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CONTROL OF OZONE PRECURSOR EMISSIONS IN THE LAKE MICHIGAN AIR DIRECTORS CONSORTIUM REGION

1.0 EXISTING REGULATIONS

In order to develop the LADCO ozone precursor emissions control strategies analysis, potential emission reductions must be informed by an understanding of on-the-books (OTB) and on-the-way (OTW) regulations. Ultimately, new emissions control strategies must be based on emissions and/or activity reductions beyond the requirements that exist under current or emerging federal, state, and/or local regulations.

Ramboll compiled, and LADCO member states reviewed and commented, on local and state regulations applicable to anthropogenic sources responsible for the majority of nitrogen oxides (NO_x) and volatile organic compound (VOC) emissions in the LADCO region (table included as Attachment 1)¹. State/local regulations which incorporated Federal regulations by reference, and that do not require emissions control beyond Federal requirements are not included in this chapter (e.g. Minnesota Rules Chapter 7011.0830 incorporates 40 CFR Subpart F: New Source Performance Standards for Portland Cement Plants). The regulation list is comprehensive for a majority of anthropogenic source category NO_x and VOC emissions in the LADCO region. Ramboll engaged with states to ensure applicable regulations were included for all LADCO states.

State regulations listed in Attachment 1 are indicative of control requirements that are more stringent than Federal requirements. However, in many cases, it may be feasible to increase control stringency further. During control option screening, the presence of an existing state regulation will not preclude selection of a control option for more detailed analysis if additional control would result in substantial emission reductions. For example, Ohio adopted the 2006 Ozone Transport Commission (OTC) model rule for Consumer Products, but there are several more recent OTC model rules for Consumer Products that could result in greater emission reductions.

Control measures listed in resources such as EPA's Menu of Control Measures and other state implementation planning references are based on existing Federal regulations. In addition, potential measures compiled for the screening analysis are based on more stringent regulatory and/or voluntary programs proposed by EPA or in other non-LADCO regions which go beyond established Federal regulations. Therefore, to perform a screening analysis of potential control measures, a listing of Federal regulations is not required.

¹ Emission category groupings that represent >0.5% of total NO_x+VOC inventory are included in the state regulations compilation.

ATTACHMENT 1: EXISTING STATE REGULATIONS

State and Local Regulations by LADCO-wide emissions inventory groupings, organized from largest to smallest NOx+VOC contribution²

Category	Percent of 2016 Emissions LADCO-wide			On-the-Books /On-the-Way Regulations					
	NOx+VOC ³	NOx	VOC	Michigan	Illinois	Indiana	Minnesota	Ohio ⁴	Wisconsin
Mobile Sources									
Passenger Cars and Light Duty Trucks	19.1%	21.2%	17.0%		Title 35, Part 241: Clean Fuel Fleet Program ⁵ Title 35, Part 275: Alternate Fuels Program ⁶ Title 35, Part 276: Vehicle emissions inspection program ⁷	Title 326, Article 13 (Northwest Indiana Vehicle Emissions Testing Program) ^{8,9} Title 326, Article 19 Mobile Source Rules (Northwest Clean Fuel Fleet Vehicles) ¹⁰	Clean Cars Minnesota ¹¹ (not yet adopted)	Chapter 3745-26, Motor Vehicle Inspection and Maintenance (I/M) Program ¹² (Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit counties) Chapter 3745-80, Statewide Motor Vehicle Anti-Tampering Program ¹³	Chapter NR 485 Control of Emissions From Motor Vehicles, Internal Combustion Engines And Mobile Sources; Tampering Prohibition ¹⁴ Chapter NR 486 Employee Commute Options Program ¹⁵ Chapter NR 487 Clean Fuel Fleet Program ¹⁶
Heavy Duty Haul Trucks	6.4%	12.1%	1.0%					Chapter 3745-80, Statewide Motor Vehicle Anti-Tampering Program ¹⁷	Chapter NR 485 Control of Emissions from Motor Vehicles, Internal Combustion Engines and Mobile Sources; Tampering Prohibition ¹⁸
Off-highway equipment - Diesel	5.4%	10.2%	0.9%						
Off-highway equipment - Gasoline/LPG/CNG	3.6%	1.6%	5.5%						
Diesel Line/Yard Locomotives	3.4%	6.7%	0.3%						
Snowmobiles	2.4%	0.2%	4.4%						
Pleasure Craft	2.1%	1.2%	3.0%						
Aircraft	0.8%	1.2%	0.4%						
Marine Vessels	0.7%	1.4%	0.1%						
Other Mobile Sources (<0.5% contribution per SCC)	1.4%	1.7%	1.1%						
Mobile Sources Subtotal	45.3%	57.5%	33.7%						
Stationary Sources (Point and Non-Point Sources)									
Solvents: Consumer, Commercial, Household, Personal Care Products	7.4%		14.5%	Part 6. Emission Limitation and Prohibitions – Existing and New Sources of Volatile Organic Compounds Emissions (336.1660, 336.1661) ¹⁹	Title 35, Part 223: Subpart B: Consumer and Commercial Products ²⁰	Title 326, Article 8-15 (Standards for Consumer and Commercial Products) ²¹		Chapter 3745-112, Consumer Products ²² based on 2006 OTC model rule Phase II (statewide)	

