TENATIVE AGENDA
STATE AIR POLLUTION CONTROL BOARD MEETING

THURSDAY, NOVEMBER 21, 2024

IN PERSON ONLY – General Assembly Building, 3rd floor, Senate Room C,
201 North 9th Street, Richmond, VA 23219

Meeting will be Live-Streamed. Go to: www.deq.virginia.gov
Any Updates To Details/Final Arrangements To Be Announced On Virginia Regulatory Town Hall

Convene – 10:00 A.M

Agenda Item	Presenter	
Call to Order	**Guy**	
Review and Approve Agenda	**Board Members**	
Review and Approve Minutes (June 5, 2024)	**Board Members**	A pg 4
Final Exempt Regulations		
Federal Emissions Guidelines for Existing Crude Oil and Natural Gas Facilities (Revision B24), 9VAC25-40	**Sabasteanski**	B pg 7
Federal Documents Incorporated by Reference (Revision C24), 9VAC5-20, -50, -60	**Sabasteanski**	C pg 25
Petition for Rulemaking		
New Regulatory Rulemaking on Ocean-class Passenger Cruise Ships	**Dowd**	D pg 102
Report to the Board Regarding Controversial Permits *Chesterfield Energy Reliability Center (CERC)* *Southeastern Public Service Authority (SPSA) Regional Landfill*	**Dowd**	
Director's Report *Climate Pollution Reduction Grant (CPRG) Program / Comprehensive Climate Action Plan (CCAP) Status Update*	**Ballou**	
Public Forum *(time not to exceed 45 minutes- no public comment on agenda items or pending regulatory actions during public forum)*		

Agenda Item	Presenter

ADJOURN

NOTE: The Board reserves the right to revise this agenda without notice unless prohibited by law. Revisions to the agenda include, but are not limited to, scheduling changes, additions or deletions. Questions on the latest status of the agenda should be directed to Melissa Porterfield at (804) 698-4238.

PUBLIC COMMENTS AT STATE AIR POLLUTION CONTROL BOARD MEETINGS: The Board encourages public participation in the performance of its duties and responsibilities. To this end, the Board has adopted public participation procedures for regulatory action and for case decisions made by the Department of Environmental Quality (Department). These procedures establish the times for the public to provide appropriate comment to the Board for regulatory action and the Department for case decisions for consideration.

For REGULATORY ACTIONS (adoption, amendment or repeal of regulations), public participation is governed by the Administrative Process Act and the Board's Public Participation Guidelines. Public comment is accepted during the Notice of Intended Regulatory Action phase (minimum 30-day comment period) and during the Notice of Public Comment Period on Proposed Regulatory Action (minimum 60-day comment period). Notice of these comment periods is announced in the Virginia Register, by posting to the Department and Virginia Regulatory Town Hall web sites and by mail to those on the Regulatory Development Mailing List. The comments received during the announced public comment periods are summarized for the Board and considered by the Board when making a decision on the regulatory action.

For CASE DECISIONS (e.g., issuance and amendment of permits and enforcement orders), the Board adopts public participation procedures in the individual regulations which establish the permit programs. (Note: as of July 1, 2022, the Department takes final action on all case decisions.) As a general rule, public comment is accepted on a draft permit for a period of 30 days. In some cases a public hearing is held at the conclusion of the public comment period on a draft permit. In other cases there may an additional comment period during which a public hearing is held, usually 45 days.

In light of these established procedures, the Board accepts public comment on regulatory actions as well as general comments, at Board meetings in accordance with the following:

REGULATORY ACTIONS: Comments on regulatory actions are allowed only when the staff initially presents a regulatory action to the Board for final adoption. At that time, those persons who commented during the public comment period on the proposal are allowed up to 3 minutes to respond to the summary of the comments presented to the Board. Adoption of an emergency regulation is a final adoption for the purposes of this policy. Also, public comment will be accepted for certain final exempt actions where there has been no public comment period. Persons are allowed up to 3 minutes to address the Board on the emergency regulation and final exempt actions under consideration.

POOLING MINUTES ON REGULATORY ACTIONS: Those persons who commented during the public hearing or public comment period and attend the Board meeting may pool their minutes to allow for a single presentation to the Board that does not exceed the time limitation of 3 minutes times the number of persons pooling minutes, or 15 minutes, whichever is less.

NEW INFORMATION ON A REGULATORY ACTION will not be accepted at the meeting. The Board expects comments and information on a regulatory action to be submitted during the established public comment periods. However, the Board recognizes that in rare instances new information may become available after the close of the public comment period. To provide for consideration of and ensure the

appropriate review of this new information, persons who commented during the prior public comment period shall submit the new information to the Department staff contact listed below at least 10 days prior to the Board meeting. The Board's decision will be based on the Department-developed official file and discussions at the Board meeting. Should the Board or Department decide that the new information was not reasonably available during the prior public comment period, is significant to the Board's decision and should be included in the official file, the Department may announce an additional public comment period in order for all interested persons to have an opportunity to participate.

PUBLIC FORUM: The Board schedules a public forum at each regular meeting to provide an opportunity for citizens to address the Board on matters other than those on the agenda or pending regulatory actions. Those persons wishing to address the Board during this time should indicate their desire on the sign-in cards/sheet and limit their presentations to 3 minutes or less. Note, there is no pooling of minutes during the public forum.

The Board reserves the right to alter the time limitations set forth in this policy without notice and to ensure comments presented at the meeting conform to this policy.

Department of Environmental Quality Staff Contact: Melissa Porterfield, Policy Analyst, Department of Environmental Quality, 1111 East Main Street, Suite 1400, P.O. Box 1105, Richmond, Virginia 23218, phone (804) 698-4238, e-mail: melissa.porterfield@DEQ.virginia.gov

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Additional Meeting Information:

- No food or beverages allowed in meeting space.
- Attendees may not erect any signage inside or outside the meeting room or building.
- Attendees are not entitled to be disorderly or disrupt the meeting from proceeding in an orderly, efficient, and effective fashion. Disruptive behavior may result in a recess or removal from the meeting.
- Possession or use of any device that may disrupt the conduct of business is prohibited, including but not limited to: voice-amplification equipment; bullhorns; blow horns; sirens, or other noise-producing devices; as well as signs on sticks, poles or stakes; or helium-filled balloons.
- All attendees are asked to be respectful of all speakers.
- Rules will be enforced fairly and impartially not only to ensure the efficient and effective conduct of business, but also to ensure no interference with the business of the complex, its employees and guests.
- Attendees wishing to record the proceedings are welcome to do so; however, you may not interfere with the business of the meeting, nor impede the view or participation of other meeting attendees and staff.
- No smoking is allowed unless in a designated outside space. This includes tobacco & e-cigarettes.
- No alcohol, fireworks, pyrotechnics, weapons, or any substances/items controlled by law are allowed.
- No firearms are allowed except for firearms carried by law-enforcement officers or authorized security personnel.
- All violators may be subject to removal from the meeting facility.
- Anyone removed from the facility may not reenter.
- Anyone who fails to comply with removal may be charged with trespass.

TAB A

DRAFT MINUTES
STATE AIR POLLUTION CONTROL BOARD MEETING

TUESDAY, JUNE 4, 2024

IN PERSON ONLY – GALLERY, COMMUNITY COLLEGE WORKFORCE ALLIANCE,
1651 EAST PARHAM ROAD, RICHMOND, VA 23228

Convened at 10:30 a.m. and adjourned at 11:00 a.m.

Board Members Present:
Jim Guy, Chair
Jay Holloway
Kimberly Beamer
Hope Cupit
Dr. Lornel Tompkins
David Hudgins
Russell Mait

Department of Environmental Quality:
Michael Rolband, Director
Rachael Harrell

Attorney General's Office:
Eric Lansing

Minute No. 1 –Review and Approval of Agenda: The board unanimously approved the agenda.

Minute No. 2– November 16, 2023 Minutes: The board unanimously approved the minutes from the board's meeting on November 16, 2023 with the inclusion of a typographical correction.

Minute No. 3- Final Exempt Action Ambient Air Quality Standards (9VAC5-30) (Rev. A24): Ms. Karen Sabasteanski presented a final exempt amendment to 9VAC5-30 to implement the U.S. Environmental Protection Agency's revised National Ambient Air Quality Standard (NAAQS) for PM 2.5. EPA's action revised the annual arithmetic mean concentration to 9.0 micrograms per cubic meter and retained the standard for the 24-hour concentration at 35 micrograms per cubic meter. Ms. Sabasteanski reported that this amendment meets the federal statutory and regulatory requirements and ensures that the Commonwealth will be able to meet its obligations under the federal Clean Air Act.

The Board unanimously approved the final exempt regulation with an effective date consistent with the Administrative Process Act.

Minute No. 4- Final Exempt Action Regulation for the Control of Motor Vehicle Emissions in Northern Virginia, Program Coordinator Fee (Rev. MS): Ms. Karen Sabasteanski presented final exempt amendments to the Regulation for the Control of Motor Vehicle Emissions in Northern Virginia in response to the passing of House Bill 213 (Chapter 634 of the 2024 Acts of Assembly) and Senate Bill 453 (Chapter 676 of the 2024 Acts of Assembly), which allows a fee to be charged by the inspection and maintenance (I/M) program coordinator for each certified analyzer system. This fee cap was originally set in the Code of Virginia at $3,500 per year; the cap has now been set at $5,000 per year. To meet this statutory requirement, the amendment reflects the new fee cap. The amendment revises 9VAC5-91-665 to include the new program coordinator fee as required by the 2024 General Assembly.

The Board unanimously approved the final exempt regulation with an effective date consistent with the Administrative Process Act.

Minute No. 5 - Report Regarding Controversial Permits: Mr. Michael Dowd, Air and Renewable Energy Division Director, provided the board with an overview of two permits that meet the statutory definition of controversial permits- the Chesterfield Energy Reliability Center (CERC) and the Southeastern Public Service Authority (SPSA) Landfill.

Minute No. 6- Public Comment Forum: The following individual spoke during the public comment forum: Glen Besa. Mr. Besa addressed the board concerning site suitability and climate change issues.

TAB B

COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD MEETING

November 2024

SUBJECT: Federal Requirements for Existing Crude Oil and Natural Gas Facilities (9VAC5-40, Rev.B24) - Request for Board Action on Exempt Final Regulation

SPEAKER: Megan Joyce
megan.joyce@deq.virginia.gov/804-592-8191
Manager, Office of Air Compliance Coordination
Department of Environmental Quality

INTRODUCTION

In accordance with § 111(d) of the federal Clean Air Act, the U.S. Environmental Protection Agency (EPA) has promulgated Emissions Guidelines (EG) for Greenhouse Gas (GHG) Emissions from Existing Crude Oil and Natural Gas Facilities, Subpart OOOOc of 40 CFR Part 60. This subpart establishes emission guidelines and compliance schedules for the control of GHG emissions from designated facilities in the crude oil and natural gas source category. The pollutants regulated by this subpart are greenhouse gases in the form of a limitation on emissions of methane from designated facilities that commenced construction, modification, or reconstruction on or before December 6, 2022. Because the EG applies to existing stationary sources, the Board must adopt a new article in 9VAC5-40, Existing Stationary Sources, that incorporates the federal rules by reference. This will enable Virginia to implement the federal standard at the state level, thereby satisfying this federal mandate.

The department is requesting approval of draft final regulation amendments that meet federal statutory and regulatory requirements. Approval of the amendments will ensure that the Commonwealth will be able to meet its obligations under the federal Clean Air Act.

REGULATORY ACTION ADOPTION PROCESS

Because the state regulation is necessary to meet the requirements of the federal Clean Air Act and do not differ materially from the pertinent U.S. Environmental Protection Agency (EPA) regulations, the state regulation is exempt from the standard regulatory adoption process (Article 2 (§ 2.2-4006 et seq.) of the Administrative Process Act) by the provisions of § 2.2-4006 A 4 c of the Administrative Process Act. However, notice of the regulation adoption must be forwarded to the Registrar for publication in the Virginia Register 30 days prior to the effective date. Also, the Registrar must agree that the regulation is not materially different from the federal version and is, therefore, exempt

from the standard regulatory adoption process and must notify the agency accordingly. This notification and the notice of adoption will be published in the Virginia Register. Further, in adopting the regulation amendments under the provisions of § 2.2-4006, the board is required to state that it will receive, consider and respond to petitions by any interested person at any time with respect to reconsideration or revision.

Notice that the regulation would be considered by the board and that public comment would be accepted at the board meeting in accordance with the board's policy on public comment at board meetings was provided to the public by posting of the board's agenda to the Virginia Regulatory Town Hall and DEQ web sites. In addition, email notification was provided to those persons signed up to receive notifications of board meetings through the Town Hall website.

SUMMARY OF AMENDMENTS TO REGULATION

1. Applicability and designation of an affected facility is established. [9VAC5-40-9000]

2. Definitions are established. [9VAC5-40-9010]

3. Designated standards of performance are provided. [9VAC5-40-9020]

4. A compliance schedule is established. [9VAC5-40-9030]

5. Documents incorporated by reference are listed.

SUPPORTING DOCUMENTATION

1. The agency background document. This document does not include the statement from the Attorney General's Office which is issued after the board meeting.

2. The draft final regulation amendments.

DEPARTMENT RECOMMENDATION

1. It is recommended that the board adopt the attached proposal, with an effective date consistent with the Administrative Process Act.

2. In adopting this proposal, the board should affirm that it will receive, consider, and respond to petitions by any person at any time with respect to reconsideration or revision, as provided in § 2.2-4006 B of the Administrative Process Act.

TEMPLATES\EXEMPT\ER09
REG\DEV\B24-07BF

townhall.virginia.gov

Exempt Action: Final Regulation
Agency Background Document

Agency name	State Air Pollution Control Board
Virginia Administrative Code (VAC) Chapter citation(s)	Article 60 (9VAC5-40-9000 et seq.) of 9VAC5-40
VAC Chapter title(s)	9VAC5-40, Existing Stationary Sources
Action title	Adopt New Regulation to Incorporate Federal Emissions Guidelines for Existing Crude Oil and Natural Gas Facilities (Rev. B24)
Final agency action date	
Date this document prepared	November 21, 2024

This information is required for executive branch review pursuant to Executive Order 19 (2022) (EO 19), any instructions or procedures issued by the Office of Regulatory Management (ORM) or the Department of Planning and Budget (DPB) pursuant to EO 19. In addition, this information is required by the Virginia Registrar of Regulations pursuant to the Virginia Register Act (§ 2.2-4100 et seq. of the Code of Virginia). Regulations must conform to the Regulations for Filing and Publishing Agency Regulations (1 VAC 7-10), and the *Form and Style Requirements for the Virginia Register of Regulations and Virginia Administrative Code.*

Brief Summary

Provide a brief summary (preferably no more than 2 or 3 paragraphs) of this regulatory change (i.e., new regulation, amendments to an existing regulation, or repeal of an existing regulation). Alert the reader to all substantive matters. If applicable, generally describe the existing regulation.

In accordance with § 111(d) of the federal Clean Air Act, the U.S. Environmental Protection Agency (EPA) has promulgated Emissions Guidelines (EG) for Greenhouse Gas (GHG) Emissions from Existing Crude Oil and Natural Gas Facilities, Subpart OOOOc of 40 CFR Part 60. This subpart establishes emission guidelines and compliance schedules for the control of GHG emissions from designated facilities in the crude oil and natural gas source category. The pollutants regulated by this subpart are greenhouse gases in the form of a limitation on emissions of methane from designated facilities that commenced construction, modification, or reconstruction on or before December 6, 2022. Because the EG applies to existing stationary sources, the Board must adopt a new article in 9VAC5-40, Existing Stationary Sources, that incorporates the federal rules by reference. This will enable Virginia to implement the federal standard at the state level, thereby satisfying this federal mandate.
[RIS2]

Mandate and Impetus

Identify the mandate for this regulatory change and any other impetus that specifically prompted its initiation (e.g., new or modified mandate, internal staff review, petition for rulemaking, periodic review, or board decision). For purposes of executive branch review, "mandate" has the same meaning as defined in the ORM procedures, "a directive from the General Assembly, the federal government, or a court that requires that a regulation be promulgated, amended, or repealed in whole or part."

The mandate for this regulatory change is § 111 of the federal Clean Air Act. Section 111(b) requires that EPA develop new source performance standards (NSPSs), and § 111(d) requires that EPA develop emissions guidelines (EGs) for existing sources that would otherwise be subject to a standard for new sources. The federal code requirements of § 111 are implemented through federal regulations at 40 CFR Part 60; both the NSPSs and EGs are found in 40 CFR Part 60.

On March 8, 2024 (89 FR 16820), EPA issued an EG for Existing Crude Oil and Natural Gas Facilities, Subpart OOOOc of 40 CFR Part 60. Sections 60.5376c through 60.5378c allow states to use the model rule (§§ 60.5379c through 60. 5430c) to implement the requirements of the EG and thereby meet the obligation to submit a rule as part of the state's § 111(d) plan. In order for Virginia to implement the federal standard, a standalone state regulation that adopts EPA's federal standard must be adopted. Otherwise, EPA will impose a federal plan on the Commonwealth.

Statement of Final Agency Action

Provide a statement of the final action taken by the agency including: 1) the date the action was taken; 2) the name of the agency taking the action; and 3) the title of the regulation.

On November 21, 2024, the State Air Pollution Control Board took final action to adopt a new regulation under "Regulations for the Control and Abatement of Air Pollution," specifically, federal Emissions Guidelines for Existing Crude Oil and Natural Gas Facilities (Article 60 of 9VAC5-40). The regulatory action is to be effective as provided in the Administrative Process Act.

The new regulation is exempt from the state administrative procedures for adoption of regulations contained in Article 2 of the Administrative Process Act by the provisions of § 2.2-4006 A 4 c of the Administrative Process Act because it is necessary to meet the requirements of the federal Clean Air Act and do not differ materially from the pertinent EPA regulations.

In adopting these amendments, the board affirmed that it will receive, consider and respond to petitions by any person at any time with respect to reconsideration or revision, as provided in § 2.2-4006 B of the Administrative Process Act.

Office of Regulatory Management

Economic Review Form

Agency name	Department of Environmental Quality
Virginia Administrative Code (VAC) Chapter citation(s)	Article 60 (9VAC5-40-9000 et seq.) of 9VAC5-40
VAC Chapter title(s)	9VAC5-40, Existing Stationary Sources
Action title	Adopt New Regulation to Incorporate Federal Requirements for Existing Crude Oil and Natural Gas Facilities (Rev. B24)
Date this document prepared	November 21, 2024
Regulatory Stage (including Issuance of Guidance Documents)	Final Exempt

Cost Benefit Analysis

Complete Tables 1a and 1b for all regulatory actions. You do not need to complete Table 1c if the regulatory action is required by state statute or federal statute or regulation and leaves no discretion in its implementation.

Table 1a should provide analysis for the regulatory approach you are taking. Table 1b should provide analysis for the approach of leaving the current regulations intact (i.e., no further change is implemented). Table 1c should provide analysis for at least one alternative approach. You should not limit yourself to one alternative, however, and can add additional charts as needed.

Report both direct and indirect costs and benefits that can be monetized in Boxes 1 and 2. Report direct and indirect costs and benefits that cannot be monetized in Box 4. See the ORM Regulatory Economic Analysis Manual for additional guidance.

Table 1a: Costs and Benefits of the Proposed Changes (Primary Option)

<table>
<tr>
<td>(1) Direct & Indirect Costs & Benefits (Monetized)</td>
<td>
Direct Costs:
The extent of direct costs to a facility will depend on what emissions management options are selected by each facility on a case-by-case basis.

<table>
<tr><th>Facility type</th><th>Number of facilities</th></tr>
<tr><td>Wells</td><td>Approximately 8,398*</td></tr>
<tr><td>Compressor Stations</td><td>Approximately 48**</td></tr>
</table>
*Number of currently active permits based on information from VDOE.
** DEQ-issued air permits.

For the production and processing sector, well-managed and operated natural gas companies already aggressively monitor for and repair leaks as they represent the loss of product for sale. A consistent national program will help to ensure a level playing field, and reward companies that are already in compliance.

For the transmission and storage sector, virtually all of these facilities have already obtained permits, and should be well-positioned to make adjustments needed to meet the new requirements.

The U.S. Environmental Protection Agency (EPA) cost-benefit analysis was conducted on a national basis and its results cannot be extrapolated to Virginia in particular; however, EPA's economic impact analysis anticipates that impacts to the industry will be minor while realizing important health and welfare reductions of methane and other pollutants.
Indirect Costs:
No indirect costs have been identified.
Direct Benefits:
One of the primary direct benefits of this regulatory action is that it will contribute to the reduction of air pollution--including, in addition to methane, several criteria and toxic pollutants--thus benefitting the health and welfare of all Virginians.

DEQ has been working with stakeholders--industrial, environmental, policy--since 2018 to consider the best approach toward managing methane emissions from this sector. There exists general consensus among all parties that relying on EPA's regulations would provide the most benefit (consistency of requirements) in the most cost-effective manner.

Indirect Benefits:
</td>
</tr>
</table>

	There is an indirect benefit to the Commonwealth in retaining implementation authority over its oil and natural gas resources rather than leaving it in the hands of the federal government. For the production and processing sector, the department has learned anecdotally that most affected facilities plan to hire consultants to perform compliance testing and monitoring. This represents a cost to the facility but a benefit to the consultants. Similarly, repair projects may be contracted out, resulting in a cost to the facility but a benefit to the contractor. There may be some circumstances when hiring in-house staff to perform these functions may prove to be more cost-effective. Ultimately, affected facilities will opt for testing and repair services that are the most cost-effective for their specific needs. No indirect benefits have been identified for the transmission and storage sector at this time.

(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) None identified.	(b) None identified.
(3) Net Monetized Benefit	None identified.	
(4) Other Costs & Benefits (Non-Monetized)	None identified.	
(5) Information Sources	U.S. Energy Information Administration, U.S. Environmental Protection Agency (EPA), EPA Greenhouse Gas Reporting Program; oil and natural gas industry contacts, Virginia Department of Energy (VDOE)	

Table 1b: Costs and Benefits under the Status Quo (No change to the regulation)

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: Costs would be the same for the regulated community if the regulation was not adopted. It is a federal program for which compliance is mandatory, regardless of whether it is implemented by the state or by the federal government. Indirect Costs: There may be an indirect cost to affected facilities and the department if EPA were to impose a federal plan. A federal plan in conjunction with existing state requirements would open the potential for facilities to undergo multiple redundant inspections, permitting exercises, monitoring and recordkeeping requirements, and so on. Most facilities already monitor for and repair leaks in

	the interests of cost efficiency (if not the existence of a state permit); the absence of a level playing field penalizes the good actors at the expense of the poor. Direct Benefits: The direct benefits described in Table 1a of a state-implemented program, as opposed to a federally-implemented program, would not be realized if the regulation was not adopted. Indirect Benefits: The indirect benefits described in Table 1a of a state-implemented program, as opposed to a federally-implemented program, would not be realized if the regulation was not adopted.

(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) None identified.	(b) None identified.
(3) Net Monetized Benefit	None identified.	
(4) Other Costs & Benefits (Non-Monetized)	None identified.	
(5) Information Sources	See Table 1a.	

Table 1c: Costs and Benefits under Alternative Approach(es)
This action is mandated by federal statute and no alternative approach was identified.

Impact on Local Partners

Use this chart to describe impacts on local partners. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 2: Impact on Local Partners

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: No direct costs specific to local partners are associated with the regulation. Indirect Costs: No indirect costs specific to local partners are associated with the regulation. Direct Benefits: Direct benefits to local partners may be realized as described in Table 1a. Indirect Benefits:

	Indirect benefits to local partners may be realized as described in Table 1a.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) None identified.	(b) None identified.
(3) Other Costs & Benefits (Non-Monetized)	None identified.	
(4) Assistance	None identified.	
(5) Information Sources	See Table 1a.	

Impacts on Families

Use this chart to describe impacts on families. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 3: Impact on Families

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: No direct costs specific to families are associated with the regulation. Indirect Costs: No indirect costs specific to families are associated with the regulation. Direct Benefits: Direct benefits to families may be realized as described in Table 1a. Indirect Benefits: Indirect benefits to families may be realized as described in Table 1a.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) None identified.	(b) None identified.
(3) Other Costs & Benefits (Non-Monetized)	None identified.	

(4) Information Sources	See Table 1a.

Impacts on Small Businesses

Use this chart to describe impacts on small businesses. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 4: Impact on Small Businesses

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: See Table 1a. Because of the way that production facilities are registered with the Virginia Department of Energy (VDOE), it is not possible to determine what, if any of these, may be considered to be small businesses. It is reasonable to assume that there may be some small businesses involved in this industry; however, given the nature of the industry and its well-understood environmental controls, no disproportionate impacts are anticipated. As mentioned elsewhere, any company regardless of size has a strong economic impetus to control product loss. No specific small business concerns have been raised by any of DEQ's industry contacts. The majority, if not all of compressor stations are owned by companies (such as Enervest, Diversified Energy, Columbia Gas, Williams) that are not considered to be small businesses. As discussed above, the production and processing sector has a vested interest in managing their product and correcting leaks that result in product loss, regardless of the size of the parent company; in addition to protecting product production, the transmission and storage sector is also currently subject to a suite of state and federal permitting requirements that they must continue to meet. Indirect Costs: See Table 1a. Ultimately, these are federal standards that must be met. The department believes that it is beneficial to businesses, including small businesses, to work directly with the state environmental agency rather than the federal government. Direct Benefits: See Table 1a. Indirect Benefits: See table 1a.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits

	(a) None identified.	(b) None identified.
(3) Other Costs & Benefits (Non-Monetized)	None identified.	
(4) Alternatives	None identified.	
(5) Information Sources	See Table 1a.	

Changes to Number of Regulatory Requirements

Table 5: Regulatory Reduction

For each individual action, please fill out the appropriate chart to reflect any change in regulatory requirements, costs, regulatory stringency, or the overall length of any guidance documents.

Change in Regulatory Requirements

VAC Section(s) Involved*	Authority of Change	Initial Count	Additions	Subtractions	Total Net Change in Requirements
9VAC5-40-9000	**(M/A):**	0	0	0	0
	(D/A):	0	0	0	0
	(M/R):	0	0	0	0
	(D/R):	0	0	0	0
9VAC5-40-9010	**(M/A):**	0	0	0	0
	(D/A):	0	0	0	0
	(M/R):	0	0	0	0
	(D/R):	0	0	0	0
9VAC5-40-9020	**(M/A):**	0	7	0	+7
	(D/A):	0	3	0	+3
	(M/R):	0	163	0	+163
	(D/R):	0	0	0	0
9VAC5-40-9030	**(M/A):**	0	0	0	0
	(D/A):	0	0	0	0
	(M/R):	0	1	0	+1
	(D/R):	0	0	0	0
				Grand Total of Changes in Requirements:	**(M/A):** +7
					(D/A): +3
					(M/R): +163
					(D/R): 0

Key:
Please use the following coding if change is mandatory or discretionary and whether it affects externally regulated parties or only the agency itself:
(M/A): Mandatory requirements mandated by federal and/or state statute affecting the agency itself
(D/A): Discretionary requirements affecting agency itself
(M/R): Mandatory requirements mandated by federal and/or state statute affecting external parties, including other agencies
(D/R): Discretionary requirements affecting external parties, including other agencies

Cost Reductions or Increases (if applicable)

VAC Section(s) Involved*	Description of Regulatory Requirement	Initial Cost	New Cost	Overall Cost Savings/Increases
N/A				

Other Decreases or Increases in Regulatory Stringency (if applicable)

VAC Section(s) Involved*	Description of Regulatory Change	Overview of How It Reduces or Increases Regulatory Burden
N/A		

Length of Guidance Documents (only applicable if guidance document is being revised)

Title of Guidance Document	Original Word Count	New Word Count	Net Change in Word Count
N/A			

*If the agency is modifying a guidance document that has regulatory requirements, it should report any change in requirements in the appropriate chart(s).

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION (9VAC5-40)

9VAC5 CHAPTER 40.
EXISTING STATIONARY SOURCES.

PART II.
Emission Standards.

ARTICLE 60.
EMISSIONS GUIDELINES FOR EXISTING CRUDE OIL AND NATURAL GAS FACILITIES
(Rule 4-60).

9VAC5-40-9000. Applicability and designation of affected facility.

A. The affected facility to which the provisions of this article apply is each designated facility in the crude oil and natural gas source category that commenced construction, modification, or reconstruction on or before December 6, 2022.

B. The provisions of this article apply throughout the Commonwealth of Virginia.

C. An affected facility is not subject to the requirement to obtain a federal operating permit, unless the facility is otherwise subject to federal operating permit requirements.

9VAC5-40-9010. Definitions.

A. For the purpose of applying this article in the context of the Regulations for the Control and Abatement of Air Pollution and related uses, the words or terms shall have the meanings given them in subsection C of this section.

B. As used in this article, all terms not defined herein shall have the meanings given them in 9VAC5-10 (General Definitions), unless otherwise required by context.

C. Terms shall have the meanings given them in 40 CFR 60.5430c, except for the following:

"Administrator" means the board, except when context otherwise clearly indicates that the Administrator is the U.S. EPA Administrator.

9VAC5-40-9020. Designated standards of performance.

The owner of each affected facility shall meet U.S. Environmental Protection Agency greenhouse gas standards in the form of a limitation on emissions of methane in accordance with the provisions of 40 CFR 60.5379c through 40 CFR 60.5430c.

9VAC5-40-9030. Compliance schedule.

All affected units shall achieve final compliance as expeditiously as practicable but not later than March 9, 2029.

Documents incorporated by reference.

