

## Regional Action Plan – State-level ozone reduction measures for the MWCOG region

MEASURE	REDUCTION POTENTIAL	STATUS (as of 7/2/2015)
<b>POINT SOURCE</b>		
<b>Power Plant Controls Updates*</b>		
<p>State limits can significantly reduce NOx emissions, especially from coal-burning power plants. Maryland has released new regulations that will require coal-fired power plants to operate and optimize existing pollution and combustion controls and demonstrate compliance by meeting a system-wide NOx emission rate of 0.15 lbs/MMBtu as a 30-day rolling average during the ozone season. In Virginia, emissions from the utility sector are dropping due to consent agreement requirements, coal plant retirements, fuel switching from coal to natural gas or biomass, and the increased use of new units, which are well controlled.</p> <p><a href="http://www.dsd.state.md.us/MDRegister/4124/Assembled.htm">http://www.dsd.state.md.us/MDRegister/4124/Assembled.htm</a></p>	Large NOx Reductions	MD - Existing
<b>NOx Reasonably Available Control Technology (RACT) Updates</b>		
<p>The Clean Air Act requires states to adopt Reasonably Available Control Technology (RACT) for all major stationary sources of NOx. DC and MD are developing and will soon propose updated NOx RACT regulations. VA's regulations for VOC and NOx RACT under 9VAC5-40 (Rule 4-51) are planned to be updated at the December SAPCB meeting.</p> <p><a href="http://www.epa.gov/region1/airquality/noxract.html">http://www.epa.gov/region1/airquality/noxract.html</a></p>	Large NOx Reductions	DC - In Development
		MD - Proposed
		VA - Planning to Adopt
<b>OTC Natural Gas Ultra Low NOx Burners (ULNBs)</b>		
<p>OTC has developed a model rule for reducing NOx emissions from new natural gas-fired boilers, steam generators and water heaters. The model rule can be implemented as a manufacturing restriction, a sales restriction, a use restriction, or a combination. DC and Maryland are considering this measure.</p> <p><a href="http://www.otcair.org/upload/Documents/Model%20Rules/Tehcnical%20Revisions%20to%20Model%20Rule%20for%20New%20Small%20Boilers%20110831.doc">http://www.otcair.org/upload/Documents/Model%20Rules/Tehcnical%20Revisions%20to%20Model%20Rule%20for%20New%20Small%20Boilers%20110831.doc</a></p>	Large NOx Reductions	DC - Under Consideration
		MD - Under Consideration
<b>Energy Efficiency and Renewable Energy Programs*</b>		
<p>All three states and many local jurisdictions in the region have regulatory, voluntary and/or financial incentive programs for energy efficiency and renewable energy deployment, including Renewable Portfolio Standards, tax credits, high-performance building codes and green building certifications. In 2015, Maryland established a new Climate Change Commission to evaluate the state's progress and consider setting future greenhouse gas reduction goals.</p>	Small NOx Reductions	DC - Existing
		MD - Existing
		VA - Existing
<b>AREA SOURCE</b>		
<b>Demand Response Emissions Controls</b>		
<p>Equipment used for demand response may be a significant source of NOx, especially on high electricity demand days. DC is developing a rule to require</p>	Large NOx reductions	DC - In Development