² 2016v1 modeling platform for calendar year 2016 (v2016fh)

³ NOx+VOC values represent the ratio of NOx and VOC emissions by category to total NOx and VOC emissions in the 2016 LADCO inventory. The sum of individual NOx and VOC percentages does not equal the NOx+VOC value.

⁴ Ohio EPA has provided information on the geographical scope of Ohio regulations.

⁵ <http://www.ilga.gov/commission/jcar/admincode/035/035002410B01130R.html>

⁶ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11964/>

⁷ <https://www2.illinois.gov/epa/topics/air-quality/mobile-sources/Pages/vehicle-emissions-testing.aspx>

⁸ <https://www.in.gov/ndem/airquality/2333.htm>

⁹ <http://www.in.gov/legislative/iac/T03260/A00130.PDF>

¹⁰ <http://www.in.gov/legislative/iac/T03260/A00190.PDF>

¹¹ <https://www.pca.state.mn.us/air/clean-cars-mn-rulemaking>

¹² https://www.epa.ohio.gov/dapc/regs/3745_26

¹³ https://www.epa.ohio.gov/dapc/regs/3745_80

¹⁴ http://docs.legis.wisconsin.gov/code/admin_code/nr/400/485.pdf

¹⁵ http://docs.legis.wisconsin.gov/code/admin_code/nr/400/486.pdf

¹⁶ http://docs.legis.wisconsin.gov/code/admin_code/nr/400/487.pdf

¹⁷ https://www.epa.ohio.gov/dapc/regs/3745_80

¹⁸ http://docs.legis.wisconsin.gov/code/admin_code/nr/400/485.pdf

¹⁹ https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=1608_2016-003EO_AdminCode.pdf

