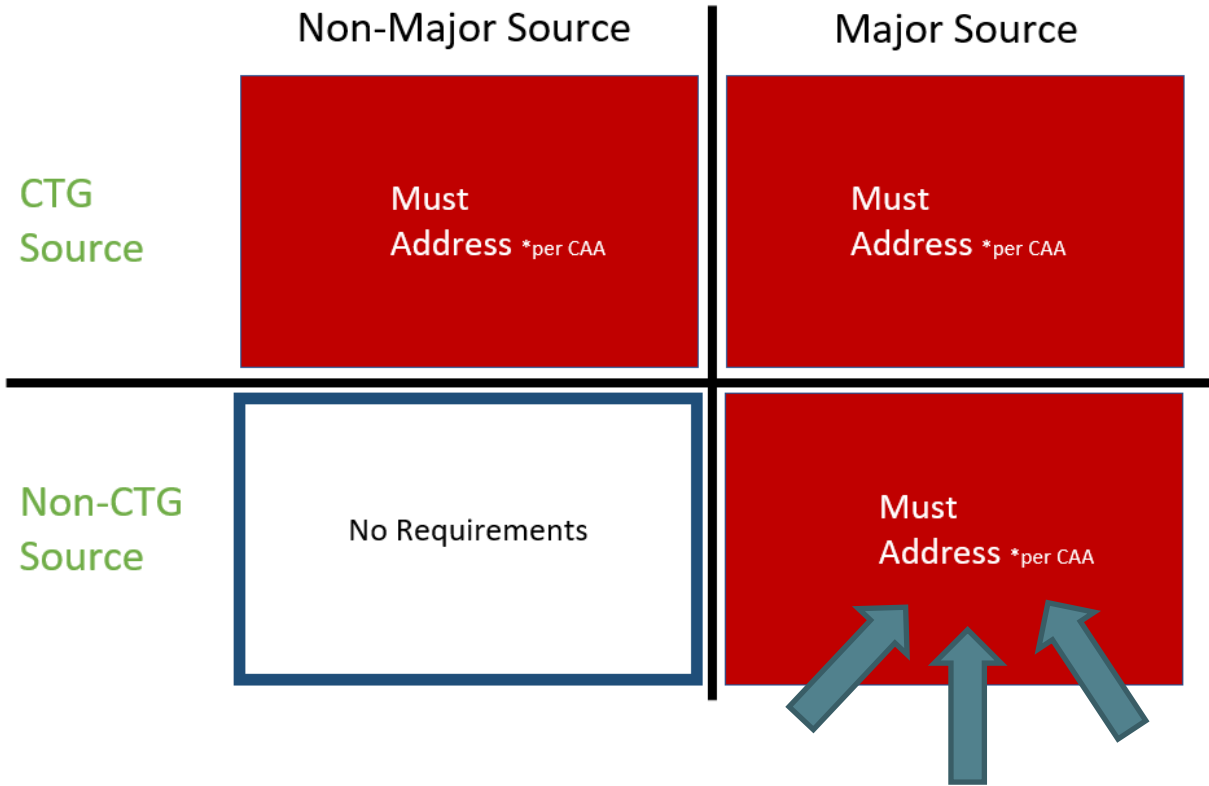
**Some may require geographic applicability to be updated to new NAA.*

Negative Declaration Categories

CTG Category
Aerospace*
Air Oxidation processes in SOCFI - VOC
Glass Manufacturing - NOx
Large Appliance Coatings
Large Petroleum Dry Cleaners
Pneumatic Rubber Tires - VOC
Reactor processes and distillation operations in SOCFI*
Surface Coating: Shipbuilding and Ship Repair Facilities*
Flat wood paneling coatings

**we are still verifying a few potential sources*

Non-CTG RACT Work



- ~140 NOx sources w/ PTE > 100 tons
- ~180 VOC sources w/ PTE > 100 tons, including CTG sources
- Alec has started doing a deeper dive on some of the largest sources
- Site specific RACT?