The U.S. Environmental Protection Agency (EPA) regulation promulgated at Subpart OOOOc of 40 CFR Part 60 (Emissions Guidelines for Greenhouse Gas Emissions from Existing Crude Oil and Natural Gas Facilities) is incorporated by reference into this article. The specific version of the provisions incorporated by reference into Article 60 of 9VAC5-40 shall be that contained in the CFR in effect on July 1, 2024. The following documents from the U.S. Environmental Protection Agency are incorporated herein by reference:

Model Rule—Increments of Progress

§ 60.5379c What are my requirements for meeting increments of progress and achieving final compliance?
§ 60.5380c What if I do not meet the final control plan increment of progress compliance date?
§ 60.5381c How do I comply with the increment of progress for submittal of a final compliance control plan?

Model Rule—Applicability

§ 60.5385c What is the purpose of this subpart?
§ 60.5386c Am I subject to this subpart?
§ 60.5387c When must I comply with this subpart?
§ 60.5390c What GHG standards apply to gas well liquids unloading operations at well designated facilities?
§ 60.5391c What GHG standards apply to associated gas wells at well designated facilities?
§ 60.5392c What GHG standards apply to centrifugal compressor designated facilities?
§ 60.5393c What GHG standards apply to reciprocating compressor designated facilities?
§ 60.5394c What GHG standards apply to process controller designated facilities?
§ 60.5395c What GHG standards apply to pump designated facilities?
§ 60.5396c What GHG standards apply to storage vessel designated facilities?
§ 60.5397c What GHG standards apply to fugitive emissions components designated facilities?
§ 60.5398c What alternative GHG standards apply to fugitive emissions components designated facilities and what inspection and monitoring requirements apply to covers and closed vent systems when using an alternative technology?
§ 60.5400c What GHG standards apply to process unit equipment designated facilities?
§ 60.5401c What are the alternative GHG standards for process unit equipment designated facilities?
§ 60.5402c What are the exceptions to the GHG standards for process unit equipment

Table 1 to Subpart OOOOc of Part 60—Designated Facility Presumptive Standards and Regulated Entity Compliance Dates
Table 2 to Subpart OOOOc of Part 60—Alternative Technology Periodic Screening Frequency at Well Sites, Centralized Production Facilities, and Compressor Stations Subject to AVO Inspections With Quarterly OGI or EPA Method 21 Monitoring
Table 3 to Subpart OOOOc of Part 60—Alternative Technology Periodic Screening Frequency at Well Sites and Centralized Production Facilities Subject to AVO Inspections and/or Semiannual OGI or EPA Method 21 Monitoring
Table 4 to Subpart OOOOc of Part 60—Applicability of General Provisions to Subpart OOOOc

TAB C

COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD MEETING

November 2024

SUBJECT: Federal Documents Incorporated by Reference (Rev. C24) - Request for Board Action on Exempt Final Regulation

CONTACT: Megan Joyce
megan.joyce@deq.virginia.gov/804-592-8191
Manager, Office of Air Compliance Coordination
Department of Environmental Quality

INTRODUCTION

The purpose of the proposed action is to amend the regulations to incorporate newly promulgated federal New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and national emission standards for hazardous air pollutants for source categories (Maximum Achievable Control Technology, or MACT), Rules 5-5, 6-1, and 6-2, respectively, of the board's regulations. The board needs to incorporate newly promulgated NSPS, NESHAP, and MACT standards in order for the department to obtain authority from the U.S. Environmental Protection Agency (EPA) to enforce these standards. If the board does not do so, authority to enforce the standards remains with the federal government. Further, the standards reflect the most current technical research on the subjects addressed by the standards. To continue to follow the old standards would mean relying on inaccurate and outdated information.

In addition to updating the date of the Code of Federal Regulations books being incorporated by reference, several new NSPSs are being added, and a number of administrative updates to MACT standards are being made.

The department is requesting approval of draft final regulation amendments that meet federal statutory and regulatory requirements. Approval of the amendments will ensure that the Commonwealth will be able to meet its obligations under the federal Clean Air Act.

REGULATORY ACTION ADOPTION PROCESS

The amendments are exempt from the state administrative procedures for adoption of regulations contained in Article 2 of the Administrative Process Act by the provisions of § 2.2-4006 A 4 c of the Administrative Process Act because they are necessary to meet the requirements of the federal Clean Air Act and do not differ materially from the pertinent EPA regulations. However, notice of the regulation adoption must be forwarded to the Registrar for publication in the Virginia Register 30 days prior to the effective date. Also, the Registrar must agree that the regulations are not materially

different from the federal version and are, therefore, exempt from the standard regulatory adoption process and must notify the agency accordingly. This notification and the notice of adoption will be published in the Virginia Register subsequently. Further, in adopting the regulation amendments under the provisions of § 2.2-4006, the board is required to state that it will receive, consider, and respond to petitions by any interested person at any time with respect to reconsideration or revision.

Notice that the regulations would be considered by the board and that public comment would be accepted at the board meeting in accordance with the board's policy on public comment at board meetings was provided to the public by posting of the board's agenda to the Virginia Regulatory Town Hall and DEQ web site. In addition, email notification was provided to those persons signed up to receive notifications of board meetings through the Town Hall website.

SUMMARY OF AMENDMENTS TO REGULATION

The regulation amendments related to federal standards update state regulations that incorporate by reference certain federal regulations (NSPS, NESHAP and MACT) to reflect the Code of Federal Regulations as published on July 1, 2024. The date of the Code of Federal Regulations book being incorporated by reference is being updated to the latest version. Titles and numbering are updated as needed, and a number of new NSPSs are being added as follows:

1. Subpart La -- Secondary Lead Smelters for Which Construction, Reconstruction, or Modification Commenced After December 1, 2022 (40 CFR 60.120a through 40 CFR 60.125a).

2. Subpart AAb -- Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After May 16, 2022 (40 CFR 60.270b through 40 CFR 60.276b).

3. Subpart VVb—Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023 (40 CFR 60.480b through 40 CFR 60.489b).

4. Subpart XXa -- Bulk Gasoline Terminals that Commenced Construction, Modification, or Reconstruction After June 10, 2022 (40 CFR 60.500a through 40 CFR 60.505a).

5. Subpart IIIa—Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023 (40 CFR 60.610a to 40 CFR 60.620a).

6. Subpart NNNa—Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023 (40 CFR

60.660a through 40 CFR 60.670a).

7. Subpart RRRa—Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023 (40 CFR 60.700a through 40 CFR 60.710a).

8. Subpart TTTa – Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines for Which Construction, Reconstruction, or Modification Commenced After June 21, 2022 (40 CFR 60.720a through 40 CFR 60.726a).

9. Subpart OOOOb -- Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022 (40 CFR 60.5360b through 40 CFR 60. 5439b)

10. Subpart TTTT -- Greenhouse Gas Emissions for Electric Generating Units (40 CFR 60.5508 through 40 CFR 60.5580).

11. Subpart TTTTa -- Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units (40 CFR 60.5508a through 40 CFR 60.5580a).

SUPPORTING DOCUMENTATION

Immediately following this agenda memo are:

1. The agency background document.

2. The economic review form.

3. The draft proposed final regulation.

DEPARTMENT RECOMMENDATION

1. It is recommended that the board adopt the attached proposal, with an effective date as provided in the Administrative Process Act.

2. In adopting this proposal, the board should affirm that it will receive, consider, and respond to petitions by any person at any time with respect to reconsideration or revision, as provided in § 2.2-4006 B of the Administrative Process Act.

REG\DEV\C24-07BF

townhall.virginia.gov

Exempt Action: Final Regulation
Agency Background Document

Agency name	State Air Pollution Control Board
Virginia Administrative Code (VAC) Chapter citation(s)	Primary: Article 5 (9VAC5-50-400 et seq.), 9VAC5-50 Secondary: 9VAC5-20-21; Article 1 (9VAC5-60-60 et seq.) and Article 2 (9VAC5-60-90 et seq.) of 9VAC5-60
VAC Chapter title(s)	General Provisions (9VAC5-20), New and Modified Stationary Sources (9VAC5-50), Hazardous Air Pollutant Sources (9VAC5-60)
Action title	Federal Documents Incorporated by Reference (Rev. C24)
Final agency action date	
Date this document prepared	November 21, 2024

This information is required for executive branch review pursuant to Executive Order 19 (2022) (EO 19), any instructions or procedures issued by the Office of Regulatory Management (ORM) or the Department of Planning and Budget (DPB) pursuant to EO 19. In addition, this information is required by the Virginia Registrar of Regulations pursuant to the Virginia Register Act (§ 2.2-4100 et seq. of the Code of Virginia). Regulations must conform to the Regulations for Filing and Publishing Agency Regulations (1 VAC 7-10), and the *Form and Style Requirements for the Virginia Register of Regulations and Virginia Administrative Code.*

Brief Summary

Provide a brief summary (preferably no more than 2 or 3 paragraphs) of this regulatory change (i.e., new regulation, amendments to an existing regulation, or repeal of an existing regulation). Alert the reader to all substantive matters. If applicable, generally describe the existing regulation.

The regulation amendments update state regulations that incorporate by reference certain federal regulations to reflect the Code of Federal Regulations as published on July 1, 2024. The date of the Code of Federal Regulations books being incorporated by reference is being updated to the latest version. Several new New Source Performance Standards are also being added.

Mandate and Impetus

Identify the mandate for this regulatory change and any other impetus that specifically prompted its initiation (e.g., new or modified mandate, internal staff review, petition for rulemaking, periodic review, or

board decision). For purposes of executive branch review, "mandate" has the same meaning as defined in the ORM procedures, "a directive from the General Assembly, the federal government, or a court that requires that a regulation be promulgated, amended, or repealed in whole or part."

The mandate for this regulatory changes is § 111 of the federal Clean Air Act. Section 111 requires that the U.S. Environmental Protection Agency (EPA) develop new source performance standards (NSPSs). The Standards of Performance for New Stationary Sources are found in 40 CFR Part 60.

Hazardous air pollutants (HAPs) are pollutants for which no ambient air quality standard is applicable, yet pose the risk of serious health problems. EPA's program for dealing with HAPs is established in § 112 of the Clean Air Act. The National Emission Standards for Hazardous Air Pollutants are found in 40 CFR Part 61. In addition, EPA controls HAPs for specific source categories as required under § 112. The National Emission Standards for Hazardous Air Pollutants for Source Categories are more familiarly referred to as Maximum Achievable Technology Standards (MACT), and are found in 40 CFR Part 63.

States are required to meet these federal mandates. The Clean Air Act provides that each state may develop and submit to EPA a procedure for implementing and enforcing these mandated standards. If EPA finds the state procedures adequate, the state is delegated the authority to implement and enforce the standards. Virginia has sought and received this authority. In order to retain this authority, the state's regulations must be consistent with the federal requirements. Adopting by reference enables a state to adopt a federal rule in its entirety while minimizing the need to constantly update intervening amendments, primarily technical upgrades and corrections.

In addition to updating the date of applicable standards a number of completely new standards have been adopted by EPA and must now in turn adopted by the state.

Acronyms and Definitions

Define all acronyms used in this form, and any technical terms that are not also defined in the "Definitions" section of the regulation.

EPA - Environmental Protection Agency
HAP - hazardous air pollutant
MACT - Maximum Achievable Technology Standards
NSPS - New Source Performance Standard

Statement of Final Agency Action

Provide a statement of the final action taken by the agency including: 1) the date the action was taken; 2) the name of the agency taking the action; and 3) the title of the regulation.

On November 21, 2024, the State Air Pollution Control Board took final action to adopt amendments to the Regulations for the Control and Abatement of Air Pollution, specifically federal regulations incorporated by reference (9VAC5-20-21, Article 5 of 9VAC5-50, and Articles 1 and 2 of 9VAC5-60). The regulatory action is to be effective as provided in the Administrative Process Act.

The amendments to the Regulations for the Control and Abatement of Air Pollution are exempt from the state administrative procedures for adoption of regulations contained in Article 2 of the Administrative Process Act by the provisions of § 2.2-4006 A 4 c of the Administrative Process Act because they are necessary to meet the requirements of the federal Clean Air Act and do not differ materially from the pertinent EPA regulations.

In adopting these amendments, the board affirmed that it will receive, consider and respond to petitions by any person at any time with respect to reconsideration or revision, as provided in § 2.2-4006 B of the Administrative Process Act.

Legal Basis

Identify (1) the agency or other promulgating entity, and (2) the state and/or federal legal authority for the regulatory change, including the most relevant citations to the Code of Virginia or Acts of Assembly chapter number(s), if applicable. Your citation must include a specific provision, if any, authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency or promulgating entity's overall regulatory authority.

Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare. Written assurance from the Office of the Attorney General that the State Air Pollution Control Board possesses the statutory authority to promulgate the proposed regulation amendments is available upon request.

Purpose

Explain the need for the regulatory change, including a description of: (1) the rationale or justification, (2) the specific reasons the regulatory change is essential to protect the health, safety or welfare of citizens, and (3) the goals of the regulatory change and the problems it's intended to solve.

The regulatory changes made concerning federal standards are needed in order to meet the mandates of the federal Clean Air Act and its implementing regulations in order to protect public health and welfare from hazardous air pollutants and pollution generated by categories of new sources, which are proven to be detrimental to both health and welfare. The goal of the regulatory changes is to address air pollution throughout the Commonwealth by controlling emissions of hazardous air pollutants and pollution emitted by categories of new and existing sources. The regulation amendments update the version of regulations being implemented in Virginia to the most current federal versions, as required by the Clean Air Act and the state's delegation agreement with EPA.

Substance

Briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both. A more detailed discussion is provided in the "Detail of Changes" section below.

The regulation amendments related to federal standards update state regulations that incorporate by reference certain federal regulations (NSPS, NESHAP and MACT) to reflect the Code of Federal Regulations as published on July 1, 2024. The date of the Code of Federal Regulations book being incorporated by reference is being updated to the latest version. Titles and numbering are updated as needed, and a number of new NSPSs are being added as follows:

1. Subpart La -- Secondary Lead Smelters for Which Construction, Reconstruction, or Modification Commenced After December 1, 2022 (40 CFR 60.120a through 40 CFR 60.125a).

2. Subpart AAb -- Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After May 16, 2022 (40 CFR 60.270b through 40 CFR 60.276b).

3. Subpart VVb—Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023 (40 CFR 60.480b through 40 CFR 60.489b).

4. Subpart XXa -- Bulk Gasoline Terminals that Commenced Construction, Modification, or Reconstruction After June 10, 2022 (40 CFR 60.500a through 40 CFR 60.505a).

5. Subpart IIIa—Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023 (40 CFR 60.610a to 40 CFR 60.620a).

6. Subpart NNNa—Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023 (40 CFR 60.660a through 40 CFR 60.670a).

7. Subpart RRRa—Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023 (40 CFR 60.700a through 40 CFR 60.710a).

8. Subpart TTTa – Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines for Which Construction, Reconstruction, or Modification Commenced After June 21, 2022 (40 CFR 60.720a through 40 CFR 60.726a).

9. Subpart OOOOb -- Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022 (40 CFR 60.5360b through 40 CFR 60. 5439b)

10. Subpart TTTT -- Greenhouse Gas Emissions for Electric Generating Units (40 CFR 60.5508 through 40 CFR 60.5580).

11. Subpart TTTTa -- Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units (40 CFR 60.5508a through 40 CFR 60.5580a).

Issues

Identify the issues associated with the regulatory change, including: 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions; 2) the primary advantages and disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, include a specific statement to that effect.

Public: Advantages to the regulated community include more certainty, as consistency with federal requirements provides assurance regarding specific federal requirements. Advantages to the general public include a reduction in the health and welfare effects of air pollution, as the most current standards are more protective of human health and welfare. Properly implementing federal requirements will ensure the control of numerous types of air pollutants, which harm human health and welfare. There is an overall advantage to all sectors of the public in that the Commonwealth is retaining its ability to directly manage its sources of air pollution.

Department: The primary advantage to the department will be its ability to meet its federal mandates in a consistent and clear manner.

There are no disadvantages associated with this regulatory action to either the public or the Commonwealth.

Requirements More Restrictive than Federal

Identify and describe any requirement of the regulatory change that is more restrictive than applicable federal requirements. Include a specific citation for each applicable federal requirement, and a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements, or no requirements that exceed applicable federal requirements, include a specific statement to that effect.

There are no requirements more restrictive than the federal.

Agencies, Localities, and Other Entities Particularly Affected

Identify any other state agencies, localities, or other entities particularly affected by the regulatory change. "Particularly affected" are those that are likely to bear any identified disproportionate material impact, which would not be experienced by other agencies, localities, or entities. "Locality" can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulation or regulatory change are most likely to occur. If no agency, locality, or entity is particularly affected, include a specific statement to that effect.

Other State Agencies Particularly Affected:
No other state agencies will be particularly affected by this regulatory action.

Localities Particularly Affected:
There are no localities particularly affected.

Other Entities Particularly Affected:
There are no other entities particularly affected.

Details of All Changes Proposed in this Regulatory Action

*List all changes proposed in this action and the rationale for the changes. For example, describe the intent of the language and the expected impact. Describe the difference between existing requirement(s) and/or agency practice(s) and what is being proposed in this regulatory change. Explain the new requirements and what they mean rather than merely quoting the text of the regulation. * Put an asterisk next to any substantive changes.*

Current section number	New section number, if applicable	Current requirement	Change, intent, rationale, and likely impact of new requirements
*9VAC5-20-21	n/a	Documents incorporated by reference.	Updates referenced Code of Federal Regulations to the most current version. Needed in order to meet federal requirements for protecting human health and welfare. No significant impacts are anticipated.
*9VAC5-50-400		General requirements for NSPSs.	Updates referenced Code of Federal Regulations to the most current version. Needed in order to meet federal requirements for protecting human health and welfare. No significant impacts are anticipated.
*9VAC5-50-410	n/a	Designated standards of performance.	Updates titles and numbering as needed and adds new standards to list of federal standards implemented by the state on the behalf of EPA. Needed in order to meet federal requirements for protecting human health and welfare. No significant impacts are anticipated.
*9VAC5-60-60	n/a	General requirements for NESHAPs.	Updates referenced Code of Federal Regulations to the most current version. Needed in order to meet federal requirements for protecting

Current section number	New section number, if applicable	Current requirement	Change, intent, rationale, and likely impact of new requirements
			human health and welfare. No significant impacts are anticipated.
*9VAC5-60-90	n/a	General requirements for MACTs.	Updates referenced Code of Federal Regulations to the most current version. Needed in order to meet federal requirements for protecting human health and welfare. No significant impacts are anticipated.
9VAC5-60-100	n/a	Designated emission standards	Updates titles and numbering as needed. Needed in order to meet federal requirements for protecting human health and welfare. No significant impacts are anticipated.

Regulatory Flexibility Analysis

Pursuant to § 2.2-4007.1B of the Code of Virginia, please describe the agency's analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) establishing less stringent compliance or reporting requirements; 2) establishing less stringent schedules or deadlines for compliance or reporting requirements; 3) consolidation or simplification of compliance or reporting requirements; 4) establishing performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the regulatory change.

These regulation amendments meet the requirements of federal law and regulation. Any less stringent compliance requirements, any delays in adopting the standards, any different compliance or reporting requirements, any substitution of performance standards, and any exemption of small businesses from these requirements will not meet the minimum requirements of federal and state law and regulation. Any such changes would compromise the effectiveness of the regulations in protecting the health and welfare of the public.

Family Impact

In accordance with § 2.2-606 of the Code of Virginia, please assess the potential impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

No family impacts are anticipated.

Office of Regulatory Management

Economic Review Form

Agency name	Department of Environmental Quality
Virginia Administrative Code (VAC) Chapter citation(s)	Primary: Article 5 (9VAC5-50-400 et seq.) of 9VAC5-50 Secondary: 9 VAC 5-20-21; Article 1 (9VAC5-60-60 et seq.) and Article 2 (9VAC5-60-90 et seq.) of 9VAC5-60
VAC Chapter title(s)	9VAC5-20, General Provisions; 9VAC5-50, New and Modified Stationary Sources; 9VAC5-60, Hazardous Air Pollutant Sources
Action title	Federal Documents Incorporated by Reference.(Rev. C24)
Date this document prepared	November 21, 2024
Regulatory Stage (including Issuance of Guidance Documents)	Exempt Final

Cost Benefit Analysis

Complete Tables 1a and 1b for all regulatory actions. You do not need to complete Table 1c if the regulatory action is required by state statute or federal statute or regulation and leaves no discretion in its implementation.

Table 1a should provide analysis for the regulatory approach you are taking. Table 1b should provide analysis for the approach of leaving the current regulations intact (i.e., no further change is implemented). Table 1c should provide analysis for at least one alternative approach. You should not limit yourself to one alternative, however, and can add additional charts as needed.

Report both direct and indirect costs and benefits that can be monetized in Boxes 1 and 2. Report direct and indirect costs and benefits that cannot be monetized in Box 4. See the ORM Regulatory Economic Analysis Manual for additional guidance.

Table 1a: Costs and Benefits of the Proposed Changes (Primary Option)

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: New Source Performance Standards (NSPSs) apply to new sources that have yet to be permitted or constructed. In the absence of this regulation those new facilities would still have to comply with NSPSs, which would be administered by the federal government. In the absence of pending permit applications or registration with Virginia Department of Energy (VDOE)/DEQ to build one of the categories of regulated facilities and where such a facility would be located, it is impossible to determine any potential cost. In the case of Subpart OOOOb of 40 CFR Part 60 (Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022), the approximate number of completions of hydraulically fractured wells after this date is 50. This is according to information provided by VDOE. However, the number of new wells to be drilled in 2024 provided to VDOE in December 2023 was 66, and 23 have already been drilled. Other new wells may be drilled in the future, subject to the new standard, that have not yet been identified. Currently no new compressor stations are anticipated or planned for 2024, although new ones not yet identified may be proposed in the future. The U.S. Environmental Protection Agency (EPA) economic impact analysis of this rule's impacts nationwide anticipates that any future potential economic impacts associated with the rule will be outweighed by the benefits. In the case of the remaining NSPSs, no new facilities are known or anticipated. Indirect Costs: An indirect cost of Subpart OOOOb may be travel time to obtain access to various wells located in remote locations; there may be an indirect cost of training industry staff with the various methods to monitor the wells, including assuring that staff meets proficiency standards. No indirect costs have been identified for the remaining NSPSs. Direct Benefits: One of the primary direct benefits of this regulatory action is that it will contribute to the reduction of air pollution--including, in addition to designated pollutants under §§ 111 and 112, several § 110 criteria pollutants--thus benefitting the health and welfare of all Virginians.

	Indirect Benefits: There is an indirect benefit to the Commonwealth in retaining implementation authority over its regulated facilities rather than leaving it in the hands of the federal government. Generally, the NSPSs and MACTs are updated on a routine basis to make corrections, and to upgrade monitoring, testing, and reporting requirements that meet the most current technology. This ensures that affected facilities are using the most up-to-date resources and tools needed to comply with the federally mandated requirements. There may be indirect benefits associated with industries that support the primary industry, that is, firms that provide testing and monitoring services, and other services that assist affected facilities in implementing the federal mandates.

(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) None identified.	(b) None identified.
(3) Net Monetized Benefit	None identified.	
(4) Other Costs & Benefits (Non-Monetized)	None identified.	
(5) Information Sources	Virginia Department of Energy, U.S. Energy Information Administration, U.S. Environmental Protection Agency (EPA), EPA Greenhouse Gas Reporting Program; industry contacts, Virginia Department of Energy (VDOE), VA DEQ Comprehensive Emissions Database System (CEDS)	

Table 1b: Costs and Benefits under the Status Quo (No change to the regulation)

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: The direct costs to the regulated community would be the same if the regulation was not adopted. These are federal requirements that apply whether or not this regulation is adopted. In the absence of this regulatory action the requirements would be implemented by the federal government. Indirect Costs: There may be an indirect cost to affected facilities and the department if the program were to be implemented by EPA and not the Commonwealth. Generally, it is preferable that affected

	Virginia facilities work with Virginia inspectors and enforcement staff, not those operated by the federal government. Direct Benefits: See Table 1a. These are federal standards that must be met whether implemented by DEQ or the federal government. Indirect Benefits: See Table 1a. These are federal standards that must be met whether implemented by DEQ or the federal government.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) None identified.	(b) None identified.
(3) Net Monetized Benefit	None identified.	
(4) Other Costs & Benefits (Non-Monetized)	None identified.	
(5) Information Sources	See Table 1a.	

Table 1c: Costs and Benefits under Alternative Approach(es)
This action is mandated by federal statute.

Impact on Local Partners

Use this chart to describe impacts on local partners. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 2: Impact on Local Partners

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: No direct costs specific to local partners are associated with the regulation. Indirect Costs: No indirect costs specific to local partners are associated with the regulation. Direct Benefits: Direct benefits to local partners may be realized as described in Table 1a. Indirect Benefits: Indirect benefits to local partners may be realized as described in Table 1a.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits

	(a) None identified.	(b) None identified.
(3) Other Costs & Benefits (Non-Monetized)	None identified.	
(4) Assistance	None identified.	
(5) Information Sources	See Table 1a.	

Impacts on Families

Use this chart to describe impacts on families. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 3: Impact on Families

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: No direct costs specific to families are associated with the regulation. Indirect Costs: No indirect costs specific to families are associated with the regulation. Direct Benefits: Direct benefits to families may be realized as described in Table 1a. Indirect Benefits: Indirect benefits to families may be realized as described in Table 1a.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) None identified.	(b) None identified.
(3) Other Costs & Benefits (Non-Monetized)	None identified.	
(4) Information Sources	See Table 1a.	

Impacts on Small Businesses

Use this chart to describe impacts on small businesses. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 4: Impact on Small Businesses

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: See Table 1a. It is impossible to estimate the number, if any, of small businesses that may want to undergo a regulated activity in the future. Indirect Costs: See Table 1a. Ultimately, these are federal standards that must be met; the department believes that it is beneficial to businesses, including small businesses, to work directly with the state environmental agency rather than the federal. Direct Benefits: See Table 1a. Indirect Benefits: See table 1a.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) None identified.	(b) None identified.
(3) Other Costs & Benefits (Non-Monetized)	None identified.	
(4) Alternatives	None identified.	
(5) Information Sources	See Table 1a.	

Changes to Number of Regulatory Requirements

Table 5: Regulatory Reduction

For each individual action, please fill out the appropriate chart to reflect any change in regulatory requirements, costs, regulatory stringency, or the overall length of any guidance documents.

Change in Regulatory Requirements

VAC Section(s) Involved*	Authority of Change	Initial Count	Additions	Subtractions	Total Net Change in Requirements
9VAC5-20-21	**(M/A):**	0	0	0	0
	(D/A):	0	0	0	0
	(M/R):	0	0	0	0
	(D/R):	0	0	0	0
9VAC5-50-400	**(M/A):**	0	0	0	0
	(D/A):	0	0	0	0
	(M/R):	0	0	0	0
	(D/R):	0	0	0	0
9VAC5-50-410	**(M/A):**	24	0	0	0
	(D/A):	0	0	0	0
	(M/R):	560	611	0	+611
	(D/R):	0	0	0	0
9VAC5-60-60	**(M/A):**	0	0	0	0
	(D/A):	0	0	0	0
	(M/R):	0	0	0	0
	(D/R):	0	0	0	0
9VAC5-60-90	**(M/A):**	0	0	0	0
	(D/A):	0	0	0	0
	(M/R):	1	0	0	0
	(D/R):	0	0	0	0
9VAC5-60-100	**(M/A):** **(D/A):** **(M/R):** **(D/R)**	0	0	0	0
				:	
					(M/R): +611

Key:

Please use the following coding if change is mandatory or discretionary and whether it affects externally regulated parties or only the agency itself:

(M/A): Mandatory requirements mandated by federal and/or state statute affecting the agency itself
(D/A): Discretionary requirements affecting agency itself
(M/R): Mandatory requirements mandated by federal and/or state statute affecting external parties, including other agencies
(D/R): Discretionary requirements affecting external parties, including other agencies

Cost Reductions or Increases (if applicable)

VAC Section(s) Involved*	**Description of Regulatory Requirement**	**Initial Cost**	**New Cost**	**Overall Cost Savings/Increases**
N/A				

Other Decreases or Increases in Regulatory Stringency (if applicable)

VAC Section(s) Involved*	**Description of Regulatory Change**	**Overview of How It Reduces or Increases Regulatory Burden**
N/A		

Length of Guidance Documents (only applicable if guidance document is being revised)

Title of Guidance Document	**Original Word Count**	**New Word Count**	**Net Change in Word Count**
N/A			

*If the agency is modifying a guidance document that has regulatory requirements, it should report any change in requirements in the appropriate chart(s).

9VAC5 CHAPTER 20.
GENERAL PROVISIONS.

PART I.
ADMINISTRATIVE.

9VAC5-20-21. Documents incorporated by reference.

A. The Administrative Process Act and Virginia Register Act provide that state regulations may incorporate documents by reference. Throughout these regulations, documents of the types specified below have been incorporated by reference.

1. United States Code.

2. Code of Virginia.

3. Code of Federal Regulations.

4. Federal Register.

5. Technical and scientific reference documents.

Additional information on key federal regulations and nonstatutory documents incorporated by reference and their availability may be found in subsection E of this section.

B. Any reference in these regulations to any provision of the Code of Federal Regulations (CFR) shall be considered as the adoption by reference of that provision. The specific version of the provision adopted by reference shall be that contained in the CFR ~~(2022)~~ (2024) in effect July 1, ~~2022~~ 2024. In making reference to the Code of Federal Regulations, 40 CFR Part 35 means Part 35 of Title 40 of the Code of Federal Regulations; 40 CFR 35.20 means § 35.20 in Part 35 of Title 40 of the Code of Federal Regulations.

C. Failure to include in this section any document referenced in the regulations shall not invalidate the applicability of the referenced document.

D. Copies of materials incorporated by reference in this section may be examined by the public at the central office of the Department of Environmental Quality, 1111 East Main Street, Suite 1400, Richmond, Virginia, between 8:30 a.m. and 4:30 p.m. of each business day.

E. Information on federal regulations and nonstatutory documents incorporated by reference and their availability may be found below in this subsection.

1. Code of Federal Regulations.

a. The provisions specified below from the Code of Federal Regulations (CFR) are incorporated herein by reference.