²⁰ <http://www.ilga.gov/commission/jcar/admincode/035/03500223sections.html>

²¹ <http://www.in.gov/legislative/iac/T03260/A00080.PDF>

²² https://www.epa.ohio.gov/dapc/regs/3745_112

Category	Percent of 2016 Emissions LADCO-wide			On-the-Books /On-the-Way Regulations					
	NOx+VOC ³	NOx	VOC	Michigan	Illinois	Indiana	Minnesota	Ohio ⁴	Wisconsin
Electric Generation Coal Boiler	7.0%	14.1%	0.3%	Part 8. Emission Limitations and Prohibitions—Oxides of Nitrogen ²³	Title 35, Part 225, Subpart B, Multi-pollutant Standard and Combined Pollutant Standard ²⁴ Title 35, Part 217, Subpart M: Electrical Generating Units, Subpart U: NOx Control and Trading Program for specified NOx Generating Units, Subpart V: Electric Power Generation, Subpart W: NOx Trading Program for Electrical Generating Units ²⁵	Title 326, Article 10, Nitrogen Oxides Rules ²⁶		Chapter 3745-110, Nitrogen Oxides - Reasonably Available Control Technology ²⁷ (Existing sources: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit County; new or modified sources: statewide)	Chapter NR 428 Control of Nitrogen Compound Emissions ²⁸ Chapter NR 433 Protection of Visibility by Application of Best Available Retrofit Technology ²⁹
Oil and Gas Exploration and Production	4.1%	1.9%	6.2%	Part 6 and 7. Emission Limitation and Prohibitions – Existing and New Sources of Volatile Organic Compounds Emissions (336.1629) ³⁰					
Residential Wood Combustion	3.9%	0.6%	7.1%	5514 of PA 451 of 1994 prohibits state regulation of “wood heaters”					
Open Burning/ Prescribed Burning	3.2%	0.6%	5.8%	Michigan Air Pollution Control Rules (336.1310) and Part 115 (Solid Waste) Rules ³¹	Title 35, Part 237: Open Burning	Title 13, Article 17, Chapter 9, and Title 326, Article 4-1, Burning Regulations (Open Burning) ³²		Chapter 3745-19, Open Burning Standards ³³ (statewide)	Chapter NR 429 Malodorous Emissions and Open Burning ³⁴
Residential Natural Gas Combustion	3.2%	6.1%	0.3%						
Surface Coating	2.9%		5.7%	Part 6 and 7. Emission Limitation and Prohibitions – Existing and New Sources of Volatile Organic Compounds Emissions (336.1610, 336.1620, 336.1621, 336.1632) ³⁵	Title 35, Parts 218 and 219: Subpart F: Coating Operations ^{36, 37}	Title 326, Article 8-14 Volatile Organic Compound Rules (Standards for Architectural and Industrial Maintenance (AIM) Coatings) ³⁸		Chapter 3745-21, Carbon Monoxide, Photochemically Reactive Materials, Hydrocarbons, and Related Materials Standards ³⁹ (geographic applicability varies by control technique guideline “CTG”)	Chapter NR 421 Control of Organic Compound Emissions from Chemical, Coatings And Rubber Products Manufacturing ⁴⁰ Chapter NR 422 Control of Organic Compound Emissions from Surface Coating, Printing And Asphalt Surfacing Operations ⁴¹
Agriculture - Pesticides Application & Livestock	2.2%		4.2%						
Graphic Arts	2.1%		4.1%	Part 6 and 7. Emission Limitation and Prohibitions – Existing and New Sources of Volatile Organic Compounds Emissions (336.1624) ⁴²	Title 35, Parts 218 and 219, Subpart H: Printing and Publishing: Printing and Publishing ^{43, 44}	Title 326, Article 8-16 (Offset Lithographic Printing and Letterpress Printing) ⁴⁵		Chapter 3745-21, Carbon Monoxide, Photochemically Reactive Materials, Hydrocarbons, and Related Materials Standards ⁴⁶ (geographic applicability varies by CTG)	Chapter NR 422.14(422.145) Control of Organic Compound Emissions From Surface Coating, Printing And Asphalt Surfacing Operations ⁴⁷

²³ https://www.michigan.gov/documents/deq/deq-aqd-air-rules-apc-part8_314769_7.pdf

²⁴ <http://www.ilga.gov/commission/jcar/admincode/035/03500225sections.html>

²⁵ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11928/>

²⁶ <http://www.in.gov/legislative/iac/T03260/A00100.PDF>

²⁷ https://www.epa.ohio.gov/dapc/regs/3745_110

²⁸ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/428/_2?up=1

²⁹ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/433

³⁰ https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=1608_2016-003EO_AdminCode.pdf

³¹ https://www.michigan.gov/egle/0,9429,7-135-3310_4106_70665_70668-234568--,00.html

³² <https://www.in.gov/idem/openburning/2399.htm>

³³ https://www.epa.ohio.gov/dapc/regs/3745_19

³⁴ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/429

³⁵ https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=1608_2016-003EO_AdminCode.pdf

³⁶ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11930/>

³⁷ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11932/>

³⁸ <http://www.in.gov/legislative/iac/T03260/A00080.PDF>

³⁹ https://www.epa.ohio.gov/dapc/regs/3745_21

⁴⁰ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/421

⁴¹ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/422

⁴² https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=1608_2016-003EO_AdminCode.pdf