best available control technology (BACT) for demand response equipment. Virginia has implemented a general permit for large demand response units requiring Tier 4 equivalent controls.	On Peak Days	MD - In Development VA - Existing
<a href="http://lms.dccouncil.us/Download/29524/B20-0368-SignedAct.pdf">http://lms.dccouncil.us/Download/29524/B20-0368-SignedAct.pdf</a> <a href="http://www.deq.virginia.gov/Portals/0/DEQ/Air/Forms/VDR_Generator_GP_Form-530.doc">http://www.deq.virginia.gov/Portals/0/DEQ/Air/Forms/VDR_Generator_GP_Form-530.doc</a>		
<b>Distributed Generator Limits*</b>		
Generators used for emergency power, peak shaving and/or demand response may be a significant source of NOx, especially on high electricity demand days. Maryland is developing a rule to require generator owners to submit hourly usage data.	Large NOx Reductions On Peak Days	MD - In Development
<a href="http://www.mwcog.org/uploads/committee-documents/ZV1aV1Y20131209141112.pdf">http://www.mwcog.org/uploads/committee-documents/ZV1aV1Y20131209141112.pdf</a>		
<b>OTC Architectural and Industrial Maintenance Coatings (AIM)*</b>		
OTC has developed a model rule for setting a limit on VOC emissions from architectural coatings, such as paint, lacquer, enamel and asphalt. Maryland is developing regulations, and DC is planning to do so. Credit in VA may be available without a regulation due to the regional nature of market response.	Large VOC Reductions	DC - Planning to Adopt MD - In Development
<a href="http://www.otcair.org/upload/Documents/Model%20Rules/OTC_model%20rule_AIM_2010_v15.pdf">http://www.otcair.org/upload/Documents/Model%20Rules/OTC_model%20rule_AIM_2010_v15.pdf</a>		
<b>OTC Consumer Products Update*</b>		
OTC has developed a model rule for setting a limit on VOC emissions from consumer products and requiring VOC content reductions over time. Maryland is developing regulations, and DC is planning to do so. Credit in Virginia may be available without a regulation due to the regional nature of market response.	Large VOC Reductions	DC - Planning to Adopt MD - In Development
<a href="http://www.otcair.org/upload/Documents/Model%20Rules/OTC%20CP%20Model%20Rule%202012%20CLEAN_vs2010.2012%2005%2010.pdf">http://www.otcair.org/upload/Documents/Model%20Rules/OTC%20CP%20Model%20Rule%202012%20CLEAN_vs2010.2012%2005%2010.pdf</a>		
<b>OTC Mobile Equipment Repair/Auto Body Refinishing (MMVER)*</b>		
OTC has developed a model rule for limiting VOC emissions from automotive coatings and cleaning solvents associated with auto body and equipment refinishing. Maryland has adopted regulations, and DC is planning to adopt regulations. Credit in Virginia may be available without a regulation due to regional market response.	Large VOC Reductions	DC - Planning to Adopt MD - Existing
<a href="http://www.otcair.org/upload/Documents/Model%20Rules/OTC%202009%20MVMERR%20Model%20Rule%20approved%20November%202009.doc">http://www.otcair.org/upload/Documents/Model%20Rules/OTC%202009%20MVMERR%20Model%20Rule%20approved%20November%202009.doc</a>		
<b>OTC Solvent Degreasing</b>		
OTC has developed a model rule for reducing VOC emissions from cleaning and degreasing operations, by using solvents with low VOC content, air-tight cleaning systems and/or an approved VOC capture and control device.	Small VOC Reductions	DC - Planning to Adopt
<a href="http://www.otcair.org/upload/Documents/Model%20Rules/2011%20OTC%20Model%20Rule%20for%20Solvent%20Degreasing.pdf">http://www.otcair.org/upload/Documents/Model%20Rules/2011%20OTC%20Model%20Rule%20for%20Solvent%20Degreasing.pdf</a>		
<b>Ultra Low Sulfur Fuel Oil</b>		
Combustion of fuels containing sulfur emits pollutants such as fine particulate matter and sulfur dioxide. Ultra-low sulfur (ULS) fuel, containing no more than 15 parts per million of sulfur, is federally required for motor vehicles. DC has proposed regulations to phase-in sulfur limits for home and water-heating fuel oil. Maryland is planning adopt regulations to limit sulfur in fuel oil.	Small NOx Reductions	DC - Proposed MD - Planning to Adopt
<a href="http://ddoe.dc.gov/page/notice-air-quality-comment-period-and-hearing-sulfur-content-requirements-fuel-oil">http://ddoe.dc.gov/page/notice-air-quality-comment-period-and-hearing-sulfur-content-requirements-fuel-oil</a>		