NOx RACT Work

Potential Processes to Explore

Cement Manufacturing

(Current R817 – no action needed)

Industrial, Commercial, & Institutional Boiler

Iron and Steel Mills

Process Heaters

Stationary Combustion Turbines

Stationary Internal Combustion Engines

Utility Boilers

Nitric and Adipic Acid Manufacturing Plants
(likely negative declaration)

- Still investigating engine tune-ups
- Looking at other states RACT rules
- LADCO group is working on analysis of NOx controls
(Lake Michigan Air Directors Consortium)

Other Potential Rules (non-RACT)

- Volatile Chemical Products
 - Consumer Products
 - Architectural and Industrial Maintenance Coatings
- Inspection and Maintenance
- Formaldehyde
- Oil and Gas rules
- ????????

Part	Reason
1	Updates to Definitions (RACT, etc.)
2	Formaldehyde(?)
6	VOC RACT rules; Formaldehyde; O&G(?)
7	Potential updates due to RACT (new vs. existing)
8	NOx RACT rules
9	Adoption by Reference; O&G(Emission Guidelines)
10	Testing and monitoring, if necessary

Helpful Resources

- **EGLE:**
 - **Ozone Nonattainment Webpage:** https://www.michigan.gov/egle/0,9429,7-135-3310_70940-515124--,00.html
 - Provides overview, planning, timeline, list of potential new rules, workgroup updates, etc.

- **EPA:**
 - **Ozone Information:** <https://www.epa.gov/ground-level-ozone-pollution>
 - **RACT Information:** <https://www.epa.gov/ground-level-ozone-pollution/ract-information>
 - **CTG Documents:** <https://www.epa.gov/ground-level-ozone-pollution/control-techniques-guidelines-and-alternative-control-techniques>

The screenshot shows the EGLE website page for Ozone Nonattainment. The page includes a navigation menu with categories like AIR, LAND, WASTE, WATER, and SUSTAINABILITY. The main content area is titled "Ozone Nonattainment (Workgroups, Planning, etc.)" and provides an overview of the 2015 National Ambient Air Quality Standard (NAAQS) and lists various subject matters with their respective SIP Requirement Categories, Anticipated Actions, Rulemaking status, Current Rules, Staff, and Current work status.

Subject Matter*	SIP Requirement Category*	Anticipated Action*	Rulemaking (Y/N/?)*	Current Rule*	Staff*	Current work*	Start Date*
Industrial, Commercial & Institutional Boiler	ACT	TBD	?	8XX	Tracey M /Marissa S		
Iron and Steel Mills	ACT	TBD	?	8XX	Tracey M /Marissa S		
LADCO NOx RACT workgroup rules/results	ACT	New Rule	?	8XX	Tracey M /Marissa S	In process	Jun-21
Nitric and Adipic Acid Manufacturing Plants - NOx	ACT	Negative Declaration	N	n/a	Tracey McDonald	Paused	
NOx Emissions from Cement Manufacturing	ACT	No action needed	N	817	Tracey McDonald	Not Started	
Process Heaters	ACT	TBD	?	8XX	Tracey M /Marissa S	Not Started	
Stationary Combustion Turbines	ACT	TBD	?	8XX	Tracey M /Marissa S	Not Started	
Stationary Internal Combustion Engines	ACT	TBD	?	8XX	Tracey M /Marissa S	Not Started	
Utility Boilers	ACT	TBD	?	8XX	Tracey M /Marissa S	Not Started	
Move 661 to 660	Clean up	Modify Rules	Y	660-661	Tracey McDonald		Dec-21
Aerospace	CTG	Negative Declaration	N	n/a	Tracey McDonald	In process	
Air Oxidation processes in SOCMi - VOC	CTG	Negative Declaration	N	n/a	Tracey McDonald	Paused	
Auto and LD Truck Assembly & Paper/Film/Foil Coating	CTG	New Rule	Y	610a	Marissa Stegman	Drafted	
Bulk Gasoline Plants	CTG	Modify Rule	Y	608	Tracey McDonald	In process	Jul-21

The screenshot shows the EPA website page for Ground-level Ozone Pollution. The page features a header with the EPA logo and navigation links for Environmental Topics, Laws & Regulations, Report a Violation, and About EPA. The main content area is titled "Ground-level Ozone Pollution" and includes a photograph of a woman and a child. A text box over the photo states: "Reducing ozone pollution makes breathing easier." Below the photo, there is a section for "Announcements" and a footer with the text: "Ozone can be 'good' or 'bad' for health and the environment depending on where it's found in the atmosphere."