⁴³ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11930/>

⁴⁴ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11932/>

⁴⁵ <http://www.in.gov/legislative/iac/T03260/A00080.PDF>

⁴⁶ https://www.epa.ohio.gov/dapc/regs/3745_21

⁴⁷ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/422

Category	Percent of 2016 Emissions LADCO-wide			On-the-Books /On-the-Way Regulations					
	NOx+VOC ³	NOx	VOC	Michigan	Illinois	Indiana	Minnesota	Ohio ⁴	Wisconsin
Architectural Coatings	1.8%		3.5%		Title 35, Part 223, Subpart C, Architectural and Industrial Maintenance Coatings ⁴⁸ Title 35, Parts 218 and 219, Subpart X: Construction ^{49, 50}	Title 326, Article 8-14 Volatile Organic Compound Rules (Standards for Architectural and Industrial Maintenance (AIM) Coatings) ⁵¹		Chapter 3745-113, Architectural and Industrial Maintenance (AIM) Coatings ⁵² based on 2001 OTC model rule (statewide)	Chapter 422.15 Control of Organic Compound Emissions From Surface Coating, Printing And Asphalt Surfacing Operations ⁵³
Commercial/Industrial Boilers and IC Engines - Natural gas (nonpoint)	1.8%	3.4%	0.2%	Part 8. Emission Limitations and Prohibitions—Oxides of Nitrogen ⁵⁴	Title 35, Part 217, Subpart C: Existing Fuel Combustion Emission Units, Subpart E: Industrial Boilers, Subpart F: Process Heaters, Subpart Q: Stationary Reciprocating Internal Combustion Engines and Turbines ⁵⁵	Title 326, Article 10, Nitrogen Oxides Rules ⁵⁶	Chapter 7011, Standards for Stationary Sources, Indirect and Direct Heating (7011.0600-7011-.0625, 7011.0500-7011.0550) ⁵⁷		
Commercial/Industrial Boilers and IC Engines - Natural gas (Point)	1.6%	3.1%	0.2%	Part 8. Emission Limitations and Prohibitions—Oxides of Nitrogen ⁵⁸	Title 35, Part 217, Subpart C: Existing Fuel Combustion Emission Units, Subpart E: Industrial Boilers, Subpart F: Process Heaters, Subpart Q: Stationary Reciprocating Internal Combustion Engines and Turbines ⁵⁹	Title 326, Article 10, Nitrogen Oxides Rules ⁶⁰	Chapter 7011, Standards for Stationary Sources, Indirect and Direct Heating (7011.0600-7011-.0625, 7011.0500-7011.0550) ⁶¹	Chapter 3745-14, NOx Budget Program ⁶² Chapter 3745-110, Nitrogen Oxides - Reasonably Available Control Technology ⁶³ (Existing sources: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit County; new or modified sources: statewide)	Chapter NR 428 Control of Nitrogen Compound Emissions ⁶⁴
Petroleum Product Storage, Transport, Processing	1.3%		2.6%	Part 6 and 7. Emission Limitation and Prohibitions – Existing and New Sources of Volatile Organic Compounds Emissions (336.1608, 336.1609, 336.1615-336.1617, 336.1622, 336.1705, 336.1706) ^{65, 66}	Title 35, Parts 218 and 219, Subpart B: Organic Emissions from Storage and Loading Operations and Subpart R: Petroleum Refining and Related Industries; Asphalt Materials ^{67, 68}	Title 326, Article 8-4 (Petroleum Sources) ⁶⁹		Chapter 3745-21, Carbon Monoxide, Photochemically Reactive Materials, Hydrocarbons, and Related Materials Standards ⁷⁰ (geographic applicability varies by CTG)	Chapter NR 420 Control of Organic Compound Emissions from Petroleum And Gasoline Sources ⁷¹
Solvents: Degreasing	1.1%		2.2%	Part 6 and 7. Emission Limitation and Prohibitions – Existing and New Sources of Volatile Organic Compounds Emissions (336.1611-336.1614, 336.1707-336.1710) ^{72, 73}	Title 35, Parts 218 and 219, Subpart E: Solvent Cleaning ^{74, 75}	Title 326, Article 8-3 (Organic Solvent Degreasing Operations) ⁷⁶		Chapter 3745-21, Carbon Monoxide, Photochemically Reactive Materials, Hydrocarbons, and Related Materials Standards ⁷⁷ (geographic applicability varies by CTG)	Chapter NR 423 Control of Organic Compound Emissions from Solvent Cleaning Operations ⁷⁸

⁴⁸ <https://casetext.com/regulation/illinois-administrative-code/title-35-environmental-protection/part-223-standards-and-limitations-for-organic-material-emissions-for-area-sources/subpart-c-architectural-and-industrial-maintenance-coatings>

⁴⁹ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11930/>

⁵⁰ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11932/>

⁵¹ <http://www.in.gov/legislative/iac/T03260/A00080.PDF>

⁵² https://www.epa.ohio.gov/dapc/regs/3745_113

⁵³ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/422

⁵⁴ https://www.michigan.gov/documents/deq/deq-aqd-air-rules-apc-part8_314769_7.pdf

⁵⁵ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11928/>

⁵⁶ <http://www.in.gov/legislative/iac/T03260/A00100.PDF>

⁵⁷ <https://www.revisor.mn.gov/rules/7011/>

⁵⁸ https://www.michigan.gov/documents/deq/deq-aqd-air-rules-apc-part8_314769_7.pdf