<b>MOBILE SOURCE</b>		
<b>Diesel Vehicle Inspection Programs*</b>		
Inspection and maintenance (I/M) programs help reduce NOx emissions and improve fuel economy. DC, MD, and VA all operate on-road I/M programs. Current federal policy and models do not provide credit for testing diesel engines or equipment in either traditional I/M programs or in smoke opacity programs. OTC and NESCAUM are working with EPA to obtain SIP credit for these programs. DC currently does not test diesel vehicles. MD has a roadside diesel opacity test for heavy duty vehicles. VA currently tests light duty diesel vehicles and will be expanding its I/M program in by the end of 2015.	Medium NOx and VOC Reductions	DC - Under Consideration MD - Existing VA - Existing
<a href="http://www.otcair.org/upload/Documents/Formal%20Actions/Mobile%20charge%20_Final.pdf">http://www.otcair.org/upload/Documents/Formal%20Actions/Mobile%20charge%20_Final.pdf</a>		
<b>OTC Off-Road Vehicle Idling Reduction*</b>		
OTC has developed a model rule for reducing NOx emissions from unnecessary idling of diesel engines, which also improves fuel efficiency. DC and Maryland are working on off-road idling limits. This measure could also be accomplished through a regional program coordinated by COG.	Medium to Large NOx Reductions	DC - In Development MD - Under Consideration
<a href="http://www.otcair.org/upload/Documents/Model%20Rules/OTC_Model_Rule_Anti_Idling_Final.pdf">http://www.otcair.org/upload/Documents/Model%20Rules/OTC_Model_Rule_Anti_Idling_Final.pdf</a>		
<b>OTC Aftermarket Catalyst Program*</b>		
OTC has developed a model rule to ensure greater NOx reductions from motor vehicles by requiring aftermarket catalyst sold or installed to be certified by the California Air Resources Board. This measure can be implemented through state regulations or at the federal level.	Large NOx Reductions	DC - Under Consideration MD - In Development
<a href="http://www.otcair.org/upload/Documents/Meeting%20Materials/Model_Rule_for_Sale_of_Aftermarket_Catalytic_Converters_Draft_%20140401.docx">http://www.otcair.org/upload/Documents/Meeting%20Materials/Model_Rule_for_Sale_of_Aftermarket_Catalytic_Converters_Draft_%20140401.docx</a>		
<b>EPA SmartWay Partnership*</b>		
SmartWay is a voluntary EPA program that reduces transportation-related emissions by creating incentives to improve supply chain fuel efficiency. DDOE is an EPA SmartWay Affiliate. COG could assist in scaling up and expanding participation in the program regionally.	Medium to Large NOx Reductions	DC - Existing MD - Planning to Adopt
<a href="http://www.epa.gov/smartway/">http://www.epa.gov/smartway/</a>		
<b>California Low Emission Vehicle (CAL LEV) Standards</b>		
California Low Emission Vehicle (CAL LEV) standards were updated in 2012 to achieve an additional 75% reduction in NOx emissions by model year 2025. Maryland has adopted CAL LEV and its Zero Emissions Vehicle (ZEV) Mandate sets a goal of having 60,000 ZEVs on the road by 2020. The Clean Cars Act of 2008 requires DC to adopt CAL LEV standards, but regulations were not developed due to lack of resources for timely adoption and the federal Tier 3 program.	Small NOx Reductions	MD - Existing
<a href="http://mde.maryland.gov/programs/Air/MobileSources/CleanCars/Pages/index.aspx">http://mde.maryland.gov/programs/Air/MobileSources/CleanCars/Pages/index.aspx</a>		
<b>Electric and Alternative Fuel Vehicles</b>		
Electric and hydrogen-powered vehicles produce no direct tailpipe emissions and can greatly reduce ground level ozone from the mobile sector. Alternative	Small NOx Reductions	DC - Existing

fuel vehicles can reduce tailpipe emissions by up to 80%. AFV and fueling infrastructure programs or incentives are available in all three states. EVs and AFVs could also be deployed through a regional program coordinated by COG and the Clean Cities Coalition.		MD - Existing
		VA - Existing
<a href="http://www1.eere.energy.gov/cleancities/">http://www1.eere.energy.gov/cleancities/</a> ; <a href="http://www.virginiaev.org/">http://www.virginiaev.org/</a>		
<b>On and Off-Road Fleet Retrofits and Repowers</b>		
Diesel engines can be retrofitted with emission control devices, repowered to be cleaner burning, rebuilt, or upgraded to run on cleaner fuel. DC has ongoing locomotive and boat engine replacements. Virginia has ongoing programs for trucks, locomotives, and school and transit buses.	Small to Medium NOx Reductions	DC - Existing
		VA - Existing
<a href="http://www.epa.gov/cleandiesel/technologies/engines.htm">http://www.epa.gov/cleandiesel/technologies/engines.htm</a>		
* Denotes measure on MDE's proposed "Top 10 Regional Actions" list		

LEGEND			
STATUS		REDUCTION POTENTIAL	
<b>Existing</b>	State has an existing rule or program.	<b>Small</b>	<1 tons per day
<b>Proposed</b>	Rule has appeared in State Register, or program has been announced.	<b>Medium</b>	1-5 tons per day
<b>In Development</b>	Rule or program is in draft stages.	<b>Large</b>	>5 tons per day
<b>Planning to Adopt</b>	Agency plans to or is required to pursue this measure.	<b>NOx</b>	Nitrogen Oxides
<b>Under Consideration</b>	Being considered. Agency has not made decision whether to pursue yet.	<b>VOC</b>	Volatile Organic Compounds
<b>OTC</b>	Ozone Transport Commission - multi-state organization created under the Clean Air Act responsible for advising EPA on transport issues and developing and implementing regional air quality solutions.		
<b>NESCAUM</b>	Northeast States for Coordinated Air Use Management - association of air quality agencies in the Northeast U.S. that assists member states in implementing national air quality standards.		