# AIR QUALITY CONTROL ADVISORY COUNCIL

# AGENDA

**March 30, 2015**
**8:15 a.m.**

**Montgomery Park**
**Aeris Conference Room, 1st Floor**
**1800 Washington Boulevard**
**Baltimore, Maryland 21230**

| | | |
|---|---|---|
| **8:15 a.m.** | **Welcome and Introductions** | **John Quinn, Advisory Council Chair**<br>**Tad Aburn, Air Director** |
| **8:20 a.m.** | **Approval of Meeting Minutes** | **John Quinn** |

**Action Items for Discussion/Approval:**

| | | |
|---|---|---|
| **8:30 a.m.** | **Fiberglass Boat Manufacturing CTG**<br>**COMAR 26.11.19.26-1** | **Randy Mosier** |
| **8:45 a.m.** | **Continuous Opacity Monitoring Requirements**<br>**COMAR 26.11.01.10**<br>**Control of Incinerators**<br>**COMAR 26.11.08** | **Diane Franks** |
| **9:30 a.m.** | **Stage II Vapor Recovery at Gasoline Dispensing Facilities**<br>**COMAR 26.11.24** | **Tad Aburn** |

**Briefing:**

| | | |
|---|---|---|
| **10:30 a.m.** | **Upcoming Measures for Attainment SIP** | **Tad Aburn** |
| **11:00 a.m.** | **Adjourn** | |

**Next Meeting Dates**

**June 8, 2015**
**September 21, 2015**
**December 7, 2015**

Department of the Environment

# Facts About...

## COMAR 26.11.19.26-1 Fiberglass Boat Manufacturing

08/18/2014

**PURPOSE OF NEW REGULATION AND AMENDMENT**

The new regulation COMAR 26.11.19.26-1, Control of Volatile Organic Compounds from Fiberglass Boat Manufacturing, adopts the requirements of the EPA's Control Techniques Guidelines (CTG) for this category. EPA develops CTGs as guidance on control requirements for source categories. States can follow the CTGs or adopt more restrictive standards. MDE proposes to adopt new volatile organic compound (VOC) limits, standards for application methods, and work practice requirements which are consistent with the most recent CTG recommendations applicable to fiberglass boat manufacturing. The new regulation affects manufacturers of fiberglass boats. COMAR 26.11.19.26, Control of Volatile Organic Compounds from Reinforced Plastic Manufacturing, is amended to exempt fiberglass boat manufacturing.

**BACKGROUND**

The EPA first published an assessment of VOC emissions from fiberglass boat manufacturing in 1990. This assessment evaluated VOC emissions from fiberglass boat manufacturing and potential control options.

The National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing, 40 CFR part 63, subpart VVVV (2001 NESHAP) were promulgated in 2001. Emission standards under the 2001 NESHAP were for organic hazardous air pollutants (HAPs) based on low-HAP resins and gel coats and low-emitting resin application technology.

California and several other states have specific regulations that control VOC emissions from fiberglass boat manufacturing operations, as part of their regulations for limiting VOC emissions from polyester resin operations.

In September 2008, the EPA published a new CTG for Fiberglass Boat Manufacturing Materials. The CTG was developed based on the 1990 VOC assessment, the 2001 NESHAP, existing state VOC emission reduction approaches, and in consideration of information obtained since the issuance of the 2001 NESHAP.

Resins containing styrene and gel coats containing both styrene and methyl methacrylate (MMA) are the main contributors of VOC emissions at fiberglass boat manufacturing facilities. The proposed standards are designed to reduce VOC emissions during fiberglass boat manufacturing operations. Not all the VOCs in the materials used are

emitted to the atmosphere, as some of the VOCs are used in cross linking reactions of polymers and are retained in the finished material. Thus, an overall reduction of VOC content in production materials reduces potential emissions from extraneous VOCs during the manufacturing process.

Cleaning activities other than surface preparation also occur at facilities engaged in fiberglass boat manufacturing. Cleaning materials are used to remove residue or other unwanted materials from equipment related to manufacturing operations such as molds and prototypes, as well as the cleaning of application equipment, transfer lines and other ancillary equipment. These cleaning materials are typically mixtures of VOC containing solvents. The proposed regulation includes emission control requirements for cleaning materials consistent with those in the CTG.

**Affected Sources**

The proposed regulation affects fiberglass boat manufacturers.

**New Regulation and Amendment**

COMAR 26.11.19.26-1 is proposed to set the following standards for a fiberglass boat manufacturing facility with actual VOC emissions of 15 pounds or more per day:

| Operation | Application Method | Monomer content (percent by weight) | Total Resin VOC Content (percent by weight) |
|---|---|---|---|
| Production resin | Atomized resin application (spray) | 28 | 33 |
| Production resin | Nonatomized resin application | 35 | 40 |
| Pigmented gel coat | Atomized or nonatomized resin application | 33 | 38 |
| Clear gel coat | Atomized or nonatomized resin application | 48 | 53 |
| Tooling resin | Atomized resin application (spray) | 30 | 35 |
| Tooling resin | Nonatomized resin application | 39 | 44 |
| Tooling gel coat | Atomized or nonatomized resin application | 40 | 45 |

These monomer content limits are the same as those in the 2001 NESHAP. The regulation also provides an alternative option of emission rates for monomers and non monomers and exemptions for certain specific applications.

The work practice requirements establish standards and record keeping requirements for the usage of all VOC containing materials.

COMAR 26.11.19.26 Control of Volatile Organic Compounds from Reinforced Plastic Manufacturing is amended to exempt fiberglass boat manufacturing.

**Impact on Ambient Air Quality**

The proposed regulation sets standards for fiberglass boat manufacturing operations. Emissions of VOCs from fiberglass boat manufacturing operations are expected to be reduced by approximately 40 percent nationally. Maryland only has one known source that may, on occasion, assemble fiberglass boats from pre-manufactured hulls and decks. Therefore Maryland VOC emission benefits will be negligible. The coatings industry already has products available to meet VOC standards contained in the CTG and proposed regulation. The maximum benefit from VOC reductions will be provided during the ozone season when VOCs readily combine with NOx to form the pollutant ground level ozone.

**Economic Impact**

The proposed new regulation adopts the requirements of the CTG for fiberglass boat manufacturing. EPA estimated the economic impact of this regulation on a national level. Cost effectiveness is approximately $ 4,200/ton of VOC controlled. Due to the limited number of affected sources, the economic impact in MD will be small.

**Small Business**

The proposed regulation affects fiberglass boat manufacturers. At a national level, EPA estimates the economic impact of using reformulated materials on small businesses is low.

**Submission to EPA as Revision to Maryland's SIP (or 111(d) Plan, or Title V Program)**

The proposed regulation will be submitted to the U.S. EPA for approval as a revision to Maryland's State Implementation Plan.

**Are there other State or federal requirements that apply to these sources?**

The amendments and proposed regulation adopt the requirements in EPA’s CTG for Fiberglass Boat Manufacturing, July 2008. There are no other federal reasonably available control technology standards for this category.

# Title 26

# DEPARTMENT OF THE ENVIRONMENT

## Subtitle 11 AIR QUALITY

### 26.11.19 Volatile Organic Compounds from Specific Processes

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103, Annotated Code of Maryland

**.26 Control of Volatile Organic Compound Emissions from Reinforced Plastic Manufacturing.**

A. Applicability.

(1) This regulation applies to reinforced plastic manufacturing at a premises where the total actual VOC emissions from all reinforced plastic manufacturing including tooling, touch-up, and repair is 20 pounds or more per day.

(2) The requirements in this regulation do not apply to polyester resins used for tooling or touch-up and repair.