⁵⁹ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11928/>

⁶⁰ <http://www.in.gov/legislative/iac/T03260/A00100.PDF>

⁶¹ <https://www.revisor.mn.gov/rules/7011/>

⁶² https://www.epa.ohio.gov/dapc/regs/3745_14

⁶³ https://www.epa.ohio.gov/dapc/regs/3745_14

⁶⁴ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/428

⁶⁵ https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=1608_2016-003EO_AdminCode.pdf

⁶⁶ https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=477_10451_AdminCode.pdf

⁶⁷ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11930/>

⁶⁸ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11932/>

⁶⁹ <http://www.in.gov/legislative/iac/T03260/A00080.PDF>

⁷⁰ https://www.epa.ohio.gov/dapc/regs/3745_21

⁷¹ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/420

⁷² https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=1608_2016-003EO_AdminCode.pdf

⁷³ https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=477_10451_AdminCode.pdf

⁷⁴ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11930/>

⁷⁵ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11932/>

⁷⁶ <http://www.in.gov/legislative/iac/T03260/A00080.PDF>

⁷⁷ https://www.epa.ohio.gov/dapc/regs/3745_21

⁷⁸ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/423

Category	Percent of 2016 Emissions LADCO-wide			On-the-Books /On-the-Way Regulations					
	NOx+VOC ³	NOx	VOC	Michigan	Illinois	Indiana	Minnesota	Ohio ⁴	Wisconsin
Gasoline Service Stations	1.1%		2.2%	Part 6 and 7. Emission Limitation and Prohibitions – Existing and New Sources of Volatile Organic Compounds Emissions (336.1606, 336.1607, 336.1703, 336.1704) ⁷⁹	Title 35, Parts 218 and 219, Subpart Y: Gasoline Distribution ^{80, 81}	Title 326, Article 8-14 Volatile Organic Compound Rules (Gasoline Dispensing Facilities) ^{82, 83}	Chapter 7011, Standards for Stationary Sources, Stage-One Vapor Recovery 7011.0870 ⁸⁴	Chapter 3745-21 Carbon Monoxide, Photochemically Reactive Materials, Hydrocarbons, and Related Materials Standards ⁸⁵ (geographic applicability varies by CTG)	Chapter NR 420 Control of Organic Compound Emissions From Petroleum and Gasoline Sources ⁸⁶
Metal Production: Taconite Iron Ore Processing	0.9%	1.9%	0.0%						
Other combustion (industrial wood; residential/industrial propane boilers; gas/oil/LPG-fired heaters; etc.)	0.9%	1.7%	0.1%	Part 8. Emission Limitations and Prohibitions—Oxides of Nitrogen ⁸⁷	Title 35, Part 217, Subpart C: Existing Fuel Combustion Emission Units, Subpart E: Industrial Boilers, Subpart F: Process Heaters, Subpart Q: Stationary Reciprocating Internal Combustion Engines and Turbines ⁸⁸	Title 326, Article 10, Nitrogen Oxides Rules ⁸⁹ Title 326, Article 4-3 (Outdoor Hydronic Heaters) ⁹⁰	Chapter 7011, Standards for Stationary Sources ⁹¹	Chapter 3745-110, Nitrogen Oxides - Reasonably Available Control Technology ⁹² (Existing sources: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit County; new or modified sources: statewide)	Chapter NR 428 Control of Nitrogen Compound Emissions ⁹³
Electric Generation Natural Gas Turbine	0.4%	0.8%	0.1%	Part 8. Emission Limitations and Prohibitions—Oxides of Nitrogen ⁹⁴	Title 35, Part 217, Subpart M: Electrical Generating Units, Subpart U: NOx Control and Trading Program for specified NOx Generating Units, Subpart V: Electric Power Generation, Subpart W: NOx Trading Program for Electrical Generating Units ⁹⁵	Title 326, Article 10, Nitrogen Oxides Rules ⁹⁶		Chapter 3745-110, Nitrogen Oxides - Reasonably Available Control Technology ⁹⁷ (Existing sources: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit County; new or modified sources: statewide)	Chapter NR 428 Control of Nitrogen Compound Emissions ⁹⁸
Cement Manufacturing (Dry Process)	0.4%	0.8%	0.0%	Part 8. Emission Limitations and Prohibitions—Oxides of Nitrogen (336.1817) ⁹⁹	Title 35, Part 217, Subparts H and T: Cement Kilns ¹⁰⁰	Title 326, Article 10, Nitrogen Oxides Rules ¹⁰¹		Rule 3745-14-11, Portland Cement Kilns ¹⁰² (statewide)	Chapter NR 428 - Control of Nitrogen Compound Emissions ¹⁰³

