MARYLAND

Department of the Environment

Moving Away …
From Stage II Vapor Recovery

2013 Stage II Regulations
Stakeholder Meeting – November 12, 2013

MDE

Topics Covered

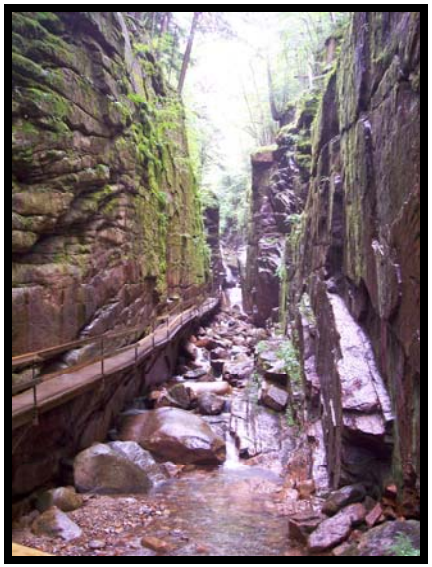
- Background
- The technical analyses
  - What does it tell us
- Addressing the potential loss of emission reductions
- Overview of the draft regulations
  - New units
  - Decommissioning
  - Electric vehicle charging incentives
- Next Steps/Schedule

Background - EPA's Stage II Policy

- On July 8, 2011, EPA released a policy called "Widespread Use for Onboard Refueling Vapor Recovery (ORVR) and Stage II Waiver"
- The Clean Air Act (CAA) allows EPA to waive Stage II Vapor Recovery Programs when these new on-board or "ORVR" systems are in widespread use in the vehicle fleet.
- This EPA action proposed June 30, 2013 as the date that ORVR will be in "widespread use" nationwide

EPA's Guidance on Stage II

- EPA's final version of their guidance document was released on August 7, 2012
  - The document entitled "Guidance on Removing Stage II Gasoline Vapor Control Programs from State Implementation Plans and Assessing Comparable Measures" can be viewed on EPA's website at the following link: http://www.epa.gov/airquality/ozonepollution/pdfs/20120807guidance.pdf



- EPA's guidance was never meant to force states to shut down the program immediately.
- State's are required to perform analyses to determine the loss of emission reduction benefits and to identify further reductions needed if Stage II is eliminated

Why is a Regulation Needed ...

… and what is a SIP?

- The guidance requires states to submit a SIP revision (a modification to the States air quality plan called the “State Implementation Plan” or “SIP”) to remove Stage II.
  - In general terms, the SIP is a large package of regulations and other programs designed to clean the air and meet the federal standards.
  - Stage II is currently required by regulation and is part of the Maryland SIP
    - To move away from Stage II - That regulation will need to be amended and approved by EPA as a SIP revision
    - States that shut down Stage II without going through the appropriate analysis and without formally amending their SIP face third party litigation (and at least the threat of an EPA finding of failure to implement).

Addressing the “Shortfall”

- Before Stage 2 can be removed from the SIP, the emission reductions that will be lost (the “shortfall”) must be addressed
- MDE technical analyses (more later) shows that there is a small loss of emission reductions
  - This shortfall decreases over time
    - Larger in 2014
    - Smaller in 2017
    - As an example, refilling gas cans will result in a small emissions increase without Stage II in place
- More on addressing the shortfall later

Other State Actions

- EPA has not yet received a SIP revision from any other states in Region 3 to formally remove Stage II
- Region 3 states are still analyzing their program benefits and potential substitute measures, and in some cases are also meeting with stakeholders.
- EPA is not pushing states to act quickly

Status in Other States

- States with air quality problems similar to Maryland's
  - PA evaluating alternatives. Enforcement discretion policy for new Gasoline Dispensing Facilities (GDFs)
  - VA policy for new GDFs through enforcement discretion.
  - DE evaluating all options for potential decommissioning
  - NJ is working on evaluating emissions, emission benefits and costs of the Stage II systems
  - CT law requires decommissioning by July 1, 2015.
  - MA enforcement discretion directive. Working on regulations..
  - New York enforcement directive exempts new, modified and existing GDFs. Continuous monitoring required. Reg in works.
- States with less difficult air quality problems
  - New Hampshire to propose regulation - hearing Oct 30th. State law exempts new and modified stations.
  - Maine adopted regulation on January, 1 2013 to discontinue Stage II.
- EPA has not yet approved SIP revisions to move away from Stage II for any of these states