*(3) The requirements in this regulation do not apply to any fiberglass boat manufacturing facility as defined in § .26-1B(5) of this chapter.*

B. – D. (text unchanged)

**ALL NEW MATTER**

**.26-1Control of Volatile Organic Compound Emissions from Fiberglass Boat Manufacturing**

*A. Applicability.*

*(1) This regulation applies to any fiberglass boat manufacturing facility where the total actual VOC emissions, before add-on controls, from all fiberglass boat manufacturing is 15 pounds or more per day as determined on a monthly average.*

*(2) VOC emissions from polyester resins, tooling resins and gel coats, ancillary parts production, touch-up, clean-up, and repair are to be included in determining VOC emissions pursuant to (A)(1) of this regulation.*

*B. Definitions. In this regulation, the following terms have the meanings indicated:*

*(1) Atomized Resin Application.*

*(a) "Atomized resin application" means a resin application technology in which the resin leaves the application equipment and breaks into droplets or an aerosol as it travels from the application equipment to the surface of the part.*

*(b) "Atomized resin application" includes, but is not limited to, resin spray guns and resin chopper spray guns.*

*(2) Clear Gel Coat.*

*(a) "Clear gel coat" means a gel coat that is clear or translucent such that underlying colors are visible.*

*(b) "Clear gel coat" does not include tooling gel coats used to build or repair molds.*

*(3) Closed Molding.*

*(a) "Closed molding" means any molding process that has the following characteristics:*

*(i) Pressure is used to distribute the resin through the reinforcing fabric placed between two mold surfaces to either saturate the fabric or fill the mold cavity; and*

*(ii) Clamping pressure, fluid pressure, atmospheric pressure, or vacuum pressure are applied either alone or in combination.*

*(b) "Closed molding" includes, but is not limited to, compression molding with sheet molding compound, infusion molding, resin injection molding (RIM), vacuum assisted resin transfer molding (VARTM), resin transfer molding (RTM), and vacuum assisted compression molding.*

*(c) "Closed molding" does not include:*

*(i) Processes in which a closed mold is used only to compact saturated fabric or remove air or excess resin from the fabric (such as in vacuum bagging); or*

*(ii) Open molding steps such as application of a gel coat or skin coat layer by conventional open molding prior to a closed molding process.*

*(4) "Fiberglass boat" means any type of vessel, other than a seaplane, that can be used for transportation on the water, in which either the hull or deck is built from a composite material consisting of a polyester resin or other*

*thermosetting resin matrix reinforced with fiberglass (glass fibers), inert filler or other reinforcing materials such as fibers of carbon or aramid.*

*(5) Fiberglass Boat Manufacturing Facility.*

*(a) "Fiberglass boat manufacturing facility" means a facility that manufactures hulls or decks of fiberglass boats, assembles fiberglass boats from premanufactured hulls and decks, or builds molds to make hulls or decks of fiberglass boats.*

*(b) "Fiberglass boat manufacturing facility" does not include a facility which:*

*(i) Manufactures ancillary parts for fiberglass boats (such as hatches, seats, or lockers) or boat trailers; and*

*(ii) Does not manufacture hulls or decks of fiberglass boats, assemble fiberglass boats from premanufactured hulls and decks, or build molds for fiberglass boat hulls or decks.*

*(6) "Filled resin" means a resin to which an inert material has been added to change viscosity, density, shrinkage, or other physical properties.*

*(7) "Gel coat" means a thermosetting resin surface coating containing styrene (Chemical Abstract Service (CAS No. 100–42–5) or methyl methacrylate (CAS No. 80–62–6) that:*

*(a) Provides a cosmetic enhancement or improves resistance to degradation from exposure to the elements;*

*(b) Does not contain any reinforcing fibers; and*

*(c) Is applied directly to mold surfaces or to a finished laminate.*

*(8) "Mold" means the cavity or surface into or on which gel coat, resin, and fibers are placed and from which finished fiberglass parts take their form.*

*(9) "Monomer" means a low molecular weight organic compound that reacts with itself or other similar compounds to produce a polymer such as a polyester or vinylester resin.*

*(10) Nonatomized Resin Application.*

*(a) "Nonatomized resin application" means any application technology in which the resin is not broken into droplets or an aerosol as it travels from the application equipment to the surface of the part.*

*(b) "Nonatomized resin application" includes, but is not limited to, flowcoaters, chopper flowcoaters, pressure fed resin rollers, resin impregnators, and hand application by paint brush or paint roller.*

*(11) "Non-monomer" means any low molecular weight organic compound that does not react with itself or other similar compounds to produce a polymer and is assumed to be emitted fully as a VOC into the atmosphere.*

*(12) "Non-VOC cleanup material" means a material that:*

*(a) Is used to clean products, tools, process equipment, and other equipment used in the manufacture of fiberglass boats; and*

*(b) Either contains less than 5 percent VOC by weight or has a VOC composite vapor pressure of no more than 0.5 millimeters of mercury at 68 degrees Fahrenheit.*

*(13) Open Molding and Gel Coat Operations.*

*(a) "Open molding and gel coat operation" means any process in which the reinforcing fibers and resin are placed in the mold and are open to the surrounding air while the reinforcing fibers are saturated with resin.*

*(b) "Open molding and gel coat operation" includes operations in which a vacuum bag or similar cover is used to compress an uncured laminate to remove air bubbles or excess resin, or to achieve a bond between a core material and a laminate.*

*(14) Pigmented Gel Coat.*

*(a) "Pigmented gel coat" means an opaque gel coat.*

*(b) "Pigmented gel coat" does not include tooling gel coats used to build or repair molds.*

*(15) Production Resin.*

*(a) "Production resin" means any resin used to manufacture parts for sale.*

*(b) "Production resin" does not include tooling resins used to build or repair molds, or assembly adhesives.*

*(16) "Pure, 100-percent, vinylester resin used for skin coats" means resins containing only vinylester resin and does not include any resin containing blends of vinylester and polyester resins.*

*(17) "Resin and gel coat mixing operation" means any operation in which a resin or gel coat is combined with additives that include, but are not limited to, fillers, promoters, or catalysts, and includes operations making putties or polyputties used to assemble parts of fiberglass boats and to fill gaps between parts.*

*(18) "Skin coat" means a layer of resin and fibers applied over a gel coat to protect the gel coat from being deformed by an additional laminate layer(s).*

*(19) "Tooling" means the production of molding tools such as shapes, matrixes, molds, or other instruments and utensils that are used during manufacturing of fiberglass boats.*

*(20) "Tooling resin" means, for the purposes of §C(1) of this regulation, the resin used to build or repair molds (also known as tools) or prototypes (also known as plugs) from which molds will be made.*

*(21) "Tooling gel coat" means, for the purposes of §C(1) of this regulation, the gel coat used to build or repair molds (also known as tools) or prototypes (also known as plugs) from which molds will be made.*

*(22) "Total VOC Content (percent by weight)" means the sum of the monomer content (percent by weight) determined according to §D(1) of this regulation and of the weight percent of the non-monomer VOC determined by §D(3) of this regulation.*

*(23) Vacuum Bagging.*

*(a) "Vacuum bagging" means any molding technique in which the reinforcing fabric is saturated with resin and then covered with a flexible sheet that is sealed to the edge of the mold and where a vacuum is applied under the sheet to compress the laminate, remove excess resin, or remove trapped air from the laminate during curing.*

*(b) "Vacuum bagging" does not include closed molding.*

*(24) "Vinylester resin" means a thermosetting resin containing esters of acrylic or methacrylic acids and having double-bond and ester linkage sites only at the ends of the resin molecules.*

*C. Requirements.*

*(1) A person who owns or operates a fiberglass boat manufacturing facility subject to this regulation shall:*

*(a) Not cause or permit the discharge into the atmosphere of any VOC from resin and gel coat operations in excess of the following standards, except as provided in §C(3) of this regulation,:*

| *Operation* | *Application Method* | *Total Monomer content (percent by weight)* | *Total VOC Content (percent by weight)* |
|---|---|---|---|
| *Production resin* | *Atomized resin application (spray)* | *28* | *33* |
| *Production resin* | *Nonatomized resin application* | *35* | *40* |
| *Pigmented gel coat* | *Atomized or nonatomized resin application* | *33* | *38* |
| *Clear gel coat* | *Atomized or nonatomized resin application* | *48* | *53* |
| *Tooling resin* | *Atomized resin application (spray)* | *30* | *35* |
| *Tooling resin* | *Nonatomized resin application* | *39* | *44* |
| *Tooling gel coat* | *Atomized or nonatomized resin application* | *40* | *45* |

*(b) Notwithstanding §C(3)(a) and (b), use nonatomizing resin application equipment when applying production resins (including skin coat resins) pursuant to §C(3)(a) and pure,100-percent vinylester resins pursuant to §C(3)(b).*

*(c) Not cause or permit the discharge into the atmosphere of any VOC from any resin and gel coat mixing operation unless all mixing containers with a capacity equal to or greater than 208 liters (55 gallons), including those used for on-site mixing of putties and polyputties, have a cover with no visible gaps in place at all times except when material is being manually added to or removed from the container, or when mixing or pumping equipment is being placed in or removed from the container.*