⁷⁹ https://dtmb.state.mi.us/ARS_Public/AdminCode/DownloadAdminCodeFile?FileName=1608_2016-003EO_AdminCode.pdf

⁸⁰ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11930/>

⁸¹ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11932/>

⁸² <http://www.in.gov/legislative/iac/T03260/A00080.PDF>

⁸³ <https://www.in.gov/idem/airquality/2373.htm>

⁸⁴ <https://www.revisor.mn.gov/rules/7011.0870/>

⁸⁵ https://www.epa.ohio.gov/dapc/regs/3745_21

⁸⁶ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/420

⁸⁷ https://www.michigan.gov/documents/deq/deq-aqd-air-rules-apc-part8_314769_7.pdf

⁸⁸ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11928/>

⁸⁹ <http://www.in.gov/legislative/iac/T03260/A00100.PDF>

⁹⁰ <http://www.in.gov/legislative/iac/T03260/A00040.PDF>

⁹¹ <https://www.revisor.mn.gov/rules/7011/>

⁹² https://www.epa.ohio.gov/dapc/regs/3745_110

⁹³ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/428

⁹⁴ https://www.michigan.gov/documents/deq/deq-aqd-air-rules-apc-part8_314769_7.pdf

⁹⁵ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11928/>

⁹⁶ <http://www.in.gov/legislative/iac/T03260/A00100.PDF>

⁹⁷ https://www.epa.ohio.gov/dapc/regs/3745_110

⁹⁸ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/428

⁹⁹ https://www.michigan.gov/documents/deq/deq-aqd-air-rules-apc-part8_314769_7.pdf

¹⁰⁰ <https://pcb.illinois.gov/documents/dsweb/Get/Document-11928/>

¹⁰¹ <http://www.in.gov/legislative/iac/T03260/A00100.PDF>

¹⁰² https://www.epa.ohio.gov/dapc/regs/3745_14

¹⁰³ http://docs.legis.wisconsin.gov/code/admin_code/nr/400/428.pdf

Category	Percent of 2016 Emissions LADCO-wide			On-the-Books /On-the-Way Regulations					
	NOx+VOC ³	NOx	VOC	Michigan	Illinois	Indiana	Minnesota	Ohio ⁴	Wisconsin
Other Stationary Sources (<0.5% contribution per SCC)	7.2%	7.4%	7.0%	Emission of volatile organic compound from existing equipment utilized in manufacturing synthesized pharmaceutical products. (336.1625) ¹⁰⁴				Chapter 3745-31, Permits-to-Install New Sources and Permit-to-Install and Operate Program (statewide) Chapter 3745-77, Title V Permit Rules ¹⁰⁵ (statewide) Chapter 3745-21 Carbon Monoxide, Photochemically Reactive Materials, Hydrocarbons, and Related Materials Standards ¹⁰⁶ (geographic applicability varies by CTG)	Chapter NR 419 – Control of Organic Compounds Emissions ¹⁰⁷ Chapter NR 421 - Control of Organic Compound Emissions from Chemical, Coatings and Rubber Products Manufacturing ¹⁰⁸ Chapter NR 423 Control of Organic Compound Emissions from Solvent Cleaning Operations ¹⁰⁹ Chapter NR 424 – Control of Organic Compounds Emissions from Process Lines ¹¹⁰ Chapter NR 428 - Control of Nitrogen Compound Emissions ¹¹¹
Stationary Sources (Point & Non-Point Sources) Subtotal	54.7%	42.5%	66.3%						
TOTAL	100.0%	100.0%	100.0%						

¹⁰⁴ https://ars.apps.lara.state.mi.us/AdminCode/DownloadAdminCodeFile?FileName=1608_2016-003EO_AdminCode.pdf

¹⁰⁵ https://www.epa.ohio.gov/dapc/regs/3745_77

¹⁰⁶ https://www.epa.ohio.gov/dapc/regs/3745_21

¹⁰⁷ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/419

¹⁰⁸ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/421

¹⁰⁹ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/423

¹¹⁰ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/424

¹¹¹ https://docs.legis.wisconsin.gov/code/admin_code/nr/400/428