(1) 40 CFR Part 50 -- National Primary and Secondary Ambient Air Quality Standards.

(a) Appendix A-1 -- Reference Measurement Principle and Calibration Procedure for the Measurement of Sulfur Dioxide in the Atmosphere (Ultraviolet Fluorescence Method).

(b) Appendix A-2 -- Reference Method for the Determination of Sulfur Dioxide in the Atmosphere (Pararosaniline Method).

(c) Appendix B -- Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method).

(d) Appendix C -- Measurement Principle and Calibration Procedure for the Continuous Measurement of Carbon Monoxide in the Atmosphere (Non-Dispersive Infrared Photometry).

(e) Appendix D -- Measurement Principle and Calibration Procedure for the Measurement of Ozone in the Atmosphere.

(f) Appendix E -- Reserved.

(g) Appendix F -- Measurement Principle and Calibration Procedure for the Measurement of Nitrogen Dioxide in the Atmosphere (Gas Phase Chemiluminescence).

(h) Appendix G -- Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air.

(i) Appendix H -- Interpretation of the National Ambient Air Quality Standards for Ozone.

(j) Appendix I -- Interpretation of the 8-Hour Primary and Secondary National Ambient Air Quality Standards for Ozone.

(k) Appendix J -- Reference Method for the Determination of Particulate Matter as PM10 in the Atmosphere.

(l) Appendix K -- Interpretation of the National Ambient Air Quality Standards for Particulate Matter.

(m) Appendix L -- Reference Method for the Determination of Fine Particulate Matter as $PM_{2.5}$ in the Atmosphere.

(n) Appendix M -- Reserved.

(o) Appendix N -- Interpretation of the National Ambient Air Quality Standards for $PM_{2.5}$.

(p) Appendix O -- Reference Method for the Determination of Coarse Particulate Matter as PM in the Atmosphere.

(q) Appendix P -- Interpretation of the Primary and Secondary National Ambient Air Quality Standards for Ozone.

(r) Appendix Q -- Reference Method for the Determination of Lead in Suspended Particulate Matter as PM10 Collected from Ambient Air.

(s) Appendix R -- Interpretation of the National Ambient Air Quality Standards for Lead.

(t) Appendix S -- Interpretation of the Primary National Ambient Air Quality Standards for Oxides of Nitrogen (Nitrogen Dioxide).

(u) Appendix T -- Interpretation of the Primary National Ambient Air Quality Standards for Oxides of Sulfur (Sulfur Dioxide).

(v) Appendix U -- Interpretation of the Primary and Secondary National Ambient Air Quality Standards for Ozone.

(2) 40 CFR Part 51 -- Requirements for Preparation, Adoption, and Submittal of Implementation Plans.

(a) Appendix M -- Recommended Test Methods for State Implementation Plans.

(b) Appendix S -- Emission Offset Interpretive Ruling.

(c) Appendix W -- Guideline on Air Quality Models (Revised).

(d) Appendix Y -- Guidelines for BART Determinations Under the Regional Haze Rule.

(3) 40 CFR Part 55 -- Outer Continental Shelf Air Regulations, except for §§ 55.5, 55.11, and 55.12.

(4) 40 CFR Part 58 -- Ambient Air Quality Surveillance.

Appendix A -- Quality Assurance Requirements for SLAMS, SPMs and PSD Air Monitoring.

(5) 40 CFR Part 59 -- National Volatile Organic Compound Emission Standards for Consumer and Commercial Products.

(a) Subpart C -- National Volatile Organic Compound Emission Standards for Consumer Products.

(b) Subpart D -- National Volatile Organic Compound Emission Standards for Architectural Coatings, Appendix A -- Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings.

(6) 40 CFR Part 60 -- Standards of Performance for New Stationary Sources.

The specific provisions of 40 CFR Part 60 incorporated by reference are found in Article 5 (9VAC5-50-400 et seq.) of Part II of 9VAC5-50 (New and Modified Stationary Sources).

(7) 40 CFR Part 61 -- National Emission Standards for Hazardous Air Pollutants.

The specific provisions of 40 CFR Part 61 incorporated by reference are found in Article 1 (9VAC5-60-60 et seq.) of Part II of 9VAC5-60 (Hazardous Air Pollutant Sources).

(8) 40 CFR Part 63 -- National Emission Standards for Hazardous Air Pollutants for Source Categories.

The specific provisions of 40 CFR Part 63 incorporated by reference are found in Article 2 (9VAC5-60-90 et seq.) of Part II of 9VAC5-60 (Hazardous Air Pollutant Sources).

(9) 40 CFR Part 64 -- Compliance Assurance Monitoring.

(10) 40 CFR Part 72 -- Permits Regulation.

(11) 40 CFR Part 73 -- Sulfur Dioxide Allowance System.

(12) 40 CFR Part 74 -- Sulfur Dioxide Opt-Ins.

(13) 40 CFR Part 75 -- Continuous Emission Monitoring.

(14) 40 CFR Part 76 -- Acid Rain Nitrogen Oxides Emission Reduction Program.

(15) 40 CFR Part 77 -- Excess Emissions.

(16) 40 CFR Part 78 -- Appeal Procedures for Acid Rain Program.

(17) 40 CFR Part 81 -- Designation of Areas for Air Quality Planning Purposes.

(18) 40 CFR Part 82 -- Protection of Stratospheric Ozone.

(19) 40 CFR Part 152 Subpart I -- Classification of Pesticides.

(20) 49 CFR Part 172 -- Hazardous Materials Table. Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements, Subpart E, Labeling.

(21) 29 CFR Part 1926 Subpart F -- Fire Protection and Prevention.

b. Copies may be obtained from Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954; telephone (202) 783-3238.

2. U.S. Environmental Protection Agency.

a. The following documents from the U.S. Environmental Protection Agency are incorporated herein by reference:

(1) Reich Test, Atmospheric Emissions from Sulfuric Acid Manufacturing Processes, Public Health Service Publication No. PB82250721, 1980.

(2) Compilation of Air Pollutant Emission Factors (AP-42). Volume I: Stationary and Area Sources, stock number 055-000-00500-1, 1995; Supplement A, stock number 055-000-0055[1-6], 1996; Supplement B, stock number 055-000-00565, 1997; Supplement C, stock number 055-000-00587-7, 1997; Supplement D, 1998; Supplement E, 1999.

(3) "Guidelines for Determining Capture Efficiency" (GD-35), Emissions Monitoring and Analysis Division, Office of Air Quality Planning and Standards, January 9, 1995.

b. Copies of the document identified in subdivision E 2 a (1) of this section, and Volume I and Supplements A through C of the document identified in subdivision E 2 a (2) of this section, may be obtained from U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; telephone 1-800-553-6847. Copies of Supplements D and E of the document identified in subdivision E 2 a (2) of this section may be obtained online from EPA's Technology Transfer Network at http://www.epa.gov/ttn/index.html. Copies of the document identified in subdivision E 2 a (3) of this section are only available online from EPA's Technology Transfer Network at http://www.epa.gov/ttn/emc/guidlnd.html.

3. United States government.

a. The following document from the United States government is incorporated herein by reference: Standard Industrial Classification Manual, 1987 (U.S. Government Printing Office stock number 041-001-00-314-2).

b. Copies may be obtained from Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954; telephone (202) 512-1800.

4. American Society for Testing and Materials (ASTM).

a. The documents specified below from the American Society for Testing and Materials are incorporated herein by reference.

(1) D323-99a, "Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)."

(2) D97-96a, "Standard Test Method for Pour Point of Petroleum Products."

(3) D129-00, "Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)."

(4) D388-99, "Standard Classification of Coals by Rank."

(5) D396-98, "Standard Specification for Fuel Oils."

(6) D975-98b, "Standard Specification for Diesel Fuel Oils."

(7) D1072-90(1999), "Standard Test Method for Total Sulfur in Fuel Gases."

(8) D1265-97, "Standard Practice for Sampling Liquefied Petroleum (LP) Gases (Manual Method)."

(9) D2622-98, "Standard Test Method for Sulfur in Petroleum

Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry."

(10) D4057-95(2000), "Standard Practice for Manual Sampling of Petroleum and Petroleum Products."

(11) D4294-98, "Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectroscopy."

(12) D523-89, "Standard Test Method for Specular Gloss" (1999).

(13) D1613-02, "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and Related Products" (2002).

(14) D1640-95, "Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature" (1999).

(15) E119-00a, "Standard Test Methods for Fire Tests of Building Construction Materials" (2000).

(16) E84-01, "Standard Test Method for Surface Burning Characteristics of Building Construction Materials" (2001).

(17) D4214-98, "Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films" (1998).

(18) D86-04b, "Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure" (2004).

(19) D4359-90, "Standard Test Method for Determining Whether a Material is a Liquid or a Solid" (reapproved 2000).

(20) E260-96, "Standard Practice for Packed Column Gas Chromatography" (reapproved 2001).

(21) D3912-95, "Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants" (reapproved 2001).

(22) D4082-02, "Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants."

(23) F852-99, "Standard Specification for Portable Gasoline Containers for Consumer Use" (reapproved 2006).

(24) F976-02, "Standard Specification for Portable Kerosine and Diesel Containers for Consumer Use."

(25) D4457-02, "Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph" (reapproved 2008).

(26) D3792-05, "Standard Test Method for Water Content of Coatings by Direct Injection Into a Gas Chromatograph."

(27) D2879-97, "Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope" (reapproved 2007).

b. Copies may be obtained from: American Society for Testing Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959; phone (610) 832-9585.

5. American Petroleum Institute (API).

a. The following document from the American Petroleum Institute is incorporated herein by reference: Evaporative Loss from Floating Roof Tanks, API MPMS Chapter 19, April 1, 1997.

b. Copies may be obtained from: American Petroleum Institute, 1220 L Street, Northwest, Washington, D.C. 20005; phone (202) 682-8000.

6. American Conference of Governmental Industrial Hygienists (ACGIH).

a. The following document from the ACGIH is incorporated herein by reference: 1991-1992 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices (ACGIH Handbook).

b. Copies may be obtained from: ACGIH, 1330 Kemper Meadow Drive, Suite 600, Cincinnati, Ohio 45240; phone (513) 742-2020.

7. National Fire Prevention Association (NFPA).

a. The documents specified below from the National Fire Prevention Association are incorporated herein by reference.

(1) NFPA 385, Standard for Tank Vehicles for Flammable and Combustible Liquids, 2000 Edition.

(2) NFPA 30, Flammable and Combustible Liquids Code, 2000 Edition.

(3) NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages, 2000 Edition.

b. Copies may be obtained from the National Fire Prevention Association, One Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts 02269-9101; phone (617) 770-3000.

8. American Society of Mechanical Engineers (ASME).

a. The documents specified below from the American Society of Mechanical Engineers are incorporated herein by reference.

(1) ASME Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1--1964 (R1991).

(2) ASME Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th edition (1971).

(3) Standard for the Qualification and Certification of Resource Recovery Facility Operators, ASME QRO-1-1994.

b. Copies may be obtained from the American Society of Mechanical Engineers, Three Park Avenue, New York, New York 10016; phone (800) 843-2763.

9. American Hospital Association (AHA).

a. The following document from the American Hospital Association is incorporated herein by reference: An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities, AHA Catalog no. W5-057007, 1993.

b. Copies may be obtained from: American Hospital Association, One North Franklin, Chicago, IL 60606; phone (800) 242-2626.

10. Bay Area Air Quality Management District (BAAQMD).

a. The following documents from the Bay Area Air Quality Management District are incorporated herein by reference:

(1) Method 41, "Determination of Volatile Organic Compounds in Solvent-Based Coatings and Related Materials Containing Parachlorobenzotrifluoride" (December 20, 1995).

(2) Method 43, "Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials" (November 6, 1996).

b. Copies may be obtained from: Bay Area Air Quality Management District, 939 Ellis Street, San Francisco, CA 94109, phone (415) 771-6000.

11. South Coast Air Quality Management District (SCAQMD).

a. The following documents from the South Coast Air Quality Management District are incorporated herein by reference:

(1) Method 303-91, "Determination of Exempt Compounds," in Manual SSMLLABM, "Laboratory Methods of Analysis for Enforcement Samples" (1996).

(2) Method 318-95, "Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction," in Manual SSMLLABM, "Laboratory Methods of Analysis for Enforcement Samples" (1996).

(3) Rule 1174 Ignition Method Compliance Certification Protocol (February 28, 1991).

(4) Method 304-91, "Determination of Volatile Organic Compounds (VOC) in Various Materials," in Manual SSMLLABM, "Laboratory Methods of Analysis for Enforcement Samples" (1996).

(5) Method 316A-92, "Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings" in Manual SSMLLABM, "Laboratory Methods of Analysis for Enforcement Samples" (1996).

(6) "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems," October 3, 1989.

b. Copies may be obtained from: South Coast Air Quality Management District, 21865 E. Copley Drive, Diamond Bar, CA 91765, phone (909) 396-2000.

12. California Air Resources Board (CARB).

a. The following documents from the California Air Resources Board are incorporated herein by reference:

(1) Test Method 510, "Automatic Shut-Off Test Procedure for Spill-Proof Systems and Spill-Proof Spouts" (July 6, 2000).

(2) Test Method 511, "Automatic Closure Test Procedure for Spill-Proof Systems and Spill-Proof Spouts" (July 6, 2000).

(3) Method 100, "Procedures for Continuous Gaseous Emission Stack Sampling" (July 28, 1997).

(4) Test Method 513, "Determination of Permeation Rate for Spill-Proof Systems" (July 6, 2000).

(5) Method 310, "Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products (Including Appendices A and B)" (May 5, 2005).

(6) California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 8.5, Article 1, § 94503.5 (2003).

(7) California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 8.5, Article 2, §§ 94509 and 94511 (2003).

(8) California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 8.5, Article 4, §§ 94540-94555 (2003).

(9) "Certification Procedure 501 for Portable Fuel Containers and Spill-Proof Spouts, CP-501" (July 26, 2006).

(10) "Test Procedure for Determining Integrity of Spill-Proof Spouts and Spill-Proof Systems, TP-501" (July 26, 2006).

(11) "Test Procedure for Determining Diurnal Emissions from Portable Fuel Containers, TP-502" (July 26, 2006).

b. Copies may be obtained from: California Air Resources Board, P.O. Box 2815, Sacramento, CA 95812, phone (906) 322-3260 or (906) 322-2990.

13. American Architectural Manufacturers Association.

a. The following documents from the American Architectural Manufacturers Association are incorporated herein by reference:

(1) Voluntary Specification 2604-02, "Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels" (2002).

(2) Voluntary Specification 2605-02, "Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels" (2002).

b. Copies may be obtained from: American Architectural Manufacturers Association, 1827 Walden Office Square, Suite 550, Schaumburg, IL

60173, phone (847) 303-5664.

14. American Furniture Manufacturers Association.

a. The following document from the American Furniture Manufacturers Association is incorporated herein by reference: Joint Industry Fabrics Standards Committee, Woven and Knit Residential Upholstery Fabric Standards and Guidelines (January 2001).

b. Copies may be obtained from: American Furniture Manufacturers Association, P.O. Box HP-7, High Point, NC 27261; phone (336) 884-5000.

15. Petroleum Equipment Institute.

a. The following document from the Petroleum Equipment Institute is incorporated herein by reference: Recommended Practices for Installation and Testing of Vapor-Recovery Systems at Vehicle-Fueling Sites, PEI/RP300-09 (2009).

b. Copies may be obtained from: Petroleum Equipment Institute, 6931 S. 66th E. Ave., Suite 310, Tulsa, OK 74133; telephone (918) 494-9696; www.pei.org.

16. American Architectural Manufacturers Association (AAMA).

a. The following documents from the American Architectural Manufacturers Association are incorporated herein by reference:

(1) Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels, publication number AAMA 2604-05.

(2) Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels, publication number AAMA 2605-05.

b. Copies may be obtained from: American Architectural Manufacturers Association, 1827 Walden Office Square, Suite 550, Schaumburg, IL 60173-4268; phone 847-303-5774.

9VAC5 CHAPTER 50.
NEW AND MODIFIED STATIONARY SOURCES.

PART II.
Emission Standards.

ARTICLE 5.

Environmental Protection Agency Standards of Performance For New Stationary Sources (Rule 5-5).

9VAC5-50-400. General.

The U.S. Environmental Protection Agency Regulations on Standards of Performance for New Stationary Sources (NSPSs), as promulgated in 40 CFR Part 60 and designated in 9VAC5-50-410 are, unless indicated otherwise, incorporated by reference into the regulations of the board as amended by the word or phrase substitutions given in 9VAC5-50-420. The complete text of the subparts in 9VAC5-50-410 incorporated in this regulation by reference is contained in 40 CFR Part 60. The 40 CFR section numbers appearing under each subpart in 9VAC5-50-410 identify the specific provisions of the subpart incorporated by reference. The specific version of the provision adopted by reference shall be that contained in the CFR ~~(2022)~~ (2024) in effect July 1, ~~2022~~ 2024. In making reference to the Code of Federal Regulations, 40 CFR Part 60 means Part 60 of Title 40 of the Code of Federal Regulations; 40 CFR 60.1 means 60.1 in Part 60 of Title 40 of the Code of Federal Regulations.

9VAC5-50-410. Designated standards of performance.

Subpart A -- General Provisions.

40 CFR 60.1 through 60.3, 40 CFR 60.7 through 60.8, 40 CFR 60.11 through 40 CFR 60.15, 40 CFR 60.18 through 60.19

(applicability, definitions, units and abbreviations, notification and record keeping, performance tests, compliance, circumvention, monitoring requirements, modification, reconstruction, general control device requirements, and general notification and reporting requirements)

Subpart B -- Not applicable.

Subpart C -- Not applicable.

Subpart Ca -- Reserved.

Subpart Cb -- Not applicable.

Subpart Cc -- Not applicable.

Subpart Cd -- Not applicable.

Subpart Ce -- Not applicable.

Subpart D -- Fossil Fuel-Fired Steam Generators.

40 CFR 60.40 through 40 CFR 60.46

(fossil fuel-fired steam generating units of more than 250 million Btu per hour heat input rate and fossil fuel-fired and wood residue-fired steam generating units capable of firing fossil fuel at a heat input rate of more than 250 million Btu per hour)

Subpart Da -- Electric Utility Steam Generating Units.

40 CFR 60.40Da through 40 CFR 60.52Da

(electric utility steam generating units capable of combusting more than 250 million Btu per hour heat input of fossil fuel (either alone or in combination with any other fuel, and for which construction, reconstruction or modification is commenced after September 18, 1978)

Subpart Db -- Industrial-Commercial-Institutional Steam Generating Units.

40 CFR 60.40b through 40 CFR 60.49b

(industrial-commercial-institutional steam generating units which have a heat input capacity from combusted fuels of more than 100 million Btu per hour)

Subpart Dc -- Small Industrial-Commercial-Institutional Steam Generating Units.

40 CFR 60.40c through 60.48c

(industrial-commercial-institutional steam generating units which have a heat input capacity of 100 million Btu per hour or less, but greater than or equal to 10 million Btu per hour)

Subpart E -- Incinerators.

40 CFR 60.50 through 40 CFR 60.54

(incinerator units of more than 50 tons per day charging rate)

Subpart Ea -- Municipal Waste Combustors for Which Construction is Commenced After December 20, 1989 and on or Before September 20, 1994.

40 CFR 60.50a through 60.59a

(municipal waste combustor units with a capacity greater than 250 tons per day of municipal-type solid waste or refuse-derived fuel)

Subpart Eb -- Large Municipal Combustors for Which Construction is Commenced After

September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996.

40 CFR 60.50b through 40 CFR 60.59b.

(municipal waste combustor units with a capacity greater than 250 tons per day of municipal-type solid waste or refuse-derived fuel)

Subpart Ec -- Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996.

40 CFR 60.50c through 40 CFR 60.58c

(hospital/medical/infectious waste incinerators that combusts any amount of hospital waste and medical/infectious waste or both)

Subpart F -- Portland Cement Plants.

40 CFR 60.60 through 40 CFR 60.66

(kilns, clinker coolers, raw mill systems, finish mill systems, raw mill dryers, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and unloading systems)

Subpart G -- Nitric Acid Plants.

40 CFR 60.70 through 40 CFR 60.74

(nitric acid production units)

Subpart Ga -- Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011.

40 CFR 60.70a through 40 CFR 60.77a

(nitric acid production units producing weak nitric acid by either the pressure or atmospheric pressure process)

Subpart H -- Sulfuric Acid Plants.

40 CFR 60.80 through 40 CFR 60.85

(sulfuric acid production units)

Subpart I -- Hot Mix Asphalt Facilities.

40 CFR 60.90 through 40 CFR 60.93

(dryers; systems for screening, handling, storing and weighing hot aggregate; systems for loading, transferring and storing mineral filler; systems for mixing asphalt; and the loading, transfer and storage systems associated with emission control systems)

Subpart J -- Petroleum Refineries.

40 CFR 60.100 through ~~40 CFR 60.106~~ 40 CFR 60.109

(fluid catalytic cracking unit catalyst regenerators, fluid catalytic cracking unit incinerator-waste heat boilers and fuel gas combustion devices)

Subpart Ja -- Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007.

40 CFR 60.100a through 40 CFR 60.109a

(fluid catalytic cracking units, fluid coking units, delayed coking units, fuel gas combustion devices, including flares and process heaters, and sulfur recovery plants)

Subpart K -- Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973 and Prior to May 19, 1978.

40 CFR 60.110 through 40 CFR 60.113

(storage vessels with a capacity greater than 40,000 gallons)

Subpart Ka -- Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984.

40 CFR 60.110a through 40 CFR 60.115a

(storage vessels with a capacity greater than 40,000 gallons)

Subpart Kb -- Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.

40 CFR 60.110b through 40 CFR 60.117b

(storage vessels with capacity greater than or equal to 10,566 gallons)

Subpart L -- Secondary Lead Smelters for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and On or Before December 1, 2022.

40 CFR 60.120 through ~~40 CFR 60.123~~ 40 CFR 60.125

(pot furnaces of more than 550 lb charging capacity, blast (cupola) furnaces and reverberatory furnaces)

Subpart La -- Secondary Lead Smelters for Which Construction, Reconstruction, or Modification Commenced After December 1, 2022.

40 CFR 60.120a through 40 CFR 60.125a

(process fugitive emissions sources, blast (cupola) furnaces, and reverberatory furnaces)

Subpart M -- Secondary Brass and Bronze Production Plants.

40 CFR 60.130 through 40 CFR 60.133

(reverberatory and electric furnaces of 2205 pound or greater production capacity and blast (cupola) furnaces of 550 pounds per hour or greater production capacity)

Subpart N -- Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced after June 11, 1973.

40 CFR 60.140 through 40 CFR 60.144

(basic oxygen process furnaces)

Subpart Na -- Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced after January 20, 1983.

40 CFR 60.140a through 40 CFR 60.145a

(facilities in an iron and steel plant: top-blown BOPFs and hot metal transfer stations and skimming stations used with bottom-blown or top-blown BOPFs)

Subpart O -- Sewage Treatment Plants.

40 CFR 60.150 through ~~40 CFR 60.154~~ 40 CFR 60.156

(incinerators that combust wastes containing more than 10 percent sewage sludge (dry basis) produced by municipal sewage treatment plants or incinerators

that charge more than 2205 pounds per day municipal sewage sludge (dry basis))

Subpart P -- Primary Copper Smelters.

40 CFR 60.160 through 40 CFR 60.166

(dryers, roasters, smelting furnaces, and copper converters)

Subpart Q -- Primary Zinc Smelters.

40 CFR 60.170 through 40 CFR 60.176

(roasters and sintering machines)

Subpart R -- Primary Lead Smelters.

40 CFR 60.180 through 40 CFR 60.186

(sintering machines, sintering machine discharge ends, blast furnaces, dross reverberatory furnaces, electric smelting furnaces, and converters)

Subpart S -- Primary Aluminum Reduction Plants.

40 CFR 60.190 through 40 CFR 60.195

(potroom groups and anode bake plants)

Subpart T -- Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants.

40 CFR 60.200 through 40 CFR 60.205

(reactors, filters, evaporators, and hot wells)

Subpart U -- Phosphate Fertilizer Industry: Superphosphoric Acid Plants.

40 CFR 60.210 through 40 CFR 60.215

(evaporators, hot wells, acid sumps, and cooling tanks)

Subpart V -- Phosphate Fertilizer Industry: Diammonium Phosphate Plants.

40 CFR 60.220 through 40 CFR 60.225

(reactors, granulators, dryers, coolers, screens, and mills)

Subpart W -- Phosphate Fertilizer Industry: Triple Superphosphate Plants.

40 CFR 60.230 through 40 CFR 60.235

(mixers, curing belts (dens), reactors, granulators, dryers, cookers, screens, mills, and facilities which store run-of-pile triple superphosphate)

Subpart X -- Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities.

40 CFR 60.240 through 40 CFR 60.245

(storage or curing piles, conveyors, elevators, screens and mills)

Subpart Y -- Coal Preparation and Processing Plants.

40 CFR 60.250 through 40 CFR 60.258

(plants which process more than 200 tons per day: thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems)

Subpart Z -- Ferroalloy Production Facilities.

40 CFR 60.260 through 40 CFR 60.266

(electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon or calcium carbide; and dust-handling equipment)

Subpart AA -- Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and On or Before August 17, 1983.

40 CFR 60.270 through 40 CFR 60.276

(electric arc furnaces and dust-handling systems that produce carbon, alloy, or specialty steels)

Subpart AAa -- Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983 and On or Before May 16, 2022.

40 CFR 60.270a through 40 CFR 60.276a

(electric arc furnaces, argon-oxygen decarburization vessels, and dust-handling systems that produce carbon, alloy, or specialty steels)

Subpart AAb -- Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After May 16, 2022

40 CFR 60.270b through 40 CFR 60.276b

(electric arc furnaces, argon-oxygen decarburization vessels, and dust-handling systems that produce carbon, alloy, or specialty steels)

Subpart BB -- Kraft Pulp Mills.

40 CFR 60.280 through 40 CFR 60.285

(digester systems, brown stock washer systems, multiple effect evaporator systems, black liquor oxidation systems, recovery furnaces, smelt dissolving tanks, lime kilns, condensate strippers, and kraft pulping operations)

Subpart BBa -- Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013.

40 CFR 60.280a through 40 CFR 60.288a

(digester systems, brown stock washer systems, multiple effect evaporator systems, black liquor oxidation systems, recovery furnaces, smelt dissolving tanks, lime kilns, condensate strippers, and kraft pulping operations)

Subpart CC -- Glass Manufacturing Plants.

40 CFR 60.290 through 40 CFR 60.296

(glass melting furnaces)

Subpart DD -- Grain Elevators.

40 CFR 60.300 through 40 CFR 60.304

(grain terminal elevators/grain storage elevators: truck unloading stations, truck loading stations, barge and ship unloading stations, barge and ship loading stations, railcar unloading stations, railcar loading stations, grain dryers, and all grain handling operations)

Subpart EE -- Surface Coating of Metal Furniture.

40 CFR 60.310 through 40 CFR 60.316

(metal furniture surface coating operations in which organic coatings are applied)

Subpart FF -- Reserved.

Subpart GG -- Stationary Gas Turbines.

40 CFR 60.330 through 40 CFR 60.335

(stationary gas turbines with a heat input at peak load equal to or greater than 10 million Btu per hour, based on the lower heating value of the fuel fired)

Subpart HH -- Lime Manufacturing Plants.

40 CFR 60.340 through 40 CFR 60.344

(each rotary lime kiln)

Subpart II -- Reserved.

Subpart JJ -- Reserved.

Subpart KK -- Lead-Acid Battery Manufacturing Plants.

40 CFR 60.370 through 40 CFR 60.374

(lead-acid battery manufacturing plants that produce or have the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 6.5 tons: grid casting facilities, paste mixing facilities, three-process operation facilities, lead oxide manufacturing facilities, lead reclamation facilities, and other lead-emitting operations)

Subpart KKa—Standards of Performance for Lead Acid Battery Manufacturing Plants for Which Construction, Modification or Reconstruction Commenced After February 23, 2022

40 CFR 60.370a through 40 CFR 60.375a

(lead acid battery manufacturing plants that produce or have the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 6.5 tons: grid casting facilities, paste mixing facilities, three-process operation facilities, lead oxide manufacturing facilities, lead reclamation facilities, and other lead-emitting operations)

Subpart LL -- Metallic Mineral Processing Plants.

40 CFR 60.380 through 40 CFR 60.386

(each crusher and screen in open-pit mines; each crusher, screen, bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator with the following exceptions. All facilities located in underground mines are exempted from the provisions of this subpart. At uranium ore processing plants, all facilities subsequent to and including the beneficiation of uranium ore are exempted from the provisions of this subpart.)

Subpart MM -- Automobile and Light Duty Truck Surface Coating Operations.

40 CFR 60.390 through 40 CFR 60.397

(prime coat operations, guide coat operations, and top-coat operations)

Subpart MMa -- Automobile and Light Duty Truck Surface Coating Operations for which Construction, Modification or Reconstruction Commenced After May 18, 2022

40 CFR 60.390a through 40 CFR 60.397a

(prime coat operations, guide coat operations, and top-coat operations)

Subpart NN -- Phosphate Rock Plants.

40 CFR 60.400 through 40 CFR 60.404

(phosphate rock plants which have a maximum plant production capacity greater than 4 tons per hour: dryers, calciners, grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production)

Subpart OO -- Reserved.

Subpart PP -- Ammonium Sulfate Manufacture.

40 CFR 60.420 through 40 CFR 60.424

(ammonium sulfate dryer within an ammonium sulfate manufacturing plant in the caprolactam by-product, synthetic, and coke oven by-product sectors of the ammonium sulfate industry)

Subpart QQ -- Graphic Arts Industry: Publication Rotogravure Printing.

40 CFR 60.430 through 40 CFR 60.435

(publication rotogravure printing presses, except proof presses)

Subpart RR -- Pressure Sensitive Tape and Label Surface Coating Operations.