*(d) Only use non-VOC cleanup materials.*

*(2) Alternative Compliance Option.*

*In lieu of meeting the standards of §C(1)(a) of this regulation, a person who owns or operates a fiberglass boat manufacturing facility subject to this regulation may cause or permit the discharge into the atmosphere of any VOC from filled resins provided that such emissions do not exceed the following non-monomer VOC content and as-applied monomer VOC emission rates calculated using the equation in §D(3) of this regulation:*

| *Type of Filled resin* | *Monomer rate in kg monomer VOC per megagram of filled resin as applied* | *Non-monomer VOC content limit of unfilled resin* |
|---|---|---|
| *Production* | *46* | *5%* |
| *Tooling* | *54* | *5%* |

*(3) Exemptions. The standards in §C(1)(a) of this regulation do not apply to:*

*(a) Production resins (including skin coat resins) that meet specifications for use in military vessels or must be approved by the U.S. Coast Guard for use in the construction of lifeboats, rescue boats, and other life-saving appliances approved under 46 CFR Chapter I, Subchapter Q, or the construction of small passenger vessels as regulated by 46 CFR Chapter I, Subchapter T;*

*(b) Pure, 100-percent vinylester resins used for skin coats where the total quantity of such resins used is less than or equal to 5 percent by weight of all resin used at a fiberglass boat manufacturing facility on a 12-month rolling average basis, as reported in §§E(5) through (7) of this regulation;*

*(c) Production and tooling resins, and pigmented, clear, and tooling gel coats, which are used for touch up and repair of parts or molds and which are used in quantities less than or equal to 1 percent by weight of all resin used at a fiberglass boat manufacturing facility on a 12-month rolling average basis, as reported in §E(1) of this regulation;*

*(d) Resins used in closed molding;*

*(e) Polyester resins used for tooling or touch-up and repair during a manufacturing process that is not fiberglass boat manufacturing;*

*(f) Coatings applied to fiberglass boats; and*

*(g) Adhesives used in the assembly of fiberglass boats.*

*D. Test Methods and Compliance Procedures.*

*(1) A person who owns or operates a fiberglass boat manufacturing facility subject to this regulation shall determine the monomer VOC content of any resin or gel coat applied at the facility using:*

*(a) SCAQMD Method 312-91, Determination of Percent Monomer in Polyester Resins, revised April 1996; or*

*(b) Manufacturer's formulation data.*

*(2) In the event of a conflict between the monomer VOC content of any resin or gel coat indicated by the manufacturer's formulation data and the results of a test using the method referenced in §D(1)(a), the test results shall be used for the purpose of determining compliance with this regulation.*

*(3) A person meeting the alternative emission rates in §C(2) shall compute the as-applied monomer VOC emission rate for the filled production resin or tooling resin, in kilograms monomer VOC per megagram of filled material, using the following equation:*

$$PV_F = PV_u \text{ times } \frac{(100 - \text{Filler pct})}{100}$$

*Where*

$PV_F$ *is the as-applied monomer VOC emission rate for the filled production resin or tooling resin, kilograms monomer VOC per megagram of filled material.*

$PV_u$ *is the monomer VOC emission rate for the neat (unfilled) resin, before filler is added, as calculated using the formulas in the table in §D(4) of this regulation.*

*Filler pct is the weight-percent of filler in the as-applied filled resin system.*

*(4) The monomer VOC emission rate for the neat (unfilled) resin, before filler is added,* $PV_u$*, shall be calculated using the formulas in the following table:*

*Monomer VOC Emission Rate Formulas for Open Molding and Gel Coat Operations*

| *Material* | *Application Method* | *Formula to calculate the monomer VOC emission rate*[1] |
|---|---|---|
| *Production resin or tooling resin* | *Atomized resin application* | $0.014 \times (\text{Resin VOC\%})^{2.425}$ |
| | *Atomized resin application, plus vacuum bagging with roll-out* | $0.01185 \times (\text{Resin VOC\%})^{2.425}$ |
| | *Atomized resin application, plus vacuum bagging without roll-out* | $0.00945 \times (\text{Resin VOC\%})^{2.425}$ |
| | *Nonatomized resin application* | $0.014 \times (\text{Resin VOC\%})^{2.425}$ |
| | *Nonatomized resin application plus vacuum bagging with roll-out* | $0.0110 \times (\text{Resin VOC\%})^{2.275}$ |
| | *Nonatomized resin application plus vacuum bagging without roll-out* | $0.0076 \times (\text{Resin VOC\%})^{2.275}$ |
| *Pigmented gel coat, clear gel coat, tooling gel coat* | *All methods* | $0.445 \times (\text{Gel coat VOC\%})^{1.675}$ |

[1] *Where the resin VOC% is the monomer VOC content as supplied, expressed as a weight-percent value between 0 and 100 percent.*

*(5) A person meeting the alternative emission rates in §C(2) shall demonstrate the as-applied non-monomer VOC content of resins and gel coats using the test method prescribed in COMAR 26.11.19.02D(1), and for this purpose, resins and gel coats shall be considered coatings .*

*(6) For the purpose of demonstrating that a cleanup material is a non-VOC cleanup material, a person shall:*

*(a) Perform a test using the method prescribed in COMAR 26.11.19.02D(1), where the cleanup material shall be considered a coating; and*

*(b) Determine the composite vapor pressure of organic-compounds in a cleanup material using the calculation prescribed in COMAR 26.11.19.02E(3).*

*E. Record Keeping. A person who owns or operates a fiberglass boat manufacturing facility subject to this regulation shall maintain for not less than three years, and shall make available to the Department upon request, records that provide the following information:*

*(1) A description of each polyester or vinylester resin material used including:*

*(a) The manufacturer's name;*

*(b) The type (e.g. production resin, production gel coat, tooling resin, tooling gel coat);*

*(c) The amount of each of the polyester or vinylester resin materials used;*

*(d) The weight (in percent) of monomer for each polyester resin materials and filler(s) used;*

*(e) The weight percent of VOC that is not monomer or the total weight percent of the VOC content; and*

*(f) The type of application method used with each resin;*

*(2) On a quarterly basis, the total weight and the monomer content and VOC content of each polyester and vinylester resin material;*

*(3) On a quarterly basis, the total weight and the monomer content and VOC content of each polyester and vinylester resin material used under the exemption of §C(3)(a), including a description or identification (military specifications, 46 CFR Subchapter Q, or 46 CFR subchapter T) of the exemption;*

*(4) On a monthly basis, the total weight, monomer content, and VOC content of each polyester and vinylester resin material used for closed molding under the exemption of §C(3)(d);*

*(5) On a monthly basis, the total weight, monomer content, and VOC content of each pure,100-percent vinylester resins used under the exemption of §C(3)(b);*

*(6) On a monthly basis the total weight of all resins used;*

*(7) On a monthly basis the total weight of pure, 100-percent vinylester resins used under the exemption of §C(3)(b) over the preceding 12 months divided by total weight of all resins used over the preceding 12 months;*

*(8) On a daily basis, the total weight, monomer content, and VOC content of each resin used for touch up and repair of parts or molds under the exemption of §C(3)(c);*

*(9) For filled resins for which compliance is demonstrated under alternative compliance option of §C(2) of this regulation:*

*(a) The total weight and non-monomer VOC content of each polyester and vinylester resin material used; and*

*(b) The monomer emission rate computed in accordance with §D(3) of this regulation in kg monomer VOC per megagram of filled resin as applied.*

*(10) On a monthly basis the total clean-up materials used.*

**END ALL NEW MATTER**

Department of the Environment

# Facts About...

## Amendments to COMAR 26.11.01.01 and .10 Continuous Opacity Monitoring Requirements and COMAR 26.11.08 Control of Incinerators

2/18/2015

**Purpose of Amendment**

The primary purpose of these amendments is to:

1. Clarify requirements for incinerators and Portland cement plants that demonstrate compliance with visible emissions (VE) standards through use of continuous opacity monitors (COMs);

2. Delete the applicability of the Department's Technical Memorandum 90-01 (TM) for incinerators equipped with COMs;

3. Exempt incinerators that are 1) owned or operated by a government entity and 2) used solely to destroy illegal or prohibited goods from COMAR 26.11.08 requirements.

**Submission to EPA as Revision to Maryland's SIP (or 111(d) Plan, or Title V Program)**

The amendments will be submitted to EPA for review and approval to be included in Maryland's Section 111(d) Plan and as part of Maryland's State Implementation Plan.

**Background**

Compliance Clarification for Sources Required to Operate COMs

In 1991, the Department adopted regulations that required certain major sources to install and operate COMs and to demonstrate compliance with opacity standards using COM data. At that time, the Department also adopted its TM that provided the methods to be used to demonstrate compliance with VE requirements using COM data. For COMs, compliance was based on achieving the applicable VE standard for a certain percentage of the source's operating time.