MDE's Technical Analysis

- Comprehensive analysis consistent with EPA requirements
  - Analysis is based on EPA or MD SIP approved methodology.
  - Uncontrolled refueling emissions are derived from the EPA's MOVES and NONROAD emissions models.
  - ORVR effectiveness data developed by the EPA.
  - EPA and Maryland data for Stage II effectiveness form the backbone of the analysis
  - Full analysis discussed during last stakeholder meeting (12-17-12)

    http://www.mde.state.md.us/programs/regulations/air/Pages/StakeholderMeetings.aspx

Technical Analysis – Bottom Line

- In Maryland "Widespread Use" occurs around 2017
- A shortfall (loss of VOC emission reductions) will be created by eliminating Stage II
  - Shortfalls – decrease over time as more ORVR equipped vehicles enter fleet
    - 2014 – 1.74 tons per day (tpd)
    - 2017 – 0.62 tpd
    - 2020 – 0.17 tpd

VOC Shortfall from Eliminating Stage II Requirements (tpd)				
	2014	**2017**	**2020**	
All refueling (ORVR & non-ORVR)	1.74	0.62	0.17	

Addressing the Shortfall

- The draft regulation will result in a VOC shortfall that will need to be addressed
- Stage II provides a VOC benefit that diminishes over time
- Between 1-2 tons per day of lost VOC reductions resulting from elimination of Stage II at existing stations between 2014 and 2017

Measures to Address the Shortfall

- MDE VOC regulations
  - Some of the reductions from the recently adopted update to MDE's autobody refinishing rule may need to be used to make up for this loss of reductions
- MDE regulations for other sources
  - Several new initiatives that could help address this shortfall are under development
    - Power plant regulation
    - Distributed generation regulation
    - Consumer products regulation
    - Coatings regulation
- Stage II Decommissioning Policy
  - Electric Vehicle Charging Requirements
  - Low permeation hoses
  - Dripless nozzles
  - Stage I requirements
  - Enhanced testing and monitoring

The Basic Structure of the Regulation

- New units – As soon as the regulation is adopted
  - Small GDFs - Not required to install Stage II
  - Larger GDFs - May either install Stage II or implement an MDE approved Electric Vehicle Charging Plan (EV Charging Plan)
- Decommissioning of existing units
  - Small GDFs
    - May decommission after January 1, 2017
    - May decommission after January 1, 2014 with EV Charging Plan or if UST replaced or GDF modified
  - Large GDFs
    - May decommission after January 1, 2017 with approved EV Charging Plan
    - May decommission early (after 1/1/14) with approved EV Charging Plan that includes early installation
- The EV Charging Plan
  - 10 year plan to invest a part of the savings from elimination of Stage II into EV charging infrastructure

New Stations

- GDFs constructed after January 1, 2014
- Smaller stations
  - Page 1 of the regulation - §.03A-1(1)
  - Monthly gasoline throughput of 300,000 gallons or less
  - Not required to install and operate a Stage II vapor recovery system

New Stations (Continued)

- GDFs constructed after January 1, 2014
- Larger Stations
  - Page 1 of the regulation - §.03A-1(2)
  - Monthly gasoline throughput of greater than 300,000 gallons
  - May install and operate a Stage II vapor recovery system or
  - Not install Stage II vapor recovery system but meet the requirements of §.03-2 for EV Charging Plans

Decommissioning Existing Stations

- Smaller stations
  - Page 2 of the regulation - §.03-1A(1 – 3)
  - Monthly gasoline throughput of 300,000 gallons or less
  - May decommission Stage II vapor recovery systems after January 1, 2017;
  - May decommission Stage II vapor recovery systems after January 1, 2014 if an underground storage tank is replaced or the gasoline dispensing facility is significantly modified
  - May decommission Stage II vapor recovery systems after January 1, 2014 if the requirement to implement an EV Charging Plan (§.03-2) is met

Decommissioning (Continued)

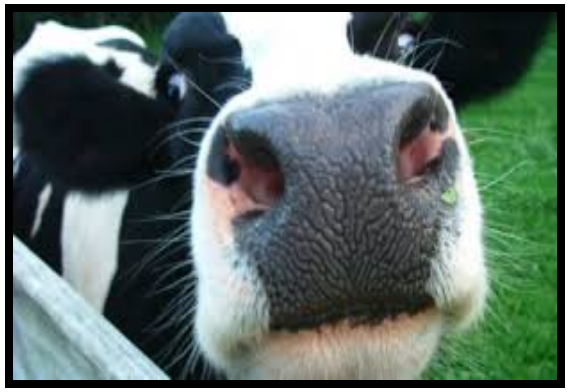
- Larger Stations
  - Page 2 of the regulation - §.03-1A(4-5)
  - Monthly gasoline throughput of greater than 300,000 gallons
  - May decommission Stage II vapor recovery systems after January 1, 2017 if the requirement to implement an EV Charging Plan (§.03-2) is met
  - May decommission Stage II vapor recovery systems earlier (after January 1, 2014) if the requirement to implement an EV Charging Plan with earlier installation(§.03-2) is met
    - Includes situations involving UST replacement other significant modifications