40 CFR 60.440 through 40 CFR 60.447

(pressure sensitive tape and label material coating lines)

Subpart SS -- Industrial Surface Coating: Large Appliances.

40 CFR 60.450 through 40 CFR 60.456

(surface coating operations in large appliance coating lines)

Subpart TT -- Metal Coil Surface Coating.

40 CFR 60.460 through 40 CFR 60.466

(metal coil surface coating operations: each prime coat operation, each finish coat operation, and each prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously)

Subpart UU -- Asphalt Processing and Asphalt Roofing Manufacture.

40 CFR 60.470 through 40 CFR 60.474

(each saturator and each mineral handling and storage facility at asphalt roofing plants; and each asphalt storage tank and each blowing still at asphalt processing plants, petroleum refineries, and asphalt roofing plants)

Subpart VV -- Equipment Leaks of Volatile Organic Compounds in the Synthetic Organic Chemicals Manufacturing Industry.

40 CFR 60.480 through 40 CFR 60.489

(all equipment within a process unit in a synthetic organic chemicals manufacturing plant)

Subpart VVa - Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced after November 7, 2006, and on or Before April 25, 2023.

40 CFR 60.480a through 40 CFR 60.489a

(all equipment within a process unit in a synthetic organic chemicals manufacturing plant)

Subpart VVb—Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023.

40 CFR 60.480b through 40 CFR 60.489b

(all equipment within a process unit in a synthetic organic chemicals manufacturing plant)

Subpart WW -- Beverage Can Surface Coating Industry.

40 CFR 60.490 through 40 CFR 60.496

(beverage can surface coating lines: each exterior base coat operation, each overvarnish coating operation, and each inside spray coating operation)

Subpart XX -- Bulk Gasoline Terminals that Commenced Construction, Modification, or Reconstruction After December 17, 1980, and On or Before June 10, 2022.

40 CFR 60.500 through 40 CFR 60.506

(total of all the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks)

Subpart XXa -- Bulk Gasoline Terminals that Commenced Construction, Modification, or Reconstruction After June 10, 2022.

40 CFR 60.500a through 40 CFR 60.505a

(total of all the loading racks at a bulk gasoline terminal that deliver liquid product into gasoline cargo tanks and total of all equipment associated with the loading of gasoline at a bulk gasoline terminal)

Subpart YY -- Reserved.

Subpart ZZ -- Reserved.

Subpart AAA -- New Residential Wood Heaters.

40 CFR 60.530 through 40 CFR 60.539b

(NOTE: In accordance with Chapter 471 of the 2015 Acts of Assembly, authority

to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations. A state permit may be required of certain facilities if the provisions of 9VAC5-50 and 9VAC5-80 apply. Owners should review those provisions and contact the appropriate regional office for guidance on whether those provisions apply.)

Subpart BBB -- Rubber Tire Manufacturing Industry.

40 CFR 60.540 through 40 CFR 60.548

(each undertread cementing operation, each sidewall cementing operation, each tread end cementing operation, each bead cementing operation, each green tire spraying operation, each Michelin-A operation, each Michelin-B operation, and each Michelin-C automatic operation)

Subpart CCC -- Reserved.

Subpart DDD -- Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry.

40 CFR 60.560 through 40 CFR 60.566

(For polypropylene and polyethylene manufacturing using a continuous process that emits continuously or intermittently: all equipment used in the manufacture of these polymers. For polystyrene manufacturing using a continuous process that emits continuously: each material recovery section. For poly(ethylene terephthalate) manufacturing using a continuous process that emits continuously: each polymerization reaction section; if dimethyl terephthalate is used in the process, each material recovery section is also an affected facility; if terephthalic acid is used in the process, each raw materials preparation section is also an affected facility. For VOC emissions from equipment leaks: each group of fugitive emissions equipment within any process unit, excluding poly(ethylene terephthalate) manufacture.)

Subpart EEE -- Reserved.

Subpart FFF -- Flexible Vinyl and Urethane Coating and Printing.

40 CFR 60.580 through 40 CFR 60.585

(each rotogravure printing line used to print or coat flexible vinyl or urethane products)

Subpart GGG -- Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006.

40 CFR 60.590 through 40 CFR 60.593

(each compressor, valve, pump pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service)

Subpart GGGa -- Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006.

40 CFR 60.590a through 60.593a

(each compressor, valve, pump pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service)

Subpart HHH -- Synthetic Fiber Production Facilities.

40 CFR 60.600 through 40 CFR 60.604

(each solvent-spun synthetic fiber process that produces more than 500 megagrams of fiber per year)

Subpart III -- Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes <u>After October 21, 1983, and on or Before April 25, 2023</u>.

40 CFR 60.610 through 40 CFR 60.618

(each air oxidation reactor not discharging its vent stream into a recovery system and each combination of an air oxidation reactor or two or more air oxidation reactors and the recovery system into which the vent streams are discharged)

<u>Subpart IIIa—Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023.</u>

<u>40 CFR 60.610a through 40 CFR 60.620a</u>

<u>(each air oxidation reactor not discharging its vent stream into a recovery system and each combination of an air oxidation reactor or two or more air oxidation reactors and the recovery system into which the vent streams are discharged)</u>

Subpart JJJ -- Petroleum Dry Cleaners.

40 CFR 60.620 through 40 CFR 60.625

(facilities located at a petroleum dry cleaning plant with a total manufacturers'

rated dryer capacity equal to or greater than 84 pounds: petroleum solvent dry cleaning dryers, washers, filters, stills, and settling tanks)

Subpart KKK -- Equipment Leaks of VOC From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011.

40 CFR 60.630 through 40 CFR 60.636

(each compressor in VOC service or in wet gas service; each pump, pressure relief device, open-ended valve or line, valve, and flange or other connector that is in VOC service or in wet gas service, and any device or system required by this subpart)

Subpart LLL -- Sulfur Dioxide Emissions From Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011.

40 CFR 60.640 through 40 CFR 60.648

(facilities that process natural gas: each sweetening unit, and each sweetening unit followed by a sulfur recovery unit)

Subpart MMM -- Reserved.

Subpart NNN -- Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations <u>After December 30, 1983, and on or Before April 25, 2023</u>.

40 CFR 60.660 through 40 CFR 60.668

(each distillation unit not discharging its vent stream into a recovery system, each combination of a distillation unit or of two of more units and the recovery system into which their vent streams are discharged)

<u>Subpart NNNa—Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023.</u>

<u>40 CFR 60.660a through 40 CFR 60.670a</u>

<u>(each distillation unit not discharging its vent stream into a recovery system, each combination of a distillation unit or of two of more units and the recovery system into which their vent streams are discharged)</u>

Subpart OOO -- Nonmetallic Mineral Processing Plants.

40 CFR 60.670 through 40 CFR 60.676

(facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station)

Subpart PPP -- Wool Fiberglass Insulation Manufacturing Plants.

40 CFR 60.680 through 40 CFR 60.685

(each rotary spin wool fiberglass insulation manufacturing line)

Subpart QQQ -- VOC Emissions From Petroleum Refinery Wastewater Systems.

40 CFR 60.690 through 40 CFR 60.699

(individual drain systems, oil-water separators, and aggregate facilities in petroleum refineries)

Subpart RRR -- Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes <u>After June 29, 1990, and on or Before April 25, 2023</u>.

40 CFR 60.700 through 40 CFR 60.708

(each reactor process not discharging its vent stream into a recovery system, each combination of a reactor process and the recovery system into which its vent stream is discharged, and each combination of two or more reactor processes and the common recovery system into which their vent streams are discharged)

<u>Subpart RRRa—Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023</u>

<u>40 CFR 60.700a through 40 CFR 60.710a</u>

<u>(each reactor process not discharging its vent stream into a recovery system, each combination of a reactor process and the recovery system into which its vent stream is discharged, and each combination of two or more reactor processes and the common recovery system into which their vent streams are discharged)</u>

Subpart SSS -- Magnetic Tape Coating Facilities.

40 CFR 60.710 through 40 CFR 60.718

(each coating operation and each piece of coating mix preparation equipment)

Subpart TTT -- Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines.

40 CFR 60.720 through 40 CFR 60.726

(each spray booth in which plastic parts for use in the manufacture of business machines receive prime coats, color coats, texture coats, or touch-up coats)

Subpart TTTa – Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines for Which Construction, Reconstruction, or Modification Commenced After June 21, 2022

40 CFR 60.720a through 40 CFR 60.726a

(each spray booth in which plastic parts for use in the manufacture of business machines receive prime coats, color coats, texture coats, or touch-up coats)

Subpart UUU -- Calciners and Dryers in Mineral Industries.

40 CFR 60.730 through 60.737

(each calciner and dryer at a mineral processing plant)

Subpart VVV -- Polymeric Coating of Supporting Substrates Facilities.

40 CFR 60.740 through 40 CFR 60.748

(each coating operation and any onsite coating mix preparation equipment used to prepare coatings for the polymeric coating of supporting substrates)

Subpart WWW -- Municipal Solid Waste Landfills.

40 CFR 60.750 through 40 CFR 60.759

(municipal solid waste landfills for the containment of household and RCRA Subtitle D wastes)

Subpart XXX -- Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014.

40 CFR 60.760 through 40 CFR 60.769

(municipal solid waste landfills for the containment of household and RCRA Subtitle D wastes)

Subpart AAAA -- Small Municipal Waste Combustors for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001.

40 CFR 60.1000 through 40 CFR 60.1465

(municipal waste combustor units with a capacity less than 250 tons per day and greater than 35 tons per day of municipal solid waste or refuse-derived fuel)

Subpart BBBB -- Not applicable.

Subpart CCCC -- Commercial/Industrial Solid Waste Incinerators.

40 CFR 60.2000 through 40 CFR 60.2265

(an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility, or an air curtain incinerator without energy recovery, that is a distinct operating unit of any commercial or industrial facility)

Subpart DDDD -- Not applicable.

Subpart EEEE -- Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction Is Commenced on or After June 16, 2006.

40 CFR 60.2880 through 40 CFR 60.2977

(very small municipal waste combustion units with the capacity to combust less than 35 tons per day of municipal solid waste or refuse-derived fuel, and institutional waste incineration units owned or operated by an organization having a governmental, educational, civic, or religious purpose)

Subpart FFFF -- Reserved.

Subpart GGGG -- Reserved.

Subpart HHHH -- Reserved.

Subpart IIII -- Stationary Compression Ignition Internal Combustion Engines.

40 CFR 60.4200 through 40 CFR 60.4219

(NOTE: Authority to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations for any source that is not (i) a major source as defined in 9VAC5-80-60 and subject to Article 1, Federal Operating Permits for Stationary Sources, or (ii) an affected source as defined in 9VAC5-80-370 and subject to Article 3, Federal Operating Permits for Acid Rain Sources, of Part II of 9VAC5-80 (Permits for Stationary Sources).)

Subpart JJJJ -- Stationary Spark Ignition Internal Combustion Engines.

40 CFR 60.4230 through 40 CFR 60.4248

(NOTE: Authority to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations for any source that is not (i) a major source as defined in 9VAC5-80-60 and subject to Article 1, Federal Operating Permits for Stationary Sources, or (ii) an affected source as defined in 9VAC5-80-370 and subject to Article 3, Federal Operating Permits for Acid Rain Sources, of Part II of 9VAC5-80 (Permits for Stationary Sources).)

Subpart KKKK -- Stationary Combustion Turbines.

40 CFR 60.4300 through 40 CFR 60.4420

(stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour)

Subpart LLLL -- Sewage Sludge Incineration Units.

40 CFR 60.4760 through 40 CFR 60.4925

(an incineration unit combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter, including the sewage sludge feed system, auxiliary fuel feed system, grate system, flue gas system, waste heat recovery equipment, and bottom ash system; and all ash handling systems connected to the bottom ash handling system)

Subpart MMMM -- Reserved.

Subpart NNNN -- Reserved.

Subpart OOOO -- Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015.

40 CFR 60.5360 through ~~40 CFR 60.5499~~ 40 CFR 60.5430

(facilities that operate gas wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, and storage vessels)

Subpart OOOOa -- Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015 and On or Before December 6, 2022.

40 CFR 60.5360a through ~~40 CFR 60.5499a~~ 40 CFR 60.5439a

(facilities that operate gas wells, centrifugal compressors, reciprocating compressors, pneumatic controllers and pumps, storage vessels, and sweetening units)

Subpart OOOOb -- Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022.

40 CFR 60.5360b through 40 CFR 60.5439b

(facilities that operate process controllers, pumps, wells and associated operations, centrifugal compressors, combustion control devices, reciprocating compressors, storage vessels, covers and closed vent systems, natural gas processing plants, and sweetening units)

Subpart PPPP -- Reserved.

Subpart QQQQ -- New Residential Hydronic Heaters and Forced-Air Furnaces.

40 CFR 60.5472 through 40 CFR 60.5483

(NOTE: In accordance with Chapter 471 of the 2015 Acts of Assembly, authority to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations. A state permit may be required of certain facilities if the provisions of 9VAC5-50 and 9VAC5-80 apply. Owners should review those provisions and contact the appropriate regional office for guidance on whether those provisions apply.)

Subpart RRRR -- Reserved.

Subpart SSSS -- Reserved.

Subpart TTTT -- ~~Reserved~~ Greenhouse Gas Emissions for Electric Generating Units.

40 CFR 60.5508 through 40 CFR 60.5580

(steam generating unit or an integrated gasification combined cycle (IGCC) facility that commences construction after January 8, 2014, commences

reconstruction after June 18, 2014, or commences modification after January 8, 2014, but on or before May 23, 2023. This subpart also establishes emission standards and compliance schedules for the control of GHG emissions from a stationary combustion turbine that commences construction after January 8, 2014, but on or before May 23, 2023, or commences reconstruction after June 18, 2014, but on or before May 23, 2023. An affected steam generating unit, IGCC, or stationary combustion turbine shall, for the purposes of this subpart, be referred to as an affected electric generating unit (EGU)

Subpart TTTTa -- Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units.

40 CFR 60.5508a through 40 CFR 60.5580a

(a coal-fired steam generating unit or integrated gasification combined cycle facility (IGCC) that commences modification after May 23, 2023. This subpart also establishes emission standards and compliance schedules for the control of GHG emissions from a stationary combustion turbine that commences construction or reconstruction after May 23, 2023. An affected coal-fired steam generating unit, IGCC, or stationary combustion turbine shall, for the purposes of this subpart, be referred to as an affected electric generating unit (EGU).)

Appendix A -- Test Methods.

Appendix B -- Performance Specifications.

Appendix C -- Determination of Emission Rate Change.

Appendix D -- Required Emission Inventory Information.

Appendix E -- Reserved.

Appendix F -- Quality Assurance Procedures.

Appendix G -- Not applicable.

Appendix H -- Reserved.

Appendix I -- Removable Label and Owner's Manual.

Appendix J -- Reserved.

Appendix K. -- Determination of Volatile Organic Compound and Greenhouse Gas Leaks Using Optical Gas Imaging.

9VAC5-60.
HAZARDOUS AIR POLLUTANT SOURCES.

PART II.
Emission Standards.

ARTICLE 1.
Environmental Protection Agency National Emission Standards For Hazardous Air Pollutants (Rule 6-1).

9VAC5-60-60. General.

The Environmental Protection Agency (EPA) Regulations on National Emission Standards for Hazardous Air Pollutants (NESHAP), as promulgated in 40 CFR Part 61 and designated in 9VAC5-60-70 are, unless indicated otherwise, incorporated by reference into the regulations of the board as amended by the word or phrase substitutions given in 9VAC5-60-80. The complete text of the subparts in 9VAC5-60-70 incorporated in this regulation by reference is contained in 40 CFR Part 61. The 40 CFR section numbers appearing under each subpart in 9VAC5-60-70 identify the specific provisions of the subpart incorporated by reference. The specific version of the provision adopted by reference shall be that contained in the CFR ~~(2022)~~ (2024) in effect July 1, ~~2022~~ 2024. In making reference to the Code of Federal Regulations, 40 CFR Part 61 means Part 61 of Title 40 of the Code of Federal Regulations; 40 CFR 61.01 means 61.01 in Part 61 of Title 40 of the Code of Federal Regulations.

ARTICLE 2.
Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants for Source Categories (Rule 6-2).

9VAC5-60-90. General.

The Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants for Source Categories (Maximum Achievable Control Technologies, or MACTs) as promulgated in 40 CFR Part 63 and designated in 9VAC5-60-100 are, unless indicated otherwise, incorporated by reference into the regulations of the board as amended by the word or phrase substitutions given in 9VAC5-60-110. The complete text of the subparts in 9VAC5-60-100 incorporated in this regulation by reference is contained in 40 CFR Part 63. The 40 CFR section numbers appearing under each subpart in 9VAC5-60-100 identify the specific provisions of the subpart incorporated by reference. The specific version of the provision adopted by reference shall be that contained in the CFR ~~(2022)~~ (2024) in effect July 1, ~~2022~~ 2024. In making reference to the Code of Federal Regulations, 40 CFR Part 63 means Part 63 of Title 40 of the Code of Federal Regulations; 40 CFR 63.1 means 63.1 in Part 63 of Title 40 of the Code of Federal Regulations.

9VAC5-60-100. Designated emission standards.

Subpart A -- General Provisions.

40 CFR 63.1 through 40 CFR 63.11; 40 CFR 63.16

(applicability, definitions, units and abbreviations, prohibited activities and circumvention, construction and reconstruction, compliance with standards and maintenance requirements, performance testing requirements, monitoring requirements, notification requirements, recordkeeping and reporting requirements, control device requirements, performance track provisions)

Subpart B -- Not applicable.

Subpart C -- List of Hazardous Air Pollutants, Petitions Process, Lesser Quantity Designations, Source Category List.

40 CFR 63.60, 40 CFR 63.61, 40 CFR 63.62, ~~and~~ 40 CFR 63.63, and 40 CFR 63.64

(deletion of caprolactam from the list of hazardous air pollutants, deletion of methyl ethyl ketone from the list of hazardous air pollutants, redefinition of glycol ethers listed as hazardous air pollutants, deletion of ethylene glycol monobutyl ether from the list of hazardous air pollutants, addition of 1-bromopropane (1-BP) to the list of hazardous air pollutants)

Subpart D -- Not applicable.

Subpart E -- Not applicable.

Subpart F -- Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.

40 CFR 63.100 through ~~40 CFR 63.106~~ 40 CFR 63.109

(chemical manufacturing process units that manufacture as a primary product one or more of a listed chemical; use as a reactant or manufacture as a product, by-product, or co-product, one or more of a listed organic hazardous air pollutant; and are located at a plant site that is a major source as defined in §112 of the federal Clean Air Act)

Subpart G -- Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater.

40 CFR 63.110 through ~~40 CFR 63.152~~ 40 CFR 63.153

(all process vents, storage vessels, transfer operations, and wastewater streams within a source subject to subpart F, 40 CFR 63.100 through 40 CFR 63.106)

Subpart H -- Organic Hazardous Air Pollutants for Equipment Leaks.

40 CFR 63.160 through ~~40 CFR 63.182~~ 40 CFR 63.184

(pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices or systems that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of a specific subpart in 40 CFR Part 63)

Subpart I -- Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks.

40 CFR 63.190 through ~~40 CFR 63.192~~ 40 CFR 63.193

(emissions of designated organic hazardous air pollutants from processes specified in this subpart that are located at a plant site that is a major source as defined in §§112 of the federal Clean Air Act)

Subpart J -- Polyvinyl Chloride and Copolymers Production.

40 CFR 63.210 through 40 CFR 63.217

(NOTE: Authority to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations.)

Subpart K -- Reserved.

Subpart L -- Coke Oven Batteries.

40 CFR 63.300 through ~~40 CFR 63.313~~ 40 CFR 63.314

(existing byproduct coke oven batteries at a coke plant, and existing nonrecovery coke oven batteries located at a coke plant)

Subpart M -- Perchlorethylene Dry Cleaning Facilities.

40 CFR 63.320 through 40 CFR 63.325

(each dry cleaning facility that uses perchlorethylene)

Subpart N -- Chromium Emissions from Hard and Decorative Chromium Electroplating

and Chromium Anodizing Tanks.

40 CFR 63.340 through 40 CFR 63.347

(each chromium electroplating or chromium anodizing tank at facilities performing hard chromium electroplating, decorative chromium electroplating, or chromium anodizing)

Subpart O -- Ethylene Oxide Commercial Sterilization and Fumigation Operations.

40 CFR 63.360 through ~~40 CFR 63.367~~ 40 CFR 63.368

(sterilization sources using ethylene oxide in sterilization or fumigation operations)

Subpart P --Reserved.

Subpart Q -- Industrial Process Cooling Towers.

40 CFR 63.400 through 40 CFR 63.406

(industrial process cooling towers that are operated with chromium-based water treatment chemicals)

Subpart R -- Gasoline Distribution Facilities.

40 CFR 63.420 through 40 CFR 63.429

(bulk gasoline terminals and pipeline breakout stations)

Subpart S -- Pulp and Paper Industry.

40 CFR 63.440 through 40 CFR 63.458

(processes that produce pulp, paper, or paperboard, and use the following processes and materials: kraft, soda, sulfite, or semi-chemical pulping processes using wood; or mechanical pulping processes using wood; or any process using secondary or non-wood fibers)

Subpart T -- Halogenated Solvent Cleaning.

40 CFR 63.460 through 40 CFR 63.469

(each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride, perchlorethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, or

chloroform)

Subpart U -- Group I Polymers and Resins.

40 CFR 63.480 through ~~40 CFR 63.506~~ 40 CFR 63.510

(elastomer product process units that produce butyl rubber, halobutyl rubber, epichlorohydrin elastomers, ethylene propylene rubber, Hypalon™, neoprene, nitrile butadiene rubber, nitrile butadiene latex, polysulfide rubber, polybutadiene rubber/styrene butadiene rubber by solution, styrene butadiene latex, and styrene butadiene rubber by emulsion)

Subpart V -- Reserved.

Subpart W -- Epoxy Resins Production and Non-Nylon Polyamides Production.

40 CFR 63.520 through ~~40 CFR 63.527~~ 40 CFR 63.529

(manufacturers of basic liquid epoxy resins and wet strength resins)

Subpart X -- Secondary Lead Smelting.

40 CFR 63.541 through 40 CFR 63.552

(at all secondary lead smelters: blast, reverbatory, rotary, and electric smelting furnaces; refining kettles; agglomerating furnaces; dryers; process fugitive sources; and fugitive dust sources)

Subpart Y -- Marine Tank Vessel Tank Loading Operations.

40 CFR 63.560 through 40 CFR 63.567

(marine tank vessel unloading operations at petroleum refineries)

Subpart Z --Reserved.

Subpart AA -- Phosphoric Acid Manufacturing Plants.

40 CFR 63.600 through 40 CFR 63.611

(wet-process phosphoric acid process lines, evaporative cooling towers, rock dryers, rock calciners, superphosphoric acid process lines, purified acid process lines)

Subpart BB -- Phosphate Fertilizers Production Plants.

40 CFR 63.620 through 40 CFR 63.632

(diammonium and monoammonium phosphate process lines, granular triple superphosphate process lines, and granular triple superphosphate storage buildings)

Subpart CC -- Petroleum Refineries.

40 CFR 63.640 through 40 CFR 63.671

(storage tanks, equipment leaks, process vents, and wastewater collection and treatment systems at petroleum refineries)

Subpart DD -- Off-Site Waste and Recovery Operations.

40 CFR 63.680 through 40 CFR 63.697

(operations that treat, store, recycle, and dispose of waste received from other operations that produce waste or recoverable materials as part of their manufacturing processes)

Subpart EE -- Magnetic Tape Manufacturing Operations.

40 CFR 63.701 through 40 CFR 63.708

(manufacturers of magnetic tape)

Subpart FF -- Reserved.

Subpart GG -- Aerospace Manufacturing and Rework Facilities.

40 CFR 63.741 through 40 CFR 63.759

(facilities engaged in the manufacture or rework of commercial, civil, or military aerospace vehicles or components)

Subpart HH -- Oil and Natural Gas Production Facilities.

40 CFR 63.760 through 40 CFR 63.779

(facilities that process, upgrade, or store hydrocarbon liquids or natural gas; ancillary equipment and compressors intended to operate in volatile hazardous air pollutant service)

Subpart II -- Shipbuilding and Ship Repair (Surface Coating).

40 CFR 63.780 through 40 CFR 63.788

(shipbuilding and ship repair operations)

Subpart JJ -- Wood Furniture Manufacturing Operations.

40 CFR 63.800 through 40 CFR 63.819

(finishing materials, adhesives, and strippable spray booth coatings; storage, transfer, and application of coatings and solvents)

Subpart KK -- Printing and Publishing Industry.

40 CFR 63.820 through 40 CFR 63.831

(publication rotogravure, product and packaging rotogravure, and wide-web printing processes)

Subpart LL -- Primary Aluminum Reduction Plants.

40 CFR 63.840 - through 40 CFR 63.859

(each pitch storage tank, potline, paste production plant, or anode bulk furnace associated with primary aluminum production)

Subpart MM -- Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand-Alone Semichemical Pulp Mills.

40 CFR 63.860 through 63.868

(chemical recovery systems, direct and nondirect contact evaporator recovery furnace systems, lime kilns, sulfite combustion units, semichemical combustion units)

Subpart NN -- Wool Fiberglass Manufacturing at Area Sources.

40 CFR 63.880 through 40 CFR 63.899

(manufacture of wool fiberglass insulation materials composed of glass fibers made from glass produced or melted at the same facility where the manufacturing line is located)

Subpart OO -- Tanks - Level 1.

40 CFR 63.900 through 40 CFR 63.907

(for off-site waste and recovery operations, fixed-roof tanks)

Subpart PP -- Containers.

40 CFR 63.920 through 40 CFR 63.928

(for off-site waste and recovery operations, containers)

Subpart QQ -- Surface Impoundments.

40 CFR 63.940 through 40 CFR 63.948

(for off-site waste and recovery operations, surface impoundment covers and vents)

Subpart RR -- Individual Drain Systems.

40 CFR 63.960 through 40 CFR 63.966

(for off-site waste and recovery operations, inspection and maintenance of individual drain systems)

Subpart SS -- Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process.

40 CFR 63.980 through 40 CFR 63.999

(closed vent systems, control devices, recovery devices, and routing to a fuel gas system or a process, when associated with facilities subject to a referencing subpart)

Subpart TT -- Equipment Leaks -- Control Level 1.

40 CFR 63.1000 through 40 CFR 63.1018

(control of air emissions from equipment leaks when associated with facilities subject to a referencing subpart)

Subpart UU -- Equipment Leaks -- Control Level 2.

40 CFR 63.1019 through 40 CFR 63.1039

(control of air emissions from equipment leaks when associated with facilities subject to a referencing subpart: pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, closed vent systems and control devices)

Subpart VV -- Oil-Water Separators and Organic-Water Separators.

40 CFR 63.1040 through 40 CFR 63.1049

(for off-site waste and recovery operations, oil-water separators and organic-water separator roofs and vents)

Subpart WW -- Storage Vessels (Tanks) -- Control Level 2.

40 CFR 63.1060 through 40 CFR 63.1066

(storage vessels associated with facilities subject to a referencing subpart)

Subpart XX -- Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste.

40 CFR 63.1080 through ~~40 CFR 63.0198~~ 40 CFR 63.1097

(any cooling tower system or once-through cooling water system)

Subpart YY -- Generic Maximum Achievable Control Technology Standards.

40 CFR 63.1100 through 40 CFR 63.1113

(acetal resins production, acrylic and modacrylic fibers production, hydrogen fluoride production, polycarbonate production)

Subpart ZZ -- Reserved.

Subpart AAA -- Reserved.

Subpart BBB -- Reserved.

Subpart CCC -- Steel Pickling--Hydrogen Chloride Process Facilities and Hydrochloric Acid Regeneration Plants.

40 CFR 63.1155 through 40 CFR 63.1174

(steel pickling facilities that pickle carbon steel using hydrochloric acid solution, hydrochloric acid regeneration plants)

Subpart DDD -- Mineral Wool Production.

40 CFR 63.1175 through 63.1199

(cupolas and curing ovens at mineral wool manufacturing facilities)

Subpart EEE -- Hazardous Waste Combustors.

40 CFR 63.1200 through 40 CFR 63.1221

(hazardous waste combustors)

Subpart FFF -- Reserved.

Subpart GGG -- Pharmaceutical Production.

40 CFR 63.1250 through 40 CFR 63.1261

(pharmaceutical manufacturing operations)

Subpart HHH -- Natural Gas Transmission and Storage Facilities.

40 CFR 63.1270 through 40 CFR 63.1289

(natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user)

Subpart III -- Flexible Polyurethane Foam Production.

40 CFR 63.1290 through 40 CFR 63.1309

(flexible polyurethane foam or rebond processes)

Subpart JJJ -- Group IV Polymers and Resins.

40 CFR 63.1310 through 40 CFR 63.1335

(facilities which manufacture acrylonitrile butadiene styrene resin, styrene acrylonitrile resin, methyl methacrylate butadiene styrene resin, polystyrene resin, poly(ethylene terephthalate) resin, or nitrile resin)

Subpart KKK -- Reserved.

Subpart LLL -- Portland Cement Manufacturing.

40 CFR 63.1340 through 40 CFR 63.1359

(kilns; in-line kilns/raw mills; clinker coolers; raw mills; finish mills; raw material dryers; raw material, clinker, or finished product storage bins; conveying system transfer points; bagging systems; bulk loading or unloading systems)

Subpart MMM -- Pesticide Active Ingredient Production.

40 CFR 63.1360 through 40 CFR 63.1369

(pesticide active ingredient manufacturing process units, waste management units, heat exchange systems, and cooling towers)

Subpart NNN -- Wool Fiberglass Manufacturing.

40 CFR 63.1380 through 63.1399

(glass melting furnaces, rotary spin wool fiberglass manufacturing lines producing bonded wool fiberglass building insulation or bonded heavy-density product)

Subpart OOO -- Amino/Phenolic Resins Production.