Through these amendments the Department will eliminate the use of the TM for COMs and develop specific requirements to replace the TM. Part II of the TM contained QA/QC procedures for COMs that has been codified in COMAR 26.11.31.

During the past several years, the EPA has adopted numerous requirements for incinerators under Clean Air Act Section 111(d). Nearly all incinerators in Maryland are subject to regulations that are based on Section 111(d) requirements. Most incinerators subject to these federal requirements are subject to 10 percent opacity. These regulations are more restrictive than the 20 percent opacity requirement contained in COMAR 26.11.08.04A(1) that applies to incinerators in the rural areas of the State. Therefore, those rural incinerators are subject to a 10 percent opacity standard when operating a COM. For incinerators that are required to install and operate a COM, visible emissions may not exceed 10 percent opacity for more than 2 percent of the unit's operating time in any calendar quarter. Under EPA Method 9 observations, the visible emission exceptions of COMAR 26.11.08.04C apply.

Portland cement plants located in urban areas of Maryland are subject to a 10 percent opacity standard, whereas rural cement plants are subject to a 20% opacity standard as specified in COMAR 26.11.30.05. Under EPA Method 9 observations, the visible emissions standards in COMAR 26.11.30.05B(1) and (2) do not apply to emissions as specified in COMAR 26.11.06.02A(2). For cement kilns that are required to install and operate a COM, visible emissions may not exceed the applicable standards as specified in COMAR 26.11.30.05B(1) and (2) for more than 2 percent of the unit's operating time in any calendar quarter. Under COMAR 26.11.30.05, cement kilns or clinker coolers may either operate COMs or PM CPMS (particulate matter continuous parameter monitoring systems).

Incinerator Exemption

A number of law enforcement agencies, military installations and other government entities are using modified 55-gallon drums to destroy illegal drugs and trash from international flights that might cause biocontamination. The drums, commonly called cyclonic burn barrels, are equipped with fans, lids and other accessories that, when taken altogether, make these drums fit the definition of an incinerator. The Department is taking action to exempt these drums from the incinerator requirements as the federal government has also done.

Under federal New Source Performance Standards (NSPS) (40 CFR Part 60, Subpart EEEE), an incinerator unit that is owned or operated by a government agency that combusts contraband or prohibited goods is exempt from the federal requirements. The Department is incorporating this provision into the definition of incinerator so that Maryland regulations do not conflict with the federal exemption.

**Sources Affected and Location**

The amendments will affect four existing municipal waste combustors (MWCs). One MWC is located in Baltimore City, one in Frederick County, one in Harford County and one in Montgomery County.

The amendments will also affect two existing Portland cement manufacturing plants in Maryland.

**Requirements**

Amendments to COMAR 26.11.01.10 clarify requirements for incinerators and Portland cement plants that demonstrate compliance with visible emissions (VE) standards through use of continuous opacity monitors (COMs). The amendments reference appropriate regulations where VE standards are contained, establish compliance criteria for these sources, and specify use of the QA/QC procedures in COMAR 26.11.31.

MWCs located in the Baltimore/Washington areas are subject to the no visible emissions requirement contained in COMAR 26.11.08.04A(2). In these areas, compliance with the no VE requirement is demonstrated with a COM if VE are less than 10 percent opacity.

Regulation 26.11.08.04 Visible Emissions now includes requirements for incinerators equipped with COMs.

Regulation 26.11.08.07 is approved as part of Maryland's Section 111(d) Plan and is amended to clarify that the regulation applies to small MWCs.

Regulation 26.11.08.08 is approved as part of Maryland's Section111(d) Plan for large MWCs. The amendments remove the applicability of TM 90-01 and add the requirement that the QA/QC will be as in new COMAR 26.11.31.

**Expected Emissions Reductions**

These amendments clarify and streamline the regulations and are unlikely to produce emission reductions. The action establishes revised compliance procedures relating to sources that are required to operate continuous opacity monitors under COMAR 26.11.01.10 - Continuous Opacity Monitoring Requirements.

**Economic Impact on Affected Sources, the Department, other State Agencies, Local Government, other Industries or Trade Groups, the Public**

The proposed action has no economic impact.

Affected incinerators and cement plants are currently required to install and operate a COM and required to assure that valid COM data is generated. Each of the affected sources currently submit quarterly reports summarizing visible emissions exceedances. There is no impact on affected sources as a result of these amendments.

The Department's inspectors currently review COM data and conduct periodic inspections of each facility. There will be no additional impact on the Department as a result of these amendments.

**Economic Impact on Small Businesses**

The MWC located in Harford County is classified as a small business. However, the proposed action has no economic impact. Affected incinerators are currently required to install and operate a COM and required to assure that valid COM data is generated. Each of the affected sources currently submit quarterly reports summarizing visible emissions exceedances. There is no impact on affected sources as a result of these amendments.

**Is there an Equivalent Federal Standard to this Proposed Regulatory Action?**

All existing affected sources are subject to specific federal emission standards set forth under the federal NSPS or Clean Air Act Section 111(d). New incinerators are subject to federal NSPS found at 40 CFR Part 60. For cement plants, new particulate and monitoring procedures are contained in EPA's 2013 National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Portland Cement Manufacturing Industry.

# Title 26 DEPARTMENT OF THE ENVIRONMENT

## Subtitle 11 AIR QUALITY

### Chapter 01 General Administrative Provisions

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103, Annotated Code of Maryland

**.01 Definitions.**

A. (text unchanged)

B. Terms Defined.

(1) — (8) (text unchanged)

*(8-1) Continuous Burning.*

*(a) "Continuous burning" means the continuous, semi-continuous, or batch feeding of municipal solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production.*

*(b) "Continuous burning" does not include the period when municipal solid waste is solely used to provide thermal protection of the grate or hearth.*

(9) — (27) (text unchanged)

*(27-1) Operating Time.*

*(a) "Operating time" means, for the purpose of determining compliance or non-compliance with COM requirements of this chapter for cement kilns, the actual time in hours that an affected unit operates, beginning when the raw feed is being continuously introduced into the kiln for at least 120 minutes or when the raw feed rate exceeds 60 percent of the kiln design limitation rate, whichever occurs first, and ending when the introduction of raw feed to the kiln is halted.*

*(b) "Operating time" means, for the purpose of determining compliance or non-compliance with COM requirements of this chapter for municipal waste combustors, the actual time in hours that an affected unit operates, beginning when continuous burning of solid waste starts and ending when continuous burning of solid waste ceases.*

(28) — (53) (text unchanged)

**.10 Continuous Opacity Monitoring Requirements.**

A. Applicability and Exceptions.

(1) The provisions of this regulation apply to:

(a) Fuel burning equipment burning coal, fuel oil, tars, or waste combustible fluid at any time and that has a rated heat input capacity of 250 million Btu per hour or greater;

(b) Fuel burning equipment burning coal with a rated heat input capacity of 100 million Btu per hour or greater but less than 250 million Btu per hour and was constructed on or before June 19, 1984;

(c) A cement kiln;

(d) A fluidized bed combustor of any size; and

(e) A municipal waste combustor with a burning capacity of 35 tons or greater per day.

(2) The owner or operator of an installation subject to this regulation may also be subject to the requirements of 40 CFR Parts 60 and 75, as amended.

(3) This regulation does not apply to fuel burning equipment that:

(a) Burns only distillate fuel oil or a mixture of gas and distillate fuel oil;

(b) Is able to comply with the applicable particulate matter and opacity emission limitations without using particulate matter control equipment; and

(c) Has never been found in a final order to be in violation of any visible emissions standard.

(4) The owner or operator of fuel burning equipment subject to this regulation may, with approval by the Department, discontinue use of a COM only in accordance with the provisions in COMAR 26.11.09.05C.

(5) The owner or operator of a cement manufacturing installation may discontinue use of a COM when a PM CPMS is installed and operated in accordance with the requirements of COMAR 26.11.30.

B. General Requirements for COMs.

(1) The owner or operator of an installation subject to this regulation shall:

(a) Install and continuously operate a COM that complies with a plan approved by the Department and EPA in accordance with §B(1)(b) of this regulation; and

(b) Before installing a COM, submit to the Department for approval, a plan containing the COM design specifications, proposed location, and a description of a proposed alternative measurement method consisting of a schedule for utilizing the EPA Reference Method 9 observational procedures.

(2) The Department shall submit the plan to EPA for review and approval.

(3) A COM shall comply with the applicable requirements in 40 CFR Part 51, Appendix P, **[**Sections 3.3—3.9, **]**as amended, which is incorporated by reference.