Decommissioning Procedures

- Decommissioning procedures from the Petroleum Equipment Institute
- Page 2 of the regulation - §.03-1B
- An owner or operator of a gasoline dispensing facility that decommissions a Stage II vapor recovery system shall perform the decommissioning of the Stage II vapor recovery system in accordance with the “Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Refueling Sites” of the Petroleum Equipment Institute, Section 14, 2009.

Additional Requirements

- Stage I requirements for GDFs moved to COMAR 26.11.24.03J
  - Page 2 of the regulation - §.03J
- Low Permeation Hose
  - Page 2 of the regulation - §.03K
  - An owner or operator of a gasoline dispensing facility subject to this regulation that does not install and operate or decommissions a Stage II vapor recovery system must install and operate low permeation hoses
- Dripless Nozzles
  - Page 2 of the regulation - §.03L
  - An owner or operator of a gasoline dispensing facility subject to this regulation that does not install and operate or decommissions a Stage II vapor recovery system must install and operate dripless nozzles at every pump

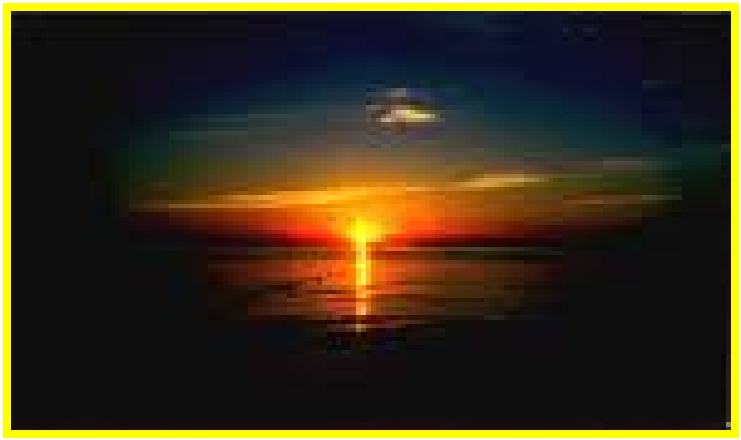


New Testing Requirements

- Will insure minimum emissions after Stage II equipment is removed
- Leak rate and cracking pressure testing of pressure/vacuum vent valves (TP-201)
  - Page 2 of the regulation - §.04A(6)
- Tie-Tank Test
  - Page 2 of the regulation - §.04A(7)
  - Testing of Vapor Piping Connections to Underground Gasoline Storage Tanks (TP-201.3C)
- All GDFs will be subject to the new tests
  - Decommissioned stations conduct standard leak tests and the new tests

Minor Update - Reporting Requirements

- To insure timely reporting consistent with testing requirements
  - Page 3 of the regulation - §.07E(3)
  - Requires all test results to be forwarded to the Department within **30** days of each test



The “EV Charging Plan”

… Electric Vehicle Charging Plan

- Part of addressing the loss of emission reductions associated with the elimination of Stage II
- Page 2 of the draft regulation.
  - §.03-2 is now just a placeholder. MDE would like to form a small work group to develop the EV Charging Plan policy and regulation language
  - How to offset EV charging costs with a percentage of savings from Stage II
  - Address strategic placement of charging stations
- Savings from decommissioning Stage II are significant and could support EV charging infrastructure investment
  - Over 10 year period, large businesses could save up to $4.5 million in avoided O&M costs
  - At least $1 million for most large businesses

Key Issues to Address

… in implementing the EV Charging Plan requirements

- Focus on owners of large GDF systems
  - Many owners have more than 50 stations in Maryland
  - These owners have flexibility within their network of stations to be strategic when investing in EV charging infrastructure
  - Some companies already considering investment into EV charging equipment
  - Larger GDF systems are responsible for 90% of the lost emission reductions that result from the elimination of Stage II

- Focus on new stations within large GDF systems
  - Costs for EV charging infrastructure are much lower if installed during pre-planned excavation and construction