40 CFR 63.1400 through 63.1419

(Unit operations, process vents, storage vessels, equipment subject to leak provisions)

Subpart PPP -- Polyether Polyols Production.

40 CFR 63.1420 through 40 CFR 63.1439

(polyether polyol manufacturing process units)

Subpart QQQ -- Primary Copper Smelting.

40 CFR 63.1440 through 63.1459

(batch copper converters, including copper concentrate dryers, smelting furnaces, slag cleaning vessels, copper converter departments, and the entire group of fugitive emission sources)

Subpart RRR -- Secondary Aluminum Production.

40 CFR 63.1500 through 63.1520

(scrap shredders; thermal chip dryers; scrap dryers/delacquering kilns/decoating kilns; group 2, sweat, dross-only furnaces; rotary dross coolers; processing units)

Subpart SSS -- Reserved.

Subpart TTT -- Primary Lead Smelting.

40 CFR 63.1541 through 40 CFR 63.1550

(sinter machines, blast furnaces, dross furnaces, process fugitive sources, fugitive dust sources)

Subpart UUU -- Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units.

40 CFR 63.1560 through 40 CFR 63.1579

(petroleum refineries that produce transportation and heating fuels or lubricants, separate petroleum, or separate, crack, react, or reform an intermediate petroleum stream, or recover byproducts from an intermediate petroleum stream)

Subpart VVV -- Publically Owned Treatment Works.

40 CFR 63.1580 through 63.1595

(intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment)

Subpart WWW -- Reserved.

Subpart XXX -- Ferroalloys Production: Ferromanganese and Silicomanganese.

40 CFR 63.1620 through 40 CFR 63.1679

(submerged arc furnaces, metal oxygen refining processes, crushing and screening operations, fugitive dust sources)

Subpart YYY -- Reserved.

Subpart ZZZ -- Reserved.

Subpart AAAA -- Municipal Solid Waste Landfills.

40 CFR 63.1930 through 40 CFR 63.1990

(municipal solid waste landfills that have accepted waste since November 8, 1987 or has additional capacity for waste deposition)

Subpart BBBB -- Reserved.

Subpart CCCC -- Manufacturing of Nutritional Yeast.

40 CFR 63.2130 through 40 CFR 63.2192

(fermentation vessels)

Subpart DDDD -- Plywood and Composite Wood Products.

40 CFR 63.2230 through 40 CFR 63.2292

(manufacture of plywood and composite wood products by bonding wood material or agricultural fiber with resin under heat and pressure to form a structural panel or engineered wood product)

Subpart EEEE -- Organic Liquids Distribution (Non-gasoline).

40 CFR 63.2330 through 40 CFR 63.2406

(transfer of non-crude oil liquids or liquid mixtures that contain organic hazardous air pollutants, or crude oils downstream of the first point of custody, via storage tanks, transfer racks, equipment leak components associated with pipelines, and transport vehicles)

Subpart FFFF -- Miscellaneous Organic Chemical Manufacturing.

40 CFR 63.2430 through 40 CFR 63.2550

(reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate)

Subpart GGGG -- Solvent Extraction for Vegetable Oil Production.

40 CFR 63.2830 through 40 CFR 63.2872

(vegetable oil production processes)

Subpart HHHH -- Wet-formed Fiberglass Mat Production.

40 CFR 63.2980 through 63.3079

(wet-formed fiberglass mat drying and curing ovens)

Subpart III -- Surface Coating of Automobiles and Light-Duty Trucks.

40 CFR 63.3080 through 40 CFR 63.3176

(application of topcoat to new automobile or new light-duty truck bodies or body parts)

Subpart JJJJ -- Paper and Other Web Coating.

40 CFR 63.3280 through 40 CFR 63.3420

(web coating lines engaged in the coating of metal webs used in flexible packaging and in the coating of fabric substrates for use in pressure-sensitive tape and abrasive materials)

Subpart KKKK -- Surface Coating of Metal Cans.

40 CFR 63.3480 through 40 CFR 63.3561

(application of coatings to a substrate using spray guns or dip tanks, including one- and two-piece draw and iron can body coating; sheetcoating; three-piece can body assembly coating; and end coating)

Subpart LLLL -- Reserved.

Subpart MMMM -- Surface Coating of Miscellaneous Metal Parts and Products.

40 CFR 63.3880 through 40 CFR 63.3981

(application of coatings to industrial, household, and consumer products)

Subpart NNNN -- Surface Coating of Large Appliances.

40 CFR 63.4080 through 40 CFR 63.4181

(surface coating of a large appliance part or product, including cooking equipment; refrigerators, freezers, and refrigerated cabinets and cases; laundry equipment; dishwashers, trash compactors, and water heaters; and HVAC units, air-conditioning, air-conditioning and heating combination units, comfort furnaces, and electric heat pumps)

Subpart OOOO -- Printing, Coating, and Dyeing of Fabrics and Other Textiles.

40 CFR 63.4280 through 40 CFR 63.4371

(printing, coating, slashing, dyeing, or finishing of fabric and other textiles)

Subpart PPPP -- Surface Coating of Plastic Parts and Products.

40 CFR 63.4480 through 40 CFR 63.4581

(application of coating to a substrate using spray guns or dip tanks, including motor vehicle parts and accessories for automobiles, trucks, recreational vehicles; sporting and recreational goods; toys; business machines; laboratory and medical equipment; and household and other consumer products)

Subpart QQQQ -- Surface Coating of Wood Building Products.

40 CFR 63.4680 through 40 CFR 63.4781

(finishing or laminating of wood building products used in the construction of a residential, commercial, or institutional building)

Subpart RRRR -- Surface Coating of Metal Furniture.

40 CFR 63.4880 through 40 CFR 63.4981

(application of coatings to substrate using spray guns and dip tanks)

Subpart SSSS -- Surface Coating of Metal Coil.

40 CFR 63.5080 through 63.5209

(organic coating to surface of metal coil, including web unwind or feed sections, work stations, curing ovens, wet sections, and quench stations)

Subpart TTTT -- Leather Finishing Operations.

40 CFR 63.5280 through 63.5460

(multistage application of finishing materials to adjust and improve the physical and aesthetic characteristics of leather surfaces)

Subpart UUUU -- Cellulose Products Manufacturing.

40 CFR 63.5480 through 63.5610

(cellulose food casing, rayon, cellulosic sponge, cellophane manufacturing, methyl cellulose, hydroxypropyl methyl cellulose, hydroxypropyl cellulose, hydroxyethyl cellulose, and carboxymethyl cellulose manufacturing industries)

Subpart VVVV -- Boat Manufacturing.

40 CFR 63.5680 through 63.5779

(resin and and gel coat operations, carpet and fabric adhesive operations,

aluminum recreational boat surface coating operations)

Subpart WWWW -- Reinforced Plastic Composites Production.

40 CFR 63.5780 through 40 CFR 63.5935

(reinforced or nonreinforced plastic composites or plastic molding compounds using thermoset resins and gel coats that contain styrene)

Subpart XXXX -- Rubber Tire Manufacturing.

40 CFR 63.5980 through 63.6015

(production of rubber tires and components including rubber compounds, sidewalls, tread, tire beads, tire cord and liners)

Subpart YYYY -- Stationary Combustion Turbines.

40 CFR 63.6080 through 40 CFR 63.6175

(simple cycle, regenerative/recuperative cycle, cogeneration cycle, and combined cycle stationary combustion turbines)

Subpart ZZZZ -- Stationary Reciprocating Internal Combustion Engines.

40 CFR 63.6580 through 40 CFR 63.6675

(any stationary internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work)

(NOTE: Authority to enforce provisions related to affected facilities located at a major source as defined in 40 CFR 63.6675 is being retained by the Commonwealth. Authority to enforce the area source provisions of the above standard is being retained by EPA and are not incorporated by reference into these regulations for any source that is not (i) a major source as defined in 9VAC5-80-60 and subject to Article 1, Federal Operating Permits for Stationary Sources, or (ii) an affected source as defined in 9VAC5-80-370 and subject to Article 3, Federal Operating Permits for Acid Rain Sources, of Part II of 9VAC5-80 (Permits for Stationary Sources).)

Subpart AAAAA -- Lime Manufacturing Plants.

40 CFR 63.7080 through 40 CFR 63.7143

(manufacture of lime product, including calcium oxide, calcium oxide with

magnesium oxide, or dead burned dolomite, by calcination of limestone, dolomite, shells or other calcareous substances)

Subpart BBBBB -- Semiconductor Manufacturing.

40 CFR 63.7180 through 63.7195

(semiconductor manufacturing process units used to manufacture p-type and n-type semiconductors and active solid-state devices from a wafer substrate)

Subpart CCCCC -- Coke Ovens: Pushing, Quenching, and Battery Stacks.

40 CFR 63.7280 through 40 CFR 63.7352

(pushing, soaking, quenching, and battery stacks at coke oven batteries)

Subpart DDDDD -- Industrial, Commercial, and Institutional Boilers and Process Heaters.

40 CFR 63.7480 through 40 CFR 63.7575

(industrial, commercial, and institutional boilers and process heaters)

Subpart EEEEE -- Iron and Steel Foundries.

40 CFR 63.7680 through 40 CFR 63.7765

(metal melting furnaces, scrap preheaters, pouring areas, pouring stations, automated conveyor and pallet cooling lines, automated shakeout lines, and mold and core making lines)

Subpart FFFFF -- Integrated Iron and Steel Manufacturing.

40 CFR 63.7780 through 40 CFR 63.7852

(each sinter plant, blast furnace, and basic oxygen process furnace at an integrated iron and steel manufacturing facility)

Subpart GGGGG -- Site Remediation.

40 CFR 63.7880 through 40 CFR 63.7957

(activities or processes used to remove, destroy, degrade, transform, immobilize, or otherwise manage remediation material)

Subpart HHHHH -- Miscellaneous Coating Manufacturing.

40 CFR 63.7980 through 40 CFR 63.8105

(process vessels; storage tanks for feedstocks and products; pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems; wastewater tanks and transfer racks)

Subpart IIII -- Mercury Cell Chlor-Alkali Plants.

40 CFR 63.8180 through 40 CFR 63.8266

(byproduct hydrogen streams, end box ventilation system vents, and fugitive emission sources associated with cell rooms, hydrogen systems, caustic systems, and storage areas for mercury-containing wastes)

Subpart JJJJJ -- Brick and Structural Clay Products Manufacturing.

40 CFR 63.8380 through 40 CFR 63.8515

(facilities that manufacture brick, clay pipe, roof tile, extruded floor and wall tile, and other extruded, dimensional clay products, and typically process raw clay and shale, form the processed materials into bricks or shapes, and dry and fire the bricks or shapes)

Subpart KKKKK -- Ceramics Manufacturing.

40 CFR 63.8530 through 40 CFR 63.8665

(facilities that manufacture pressed floor tile, pressed wall tile, other pressed tile, or sanitaryware, and typically process clay, shale, and various additives, form the processed materials into tile or sanitaryware shapes, and dry and fire the ceramic products)

Subpart LLLLL -- Asphalt Processing and Asphalt Roof Manufacturing.

40 CFR 63.8680 through 40 CFR 63.8698

(preparation of asphalt flux at stand-alone asphalt processing facilities, petroleum refineries, and asphalt roofing facilities)

Subpart MMMMM -- Flexible Polyurethane Foam Fabrication Operations.

40 CFR 63.8780 through 40 CFR 63.8830

(flexible polyurethane foam fabrication plants using flame lamination or loop slitter adhesives)

Subpart NNNNN -- Hydrochloric Acid Production.

40 CFR 63.8980 through 40 CFR 63.9075

(HCl production facilities that produce a liquid HCl product)

Subpart OOOOO -- Reserved.

Subpart PPPPP -- Engine Test Cells and Stands.

40 CFR Subpart 63.9280 through 40 CFR 63.9375

(any apparatus used for testing uninstalled stationary or uninstalled mobile (motive) engines)

Subpart QQQQQ -- Friction Materials Manufacturing Facilities.

40 CFR 63.9480 through 40 CFR 63.9579

(friction materials manufacturing facilities that use a solvent-based process)

Subpart RRRRR -- Taconite Iron Ore Processing.

40 CFR 63.9580 through 40 CFR 63.9652

(ore crushing and handling, ore dryer stacks, indurating furnace stacks, finished pellet handling, and fugitive dust)

Subpart SSSSS -- Refractory Products Manufacturing.

40 CFR 63.9780 through 40 CFR 63.9824

(manufacture of refractory products, including refractory bricks and shapes, monolithics, kiln furniture, crucibles, and other materials for liming furnaces and other high temperature process units)

Subpart TTTTT -- Primary Magnesium Refining.

40 CFR 63.9880 through 40 CFR 63.9942

(spray dryer, magnesium chloride storage bin scrubber, melt/reactor system, and launder off-gas system stacks)

Subpart UUUUU -- Coal- and Oil-fired Electric Utility Steam Generating Units.

40 CFR 63.9980 through 40 CFR 63.10042

(any furnace, boiler, or other device used for combusting fuel for the purpose of producing steam, including fossil-fuel-fired steam generators associated with integrated gasification combined cycle gas turbines and excluding nuclear steam generators, for the purpose of powering a generator to produce electricity or electricity and other thermal energy)

Subpart VVVVV -- Reserved.

Subpart WWWWW - Hospital Ethylene Oxide Sterilizer Area Sources.

40 CFR 63.10382 through 40 CFR 63.10448

(any enclosed vessel that is filled with ethylene oxide gas or an ethylene oxide/inert gas mixture for the purpose of sterilization)

Subpart XXXXX -- Reserved.

Subpart YYYYY -- Electric Arc Furnace Steelmaking Facility Area Sources.

40 CFR 63.10680 through 40 CFR 63.10692

(a steel plant that produces carbon, alloy, or specialty steels using an electric arc furnace)

Subpart ZZZZZ -- Iron and Steel Foundries Area Sources.

40 CFR 63.10880 through 40 CFR 63.10906

(a facility that melts scrap, ingot, and/or other forms of iron and/or steel and pours the resulting molten metal into molds to produce final or near final shape products for introduction into commerce)

Subpart AAAAAA -- Reserved.

Subpart BBBBBB -- Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, Area Sources.

40 CFR 63.11080 through 40 CFR 63.11100

(gasoline storage tanks, gasoline loading racks, vapor collection-equipped gasoline cargo tanks, and equipment components in vapor or liquid gasoline service)

Subpart CCCCCC -- Gasoline Dispensing Facilities, Area Sources.

40 CFR 63.11110 through 40 CFR 63.11132

(NOTE: Authority to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations for any source that is not (i) a major source as defined in 9VAC5-80-60 and subject to Article 1, Federal Operating Permits for Stationary Sources, or (ii) an affected source as defined in 9VAC5-80-370 and subject to Article 3, Federal Operating Permits for Acid Rain Sources, of Part II of 9VAC5-80 (Permits for Stationary Sources).)

Subpart DDDDDD -- Polyvinyl Chloride and Copolymers Production Area Sources.

40 CFR 63.11140 through 40 CFR 63.11145

(plants that produce polyvinyl chloride or copolymers)

Subpart EEEEEE -- Primary Copper Smelting Area Sources.

40 CFR 63.11146 through 40 CFR 63.11152

(any installation or any intermediate process engaged in the production of copper from copper sulfide ore concentrates through the use of pyrometallurgical techniques)

Subpart FFFFFF -- Secondary Copper Smelting Area Sources.

40 CFR 63.11153 through 40 CFR 63.11159

(a facility that processes copper scrap in a blast furnace and converter or that uses another pyrometallurgical purification process to produce anode copper from copper scrap, including low-grade copper scrap)

Subpart GGGGGG - Primary Nonferrous Metals Area Sources--Zinc, Cadmium, and Beryllium.

40 CFR 63.11160 through 40 CFR 63.11168

(cadmium melting furnaces used to melt cadmium or produce cadmium oxide from the cadmium recovered in the zinc production; primary beryllium production facilities engaged in the chemical processing of beryllium ore to produce beryllium metal, alloy, or oxide, or performing any of the intermediate steps in these processes; and primary zinc production facilities engaged in the production, or any intermediate process in the production, of zinc or zinc oxide from zinc sulfide ore concentrates through the use of pyrometallurgical techniques)

Subpart HHHHHH -- Paint Stripping and Miscellaneous Surface Coating Operations Area Sources.

40 CFR 63.11169 through 40 CFR 63.11180

(NOTE: Authority to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations for any source that is not (i) a major source as defined in 9VAC5-80-60 and subject to Article 1, Federal Operating Permits for Stationary Sources, or (ii) an affected source as defined in 9VAC5-80-370 and subject to Article 3, Federal Operating Permits for Acid Rain Sources, of Part II of 9VAC5-80 (Permits for Stationary Sources).)

Subpart IIIIII -- Reserved.

Subpart JJJJJJ -- Industrial, Commercial, and Institutional Boiler Area Sources.

40 CFR 63.11193 through ~~40 CFR 63.11226~~ 40 CFR 63.11237

(NOTE: Authority to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations for any source that is not (i) a major source as defined in 9VAC5-80-60 and subject to Article 1, Federal Operating Permits for Stationary Sources, or (ii) an affected source as defined in 9VAC5-80-370 and subject to Article 3, Federal Operating Permits for Acid Rain Sources, of Part II of 9VAC5-80 (Permits for Stationary Sources).)

Subpart KKKKKK -- Reserved.

Subpart LLLLLL -- Acrylic and Modacrylic Fibers Production Area Sources.

40 CFR 63.11393 through 40 CFR 63.11399

(production of either of the following synthetic fibers composed of acrylonitrile units: acrylic fiber or modacrylic fiber)

Subpart MMMMMM - Carbon Black Production Area Sources.

40 CFR 63.11400 through 40 CFR 63.11406

(carbon black production process units including all waste management units, maintenance wastewater, and equipment components that contain or contact HAP that are associated with the carbon black production process unit)

Subpart NNNNNN -- Chemical Manufacturing Area Sources: Chromium Compounds.

40 CFR 63.11407 through 40 CFR 63.11413

(any process that uses chromite ore as the basic feedstock to manufacture chromium compounds, primarily sodium dichromate, chromic acid, and chromic oxide)

Subpart OOOOOO - Flexible Polyurethane Foam Production and Fabrication Area Sources.

40 CFR 63.11414 through 40 CFR 63.11420

(a facility where pieces of flexible polyurethane foam are cut, bonded, and/or laminated together or to other substrates)

Subpart PPPPPP -- Lead Acid Battery Manufacturing Area Sources.

40 CFR 63.11421 through 40 CFR 63.11427

(grid casting facilities, paste mixing facilities, three-process operation facilities, lead oxide manufacturing facilities, lead reclamation facilities, and any other lead-emitting operation that is associated with the lead acid battery manufacturing plant)

Subpart QQQQQQ - Wood Preserving Area Sources.

40 CFR 63.11428 through 40 CFR 63.11434

(pressure or thermal impregnation of chemicals into wood to provide effective long-term resistance to attack by fungi, bacteria, insects, and marine borers)

Subpart RRRRRR -- Clay Ceramics Manufacturing Area Sources.

40 CFR 63.11435 through 40 CFR 63.11447

(manufacture of pressed tile, sanitaryware, dinnerware, or pottery with an atomized glaze spray booth or kiln that fires glazed ceramic ware)

Subpart SSSSSS -- Glass Manufacturing Area Sources.

40 CFR 63.11448 through 40 CFR 63.11461

(manufacture of flat glass, glass containers, or pressed and blown glass by melting a mixture of raw materials to produce molten glass and form the molten glass into sheets, containers, or other shapes)

Subpart TTTTTT -- Secondary Nonferrous Metals Processing Area Sources.

40 CFR 63.11462 through 40 CFR 63.11474

(all crushing and screening operations at a secondary zinc processing facility and all furnace melting operations located at any secondary nonferrous metals processing facility)

Subpart UUUUUU -- Reserved.

Subpart VVVVVV -- Chemical Manufacturing Area Sources.

40 CFR 63.11494 through 40 CFR 11503

(each chemical manufacturing process unit that uses as feedstocks, generates as byproducts, or produces as products any of the following: 1,3-butadiene; 1,3-dichloropropene; acetaldehyde; chloroform; ethylene dichloride; methylene chloride; hexachlorobenzene; hydrazine; quinoline; or compounds of arsenic, cadmium, chromium, lead, manganese, or nickel)

Subpart WWWWWW -- Plating and Polishing Operations, Area Sources.

40 CFR 63.11504 through 40 CFR 11513

(new and existing tanks, thermal spraying equipment, and mechanical polishing equipment used in non-chromium electroplating, electroless or non-electrolytic plating, non-electrolytic metal coating, dry mechanical polishing, electroforming, and electropolishing)

Subpart XXXXXX -- Nine Metal Fabrication and Finishing Source Categories, Area Sources.

40 CFR 63.11514 through 40 CFR 63.11523

(NOTE: Authority to enforce the above standard is being retained by EPA and it is not incorporated by reference into these regulations for any source that is not (i) a major source as defined in 9VAC5-80-60 and subject to Article 1, Federal Operating Permits for Stationary Sources, or (ii) an affected source as defined in 9VAC5-80-370 and subject to Article 3, Federal Operating Permits for Acid Rain Sources, of Part II of 9VAC5-80 (Permits for Stationary Sources).)

Subpart YYYYYY -- Ferroalloys Production Facilities, Area Sources.

40 CFR 63.11524 through 40 CFR 63.11543

(manufacture of silicon metal, ferrosilicon, ferrotitanium using the aluminum reduction process, ferrovanadium, ferromolybdenum, calcium silicon,

silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, calcium carbide or other ferroalloy products using electrometallurgical operations including electric arc furnaces or other reaction vessels)

Subpart ZZZZZZ -- Aluminum, Copper, and Other Nonferrous Foundries, Area Sources.

40 CFR 63.11544 through 40 CFR 63.11558

(melting operations at aluminum, copper, and other nonferrous foundries, including the collection of induction, reverberatory, crucible, tower, or dry hearth furnaces used to melt metal ingot, alloyed ingot and/or metal scrap to produce molten metal that is poured into molds to make castings)

Subpart AAAAAAA -- Asphalt Processing and Asphalt Roofing Manufacturing Area Sources.

40 CFR 63.11559 through 40 CFR 63.11567

(asphalt processing operations that prepare asphalt flux at standalone asphalt processing facilities, petroleum refineries, and asphalt roofing facilities that include one or more asphalt flux blowing stills; and asphalt roofing manufacturing operations that manufacture asphalt roofing products through a series of sequential process steps depending upon whether the type of substrate used is organic or inorganic)

Subpart BBBBBBB -- Chemical Preparations Industry Area Sources.

40 CFR 63.11579 through 40 CFR 63.11588

(any facility-wide collection of chemical preparation operations, including the collection of mixing, blending, milling, and extruding equipment used to manufacture chemical preparations that contain metal compounds for chromium, lead, manganese, and nickel)

Subpart CCCCCCC -- Paints and Allied Products Manufacturing Area Sources.

40 CFR 63.11599 through ~~40 CFR 63.11638~~ 40 CFR 63.11618

(paints and allied products manufacturing processes, including, weighing, blending, mixing, grinding, tinting, dilution or other formulation, as well as cleaning operations, material storage and transfer, and piping)

Subpart DDDDDDD -- Prepared Feeds Manufacturing Area Sources.

40 CFR 63.11619 through 40 CFR 63.11638

(production of animal feed from the point in the process where a material containing chromium or manganese is added, to the point where the finished product leaves the facility, including areas where materials containing chromium and manganese are stored, areas where materials containing chromium and manganese are temporarily stored prior to addition to the feed at the mixer, mixing and grinding processes, pelleting and pellet cooling processes, packing and bagging processes, crumblers and screens, bulk loading operations, and all conveyors and other equipment that transfer feed materials)

Subpart EEEEEEE -- Gold Mine Ore processing and Production Area Sources.

40 CFR 63.11640 through 40 CFR 63.11653

(any industrial facility engaged in the processing of gold mine ore that uses any of the following processes: roasting operations, autoclaves, carbon kilns, preg tanks, electrowinning, mercury retorts, or melt furnaces)

Subpart FFFFFFF -- Reserved.

Subpart GGGGGGG -- Reserved.

Subpart HHHHHHH -- Polyvinyl Chloride and Copolymers Production.

40 CFR 63.11860 through ~~40 CFR 63.12000~~ 40 CFR 63.12005

(facility-wide collection of PVCPU, storage vessels, heat exchange systems, surge control vessels, wastewater and process wastewater treatment systems that are associated with producing polyvinyl chloride and copolymers)

Appendix A -- Test Methods.

Appendix B -- Sources Defined for Early Reduction Provisions.

Appendix C -- Determination of the Fraction Biodegraded (F_{bio}) in a Biological Treatment Unit.

Appendix D -- Alternative Validation Procedure for EPA Waste and Wastewater Methods.

Appendix E -- Monitoring Procedure for Nonthoroughly Mixed Open Biological Treatment Systems at Kraft Pulp Mills Under Unsafe Sampling Conditions.

TAB D

COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD MEETING

November 2024

SUBJECT: Ocean-class Passenger Cruise Ship Petition - Public Participation Report and Request for Board Action

SPEAKER: Michael G. Dowd
michael.dowd@deq.virginia.gov/804-698-4284
Director, Air and Renewable Energy Division
Department of Environmental Quality

INTRODUCTION AND NATURE OF REQUEST

On September 30, 2024, the Department received a petition from Robert F. Hodson to initiate a rulemaking on ocean-class passenger cruise ships. Specifically, this petition requests that the Department develop new regulations for cruise ships in Virginia waters. The petition requests the following: (1) mandate the use of low-sulfur fuel, (2) ban the use of exhaust gas cleaning systems (open-loop scrubbers), (3) require the use of shore power, (4) restrict the dumping of graywater, blackwater, and other environmentally detrimental waste products, and (5) require incident reporting and independent monitoring to ensure compliance. A copy of the petition is attached.

Today, the Department is recommending that the Board deny the petitioner's request for the reasons set forth below.

APPLICABLE STATUTORY REQUIREMENTS

The applicable statutory requirements governing petitions are found in 9VAC5-5-60 of the Board's Public Participation Guidelines, and in § 2.2-4007 of the Administrative Process Act.

PUBLIC PARTICIPATION ACTIVITIES

To solicit comment from the public on the petition, the Department issued a notice that provided for receiving written comment during a comment period from October 21 through November 11, 2024. The summary and analysis of the public comments is attached.

REASONS FOR RECOMMENDATION

With respect to petition items one through three and item five:

1. The Board is limited by statute (§ 10.1-1307 B) to regulating motor vehicles with

respect to a Low and Zero Emissions Vehicle (§ 177) program, or an inspection and maintenance (I/M) program governing on-road motor vehicles in the northern Virginia ozone nonattainment area. The Board has no jurisdiction over off-shore mobile sources such as cruise ships.

Even if state law did allow the Board to adopt such regulations, it would be prohibited from doing so by § 209 E 1 of the federal Clean Air Act, which prohibits states from adopting certain standards for controlling emissions from new nonroad vehicles and engines.

2. Cruise ships are subject to international law and treaty, and changes to pollution controls should be pursued through those venues. The U.S. Environmental Protection Agency (EPA) participates on the U.S. delegation to the International Maritime Organization (IMO), which is part of the United Nations. The Marine Environment Protection Committee is a group of member states within IMO that works on the prevention of marine pollution. The global marine environment standards are contained in the International Convention on the Prevention of Pollution from Ships treaty, also known as MARPOL. Annex VI to MARPOL defines engine and ship requirements related to air pollution. The Board has no legal ability to override these existing legal requirements.

3. Even if the Board had the authority to regulate cruise ships, it would not be able to complete the work to develop a regulation until well after various international and federal efforts had been conducted; see, for example, https://www.epa.gov/regulations-emissions-vehicles-and-engines/epa-collaboration-international-air-pollution-0.

4. Neither the Board nor the Department have the ability to ensure compliance with any such program.

5. Low-sulfur fuel is already required through the MARPOL treaty. Annex VI to MARPOL allows the use of exhaust gas cleaning systems (scrubbers) as an alternative method of compliance with the marine fuel sulfur limit.

6. Shore power is generally used by vessels with moderate power requirements; typically less than 50 to 100 kW. These vessels are capable of making use of normal grid voltage and frequency, and replace the energy from the generators with the shore power. To serve larger vessels with shore power, dedicated and relatively costly installations are required, both on land and on board the vessels. This may include upgrading the grid capacity, frequency converters and complex high power connectors. Consequently, relatively few vessels and ports are capable of making use of shore power, and any related benefits may not outweigh the costs.

With respect to item four:

The Board does not have the legal authority under the Virginia Air Pollution Control Law to regulate water quality.

SUPPORTING DOCUMENTATION

Immediately following this agenda memo are the following:

1. Original petition.

2. Summary and analysis of the public comments.

DEPARTMENT RECOMMENDATION

It is recommended that the Board deny the petitioner's request for the reasons set forth above.

TEMPLATES\PETITION\PET04
REG\DEV\CSI-01BF

A petition for

Cruise Ship Environmental Regulations in Virginia

Protect-Virginia.org

Table of Contents

Petition Request

Submitted by:

Dr. Robert F. Hodson
207 Nelson Street
Yorktown, Virginia 23690
(757) 570-9251
Robert.F.Hodson@gmail.com

This petition was developed in collaboration with the members of Protect-Virginia.org.

This petition is submitted under § 2.2-4007 of the Code of Virginia and Office of Regulatory Management Procedures for petitions for new or amended regulations. The petition pertains to Title 9 Environment of the Virginia Administrative Code as it requests new regulations for air and water pollution. The Department of Environmental Quality (DEQ) has regulatory authority for water and air pollution under § 62.1-44.33 and § 10.1-1308. The petitioner has identified the DEQ to address these new regulations based on its policy statement and regulatory authority which includes but is not limited to:

1. To assist in the effective implementation of the Constitution of Virginia by carrying out state policies aimed at conserving the Commonwealth's natural resources and protecting its atmosphere, land, and waters from pollution.
2. To address climate change by developing and implementing policy and regulatory approaches to reducing climate pollution and promoting climate resilience in the Commonwealth and by ensuring that climate impacts and climate resilience are taken into account across all programs and permitting processes.