(4) The owner or operator of fuel burning equipment that is required by this regulation to install and operate a COM is subject to the provisions in COMAR 26.11.09.05.

*(5)The owner or operator of a cement kiln or clinker cooler that is operating a COM is subject to the following requirements:*

*(a) The owner or operator of a cement kiln or clinker cooler may not cause or permit the discharge of emissions which exceed the visibility standards in COMAR 26.11.30.05B.*

*(b) The visibility standards in COMAR 26.11.30.05B(1) and (2) do not apply to emissions as specified in COMAR 26.11.06.02A(2) during EPA reference Method 9 observations.*

*(c) For the purpose of demonstrating compliance with COMAR 26.11.30.05B(2) when using a COM, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.*

*(d) For the owner or operator of a cement kiln or clinker cooler that is operating a COM, compliance with visible emission standards is achieved if visible emissions do not exceed the applicable visible emission limitations in 26.11.30.05B(1) or (2) as applicable, for more than 2 percent of the unit's operating time in any calendar quarter.*

*(e) Notwithstanding the requirements in §B(5)(a)-(d) of this regulation, the Department may determine compliance and non-compliance with the visible emission limitations by performing EPA reference Method 9 observations.*

*(f) The owner or operator of a cement kiln or clinker cooler that is operating a COM shall meet the quality assurance requirements under COMAR 26.11.31.*

*(6)The owner or operator of a municipal waste combustor that is required to install and operate a COM is subject to the following requirements:*

*(a) The owner or operator of a municipal waste combustor may not cause or permit the discharge of emissions which exceed the visibility standards in COMAR 26.11.08.04 as determined by EPA reference Method 9 observations.*

*(b) For the purpose of demonstrating compliance with COMAR 26.11.08.04 when using a COM, emissions that are visible to a human observer are those that are equal to or greater than 10 percent opacity.*

*(c) For the owner or operator of a municipal waste combustor that is required to install and operate a COM, compliance with visible emission standards is achieved if visible emissions do not exceed 10 percent opacity for more than 2 percent of the unit's operating time in any calendar quarter.*

*(d) Notwithstanding the requirements in §B(6)(a)-(c) of this regulation, the Department may determine compliance and non-compliance with the visible emission limitations by performing EPA reference Method 9 observations.*

*(e) The owner or operator of a municipal waste combustor that is operating a COM shall meet the quality assurance requirements under COMAR 26.11.31.*

C. Certification and Quality Assurance Procedures.

(1) All certification testing, including certification performance tests and audits, shall be performed in accordance with 40 CFR Part 60, Appendix B, as amended, which is incorporated by reference.

(2) For fuel burning equipment subject to the federal Acid Rain Program, all certification testing, including certification performance tests and audits, shall be performed in accordance with 40 CFR Part 75, Appendix A, as amended.

(3) Certification testing shall be repeated when the Department determines that the data are invalid because of component replacement or other conditions that affect the accuracy of generated data.

(4) The owner or operator that is required to perform a certification performance test shall:

(a) At least 60 days before the test, submit a test protocol to the Department for review and approval;

(b) Schedule the test at a reasonable time and notify the Department at least 10 days before the test is to be conducted; and

(c) Submit the test results to the Department not later than 45 days after the completion of the test.

(5) The owner or operator of fuel-burning equipment required to install and operate a COM shall meet the quality assurance procedures contained in COMAR 26.11.31.

D. Record Keeping and Reporting Requirements.

(1) System Downtime Reporting Requirements.

(a) All COM downtime that lasts or is expected to last more than 24 hours shall be reported to the Department by telephone before 10 a.m. of the first regular business day following the first day on which downtime occurs.

(b) The COM downtime report shall include the reason, if known, for the breakdown and the estimated period of time that the COM will be down. The owner or operator shall notify the Department by telephone when the COM

has met performance specifications for accuracy, reliability, and durability of acceptable monitoring systems, as provided in 40 CFR Part 51 Appendix P, and is producing data.

(c) Except as otherwise approved by the Department and the EPA, a COM shall operate in compliance with the requirements of §B(2) of this regulation and collect data for at least 95 percent of the source's operating time during any calendar quarter. The alternative measurement plan required in §B(1)(b) of this regulation shall be used at all times when the COM fails to conform to performance standards required by §B(2) of this regulation during data collection.

(2) Data Reporting Requirements.

(a) A COM shall automatically reduce all data to six-minute block averages calculated from 24 or more equally spaced data points.

(b) All COM data shall be reported in a format approved by the Department.

(c) A quarterly summary report shall be submitted to the Department not later than 30 days following each calendar quarter. The report shall be in a format approved by the Department, and shall include the following:

(i) The cause, time periods, and the opacity of all emissions which exceed the applicable quarterly, daily and hourly emission standards as provided in COMAR 26.11.09.05A(4);

(ii) The COM and installation downtimes, including the time and date of the beginning and end of each downtime period, and whether the downtime was scheduled;

(iii) The cause of all COM downtime;

(iv) The total operating time for the quarter, and the total time and percent of the operating time during the quarter that excess emissions occurred, and the percentage of COM downtime, during the calendar quarter;

(v) Quarterly quality assurance activities;

(vi) Daily calibration activities that include reference values, actual values, absolute or percent of span differences, and drift status;

(vii) Other information that the Department determines is necessary to evaluate the data or to ensure that compliance is achieved.

E. All information required by this regulation to be maintained or reported to the Department shall be retained and made available for review by the Department for a minimum of 5 years from the time the report is submitted.

**[**F. Fuel burning equipment subject to the COM requirements in COMAR 26.11.09.05 and cement kilns subject to the COM requirements in COMAR 26.11.30 are subject to the COM requirements contained in COMAR 26.11.31.**]**

# Title 26 DEPARTMENT OF THE ENVIRONMENT

## Subtitle 11 AIR QUALITY

### Chapter 08 Control of Incinerators

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 2-406, 10-102, and 10-103, Annotated Code of Maryland

**.01 Definitions.**

A. — B. (text unchanged)

B. Terms Defined.

(1) — (19) (text unchanged)

(20) Incinerator.

(a) "Incinerator" means a furnace or combustion unit that uses controlled flame combustion for the thermal destruction of municipal solid waste, industrial waste, special medical waste, or sewage sludge.

(b) "Incinerator" does not mean a hazardous waste incinerator.

*(c) "Incinerator" does not mean any unit owned or operated by a government agency to destroy illegal or prohibited goods. The exclusion does not apply to items either confiscated or incinerated by private, industrial, or commercial entities.*

(21) — (61) (text unchanged)

**.02 — .03 (text unchanged)**

**.04 Visible Emissions.**

A. — C. (text unchanged)

*D. The owner or operator of a municipal waste combustor that is required to install and operate a COM is subject to the requirements in COMAR 26.11.01.10.*

**.05 — .06 (text unchanged)**

**.07 Requirements for [Certain] Municipal Waste Combustors *with a Capacity of 35 tons or greater per day and less than or equal to 250 Tons Per Day.***

A person may not operate a municipal waste combustor that has a burning capacity of 35 tons or more per day and less than or equal to 250 tons per day that was constructed on or before August 30, 1999 which results in violation of the provisions of 40 CFR 62 Subpart JJJ.

**.08 Requirements for an Existing Large MWC with a Capacity Greater Than 250 Tons Per Day.**

A. Emission Standards and General Requirements.

(1) (text unchanged)

(2) Emission Standards and General Requirements.