DC Fast Chargers

… good for the environment – good for business

- Revenue source for host site
  - Attracts retail business and host can “charge for charging”
- Works well at retail sites where EV drivers stop to shop and eat for short periods
  - 30 minutes provides an 80% charge
  - Can “top off” if less than full charge needed
- Electric vehicle sales growing rapidly in Maryland
  - Over 1700 registered EVs and growing
  - Over 400% growth in sales from 2011 to 2102
  - 2013 monthly sales significantly ahead of 2012
- Can be located strategically where EV owners live and travel
- Supported by a growing public and private charging network

Fast Chargers and Stage II Savings

- Charger installation costs vary depending on site conditions
  - Proximity to power, power upgrades, trenching to lay conduit
- Smartest/cheapest to install during station design/construction or upgrades (e.g. UST replacements)
  - As low as $25,000
- Costs go up if not coordinated with other station improvements
  - $50,000+
  - Trenching a major part of cost
- Over 10 years larger owners can save $4 to $5 million by decommissioning
  - $30,000 per station in avoided Stage II O&M
- Each new station can save $60,000+ in avoided Stage II installation and 10 years O&M
- Very reasonable trade-off to invest a percent of the savings in chargers over the next 10 years

Developing the EV Charging Plan Policy

- MDE would like to set up a small workgroup to meet several times over the next few weeks to develop this policy and to draft the language for the regulation
- Interested stakeholders see Randy Mosier to begin to schedule discussions

Regulation Adoption Schedule

- Stakeholder meetings
  - April 27, June 14 and December 17, 2012
  - November 12, 2013
  - Additional meetings
    - Winter 2013/14
  - Ad-Hoc Oil Committee meetings

- Proposed Regulation
  - Discussion at AQCAC (Air Quality Control Advisory Committee) meeting
    - December 9, 2013
  - AQCAC approval and proposed regulation in the Maryland Register
    - Early 2014
  - Adoption
    - Spring 2014

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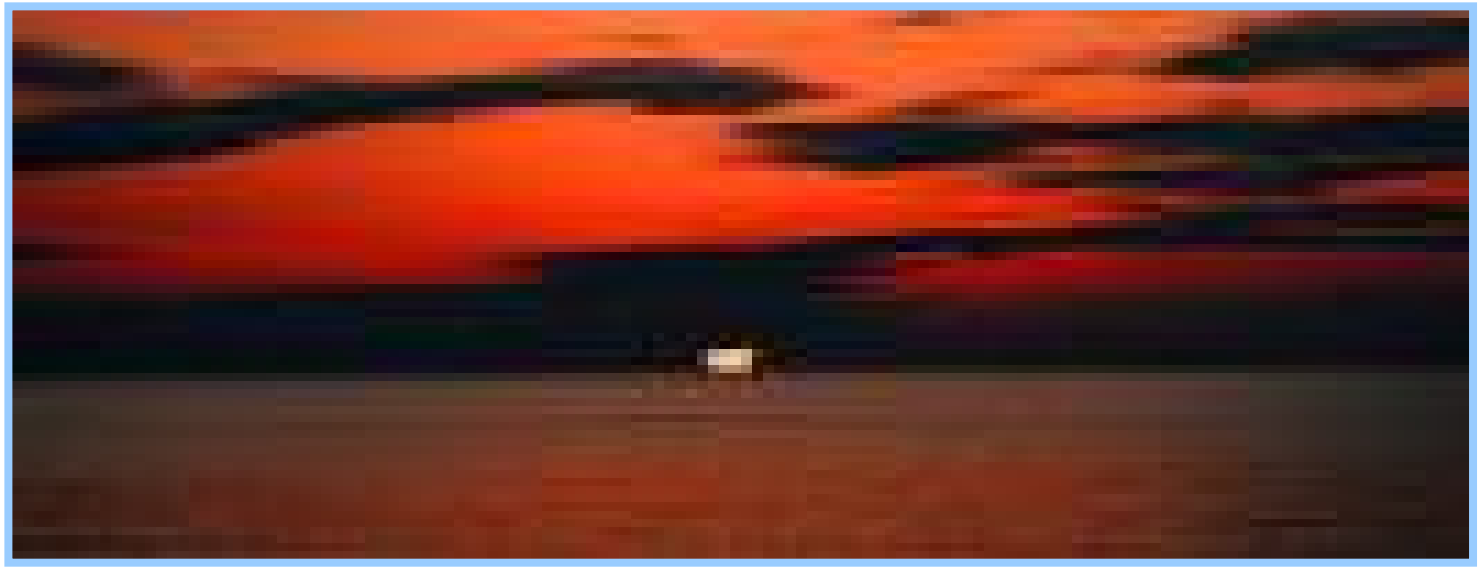
Questions?



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