Statement of Purpose

This petition provides evidence to justify new regulatory rulemaking on ocean-class passenger cruise ships. Specifically, this petition requests that the DEQ and the Commonwealth develop new regulations for cruise ships in Virginia waters as follows: (1) Mandate the use of low-sulphur fuel, (2) Ban the use of Exhaust Gas Cleaning Systems (open-loop scrubbers), (3) Require the use of shore power, (4) Restrict the dumping of graywater, blackwater, and other environmentally detrimental waste products, and (5) Require incident reporting and independent monitoring to ensure compliance.

The EPA has recently posted a new Vessel Incidental Discharge National Standard. According to the EPA website, "The USCG has two years to develop corresponding implementing regulations to ensure, monitor and enforce compliance with the EPA's standards. Until the USCG's regulations are final, effective, and enforceable, vessels continue to be subject to the existing discharge requirements established in the EPA's 2013 Vessel General Permit and the USCG's ballast water regulations, as well as any other applicable state and local government requirements." Unfortunately, both standards fall short and therefore it is left to the states to ensure marine ecosystem and public health are not compromised by cruise ship industry practices. Many states have already acted by augmenting EPA standards. A purpose of this petition is to ensure Virginia is fully aware of the risk this industry poses to the Commonwealth and act appropriately.

These large ships are in a class of their own, essentially floating cities with associated power generation and waste products that directly impact air and water quality on a scale considerably beyond that of other vessels. The waste and pollution generated by large cruise vessels are well documented and there is a worldwide movement to protect the environment and populations from these detrimental effects through regulation. **Virginia is the nation's fourth largest producer of marine products, and a healthy marine ecosystem is vital for its sustainability**. Recently a Princess Cruise Lines lobbyist stated at the public hearing in support of HB1478 that we should "roll out the welcome mat for the cruise industry in Virginia" and just recently wrote in a Daily Press opinion, "we cannot afford not to" welcome cruise ships in Virginia. The industry's plans to expand in Virginia should compel DEQ to examine this issue carefully and to proactively regulate cruise ship impacts, as has been done in port communities, states, and countries.

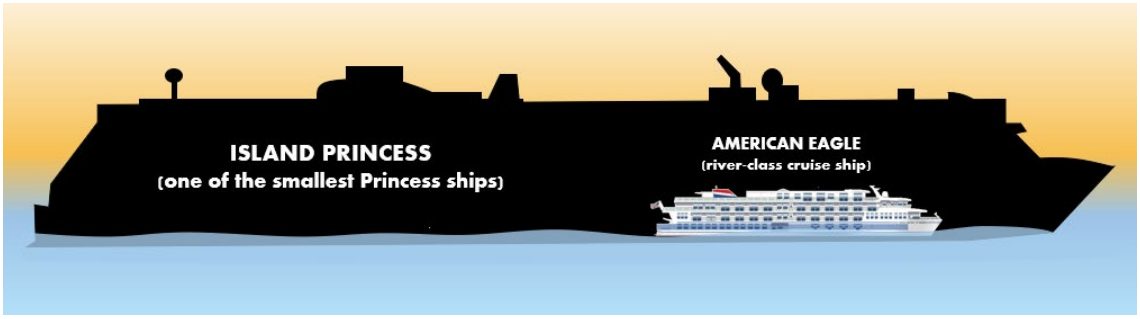
Cruise Industry Background

Carnival Corporation, Royal Caribbean, and Norwegian Cruise Lines own the lion's share of this $25B industry. These three corporations are parent companies to more than 15 subsidiaries. For example, Carnival, the industry leader, is the parent company of Princess Cruises, Holland America, and several others. The sector is projected to see continued growth (estimated to reach $30B this year) through leveraging current markets and finding new ones. This industry generates significant revenue from U.S. markets, yet the ships are registered under foreign flags to avoid taxes. It is very clear that cruise lines are looking to find new ports of call in Virginia. Any cruise ship legislation and regulations should be made with this in mind. Once in a market, the cruise industry will fight vigorously to expand its reach.

An important question when considering regulation of the cruise industry in Virginia is the scale of these ocean-class ships and impacts on the ecosystems they travel through. Their massive size is hard to comprehend from photographs. The smaller ships have over 3,000 people on board (passengers & crew) and the largest one carries over 9,500, with a definitive trend in favor of larger and larger vessels The

Transport & Environment study is projecting this to continue with 345,000 GT ships carrying 10,500 passengers by 2050, with the number of ships also increasing as the industry expands to new markets (i.e. Virginia).

These ships are character-altering at any port they visit. In many small port cities in the U.S., where even one ship can double or triple the population of the port city, multiple ships arrive simultaneously and inundate the port with hundreds of thousands of passengers per year. The ships burn fuel 24 hours a day to generate the power to keep the lights, HVAC, and a multitude of other on-board amenities running. Traditional cruise ships need 10–100 megawatts of power for propulsion, lighting, air conditioning and on-board amenities. The power needed for one ship can be equivalent to power used in 60,000 to 70,000 average homes. Additionally, there is an enormous amount of waste that must be treated and managed.



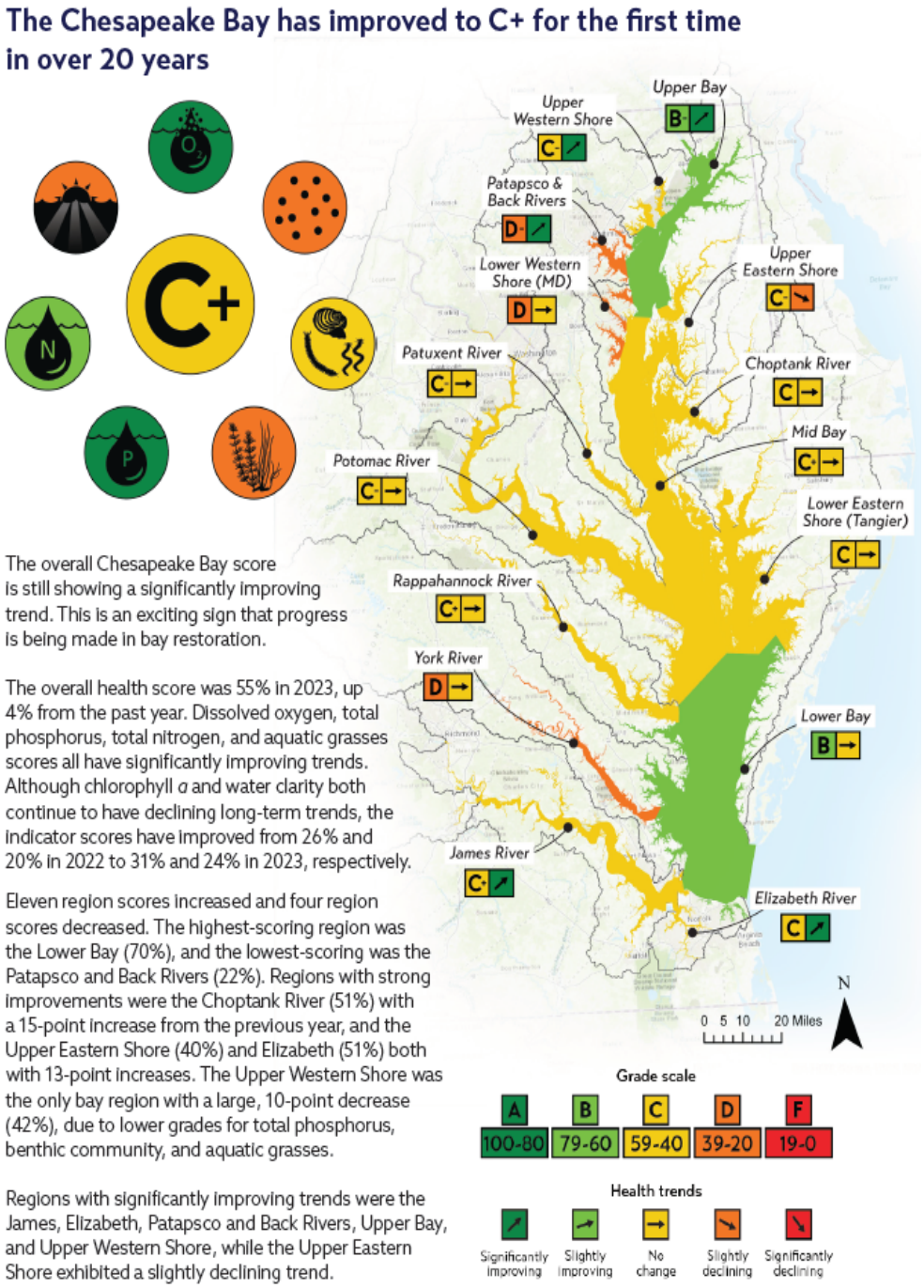
Scale of the Cruise Industry Ships (Island Princess more than 3 football fields long)

It is important to note that this petition is focused on the "mega-class" pleasure cruise ships, not military or merchant ships. Also, there are smaller river-class vessels, with business models that minimize the negative impacts of their ships. For example, the ships of American Cruise Lines, a U.S. based company, burn low sulphur fuels, do not scrub exhaust pollutants into the water, are shore power equipped, and have hull designs to minimize noise. Another example is Uncruise, a cruise ship company with a core value of "Do the right thing" and with accountability as a core responsibility. Yet another is Hurtigruten, that was first to ban Heavy Fuel Oil in 2009 and is working toward Net-Zero-Emissions. There are acceptable approaches to cruise ship tourism that manage environmental and human impacts.

Environmental Impacts

The State of Virginia Waters

The 2023/2024 University of Maryland's Chesapeake Bay & Watershed report card shows some improvement from previous years, but many rivers and estuaries still have failing grades. Pollution from cruise ships could potentially reverse the progress that has been made toward a cleaner Chesapeake Bay.

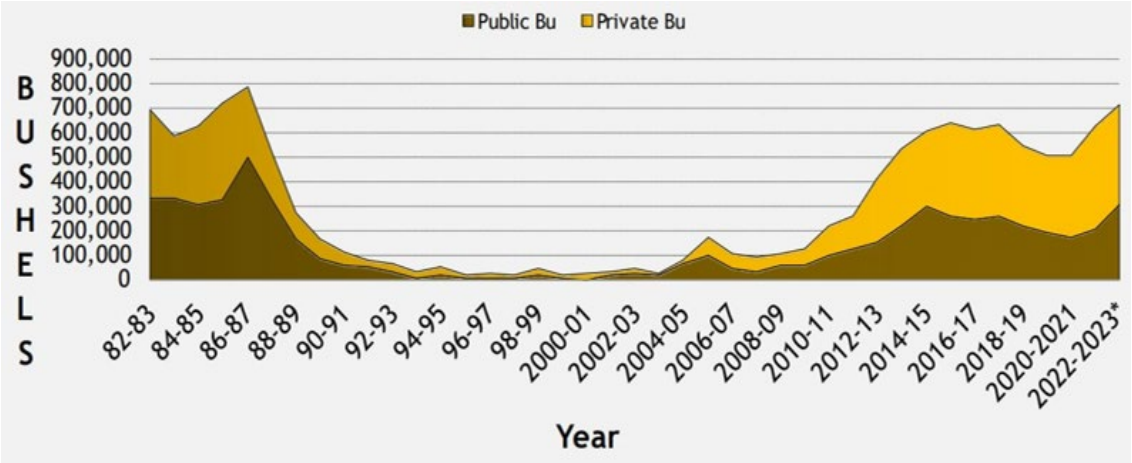


Chesapeake Bay & Watershed Report

Seafood Industry Impacts

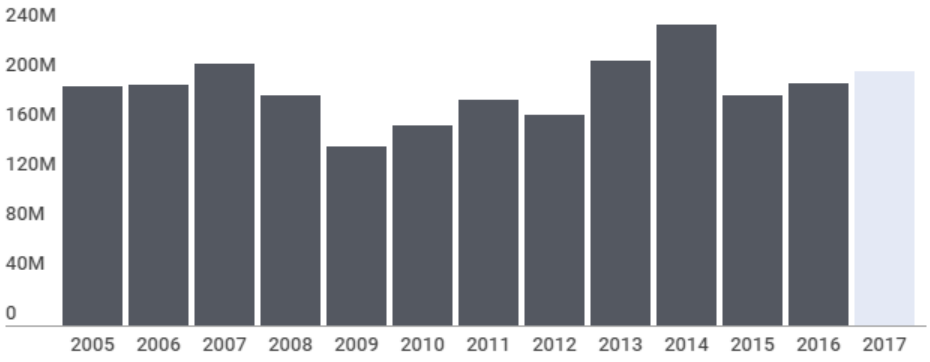
According to VirginiaSeafood.org, "Virginia's watermen harvest 50 commercially valuable species from some 620,000 acres of water. Among these traditional species in order of economic value, are Oysters, Blue Crab, Sea Scallops, Menhaden, Clams, Summer Flounder, Striped Bass, Spot, Black Sea Bass, and Blue Catfish," and "Virginia is the nation's fourth largest producer of marine products with total landings of 321,860,722 pounds in 2020 and is only outpaced by Alaska, Louisiana, and Oregon." The report from the Virginia Cooperative Extension, Economic Contributions of the Virginia Seafood Industry states, "The total economic output effect of the Virginia seafood industry was estimated at $1.1 billion in 2019. The total employment effect of the Virginia seafood industry was estimated to be 7,187 people; with a direct effect of 6,050 jobs, indirect effect of 523 jobs, and induced effect of 614 jobs. In 2019, the Virginia seafood industry generated over $26 million in tax revenue from local, state, and federal taxes." It bears repeating that cruise industry profits will not generate tax revenue since ships typically fly a foreign flag (see Appendix C).

The oyster harvest in Virginia has also improved after years of restoration, according to the Virginia Marine Resources Commission.



Virginia Oyster Production

Additionally, according to VIMS, Virginia not only leads the nation in oyster production but also in hard clams.

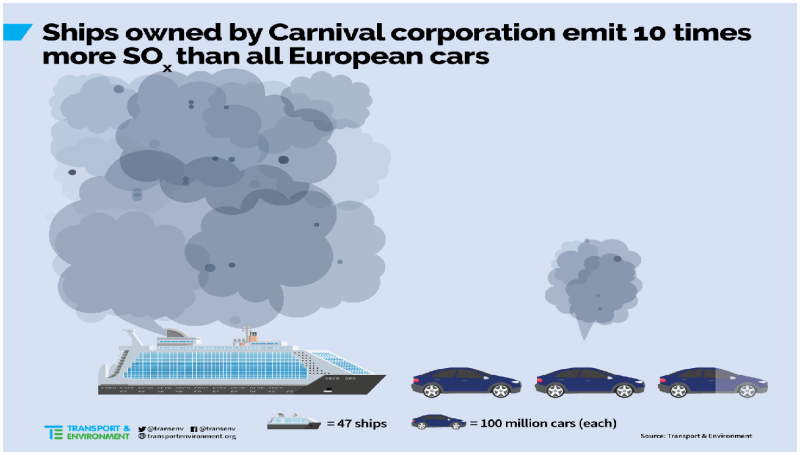


Hard clams sold in Virginia.

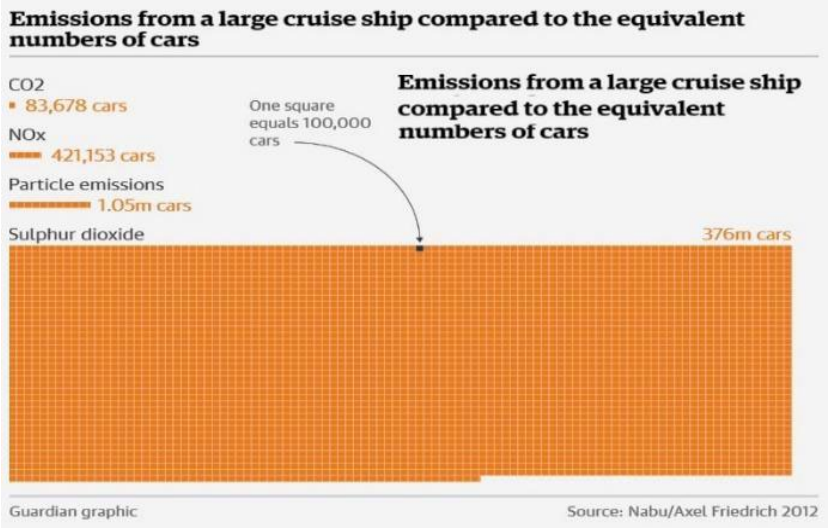
The Virginia seafood industry thrives when our waters are clean and productive. Seafood is a renewable resource, but only if the Commonwealth continues to protect the health of the Bay, rivers, and estuaries. As discussed in the following section, the cruise industry's air and water pollution footprint is significant and can put this industry at risk if not appropriately regulated. Maintaining the seafood industry in a sustainable way is vital for Virginia's economy.

Cruise Ship Pollution

Untreated exhaust from cruise ships produces an inordinate amount of emissions that impact public health, the environment, and the climate. The cruise industry's decision to burn Heavy Fuel Oil (HFO) is the reason for the excessive emissions which do not occur at the same levels with other cleaner fuels used by other vessels (e.g. military vessels). This decision reflects a disregard for public health and the environment in favor of higher profits.



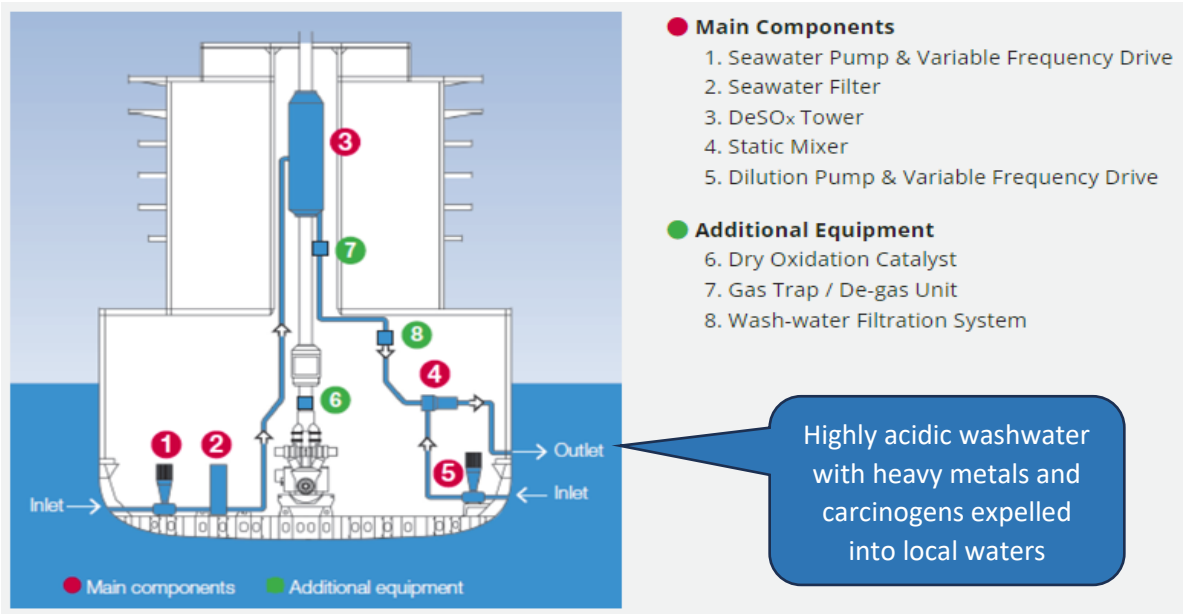
Cruise Ship Sulphur Oxides (SO_x) Emissions



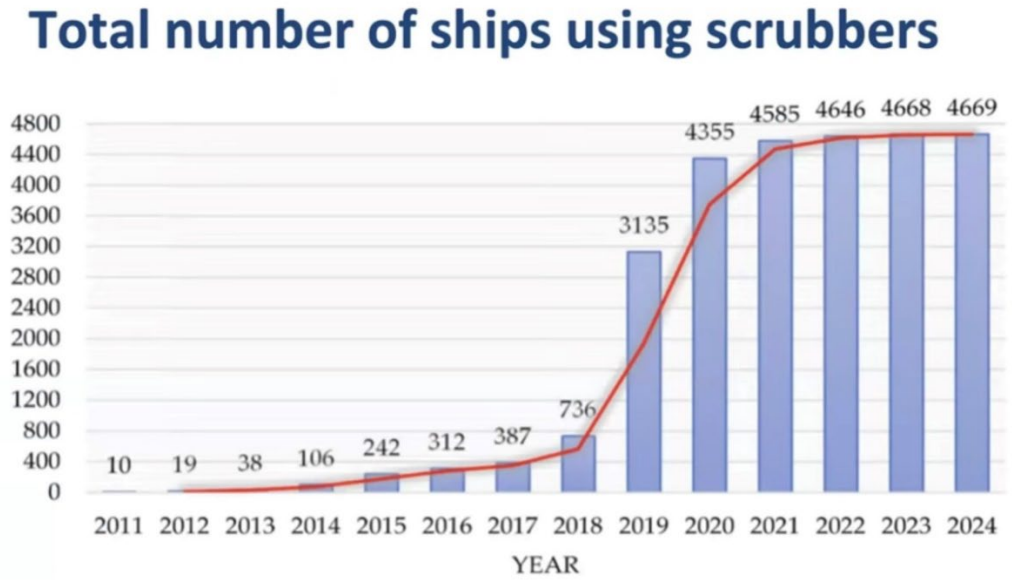
Large Cruise Ship Emissions Comparison to Cars

In 2020, the IMO (International Maritime Organization) set new tougher standards for sulphur emissions, and currently the global shipping fleet is in the process of switching to lighter, cleaner fuels. But the environmental effects of these regulations are offset by increases in ship size, passenger capacity, and by

the loophole allowing vessels to reduce sulphur by using scrubbers, or Exhaust Gas Cleaning Systems. The EPA standards, both current and proposed, do not ban cruise ship scrubbers, thus allowing operation in Virginia waters. The cruise industry has elected to use scrubbers rather than switch to more expensive fuels to "greenwash" the problem while saving money. (see: Shipping's dirty secret: how 'scrubbers' clean the air – while contaminating the sea).



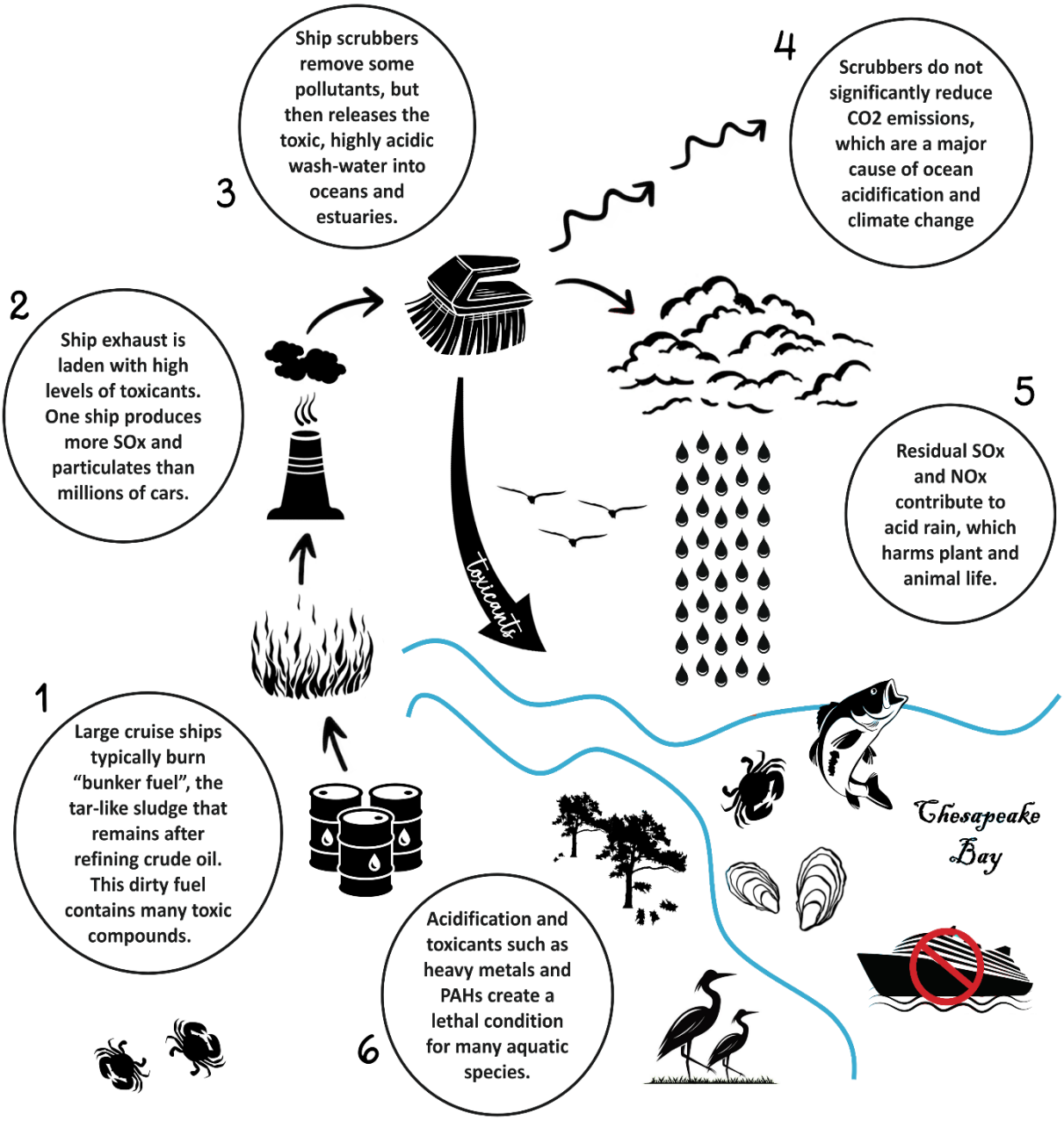
Exhaust Gas Cleaning System, commonly called a Scrubber –Original Source: Carnival



Dramatic increase in ship scrubbers after the IMO's 2020 sulphur regulations

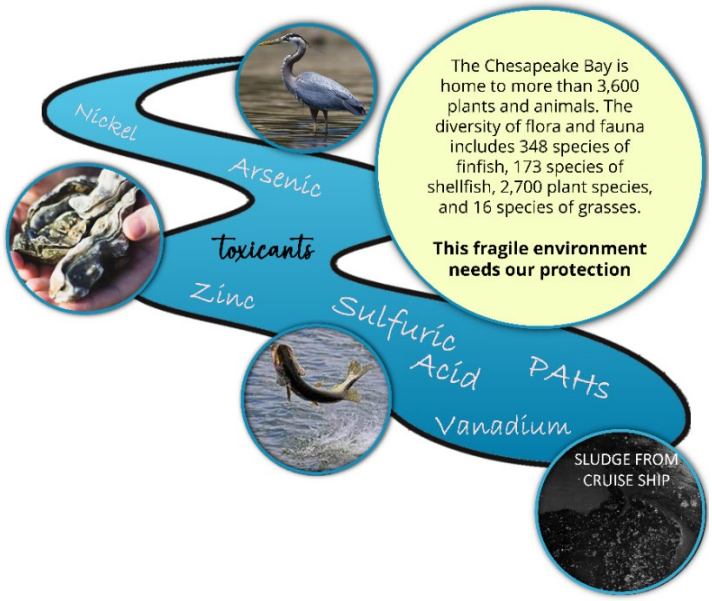
Source: End Scrubbers Use Now Webinar

The types of scrubbers used by 81% of cruise ships are open-loop systems and do not solve the pollution problem. These systems use ambient seawater sprayed into exhaust stacks to remove pollutants, but the highly acidic spray, laden with toxic PAHs and heavy metals, is then flushed back into the water. Scrubbers thereby transfer an air pollution problem into a water pollution problem. Furthermore, scrubbers do not reduce CO_2 or small particulate that is harmful to human health. The International Council on Clean Transportation states that scrubbers are not as effective at reducing total air pollution compared to marine gas oil, and scrubber discharge "contributes to ocean acidification and worsens water quality."



Cruise Ship Pollution from Burning Bunker Fuel

The recent August 2024 Pacific Environment report, Ship Pollution: From air to ocean, summarizes 26 scientific studies that show the harmful impacts of toxic scrubber wastewater – "A growing body of scientific data indicates there is virtually no safe concentration of untreated scrubber effluent and that it negatively affects organisms throughout the marine food chain. The sources referenced found that concentrations of scrubber wastewater as low as 0.0001% have toxic effects on marine life. Scrubber discharges can increase seawater acidity, especially in places with high ship traffic, and discharges contain harmful and persistent substances like polycyclic aromatic hydrocarbons (PAHs), nitrates, nitrites, and heavy metals." Heavy metals can have a devastating effect on zooplankton which menhaden, herring, and other species feed on, and they also bioaccumulate at higher trophic levels. PAHs have been linked to several types of cancers and reproductive dysfunction in marine mammals, including southern resident orca in the north Pacific and beluga whales."



Toxicants released by open-loop scrubbers.