| Pollutant or Parameter | Emission Standards for a Large MWC | Performance and Compliance Test Requirements |
|---|---|---|
| Carbon Monoxide* | 100 ppmv - 4 hr block avg. | CEMS. Methods and procedures as specified in 40 CFR §60.58b(b) and 40 CFR §60.58b(i). |
| Dioxin/Furans* | Before April 28, 2009, 60 nanograms per dry standard cubic meter (total mass) for ESP-based control device and 30 nanograms per dry standard cubic meter (total mass) for non-ESP-based control device. On and after April 28, 2009, the emission limit for ESP-based control device is 35 nanograms per dry standard cubic meter and 30 nanograms per dry standard cubic meter for non ESP-based emission control system. | EPA Reference Method 23. Annual test except as provided in 40 CFR §60.58b(g)(5)(iii). Applicable test procedures and methods as specified in 40 CFR §60.58b(g). Certified continuous automated sampling option in lieu of a stack test as specified in 40 CFR 60.58b(g)(10). |
| Particulate Matter* | Before April 28, 2009, 0.012 grains per standard cubic feet dry, 27 milligrams per dry standard cubic meter. On and after April 28, 2009, 25 milligrams per dry standard cubic meter. | EPA Reference Method 5. Annual test methods and procedures as specified in 40 CFR §60.58b(c). Certified CEMS option in lieu of a stack test for monitoring PM emissions discharged to the atmosphere as specified in 40 CFR §60.58b(c)(10). |
| Opacity | 10 percent opacity with [CEMS]*COMs*. Averaging time is 6 minutes. | EPA Reference Method 9 and **[**CEMS**]** *COMS*. Applicable test procedures and methods as specified in 40 CFR §60.58b(c). Quality assurance and quality control requirements are as in [Technical Memorandum 90-01**]** *COMAR 26.11.31*. [In case of inconsistencies in data or conflicting data Method 9 results will determine compliance.] *Notwithstanding the requirements in COMAR 26.11.01.10B(6)(a)-(c), the Department may determine compliance and non-compliance with the visible emission limitations by performing EPA reference Method 9 observations.* |
| Cd (Cadmium)* | Before April 28, 2009, 40 micrograms per dry standard cubic meter. On and after April 28, 2009, 35 micrograms per dry standard cubic meter. | EPA Reference Method 29. Annual test except as provided in 40 CFR §60.58b(d). Applicable test procedures and methods as specified in 40 CFR §60.58b(d). Certified CEMS option in lieu of a stack test as specified in 40 CFR §60.58b(d)(3) and |

| | | |
|---|---|---|
| | | 60.58(n). |

| | | |
|---|---|---|
| Pb(Lead)* | Before April 28,2009, 440 micrograms per dry standard cubic meter. On and after April 28, 2009, 400 micrograms per dry standard cubic meter. | EPA Reference Method 29. Annual test except as provided in 40 CFR §60.58b(d). Applicable test procedures and methods as specified in 40 CFR §60.58b(d). Certified CEMS option in lieu of a stack test as specified in 40 CFR §60.58b(d)(3) and 60.58(n). |
| Hg (Mercury)* | Before April 28,2009, 80 micrograms per dry standard cubic meter or 85 percent reduction by weight, whichever is less restrictive. On and after April 28, 2009, 50 micrograms per dry standard cubic meter or 85 percent reduction by weight, whichever is less restrictive. | EPA Reference Method 29. Annual test except as provided in 40 CFR §60.58b(d) and (m). Applicable test procedures and methods as provided in 40 CFR §60.58b(d). Certified CEMS option in lieu of a stack test as specified in 40 CFR §60.58b(d)(4) and 60.58(n). |
| $SO_2$ *(*Sulfur Dioxide)* | 29 ppmv—24-hr geometric mean or 75 percent reduction, whichever is less restrictive. | CEMS. Applicable test procedures and methods as specified in 40 CFR §60.58b(e). |
| HCl (Hydrogen Chloride)* | 29 ppmv or 95 percent reduction, whichever is less restrictive | EPA Reference Method 26. Annual test except as provided in 40 CFR §60.58b(f). Applicable test procedures and methods as provided in 40 CFR §60.58b(f). Certified CEMS option in lieu of a stack test as specified in 40 CFR §60.58b(f)(8) and 60.58(n). |
| $NO_x$ (Oxides of Nitrogen)* | 205 ppmv 24-hr arithmetic average. Mass burn refractory MWC is exempt. | CEMS (only for sources to which an emission standard applies). Applicable test procedures and methods as provided in 40 CFR §60.58b(h). |
| Load | Not to exceed 110 percent of maximum load during most recent dioxin/furan performance test. | Continuous monitoring.—4-hr block arithmetic average steam load. Applicable test procedures and methods are as provided in 40 CFR §60.58b(i). |
| Temperature | The maximum particulate matter control device inlet temperature must not exceed by more than 17°C the temperature during the most recent dioxin/furan test demonstrating compliance. | Continuous monitoring. The temperature shall be calculated in 4-hr block arithmetic averages. Applicable test procedures and methods are as provided in 40 CFR §60.58b(i) and exemptions in 40 CFR §60.53b(c). |
| Fugitive Ash Emissions | Visible emissions less than 5 percent of the observation period (i.e., 9 minutes per 3-hour period) during ash | EPA Reference Method 22 observations as specified in 40 CFR §60.58b(k). Annual test. The emission limit excludes visible emissions discharged inside buildings or enclosures of ash-conveying systems |

| | | |
|---|---|---|
| | transfer. | during maintenance and repair of ash-conveying systems as specified in 40 CFR §60.55b. |

* Corrected to 7 percent oxygen on dry basis. If a $CO_2$ monitor is selected as the dilutent monitor it must meet the requirements of 40CFR §60.58b(b)(6).

(3) (text unchanged)

B. Monitoring Requirements.

(1) A person who owns or operates an existing MWC subject to this regulation shall:

(a) Install, calibrate, operate, and maintain continuous **[**emission**]** monitors for carbon monoxide, oxygen, opacity, oxides of nitrogen, and sulfur dioxide;

(b)—(d) (text unchanged)

(2) (text unchanged)

(3) The monitors required by §B(1)(a) and (b) of this regulation shall meet the installation, certification, reporting, record-keeping, and other requirements of COMAR 26.11.01.10, *and COMAR 26.11.01.11*, performance specifications in 40 CFR Part 60, Appendix B, the quality assurance procedures in 40 CFR Part 60, Appendix F, all requirements in 40 CFR §60.58b, *COMAR 26.11.31* **[**, and the specification in the Department's Air and Radiation Management Administration Technical Memorandum 90-01, "Continuous Emission Monitoring (CEM) Policies and Procedures", which is incorporated by reference in COMAR 26.11.01.10E**]**.

(4) (text unchanged)

C. Reporting and Record-Keeping Requirements.

(1) (text unchanged)

(2) Continuous **[**emissions**]** monitoring data reduction and data availability shall be as prescribed in COMAR 26.11.01.10 *and COMAR 26.11.01.11*. If there is any inconsistency between COMAR 26.11.01.10 *and COMAR 26.11.01.11* and 40 CFR 60, the **[**requirement**]** *requirements* of 40 CFR 60 govern.

D. (text unchanged)

**.08-1 — .09 (text unchanged)**

Department of the Environment

# Facts About...

## COMAR 26.11.24 Stage II Vapor Recovery at Gasoline Dispensing Facilities

2/02/2015

**Purpose of Amendment**

The primary purpose of this action is to allow new gasoline dispensing facilities (GDFs) and GDFs undergoing major modifications the option to choose not to install or decommission existing Stage II vapor recovery equipment. Existing GDFs may decommission Stage II vapor recovery equipment in 2017. Existing GDFs may also elect to decommission Stage II vapor recovery equipment in a faster timeframe by installing a prescribed number of electric vehicle charging stations.

Owners and operators of GDFs that elect to continue with their Stage II equipment can do so, but must continue to test, repair, replace, retrofit, and maintain the Stage II equipment in accordance with Stage II requirements.

**Submission to EPA as Revision to Maryland's SIP (or 111(d) Plan, or Title V Program)**

The proposed regulation will be submitted to the U.S. EPA for approval as a revision to Maryland's State Implementation Plan (SIP).

**Background**

The Clean Air Act (CAA) §182(b)(3) required Stage II vapor recovery for areas classified as moderate, serious, severe, and extreme ozone nonattainment areas. Stage II or Stage II equivalent measures were required statewide because Maryland is part of the Ozone Transport Region. Equivalent measures rather than Stage II were adopted in attainment areas of the state.

Stage II systems transfer by displacement the vapors consisting of fuel air mixture, from the motor vehicle fuel tank fill pipe to the gasoline service station underground storage tank thus preventing volatile organic compounds (VOC) from polluting the air during refueling. The capture of vapors takes place at the interface between the fill pipe and the dispensing nozzle. In the underground tank, the vapors remain in either gaseous or liquid phase as equilibrium between the phases is established.

COMAR 26.11.24, as currently promulgated, requires Stage II Vapor Recovery at all gasoline dispensing facilities built after November 15, 1990 in Baltimore City and Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery, and Prince George's counties. Affected sources have been required to

install Stage II systems that meet California Air Resources Board (CARB) standards, with all parts clearly identified as being CARB certified. Over 40 types of Stage II systems have met the rigorous CARB certification standards and carry specific Executive Order numbers. Under existing Maryland requirements, facilities must have at least one person trained to operate and maintain the installed Stage II systems. Facilities required to install and operate Stage II systems are subject to initial and annual testing and inspection requirements, and must maintain records of Stage II maintenance and a malfunction log. COMAR 26.11.24 is currently part of Maryland's State Implementation Plan (SIP) under the Clean Air Act.

