

**DRAFT State Gold Book - Ozone reduction measures under consideration for the MWCOG region**

MEASURE	REDUCTION POTENTIAL	STATUS (as of 2/10/2015)
<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 proposed updated regulations that would apply to two power plants in the NCR. In Virginia, emissions from the utility sector are dropping due to consent agreement requirements, fuel switches from coal to natural gas or biomass, coal retirements, and the increased use of new units, which are well controlled.</p>	Large NOx reductions	MD - Proposed
<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>		
<b>NOx Interstate Transport</b>		
<p>NOx emissions from upwind sources are significant contributors to ground-level ozone in the NCR. Air quality in all three states is affected by interstate transport on certain days.</p>	Large NOx reductions	DC - Proposed
<p><a href="http://www.mwcog.org/uploads/committee-documents/ZV1XXFIZ20141216140410.pdf">http://www.mwcog.org/uploads/committee-documents/ZV1XXFIZ20141216140410.pdf</a></p>		
<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 will evaluate affected facilities and determine what regulation is needed.</p>	Large NOx reductions	<p>DC - In Development</p> <hr/> <p>MD - Proposed</p> <hr/> <p>VA - Planning to Adopt</p>
<p><a href="http://www.epa.gov/region1/airquality/noxtract.html">http://www.epa.gov/region1/airquality/noxtract.html</a></p>		
<b>OTC Natural Gas Ultra Low NOx Burners (UNLBs)</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 is planning to adopt regulations and Maryland is considering this measure.</p>	Large NOx reductions	<p>DC - Planning to Adopt</p> <hr/> <p>MD - Under Consideration</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>		
<b>AREA SOURCE</b>		
<b>Distributed Generator Limits*</b>		
<p>Diesel and natural gas generators used for emergency power, peak shaving and/or demand response may be a significant source of NOx, especially on hot days, which often coincide with high ozone days. DC is developing a rule to require best available control technology (BACT) for demand response. Maryland is developing rules to collect data on distributed generators. Virginia has implemented a general permit for large demand response units</p>	Large NOx reductions on peak days.	<p>DC - In development</p> <hr/> <p>MD - In Development</p>

requiring Tier 4 equivalent controls. A voluntary regional program could be used to improve data collection, and move toward limits on high electric demand days (HEDD).

<http://www.mwcog.org/uploads/committee-documents/ZV1aV1Y20131209141112.pdf>

### OTC Architectural Coating & Industrial Maintenance Coatings (AIM)\*

OTC has developed a model rule for setting a limit on VOC emissions from architectural coatings, such as paint, lacquer, enamel and asphalt. DC and Maryland are planning to adopt regulations. Credit in VA may be available without a regulation.

Large VOC reductions

DC - Planning to Adopt  
MD - Planning to Adopt

[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)

### OTC Consumer Products Update\*

OTC has developed a model rule for setting a limit on VOC emissions from consumer products and requiring VOC content reductions over time. DC and Maryland are planning to adopt regulations. 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 - Planning to Adopt

[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)

### OTC Mobile Equipment Repair/Auto body refinishing (MMVER)\*

OTC has developed a model rule for limiting VOC emissions from automotive coatings and cleaning solvents associated with auto body and equipment refinishing. DC and Maryland are 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 - Planning to Adopt

<http://www.otcair.org/upload/Documents/Model%20Rules/OTC%202009%20MVMERR%20Model%20Rule%20approved%20November%202009.doc>

### OTC Solvent Degreasing Model Rule

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.

DC - Planning to Adopt

<http://www.otcair.org/upload/Documents/Model%20Rules/2011%20OTC%20Model%20Rule%20for%20Solvent%20Degreasing.pdf>

### Ultra Low Sulfur Fuel Oil

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.

Small NOx reductions

DC - Proposed  
MD - Under consideration

<http://ddoe.dc.gov/page/notice-air-quality-comment-period-and-hearing-sulfur-content-requirements-fuel-oil>

### Air Toxics Rule Update

EPA published National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements for sources of toxic air pollutants. EPA recently updated NESHAP requirements for some sources. DC has proposed to adopt the updated standards.

DC - Proposed

<http://www.dcregs.dc.gov/Gateway/NoticeHome.aspx?NoticeID=4926647>

<b>Energy Efficiency and Renewable Energy Programs*</b>		
All three states and many of the 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. COG can provide assistance for scaling up or expanding these programs.		DC - Existing
		MD - Existing
		VA - Existing

## **MOBILE SOURCE**

### **On-road Emissions (ORE) Monitoring Expansion (I&M Programs)\***

On-road inspections and maintenance (I&M) programs help to reduce NOx emissions from vehicles and improve fuel efficiency. OTC and NESCAUM are working with EPA to obtain SIP credit for expansion of I&M programs to encourage states to implement more stringent programs. Virginia has an on-road monitoring program, which is in the process of expanding. Maryland has a roadside opacity test and is considering expansion opportunities.	Medium NOx and VOC reductions	DC - Planning to Adopt
		MD - Existing
		VA - Existing

<http://www.otcair.org/upload/Documents/Reports/Overview%20of%20Major%20OTC%20Mobile%20Emission%20Reduction%20Effort%20141201.pdf>

### **Off-road Idling Reduction Efforts\***

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. Could also be addressed through a regional program coordinated by COG.	Medium to Large NOx reductions	DC - In development
		MD - Under consideration

[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)

### **OTC Aftermarket Catalyst Program\***

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 - Planning to Adopt
		MD - In development

[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)

### **SmartWay Partnership\***

SmartWay is a voluntary EPA program that reduces transportation-related emissions by creating incentives to improve supply chain fuel efficiency. COG could assist in scaling up and expanding participation in the program regionally.	Medium to Large NOx reductions	DC - Planning to Adopt
		MD - Planning to Adopt

<http://www.epa.gov/smartway/>

### **California Low Emission Vehicle regulation (CAL LEV)**

California Low Emission Vehicle (CAL LEV) standards were updated in 2012 to achieve an additional 75% reduction in NOx emissions by model year 2025. The Clean Cars Act of 2008 requires DC to adopt		DC - Existing
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CAL LEV standards. Maryland has adopted CAL LEV and a Zero Emissions Vehicle Mandate (ZEV) which sets a goal of having 60,000 ZEVs on the road by 2020.	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 &amp; 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 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.	DC - Existing
	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-road 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.	DC - Existing
	VA - Existing
<a href="http://www.epa.gov/cleandiesel/technologies/engines.htm">http://www.epa.gov/cleandiesel/technologies/engines.htm</a>	
<i>* Denotes measure on MDE's proposed "Top 10 Regional Actions" list</i>	

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.		