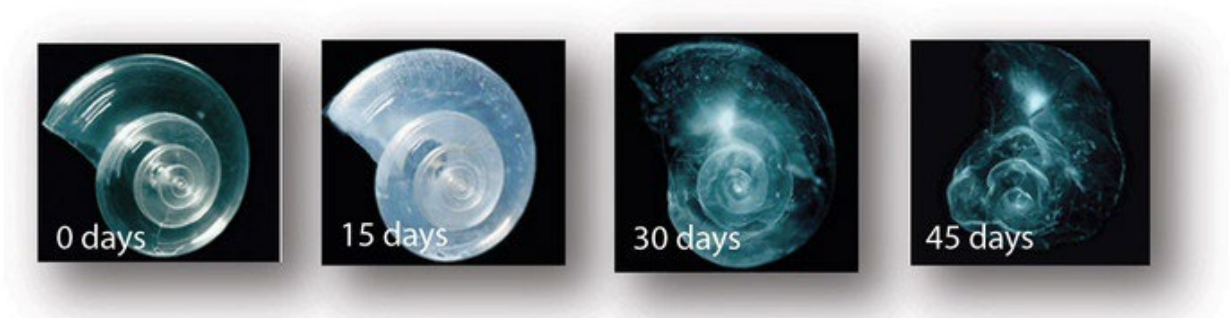
Climate Impacts

CO_2, a greenhouse gas, is also released by cruise ships. As one source states, the CO_2 output from one ship is equivalent to more than from 83,000 cars. Another source states, "just one cruise ship docked for a day at port can emit diesel exhaust equivalent to 34,400 idling trucks." Increasing atmospheric CO_2 is the major cause of global climate change and ocean acidification. Analysis has shown that cruise ship passengers have a carbon footprint eight times more than that of land-based vacationers. Nitrogen Oxide (NO_X), also in cruise ship exhaust, is another important greenhouse gas. One ship can produce more NO_X than 400,000 cars. According to Inside Climate News, NO_X can warm the atmosphere more than 300 times that of CO_2 and damages to the ozone layer.

Climate change is impacting Virginia in multiple ways: increased storm intensity/frequency, heat waves and drought, and sea level rise. Tangier Island may be under water within the next 50 years. Coastal military bases will be impacted. A Military Times article warns, "the Department of Defense says two-thirds of the bases are vulnerable to worsening flooding as the climate warms, and half are vulnerable to increasing drought and wildfires." Homeowners' coastal properties in Virginia are already seeing the impact of extreme weather in their insurance premiums and "climate exceptions" in their policies. Climate

effects will also directly impact the seafood industry. The article Warming water threatens aquatic life in Chesapeake Bay region states that an increase in water temperature by 1.8 degrees would reduce available sturgeon habitat by 65%. In the Bering Sea the impacts to the seafood industry are already being felt by fishermen. An article on the reduction in the crab population by the billions, points to rising water temperatures as the cause.

Ocean and coastal acidification are a global challenge causing harm to marine life, primarily affecting the ability to form shells and skeletons. Coral reefs and shellfish such as oysters are highly susceptible to acidification, and this recent video from a public meeting in Yorktown, Virginia succinctly states the risk to the oyster industry if cruise ships are allowed to expand operations in Virginia waters. This PBS video also demonstrates that the impacts to the shellfish industry are real and present today. The study, Vulnerability and adaptation of US shellfisheries to ocean acidification, cites the Chesapeake Bay as one of the most vulnerable regions to ocean acidification and discusses the "threat to coastal species" and the "emergence of real, economically measurable human impacts." It should also be stressed that potential losses to the Virginia seafood economy are not hyperbole; the study also stated, "Ocean acidification has already cost the oyster industry in the US Pacific Northwest nearly $110 million."



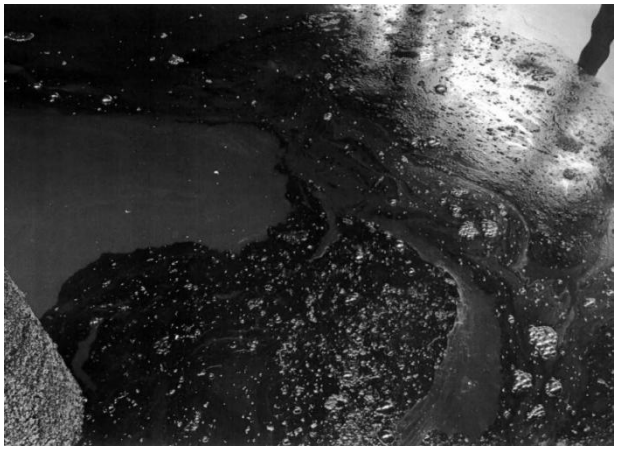
The pteropod's, or "sea butterfly" shell (shown above) dissolves in acidic seawater. Virtually all shellfish (e.g., oysters, scallops, crab, clams, etc.) will be negatively impacted by ocean acidification. Image source: National Geographic

Pollution from waste discharges on cruise ships is also a major problem. A 2008 report by the Congressional Research Service estimated that during an average weeklong cruise, a cruise ship carrying (only) 3,000 passengers and crew can generate 210,000 gallons of raw sewage; 1 million gallons of gray water (from sinks, showers, and washing machines); 130 gallons of hazardous materials; up to 8 tons of solid waste; and 25,000 gallons of oily water. Effluent waste can contain bacterial and viral pathogens and also high nutrient concentrations, which promote algal blooms and cause oxygen-depleted "dead zones." The Bureau of Transportation Statistics' summary of the waste streams can be found here.

Accidents and Violations

The "normal" or operational pollution generated by the cruise industry is significant by any measure and the damage to our environment is still being assessed. In addition, accidents do occur and have significant and direct impacts on local ecosystems and port communities. Many incidents are minor, but serious ones can be devastating. In November 2023 a Carnival cruise ship dumped scrubber sludge into Grand Turk

port waters during a power outage. Another scrubber accident in a port in Ketchikan, Alaska, is shown to the right. Other accidents include fires and damage to pier facilities during bad weather.



Release of Scrubber Sludge [source]

The cruise industry has a history of pollution and felony convictions for violating environmental regulations. In 2016, Princess Cruise Lines paid the largest criminal penalty for deliberate vessel pollution: $40 million dollars. They used a surreptitious "magic pipe" to bypass the oily water separator, which allowed waste liquids to be discharged in contravention of maritime pollution regulations. This violation occurred on multiple ships, pointing to a systemic issue with the industry. Furthermore, even after the large fine, Princess continued to violate regulations six times and received an additional $20M fine in 2022. A history of some of the major cruise ship violations can be found here.

In addition to pollution spills, another all-too-frequent accident is whale strikes. In May 2024 a cruise ship sailed into New York Harbor with a 44-foot dead endangered Sei Whale across its bow. A video of the incident is here. The noise from cruise ships confuses the whales and disrupts their communications. Also this year, eight whales of four species, including the endangered Atlantic Right Whale, washed up in southeastern Virginia and Northeastern North Carolina. Several of these deaths were likely from vessel strikes.

Given this history of criminal violations and accidents, independent monitoring is needed along with incident reporting requirements for ensuring compliance.

Human Health Impacts

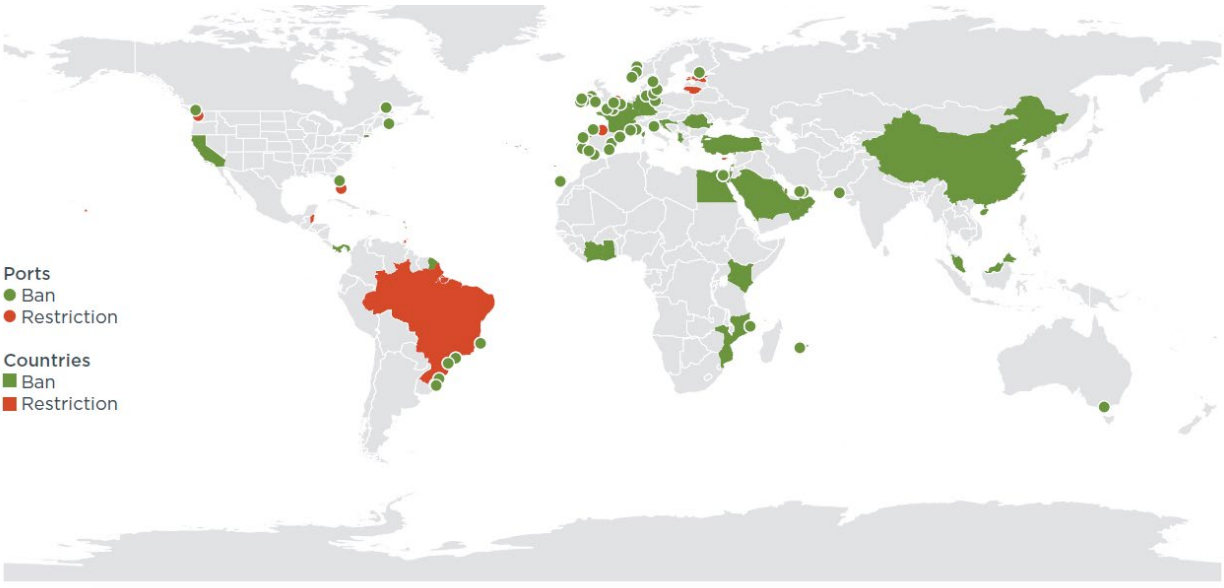
Pollution does not only impact marine life through direct and long-term climate affects; it can also directly impact human health. According to Evirotech, sulphur oxides (SO_x) are notorious for "exacerbating respiratory conditions such as asthma and emphysema." Nanoparticles are fine particulate matter (< 0.1 cubic centimeters) and can enter the bloodstream or brain when inhaled. They can harm the respiratory and circulatory systems, and are especially harmful to children, the elderly, and people with heart or lung issues. One report found ultrafine particles are "200 times higher than would be found in fresh air and 20 times worse than in congested port cities with heavy traffic." According to the EPA, "Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2." A Environmental Health Perspectives Journal article found consistent strong evidence of a relationship between N02 and lung cancer. The report, Importing Harm: U.S. Ports' Impacts on Health and Communities, states that port cities in Southern California are the largest source of SO_x, NO_x, and particulate emissions. "The California Air Resources

Board estimates that there are 3,700 premature deaths per year directly attributed to the ports." The journal publication, Health impact assessments of shipping and port-sourced air pollution on a global scale: A scoping literature review, states, "Globally, ~265,000 premature deaths were projected for 2020 (~0.5% of global mortality) attributable to global shipping-sourced emissions." Large cruises generating megawatts of power by burning fuel in ports will lead to health impacts that are not factored into the economics presented by this industry. And once again this is by choice to maximize profit as cleaner alternatives do exist.

Regulations

The international community now recognizes the damage from cruise ship pollution and has begun to take regulatory action to limit impacts. Existing regulations take many forms: low sulphur fuel requirements, open-loop scrubber bans, shore power requirements, no dumping zones, etc. In addition to these regulations, many port communities are fighting to limit the size and number of ships that visit through passenger limits, pier restrictions, no-cruise-ship-Saturdays, and other methods not addressed in this petition.

The June 2023 International Council on Clean Transportation (ICCT) Policy Update does an excellent job of summarizing scrubber bans and restrictions worldwide. It notes that over 5000 ships use open loop scrubbers to comply with IMO sulphur oxides (SO_x) regulations and projects 81% open-loop (4,097), about 17% hybrid (869), and approximately 1% closed-loop in 2025. The report stated that the number of vessels outfitted with scrubbers is increasing and identifies 93 bans and restrictions across 43 countries in place against scrubbers and associated discharges as of February 2023. Eighty-six percent of the measures are bans rather than more limited restrictions, with most bans focusing on open-loop scrubbers or washwater discharges.

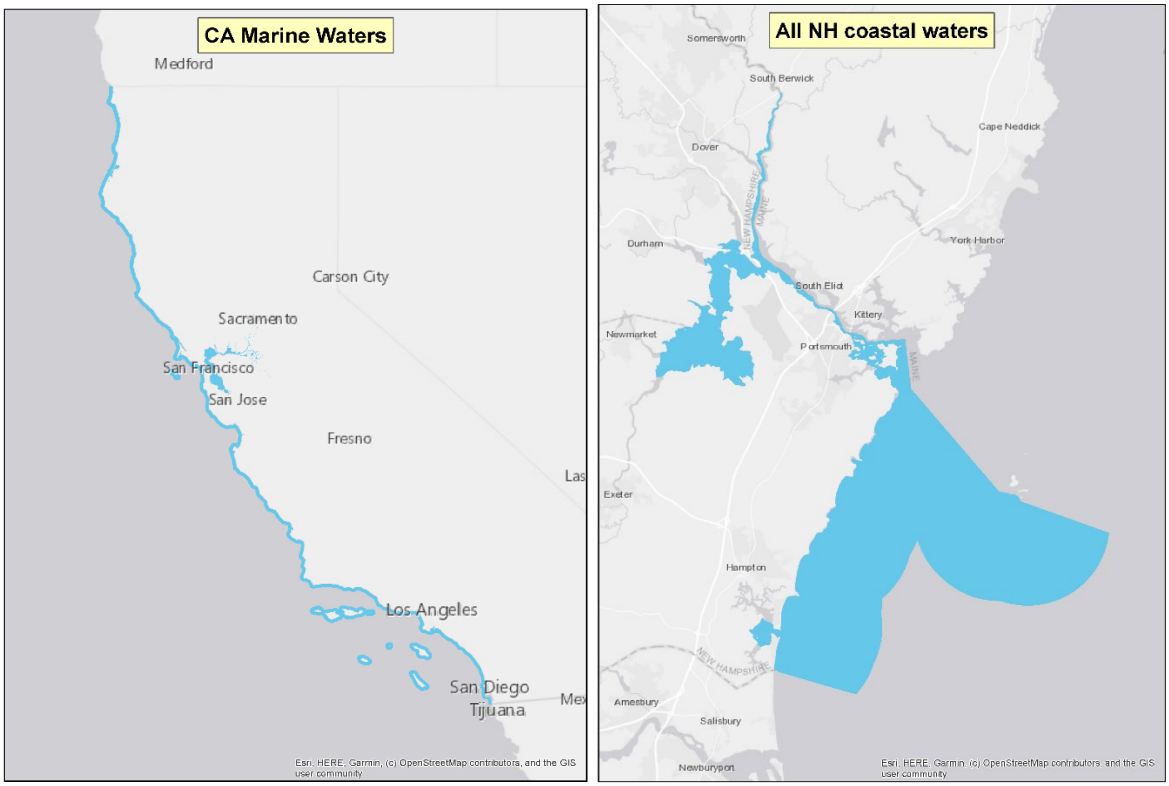


Bans and restrictions on scrubbers by countries and ports.

**This map is presented without prejudice as to the status of or sovereignty over any territory, the delimitation of international frontiers and boundaries, and the name of any territory, city, or area.*

The approaches taken by different countries vary, but all have the same goal of protecting the environment. For example, in Germany, inland waterways are regulated by the Strasburg Waste Convention (CDNI) which classifies scrubber washwater discharges as “hazardous substances” and thus prohibited. China’s Maritime Safety Administration has prohibited washwater discharges from open-loop scrubbers in inland river and coastal port Emission Control Areas (ECAs) since 2019. Egypt bans all scrubber types in its territorial waters and ports.

The U.S. has regulations in five states (Connecticut, California, Florida, Hawaii, and Washington) that target cruise ship pollution. Connecticut has a statewide scrubber ban. Hawaii controls discharge through official license and permitting. Florida and Washington State have port-level measures in place. California has passed a series of statutes limiting vessel discharges. California Senate Bill 771, the Clean Coast Act enacted into law in 2005, prohibited all commercial ships from dumping hazardous waste, sewage sludge, oily bilge water, “gray water” from sinks and showers, and sewage in state waters. The bill also required California to petition the federal government for “No Discharge Zones” to enforce the bill’s anti-dumping provisions, ultimately leading to action by the federal government. California now has 11 No Discharge Zones; the latest in 2012 protects the entire California coastline. New Hampshire has taken a similar approach with 2 No Discharge Zones, one for coastal waters and another for all in-land waterways, thereby protecting the entire state and coastline.



California’s 11th and New Hampshire’s 2nd No Discharge Zones covering coastal waters.

Note that the California law goes beyond scrubber discharges; it also includes sewage and gray water. This is also very important to secure the health of Virginia waters. As pointed out in the pollutions section and reiterated here, effluent waste can contain bacterial and viral pathogens and high nutrient concentrations

which promote algal blooms and cause oxygen-depleted "dead zones," which are especially harmful to sessile organisms like oysters.

Virginia has only four No Discharge Zones to protect against discharge. According to the EPA website they are: Sarah Creek and Perrin River; Smith Mountain Lake; Lynnhaven River; and Broad Creek, Jackson Creek and Fishing Bay. This is a sound practice, but these zones cover only a small fraction of Virginia territorial waters.

Many States augment the EPA's Vessel General Permit (2013 VGP section 6.0) for discharges to protect their waters and the associated ecosystems. Provisions address black and gray water, bilge water, "hazardous wastes which poses a potential threat to human health or the environment," and other types of pollution. Connecticut directly targets scrubbers stating, "Discharge of exhaust gas scrubber washwater into Connecticut waters from any vessel covered under the VGP or sVGP is prohibited." In total, 25 states have augmented the VGP to add protections not found in the 2013 VGP. Many States have been effective at closing gaps in the dated VGP, but Virginia has no additional provisions in the VGP. When the EPA's new standard becomes regulations, the 2013 VGP will be deprecated, but states will still be allowed to enact stricter regulations for their territorial waters.

More information on scrubber bans around the world is presented in Appendix A. Another article by LITECH states that "more than 120 ports worldwide have banned open-loop scrubber discharge," yet Virginia has no such restrictions. A list of ports and countries banning scrubbers can be found in Appendix B.

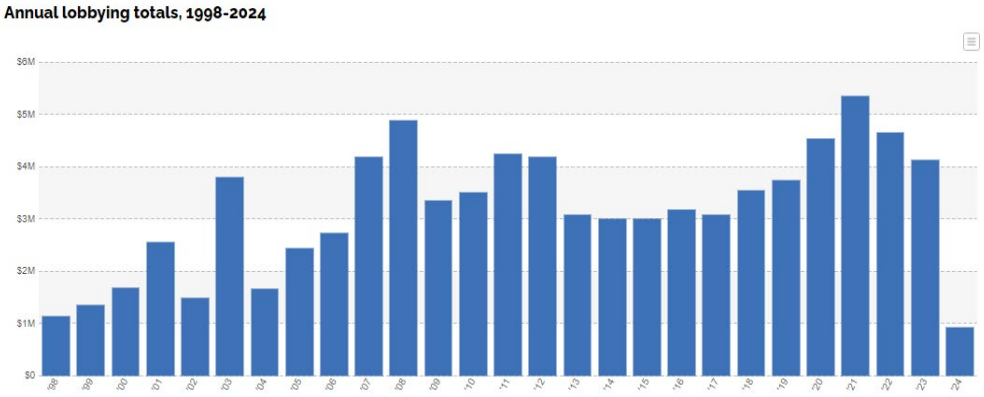
As previously stated, the carbon footprint of large cruise ships is enormous; one ship is approximately equal to 80,000 cars. The industry is growing rapidly. A recent article by The Guardian states, "Cruise ships pumped out 17% more carbon dioxide in 2022 than they did in 2019." The industry also claims their newest ships are green as they transition to Liquid Natural Gas (LNG) but "methane emissions rose 500% over the same time period." According to the documentary, The Cruise Ship Industry: A Floating Grave?, 3% of methane is uncombusted and methane is 25 time more potent than CO_2 as a green house gas.

Infrared capture of methane emission from a cruise ship
Source: The Cruise Ship Industry: A Floating Grave?

This is an ominous trend that will exacerbate climate change and effects like ocean acidification. The cruise industry could have chosen to use cleaner fuel but elected to put profit first. Shore-based power generation is often much cleaner than ship-board generation. For example, Dominion Energy has renewable energy programs for users, in which cruise ships could participate. The Port of Seattle is taking this approach, with a goal to phase out seaport-related emissions by 2050. A shore power connection allows cruise ships to plug into cleaner, land side electrical power and turn off engines, reducing diesel emissions by 80% and CO_2 emissions by 66% on average. New York has also recently proposed a bill "to compel cruise terminal operators to require that cruise ships use shore power." It should be noted that scrubber bans also incentivize the use of shore power by allowing ships to turn off generators in port. Alternatively, they encourage clean fuels which do not require scrubbing to meet IMO sulphur emissions standards.

Cruise Industry Lobbying

There is truly a need for federal legislation protecting the environment from the cruise industry. Unfortunately, this has been thwarted by the cruise industry's powerful lobby, thus making it essential for the Commonwealth to act. According to Open Secrets, the cruise industry currently has 29 registered lobbyists in the U.S. and has been spending millions of dollars per year.



Annual Cruise Industry Funding for Lobbyists

U.S. Congressman Sam Farr tried four times to get federal cruise ship environmental legislation passed, but he never got enough support to get beyond the cruise lobby.

"The lobbying work," Farr said in an interview with Univision News, "has prevented Congress from even considering reviewing a third bill — the Clean Cruise Ship Statute — which seeks to prohibit cruise ships, regardless of their flag or the nationality of their owner company, from dumping wastewater, garbage and other polluting substances into the waters near the coasts of the United States. Preventing all of this is costly, and cruise lines don't want to spend money operating wastewater treatment plants on their ships." The U.S. currently requires ships to be only three miles from shore before dumping raw sewage, whereas UN international regulations (under MARPOL Annex IV, to which the U.S. is not a signatory) sets the limit at twelve miles.

Virginia now has three registered lobbyists working on behalf of Princess Cruise Lines to promote the cruise industry in the Commonwealth. In late 2022 and 2023, they successfully lobbied for legislation to fund a cruise ship pier in Yorktown, Virginia. This was all done behind the scenes and without citizen input. It was only through a petition and a concerted effort from the community, after Princess Cruise Lines had already announced Yorktown as a port of call, that the project was halted and the funding rescinded.

In addition to paid lobbyists, the cruise sector has a powerful trade organization, Cruise Lines International Association (CLIA), which promotes the industry and shapes messaging around "environmental sustainability", highlighting use of liquid natural gas (LNG) and shore power which are barely used by most cruise ships and which are not the panacea CLIA claims them to be. For example, LNG contains methane, a greenhouse gas, which the EPA states "is more than 28 times as potent as carbon dioxide at trapping heat in the atmosphere." According to the International Council on Clean Transportation, methane emissions, or "methane slip," from LNG-fueled ships have more than doubled in recent years. The cautionary topics in this petition are not part of the industry and CLIA's message.

A variety of regulatory approaches have been used in attempts to curb the air and water pollution that is so prevalent in this industry. More and more regions are dealing with these impacts and have taken action. Further study of the right approach for Virginia is warranted, but California's approach seems the most comprehensive, strongly targeting vessel discharges via extensive No Discharge Zones. Preventing the cruise industry's large capacity passenger ships, due to the volume of toxic effluents they produce, from discharging waste in Virginia's territorial waters seems compelling and appropriate. The No Discharge Zone approach should be considered as an effective approach to protect Virginia and our marine-based economy.

Conclusion

The large capacity ships used by the cruise industry hold thousands of passengers, burn HFO, generate megawatts of power, exhaust an unhealthy mixture (SO_x, N_x, CO_2, particulates) into the air and toxicants (Zinc, PAHs, Arsenic, Nickel, etc.) into the water on a scale unparalleled by other vessels. Their practices and scale put them in a class by themselves, requiring stringent regulatory controls.

The seafood industry significantly contributes to the Commonwealth's economy creating jobs and revenue. The cruise industry has clearly stated and demonstrated that it wants to expand in Virginia, and if poorly regulated, this expansion will have detrimental impacts on Virginia waters and our marine resources, while also significantly contributing to climate change and associated ocean acidification on a global scale. The dismal record of cruise ship pollution is clear, and countries and ports around the world have acted to limit the environmental impacts of these massive ships. The large volumes of pollutant discharges and the known climate, acidification, and oxygen-depleted "dead zone" impacts make a strong case for DEQ regulations. I respectfully request that you consider this petition for new cruise industry regulations.

Thank you for your consideration.

Protect Virginia Steering Committee: Robert Hodson, Theresa Hodson, Jacques van Montfrans, Elizabeth Wilkins, Mary Jo O'Bryan, Angier Brock, Alyssa Adams, Barbara Luck, Betsy Taylor, Bill Taylor, Carolyn Weekley, David Douglas, Lyn Douglas, Tom Des Lauriers, George Bennett, Maureen Moss, Herb Moss, George Handley, Susan Handley, Lea Gryk, Jose Longoria

Info@Proect-Virginia.org

Appendix A: Current Global Bans and Restrictions Against Scrubbers

Source: [June 2023 International Council on Clean Transportation (ICCT) Policy Update]

EUROPEAN UNION, UNITED KINGDOM, AND NORWAY

There is some kind of restriction or ban on scrubbers in seventeen EU countries, the United Kingdom, and Norway (Figure 5). Eight of these countries ban or restrict scrubbers in their territorial waters and/or port areas, and four countries have bans in their territorial waters and have further measures implemented by local ports with stricter targets (e.g., France and Norway in the fjord area). In the case of Germany, inland waterways are regulated by the Strasburg Waste Convention (CDNI) which classifies scrubber washwater discharges as "hazardous substances."[7] According to another regulation, the SeeUmwVerhV, this classification also applies to the maritime sector and the ban would therefore also apply to seas and oceans.[8] Thus, vessels in Germany are only allowed to use closed-loop scrubbers and washwater discharges are prohibited. In the remaining seven countries, the bans are implemented at the port level. One example is the Port of Gothenburg in Sweden; in its regulation, updated in 2022, the port prohibits washwater discharges and only allows the use of closed-loop mode in the port area.[9]

In the case of restrictions in this region, these usually require that vessels get authorization before entering the port or the territorial area (e.g., Estonia and Port of Bilbao), require the use of closed-loop scrubbers only (e.g., Port of Felixstowe), or require proof that the discharged water will not harm the environment and that the pH of the discharged water be below 8.0 (e.g., Lithuania).[10]

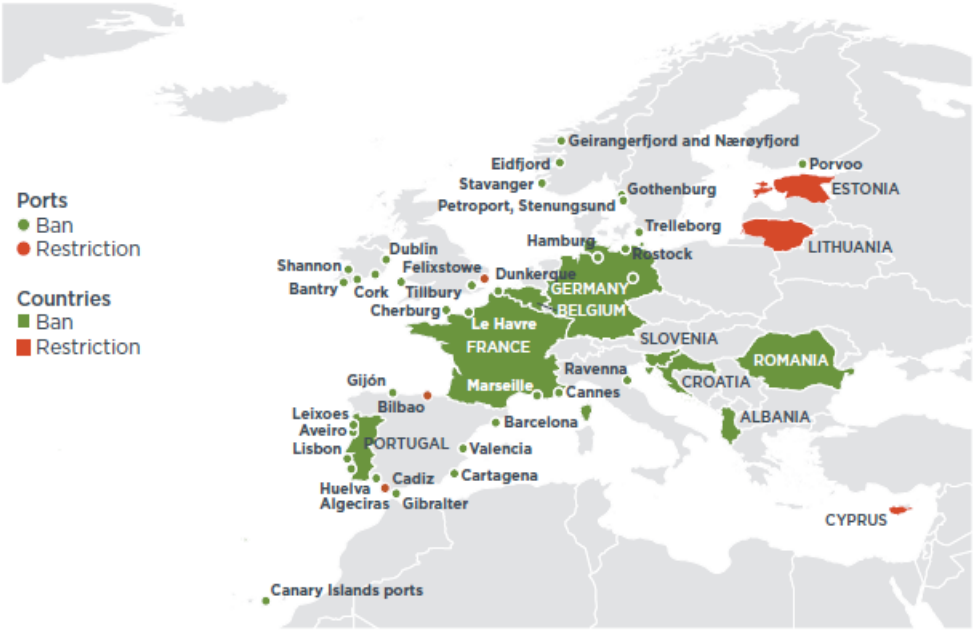


Figure 5. Bans and restrictions on scrubbers in Europe.

**This map is presented without prejudice as to the status of or sovereignty over any territory, the delimitation of international frontiers and boundaries, and the name of any territory, city, or area.*

ASIA

Bans against open-loop washwater discharges have been adopted in China, Malaysia, and Singapore (Figure 6). In Malaysia, the ban applies to territorial waters and in Singapore, the ban was published by the Port Authority of Singapore and applies only to the port area.

Since 2019, China's Maritime Safety Administration has prohibited washwater discharges from open-loop scrubbers in inland river ECAs, waters of the ports in coastal ECAs, and in the Bohai water area. Before entering these areas, ships are to switch to low-sulfur fuels and record information about the fuels used before and after the switch, as well as the time it took to make the switch. In Hong Kong, there is a restriction on scrubber use and authorities need to be "satisfied" with the effectiveness of the sulfur abatement technologies in use on the vessel before they grant access to territorial waters.

Figure 6. Countries and ports that have a ban or restriction on scrubbers in Asia.

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AMERICAS

In the United States, measures against scrubbers are applied in five states (Figure 7). California bans scrubbers within 24 nm of its coast.[11] According to the Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels (VGP), in Connecticut, the washwater from any vessel included is prohibited.[12] In Hawaii, discharging is allowed if ship owners obtained an official license or permit when entering territorial waters. In Florida and Washington State, port-level measures are in place. The Port of Seattle in Washington does not allow washwater discharges from cruise ships and the Port of Canaveral in Florida prohibits washwater discharges.[13]

In Canada, the Vancouver Fraser Port Authority amended its port information guide in 2021 to promote safer and more efficient navigation in its area.[14] One of the amendments states that discharges from fuel combustion machinery into the environment are not permitted while a vessel is at anchorage or at berth, and this applies to water from both open-loop and closed-loop scrubbers. Also, ships fitted with hybrid scrubbers should switch as soon as possible to closed-loop mode and operate the scrubber in zero-discharge mode. Bleed-off water from closed-loop scrubbers is prohibited and should be disposed of in an adequate facility; if not, vessels must switch to compliant fuel or shore power. Lastly, vessels outfitted with scrubbers are required to submit a pre-arrival declaration to the port.