Onboard refueling vapor recovery (ORVR) is a vehicle emission control system required under CAA §202(a)(6) starting with certain 1998 model year gasoline-powered light duty motor vehicles, and covering most vehicles by model year 2006. This system transfers the vapors to a canister in the vehicle filled with activated carbon. The energy content of the captured vapors in the ORVR canister is utilized when the vehicle engine is started. Stage II vapor recovery systems and ORVR each have a projected vapor control efficiency of approximately 95 percent, though actual performance could vary. Over time, non-ORVR vehicles will continue to be replaced with ORVR vehicles. The ORVR control measure is expected to result in a significant decrease in emissions over time until all subject vehicle classes in the highway vehicle fleet are ORVR-equipped.

When ORVR and vacuum assist Stage II systems are operated together, incompatibility due to presence of air instead of vapors from vapor assist systems can result in a 1 to 10 percent decrease in control efficiency over what would be achieved by Stage II or ORVR alone. The decrease in efficiency depends on various factors, including the vacuum assist technology design that draws in air instead of vapors, the gasoline Reid vapor pressure, temperature and throughput. Over time, non-ORVR vehicles will continue to be replaced with ORVR vehicles. Stage II and ORVR emission control systems are redundant, and EPA has determined that ORVR emission reductions are essentially equal to and will soon surpass the emission reductions achieved by Stage II alone.

On May 16, 2012, the U.S. Environmental Protection Agency (EPA) finalized the rule "Widespread Use for Onboard Refueling Vapor Recovery and Stage II Waiver." Section 202(a)(6) of the Clean Air Act allows the EPA to revise or waive certain requirements of the Stage II vapor recovery program in ozone nonattainment areas when the EPA Administrator finds that ORVR systems are in widespread use in the highway vehicle fleet. EPA has determined that the criteria for widespread use of ORVR was met on May 16, 2012, based on national data. Using a gasoline throughput approach, EPA projects that the amount of control that ORVR alone would need to achieve to be equivalent to the amount of control Stage II alone would achieve is 77.4 percent. Given the widespread use of ORVR, Stage II control systems now provide increasingly less air pollution reduction beyond what is provided by ORVR and therefore are increasingly less cost-effective.

Section 182 of the Clean Air Act still requires states in the Ozone Transport Region (OTR), including Maryland, to adopt and implement control measures that are capable of achieving emissions reductions comparable to those achievable by Stage II systems. On August 7, 2012, EPA released their Guidance on Removing Stage II Gasoline Vapor

Control Programs from State Implementation Plans and Assessing Comparable Measures. EPA's guidance document provides both technical and policy recommendations to states and local areas on how to develop and submit an approvable SIP revision seeking to remove or phase-out an existing Stage II program. This guidance introduces methods and equations that could be used to calculate the emissions consequences of discontinuing Stage II control programs for purposes of demonstrating compliance with specific CAA provisions in sections 110(ℓ) and 193 governing EPA approval of SIP revisions. This guidance also includes new technical and policy guidance for areas of the OTR on implementing measures capable of achieving emissions reductions comparable to those achievable by ongoing implementation of Stage II controls.

**Sources Affected and Location**

The amendments to this regulation affect new and existing GDFs in Baltimore City and Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery, and Prince George's counties. There are approximately 1,500 existing GDFs subject to Stage II vapor recovery requirements in Maryland. Based on new construction activity records, an average of 20-25 new facilities are built each year in areas of the State subject to this regulation.

**Requirements**

The proposed action provides new and existing GDFs and those undergoing major modifications a regulatory option to either not install or decommission Stage II vapor recovery equipment. Existing GDFs may decommission Stage II vapor recovery equipment in 2017. Existing GDFs may also elect to decommission Stage II vapor recovery equipment in a faster timeframe by installing a prescribed number of electric vehicle charging stations. The proposed regulation is developed in accordance with EPA's "Guidance on Removing Stage II Gasoline Vapor Control Programs from State Implementation Plans and Assessing Comparable Measures" (Guidance) EPA-457/B-12-001 August 7, 2012.

Maryland is proposing the following amendments to COMAR 26.11.24:

1. Allow GDFs constructed after March 6, 2014 the option to not install and operate Stage II systems.

2. Allow existing GDFs undergoing major modifications to decommission Stage II systems after the effective date of the regulation.

3. Allow existing stations to decommission Stage II systems after January 1, 2017 without major modification.

4. Allow existing GDFs to decommission Stage II systems after the effective date of the regulation with an approved Electric Vehicle charging station plan.

5. An owner or operator of a GDF 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 and COMAR 26.10.10.

Electric Vehicle Charging Station Plan (EVCSP)

Under the proposed regulation, an owner or operator may choose to voluntarily install electric vehicle charging stations. An owner or operator who selects the EVCSP option in the regulation must submit an EVCSP to the Department and receive approval of the plan prior to decommissioning any GDFs. The owner or operation of GDFs which select this option may begin decommissioning Stage II vapor recovery systems at existing GDFs in a quicker time frame.

An EVCSP will detail how the owner will meet the requirements of installing a defined number of Direct Current Fast Chargers in Maryland. Direct Current Fast Chargers, also known as Level 3 chargers, can supply electric vehicles with a large amount of energy, sufficient to recharge their batteries to approximately eighty percent in about thirty minutes. For the EVCSP, the chargers used must be capable of supplying a minimum of 20kW to each vehicle plugged in and meet either the SAE Combo Coupler (J1772) or CHAdeMO Fast Charger standards to support electric vehicles.

The requirements to install direct current fast charge electric vehicle charging stations are in the following table:

| Number of Maryland Stations Owned in 2012 | Required Number of DC Fast Charge Electric Vehicle Charging Stations |
|---|---|
| 1-7 | 1 |
| 8-49 | 2 |
| 50-100 | 5 |
| Greater than 100 | 11 |

Owners will have five years, until 2020, to complete installation of the required EV fast chargers. EV fast chargers installed by owners, solely or through partnerships, at locations other than GDFs are allowed to count towards the owner's required number of installed fast chargers. EV fast chargers do not need to be installed on an owner's property to count towards the requirement.

Technology Advancement Considerations

Several emerging technologies have been shown to provide significant reductions in VOC emissions and toxic exposures at GDFs. New technologies such as dripless nozzles and low-permeation hoses have either recently become certified by the California Air Resources Board or are under review. These technologies have been proven to reduce

impacts on air, water and land, reduce public health risks and generate energy savings. They provide significant benefit with minimal cost and in some instances are economically cheaper over their life-cycle as compared to traditional equipment. The Department believes these technologies may naturally make their way into the market. Additional technologies such as pressure monitoring and management further ensure that VOC emissions are minimal at GDFs. The Department will consider future amendments to the regulations requiring new technologies as these items become commercially available and if emission reductions are needed for air quality attainment.

**Expected Emissions Reductions**

Over time, non-ORVR vehicles will continue to be replaced with ORVR vehicles. The ORVR control measure is expected to result in a significant decrease in emissions over time until all subject vehicle classes in the highway vehicle fleet are ORVR-equipped. Stage II and ORVR emission control systems are redundant, and, EPA has determined that ORVR emission reductions are essentially equal to and will soon surpass the emission reductions achieved by Stage II alone. By waiving the Stage II requirement, EPA is reducing regulatory burdens on the gasoline service station industry.

In 2012, the Maryland Department of the Environment contracted for an analysis of the potential impacts associated with the elimination of Stage II requirements in Maryland. The analysis for Maryland has shown that Stage II systems in Maryland will continue to show diminishing VOC benefits in Maryland until the year 2020 when thereafter incompatibility issues with ORVR systems will result in excess VOC emissions being released. Stage II vapor recovery systems total statewide VOC reductions for all refueling operations in 2014 has been calculated to be 1.7 tons/day of VOC and in 2020 to be 0.17 tons/day of VOC.

**Economic Impact on Affected Sources, the Department, other State Agencies, Local Government, other Industries or Trade Groups, the Public**

New GDFs of medium model size category would save approximately $14,000-16,000 from not having to install Stage II systems. Underground vapor recovery pipes, pumps, Stage II nozzles, coaxial gasoline delivery and vapor recovery hoses, inspections and testing would not be required for facilities that choose not to install or maintain Stage II systems. A vapor recovery nozzle costs approximately $200 more than a standard non-Stage II nozzle. Maintenance, testing, inspection and recordkeeping costs are also reduced. EPA estimates a savings of $3,277 for a typical gasoline dispensing facility. Existing stations that choose to decommission Stage II systems must 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 and COMAR 26.10.10.

**Economic Impact on Small Businesses**

Economic impact on small business with respect to savings would constitute approximately 1-2% of total capital costs for new stations. For existing stations, the cost savings constitute approximately 0.2% of yearly revenue.

**Is there an Equivalent Federal Standard to this Proposed Regulatory Action?**

The federal regulations that set forth criteria for waiver of Stage II requirements are in 40 CFR Part 51 Widespread Use for Onboard Refueling Vapor Recovery and Stage II Waiver.

# DRAFT

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# Title 26
# DEPARTMENT OF THE ENVIRONMENT

## Subtitle 11 AIR QUALITY

### Chapter 24 [Stage II] Vapor Recovery at Gasoline Dispensing Facilities

Authority: Environment Article, §§1-101, 1-404, 2-101—2-103, 2-301—2-303, 10-102, and 10-103, Annotated Code of Maryland

**.01 (text unchanged)**

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) — (3) (text unchanged)

*(3-1) "Direct Current fast charge electric vehicle charging station" means a Level 3 DC fast charger that is designed to deliver a minimum of 20kW to each vehicle plugged in and meets either SAE Combo Coupler (J1772) or CHAdeMO Fast Charger standards to support electric vehicles in North America.*

(4) — (8) (text unchanged)

*(8-1) "Major Modification" means:*

*(a) Excavation below a shear valve or tank pad in order to repair or replace Stage II system or an underground storage tank;*

*(b) Installation of a new dispenser system manufactured without a Stage II system; or*

*(c) A major system modification consisting of the replacement, repair or upgrade of at least 50% of a facility's Stage II vapor recovery system.*

(9) — (13) (text unchanged)

(14) "Owner" means the person who owns a gasoline dispensing facility and who is responsible for the installation requirements, initial compliance, and periodic testing of an approved system. *Owner includes a person who:*

*(a) Owns an oil storage facility or UST system, or both, used for storage, use, or dispensing of regulated substances; or*

*(b) Owned the UST system immediately before the discontinuation of its use.*

*(14-1) "Stage I vapor balance system" means coaxial or dual piping that creates a closed system between a tank truck and a stationary storage tank and contains the vapors during the transfer of gasoline.*

(15) — (16) (text unchanged)

*(16-1) "Tank System" means a storage tank or a set of manifolded storage tanks containing gasoline.*

(17) — (20) (text unchanged)

**.01-1 Incorporation by Reference.**

A. In this chapter, the following CARB approved test methods are incorporated by reference.

B. Test Methods Incorporated.

(1) — (5) (text unchanged)

*(6) Leak Rate and Cracking Pressure of Pressure/Vacuum Valves TP-201.1E.*

*(7) Determination of Vapor Piping Connections to Underground Gasoline Storage Tanks (Tie-Tank Test) TP-201.3C.*

*(8) "Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Refueling Sites" of the Petroleum Equipment Institute, Section 14, 2009.*

**.02 Applicability, Exemptions, and Effective Date.**

A.– F. (text unchanged)

**.03 General Requirements.**

A. New Gasoline Dispensing Facilities. **[**After May 15, 1993, a**]***A*n owner or operator of a new gasoline dispensing facility may not operate the gasoline dispensing facility unless it is equipped and operated with an approved system.

*A-1. Gasoline Dispensing Facilities constructed after March 6, 2014. Notwithstanding § .03A, an owner or operator of a gasoline dispensing facility constructed after March 6, 2014 may operate the gasoline dispensing facility without installing or operating a Stage II vapor recovery system.*

*A-2. Gasoline Dispensing Facilities Selecting § .03-2 Electric Vehicle Charging Station Option. The owner or operator of a gasoline dispensing facility that decommissions a Stage II vapor recovery system pursuant to § .03-2 of this chapter:*

*(1) May operate the gasoline dispensing facility without operating a Stage II vapor recovery system; and*

*(2) May decommission each station within a system owned and operated by the same person.*

B.— I. (text unchanged)

*J. Stage I Vapor Recovery. An owner or operator of a gasoline tank truck or an owner or operator of a gasoline dispensing facility subject to this regulation may not cause or permit gasoline to be loaded into a stationary tank unless the loading system is equipped with a Stage I vapor balance system that is properly installed, maintained, and operated.*

***.03-1 Decommissioning of the Stage II Vapor Recovery System.***

*A. Notwithstanding § .03A, an owner or operator of a gasoline dispensing facility or system of gasoline dispensing facilities that operates approved Stage II vapor recovery systems:*

*(1) May decommission Stage II vapor recovery systems in accordance with §.03-1B if the requirements of regulation .03-2 of this chapter are met;*

*(2) May decommission Stage II vapor recovery systems in accordance with §.03-1B after January 1, 2017; or*

*(3) May decommission Stage II vapor recovery systems in accordance with §.03-1B where a gasoline dispensing facility undergoes a major modification after the effective date of this regulation.*

*B. 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 and COMAR 26.10.10.*

***.03-2 Electric Vehicle Charging Station Option.***

*A. Notwithstanding §.03A, an owner or operator of gasoline dispensing facility that decommissions pursuant to §.03-1A(1) of this chapter shall:*

*(1) Install Direct Current fast charge electric vehicle charging stations as specified in the following table:*

| *Number of Maryland Stations* Owned in 2012* | *Required Number of DC Fast Charge Electric Vehicle Charging Stations* |
|---|---|
| *1-7* | *1* |
| *8-49* | *2* |
| *50-100* | *5* |
| *Greater than 100* | *11* |

** The number of gasoline dispensing facilities to be tallied are those that are located in the counties specified in § .02A of this chapter.*

*(2) Install required Direct Current fast charge electric vehicle charging stations by January 1, 2020.*

*(3) Submit, to the Department, not later than 3 months before decommissioning Stage II Vapor recovery systems or prior to submittal of a permit to install a new station, a plan detailing:*

*(a) the number of Direct Current fast charge electric vehicle charging stations planned to be installed;*

*(b) the proposed location of the installed Direct Current fast charge electric vehicle charging stations;*

*(c) the proposed schedule for installation of the Direct Current fast charge electric vehicle charging stations;*

*(d) a description of how changes to the plan will be communicated to the Department; and*

*(e) any additional information requested by the Department.*

**.04 Testing Requirements.**

A. *Testing Requirements for Stage II Stations.* Except as provided in §§E and F of this regulation, an owner *or operator of a gasoline dispensing facility* subject to this chapter *which operates State II Vapor Recovery systems* shall perform the following CARB-approved tests.

(1) — (5) (text unchanged)

*(6) A leak rate and cracking pressure of pressure/vacuum vent valves TP-201.1E referenced in Regulation .01-1B(6).*

*(7) Determination of Vapor Piping Connections to Underground Gasoline Storage Tanks (Tie-Tank Test) TP-201.3C as referenced in Regulation .01-1B(7).*

*A-1. Testing Requirements for Decommissioned Stations and New Stations Installed after March 6, 2014 that did not Install Stage II. Except as provided in §§E and F of this regulation, an owner or operator of a gasoline dispensing facility subject to this chapter who does not operate Stage II Vapor Recovery systems shall perform the testing requirements of §.04A(1), (6) and (7).*

B. (text unchanged)

C. Stage II Vapor Recovery System.

(2) Test Schedule.

| *Type of Stage II Vapor Recovery System* | *Initial Test* | *Frequency of Retest* |
|---|---|---|
| (a) Vapor Balance System | Dynamic Back Pressure | 12 months |
| | Leak Test | 12 months |
| | Liquid Blockage Test | 5 years |
| (b) Vapor Assist System—Type 1 | Air to Liquid Ratio Test | 12 months |
| | Leak Test | 12 months |
| | Liquid Blockage Test | 5 years |
| (c) Vapor Assist System—Type 2 Model 400 | Nozzle Regulation Test | 12 months |
| | Vapor Return Leak Tightness Test | 12 months |
| (d) Vapor Assist System—Type 2 Model 600 | Air to Liquid Ratio Test | 12 months |
| | Vapor Return Line Vacuum Integrity Test | 12 months |

D.— F. (text unchanged)

**.05 — .06 (text unchanged)**

**.07 Record-Keeping and Reporting Requirements.**

A. — D. (text unchanged)

E. The following reporting requirements apply to any test required under this chapter:

(1) — (2) (text unchanged)

(3) Copies of all test results shall be forwarded to the Department within **[**45**]** *30* days of the test; and

(4) (text unchanged)

**.08 — .09 (text unchanged)**