There are limits on the use of scrubbers in five countries in Central and South America (Figure 7). (Argentina previously had a ban on washwater in its territorial waters and ports, but it was suspended due to COVID-19, and thus is not counted). Bermuda bans washwater and residues from scrubbers in its territorial waters and Panama bans them at the Panama Canal. Trinidad & Tobago allows the discharge of washwater, but only with prior approval. In Belize, washwater cannot be discharged into territorial waters and or at ports. A national regulation in Brazil requires that scrubbers have an approved compliance plan and documentation, and additional measures against washwater discharges from scrubbers are taken at the port level. For example, at Vale S.A. ports, within 24 nm of the coastline ships should use only low-sulfur fuel and not discharge any washwater into the ocean. Also, the ports of Rio Grande, Pelotas, and Porto Alegre ban any discharges or bleed-off water, from both open-loop and closed-loop scrubbers, within the polygon of the Ports of Rio Grande do Sol, Lake Guaíba, and Lagoa dos Patos waterway.

Figure 7. Bans and restrictions on scrubbers in the Americas.

**This map is presented without prejudice as to the status of or sovereignty over any territory, the delimitation of international frontiers and boundaries, and the name of any territory, city, or area.*

OCEANIA

The Port of Hastings in Australia is the only place in Oceania that applies any measure on scrubbers (Figure 8). It prohibits the discharge of any offensive and contaminated liquid or waste matter from every vessel type in its port area.[15] This would include discharges from scrubbers.

In 2021, New Zealand's Ministry of Environment released guidelines for the use of scrubbers in territorial waters and they are "discouraged." Ships outfitted with scrubbers should avoid discharges when possible and carry compliant fuels onboard.

Furthermore, they are encouraged to use closed-loop scrubbers in zero-discharge mode and retain the sludge until it can be disposed of in a port facility. Because this is not a formal ban or restriction, it was not counted in our study.

Figure 8. Bans and restrictions on scrubbers in Oceania.

**This map is presented without prejudice as to the status of or sovereignty over any territory, the delimitation of international frontiers and boundaries, and the name of any territory, city, or area.*

AFRICA AND THE MIDDLE EAST

There are bans on open-loop scrubber operations in four African countries (Figure 9). Egypt bans all scrubber types in its territorial waters and ports, and the Suez Canal bans them in the port area. Kenya applies the ban to open-loop scrubbers in all ports and the port of Mombasa in Kenya applies further rules and requires that ships switch to compliant fuels or use closed-loop mode for hybrid scrubbers.

Mozambique allows open-loop scrubbers in its territorial waters if they work properly and follow the regulations; ships must use compliant fuels instead of open-loop scrubbers within ports, bays, and estuaries. Additionally, open-loop scrubbers are banned in all port areas in Mozambique. The Port of Nacala is the only port in Mozambique that has further requirements, and it bans all scrubber discharges in its area.

In the Middle East, Bahrain has a Marine Notice that encourages the use of closed-loop scrubbers in its territorial waters and exclusive economic zone and allows discharges from open-loop scrubbers only if vessel operators can prove that the discharges will not bring any harm to the marine ecosystem. Additionally, open-loop discharges are prohibited in the port of Bahrain and at anchor. In six other countries, ports ban the discharge of washwater from open-loop scrubbers and instead recommend the use of closed-loop scrubbers or compliant fuels. In the ports under the jurisdiction of the Ports, Customs and Free Zone Corporation in the United Arab Emirates, all scrubber use is banned in territorial waters and in Oman, scrubber use is banned in territorial waters only.

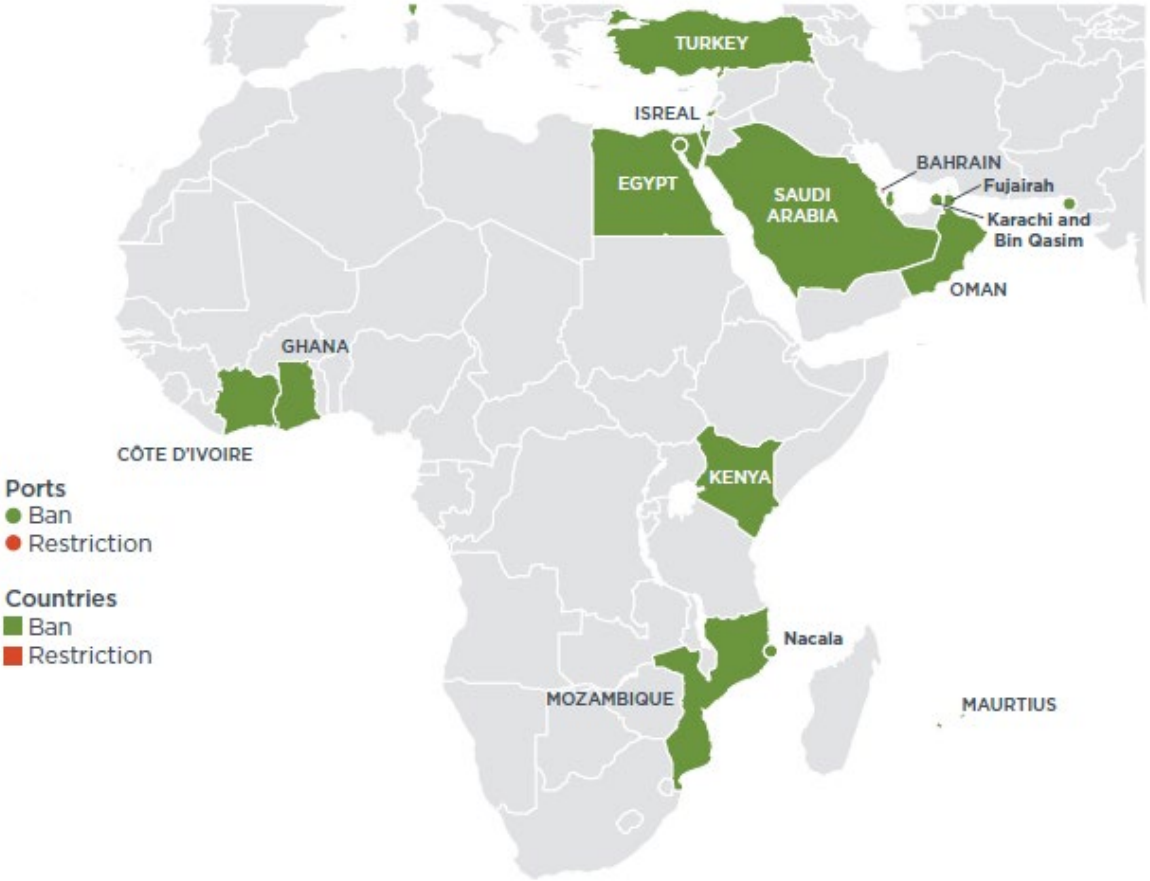


Figure 9. Bans and restrictions on scrubbers in Africa and the Middle East.

**This map is presented without prejudice as to the status of or sovereignty over any territory, the delimitation of international frontiers and boundaries, and the name of any territory, city, or area.*

7 CDNI, "The CDNI Convention - Convention on the Collection, Deposit and Reception of Waste Generated during Navigation on the Rhine and Other Inland Waterways," 2018, https://www.cdni-iwt.org/the-cdni-convention/?lang=en.

8 Federal Ministry of Transport and Digital Infrastructure and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety in agreement with the Federal Ministry of Finance, "SeeUmwVerhV - Verordnung Über Das Umweltgerechte Verhalten in Der Seeschifffahrt," accessed March 30, 2023, https://www.gesetze-im-internet.de/seeumwverhv/BJNR137110014.html.

9 "Permits and Regulations," Port of Gothenburg, 2022, accessed March 10, 2023, https://www.portofgothenburg.com/maritime/permits-and-regulations/.

10 "Shipmasters Information and Emergency Procedure Guide," Port of Felixstowe, July 2020, https://www.portoffelixstowe.co.uk/files/8015/9351/1985/Shipmasters_information_booklet_July_2020.pdf.

11 "Ocean-Going Vessel Fuel Regulation," California Air Resources Board, accessed March 29, 2023, https://ww2.arb.ca.gov/our-work/programs/ocean-going-vessel-fuel-regulation.

12 U.S. Environmental Protection Agency, "Vessel General Permit for Discharges Incidental to the Normal Operation of Vessels (VGP)," 2013, https://www3.epa.gov/npdes/pubs/vgp_permit2013.pdf.

13 Port of Seattle, "Terminal Tariff No. 5: Rates, Charges, Rules and Regulations for Services Performed by and at the Port of Seattle and at Terminals of Participants," effective January 1, 2023, https://www.portseattle.org/sites/default/files/2022-12/Terminals%20Tariff%205%2001.01.23.pdf; Canaveral Port Authority, "Tariff No. 16: Governing Rates, Rules & Regulations of Marine and Port Services Provided by the Canaveral Port Authority," effective October 1, 2020, https://www.portcanaveral.com/Cargo/Port-Tariff/CPA-Tariff-16-FY21-FINAL-(1).aspx.

14 Vancouver Fraser Port Authority, "Notice of Amendment: Port Information Guide."

15 Port of Hastings, "Port Operating Book," 2017, https://static1.squarespace.com/static/592f5720f5e2317ce97cec2c/t/59559f78d1758e3b9a29aa6d/1498783617943/POH-OPR-PRO-001+Port+of+Hastings+Operating+Handbook_Rev0.pdf.

Appendix B: Regulatory Details of Worldwide Scrubber Bans

The table below summarizes the positions taken by ports that have prohibited the use of scrubbers.

Source: NorthStandard, published June 7, 2024

Country	Comments
American Samoa	In February 2024, a club member shared advice they had received, informing that open loop EGCS operation was not permitted in Pago Pago.
Bahrain	MARINE NOTICE: PMA/03/2019 states that open loop operation not allowed in port or at anchor Open loop operation is allowed in Bahraini territorial waters and exclusive economic zone (EEZ) as long as it can be proved that the discharge of washwater complies with MEPC.259(68) and there is no negative impact on marine ecosystems. The Clean Shipping Alliance advise: Vessels must obtain a permit from the Marine Safety & Environment Protection Directorate before discharging washwater anywhere in Bahrain waters.
Belgium	Belgian federal law states discharge only allowed in coastal and open seawaters when at least 3nm off coast. Discharges must not imperil EU Water Framework Directive objectives. Flemish regional law also confirms discharge not allowed in ports or inland waters.
Belize	The Clean Shipping Alliance advise: Discharge of Exhaust Gas Cleaning Wash Water prohibited in territorial waters and port areas (Marine Circular 01/2018 – BPA/MS/23-1/2018(98) dated 12/12/2018).
Bermuda	Ships equipped with Exhaust Gas Cleaning Systems (EGCS) shall seek the prior approval of the Environmental Authority before its use in Bermuda's territorial waters. Washwater and residue from the EGCS shall be not disposed of in Bermuda or discharged into Bermuda's waters but shall be stored on board the ship until outside of Bermuda's waters. See Government of Bermuda's Environmental Policy for Ships at https://www.gov.bm/environmental-policy-ships.
Canada	The Vancouver Fraser Port Authority's (VFPA) will prohibit the discharge of washwater from exhaust gas cleaning systems when vessels are anchored in the port or moored at a berth from 1 March 2022. The VFPA have indicated that the VFPA's Harbour Patrol crew will be responsible for enforcement activities through random checks on vessels.

China (P.R.)	China MSA guidance prohibits the discharge of water washings from open-loop scrubbers in certain areas. The prohibited areas are: Inland river Emission Control Areas (ECAs); Port areas within coastal ECAs; and Bohai Sea – the sea area within lines connecting the junction point of shorelines of Dandong, Dalian and shorelines of Yantai, Weihai. The guidelines also prohibit the incineration of the water washing residues from any type of exhaust gas scrubber. Ships are required to keep accurate records of the stowage and disposal of the washing washings. If a vessel is not able to store the washing water it is required to switch to low sulphur fuel (not exceeding 0.5%) prior to entering the above areas. The guidelines also state that under certain circumstances a vessel may apply for an exemption if it uses fuel that does not meet the MSA's requirements. A copy of the MSA's guidelines for ships operating within the ECAs, including enforcement details can be found here.
Croatia	The Clean Shipping Alliance advise that the Ministry of the Sea, Transport and Infrastructure Notice from 27/10/2017 states that only loop operation is allowed.
Denmark	In April 2024, the government has reached an agreement on a ban on the discharge of scrubber water into Danish territorial waters 12 nautical miles from coast). The ban will take effect on July 1, 2025. Under the agreement, ships must switch to either compliant fuel or closed-loop scrubbers. It is expected that the ban will extend to cover closed scrubbers from July 1, 2029.
Egypt	Suez Canal: Suez Canal Authority has issued Circular 08/2019. Clarification on this circular is provided here. The authority puts no conditions or restrictions on marine fuels until Egypt ratifies MARPOL Annex VI – as such, sulphur cap is not in force. Washwater from open-loop scrubbers is not permitted to be discharged during transit of the canal.
Finland	The Clean Shipping Alliance advise: Open loop discharge not permitted in harbor area of port of Porvoo. Ministry of Transport and Communications informs: Under Finnish legislation, the discharge of wash waters from open-loop scrubbers is allowed in Finnish ports and territorial waters. However, some ports have restricted the discharge in the port area under their own competence.
France	In July 2021, the French authorities issued Proposed Amendments to Division 213 – Pollution Prevention – Prohibition of the discharge of open loop scrubbers from the limit of 3 nautical miles.

	The Budd Group advises that the prohibition took effect on 1 January 2022, and applies to all French and foreign commercial vessels with open loop scrubbers. To comply, the ships concerned must, during their operations in the coastal area and in the port enclosures, stop using their scrubbers and use fuel with a sulphur content that complies with the regulatory ceilings. Compliance with the measure will be monitored by ship safety inspectors. The penalties applicable in the event of an infringement may start at 4,000 euros for the Master of the vessel and go up to 7 years' imprisonment and a fine of 10.5 million euros depending on the vessel concerned.
Germany	EGCS discharge is not permitted according to the convention on the collection, deposit and reception of waste generated during navigation on the Rhine and other inland waterways (CDNI Convention). Restrictions apply to all inland waterways intended for general traffic except for the German part of Lake Constance and the stretch of the Rhine upstream of Rheinfelden.https://www.cdni-iwt.org/presentation-of-cdni/?lang=en.
Ghana	The Clean Shipping Alliance advises: Ghana Maritime Authority informed the CSA that the Administration does not allow the operation of open-loop scrubbers in Ghanaian waters.
Gibraltar	Closed loop scrubbers are permitted in Gibraltar waters. Hybrid scrubbers operating in closed loop mode are also permitted. Open loop scrubbers are temporarily not permitted as a precautionary measure until the Gibraltar Government arrives at a definitive policy decision with regards to (solely) open loop scrubbers.
Ireland	Dublin: Refer to Port of Dublin's NOTICE TO MARINERS No. 37 of 2018 Prohibition on the Discharge of Exhaust Gas Scrubber Wash Water http://www.dublinport.ie/wp-content/uploads/2018/06/37-2018-Prohibition-on-the-Discharge-of-Exhaust-Gas-Scrubber-Wash-Water.pdf. Waterford: Port of Waterford weblink http://www.portofwaterford.com/news/marine-notices-prohibition-on-the-discharge-of-exhaust-gas-scrubber-wash-wa. The Clean Shipping Alliance advise: Cork: Notice to Mariners 15/2018 dated 12/01/2018 "Prohibition on the Discharge of Exhaust Gas Scrubber Wash Water" can be read here.
Israel	Official notice MP27 dated 11 January 2023 issued by the State of Israel Ministry of Transport regarding the new fuel sulphur regulations states that discharging of washwater from open loop mode EGCS (scrubber) is prohibited when ship is berthing alongside in any Israeli port, including ports anchorage area. Read the notice here.
Ivory Coast	No formal documentation sighted or referenced, but Abidjan agents have advised open loop operation is prohibited in territorial waters.

Kenya	The Clean Shipping Alliance advises: Kenya's National Guidelines for Implementation of IMO 2020 December 2019 include: 7.1. The discharge of washwater from open-loop scrubbers is prohibited in the Kenyan Ports limits. This is to maintain the standard of Kenya marine water quality. 7.2 While in the port of Mombasa, ships fitted with hybrid type of scrubbers shall switch to the closed- loop mode of operation. Ships fitted with open-loop scrubbers shall switch over to compliant fuel oil.
Malaysia	Malaysia shipping notice MSN 07/2019 prohibits the use of open loop scrubbers within 12 nautical miles from land. Vessels calling at Malaysian ports must operate in closed loop mode or change over to compliant fuel before arrival.MSN072019 (2).pdf.
Mauritius	The Clean Shipping Alliance advise: Merchant Shipping Notice 2 of 2019 includes: 3.9 …except in the case of innocent passage, ships proceeding to Mauritius or other islands forming part of the territory of Mauritius that use high sulphur fuel oil (HSFO) in combination with open-loop scrubber shall changeover from HSFO to compliant fuel oil whenever they enter the territorial waters of Mauritius i.e. within 12 nautical miles from the shore. Environmental legislation presently in force in Mauritius prohibits the discharge of wash water from open loop scrubbers.
Mozambique	The Clean Shipping Alliance advise: As per Decree 45/2006, the COO of the Nacala Port stated in March 2021 that the discharge of washwater is not allowed in the Nacala Port. Harbor Master for the Port of Maputo informs in March 2021 that: a) Open loop scrubbers are allowed in the Mozambique territorial waters as long as they are working properly and following all the regulations. b) Within ports, estuaries or bays where the water salinity values fall from the standard ones considered for salt water (1,025 or more), open loop scrubbers are not allowed and the ships must operate using compliant fuel.
Norway	The World Heritage Fjords sea areas of Geirangerfjord and Nærøyfjord restrict the use of open loop scrubbers, but not closed loop. Section 14b of the relevant Norwegian Maritime Authority's regulation can be accessed at: https://www.sdir.no/en/shipping/legislation/directives/amendments-to-the-regulations-on-environmental-safety-for-ships-and-mobile-offshore-units/. Eidfjord – closed loop operation only: https://www.cruise-norway.no/viewfile.aspx?id=5697
Oman	Open-loop scrubber discharge is not permitted in Oman territorial waters The Clean Shipping Alliance advise: Marine Notice No. 09/2020 includes:

	1. Ships that use open loop ship exhaust gas cleaning systems are prohibited from discharging washing water into Omani ports and territorial waters. 2. Ships that use hybrid exhaust gas cleaning systems must switch from the open loop mode to the closed loop mode when they reach the territorial waters and keep the washing residues on board and dispose of them in the designated facilities at the port. 3. Ships using closed loop exhaust gas cleaning systems must keep the washing residues onboard when they reach territorial water and dispose of it at designated facilities at the port.
Pakistan	The Government of Pakistan Ministry of Maritime Affairs (Ports and Shipping) Circular 001/2020 (Click Here) prohibits the discharge of washwater from open loop scrubbers. If closed loop scrubbers are not in use then compliant fuel should be used and changed over before arriving in port waters.
Panama	NT NOTICE TO SHIPPING No. N-1-2020 "Vessel Requirements", Section 31 states the following and can be accessed here. The use of open loop scrubbers or hybrid scrubbers in open loop mode is prohibited in Panama Canal waters. Vessels opting to use closed loop scrubbers or hybrid scrubbers in closed/ zero discharge mode shall submit documents to the panama-canal authority as detailed in section 31 E. Additionally, Section 28 (5) of the same document states: "Residues from the Exhaust Gas Cleaning System (EGCS) washwater are to be collected on board. Discharging these residues into the water bodies under the responsibility of the Panama Canal or incinerating them on board is not permitted."
Papua New Guinea	7 June 2024 – Ministry of Mines and Geology (MMG) representative and appointed surveyor's conduct are less flexible when performing mandatory draft surveys on board vessels loading bauxite. MMG will not hesitate to withhold outward clearance from any vessel which refused to align its and/or their surveyor's draft figures with their own. To mitigate this risk,the recommendation for vessels loading bauxite in Guinea's ports (Conakry, Kamsar, Boffa, Boke etc) is to appoint a surveyor to carry out initial and final draft surveys. The surveyor's presence for the survey to be joint may facilitate communication with the MGM survey to prevent and/or mitigate any figures discrepancies. The Master may also seek assistance for a local surveyor on issuing letters of protest and clausing of the MMG draft results which the vessel will be asked to sign. This can be part of the loading survey which are regularly arranged on board vessels loading bauxite. Precautions need to be taken when discharging ballast water in all Guinean ports, Guinea which ratified the MARPOL Convention. Local authorities prohibit the discharge of harmful substances into the water, and ballasting operations are only allowed subject to verification by the Harbor master's office or the competent authorities. In the event of breaches, Members incur the risk to see fines equivalent to 150% of the vessel's disbursement account being imposed, which can needless to say reach very high amounts. Ballasting and de-ballasting without permission have previously resulted in the imposition of fines by the authorities. Therefore, a

	special permission must be obtained from local authorities if the operation is considered.
Portugal	Use of open loop scrubbers are not allowed in ports of Aveiro, Leixoes, Lisbon and Sines from entry of the ship into the port, along the port channel and at berth (moored), until the ship leaves the port. Only closed loop operation is allowed. The Clean Shipping Alliance advises: Although the Decree-Law no. 170/B/2014 allows the use of the open loop scrubbers as an alternative option to the compliant fuel, the ports' administrations can go beyond the federal regulation and apply additional restrictions. Use of open loop scrubbers are not allowed from entry of the ship into the port, along the port channel and at berth (moored), until the ship leaves the port. Only closed loop operation is allowed.
Qatar	The Clean Shipping Alliance advises: Qatar Petroleum MIC [Mesaieed Industrial City] Port Information and Regulations Guide – January 2020 states: "Also, as per Qatari Environmental Law, wash water originated from the open loop scrubbers, containing chemicals and /or metals are PROHIBITED to be discharged in Qatari waters."
Romania	The Clean Shipping Alliance advises: Information from Romanian Naval Authority dated 30/03/2021 states there is no restriction of using open-loop EGCS into Romanian territorial waters but use is forbidden within port limits.
Saudi Arabia	As detailed in Circular 55-2020, Saudi Port Authorities have banned exhaust wash water discharges from open loop EGCS systems in Saudi ports until an environmental standard is issued in this regard. The Circular also states that Saudi GAMEP authority prevents discharge in territorial waters.
Singapore	Maritime and Port Authority of Singapore (MPA) ban on the use of open loop scrubbers took effect on 1 January 2020. See https://www.mpa.gov.sg/web/portal/home/singapore-registry-of-ships/about-srs-and-what-new/IMO-2020-Fuel-Oil-Sulphur-Limit. The Clean Shipping Alliance advises: This ban does not apply to ships transiting the Traffic Separation Scheme (TSS) without calling into the Port of Singapore.
Slovenia	The Clean Shipping Alliance advises: Information from the Slovenian Maritime Authority dated 23/03/2021 refers to "Water Act" (Official gaz. no. 67/02) in detail: the Article 66, paragraph 4. The discharge of washwater of open-loop EGCS is prohibited, furthermore even the

	use of an open loop EGCS in Slovenian waters is prohibited (only closed loop EGCS is allowed). Article 66 (navigational practices related to water pollution): (4) Waste water generated on vessels shall be prohibited from being discharged into waters directly from vessels, except for unpolluted cooling. water.
Spain	Correspondents advise to check with each particular Harbour Master and Port Authority. They further advise that the use of open loop scrubbers is prohibited at the Spanish ports of Algeciras, Cartagena, Valencia and Huelva. The Clean Shipping Alliance advises in ports of Bilbao and Cadiz the use of EGCS is restricted within port limits. Documentation must be submitted and approved by the harbor master before EGCS can be used in port.
Sweden	While there is no nationwide ban in Swedish waters on the use of open loop scrubbers, some ports have placed local restrictions: Stockholm – North's correspondents advise that there is an open loop scrubber ban in Stockholm. Trelleborg – Chalmers University in Gothenburg advise of ban of open loop scrubbers in port of Trelleborg. See section 29 of the Swedish language version of the Trelleborg port regulations (https://www.trelleborgshamn.se/wp-content/uploads/2020/01/Hamnordning-G%C3%A4llande-fr%C3%A5n-1-januari-2020.pdf). Gothenburg: The Clean Shipping Alliance advise port regulation item 8.10: It is not permitted to discharge contaminated water within the port area. Scrubbers used for exhaust gas cleaning are only permitted if operated in close loop mode. (Click Here). Petroport, Stenungsund – See section 12 of harbor regulations which state "Vessels calling at the Port are not allowed to use Open-loop System for scrubbers". See http://www.petroport.se/wp-content/uploads/2019/11/PetroPort-Harbour-Regulations-2016_v8-nov-2019-1.pdf.
Turkey	Vitsan Mümessillik ve Müşavirlik A.Ş advise that the Ministry of Environment and Urbanization of Turkey announced on 6 April 2021 that washwater discharge of open-loop scrubbers is prohibited in Turkish waters. Vessels operating with open-loop scrubber must switch sulphur-compliant fuels when entering / sailing in Turkish waters. Turkish authorities may impose a pollution fine on vessels that do not comply with the regulation. Vitsan circular regarding the scrubber usage in Turkey can be read here. The Turkish Chamber of Shipping Circular on the subject can be read here.
United Kingdom – England	The PLA allows the use of both open and closed loop scrubbers in the tidal Thames until further evidence is presented. However, open loop scrubbers are not permitted at any berths operated by the Port of Tilbury. Other individual berth operators may have their own restrictions on the use of scrubbers, agents/owners are therefore advised to contact any berth operators directly for

	advice. http://www.pla.co.uk/assets/nabso15of2020-exhaustgascleaningsystems.pdf. Permitted at APB Port of Southampton https://www.southamptonvts.co.uk/Port_Information/Regulations/Environment_Guidance_for_Commercial_Vessels_/. Permitted at Port of Felixstowe – however hybrid systems should operate in closed loop mode https://www.portoffelixstowe.co.uk/company-information/marine-information/
United Kingdom – Scotland	Forth Ports Circular No 45 of 2019 states: "Forth Ports and Port of Dundee Byelaw 59 specifically prohibits the discharge of materials into the Forth and Tay. This applies to discharge water from an "Open Loop" scrubber. Therefore, as a precaution the use of "Open Loop" scrubbers on the Forth and Tay is prohibited until further notice." See: https://www.forthports.co.uk/wp-content/uploads/2019/12/Notice-to-Mariners-No-45-of-2019-Use-of-Scubbers.pdf.
United Kingdom – Wales	Notice to Mariners No.127 of 2019 – Policy on the Use of Open-Loop Exhaust Scrubbers states: MARINERS ARE HEREBY ADVISED that, this Notice to Mariners is to communicate Milford Haven Port Authority's (MHPA) policy on the prohibition of discharge of exhaust gas scrubber wash water. This Notice applies to all vessels within the MHPA jurisdiction as set out in the Milford Haven Conservancy Act 1983 and subsequent legislation.
United States – California	The Californian ARB OGV regulations stipulate only distillate fuels can be used to comply with the 0.1% sulphur limit. Changeover to compliant distillate fuel (MGO or MDO) prior to entering Californian waters.
United States – Connecticut	Discharge of exhaust gas scrubber washwater into Connecticut waters from any vessel is prohibited. VGP 2013: 6.5.9 Discharge of exhaust gas scrubber washwater into Connecticut waters from any vessel covered under the VGP or sVGP is prohibited. This condition is necessary for compliance with CGS section 22a-427, Standards No.1, 2, 9, 12, 14, 15, and 24 of the CT WQS.
United States – Washington State	The Clean Shipping Alliance advises: Port of Seattle Terminals Tariff No. 5, Item 4001 states that passenger cruise ships will not discharge graywater, blackwater, or exhaust gas cleaning system wash water, whether treated or not while at berth in Port Terminals.
United States – Hawaii	Additional requirements under VGP 2013 Section 6.6. The State of Hawaii (Clean Water Branch) issued 'Blanket Section 401' Water Quality Criteria (WQC). This covers 27 categories of effluent discharge from an applicable vessel (EGCS washwater being one) that have received the best control or treatment into waters of the State of Hawaii incidental to the normal operation of the applicable vessels.

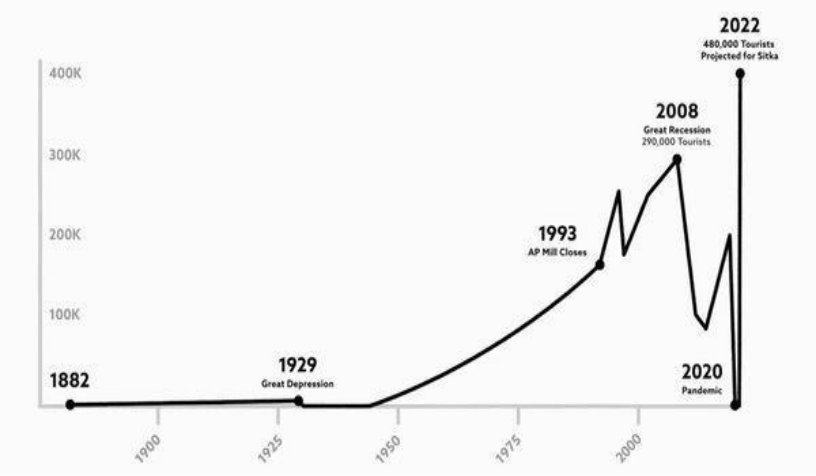
United Arab Emirates – Fujairah	Notice to Mariners No. 252 from Port Fujairah prohibits use of open loop scrubbers in its waters.
United Arab Emirates – Dubai	The Clean Shipping Alliance advises: Guidelines for Vessels Calling to Dubai Territorial Waters states that the use of EGCS is prohibited within Dubai territorial waters.

Appendix C: Other Cruise Industry Considerations

Community Impacts

Key West, Charleston, Venice, Barcelona, Sitka, Juneau, Seattle, Amsterdam, Monterey Bay, Marseille, Bar Harbor, Bergen, and many other cities all tell the same tragic story. The cruise industry has exploited these communities to the breaking point, and yet the citizens in these communities have had little input in the initial decision to bring in large cruise ships. Now they are fighting back.

Sitka, a remote community in Alaska, now has over 560,000 tourists per year (see the following graph). Sitka's story is depicted in the documentary "Cruise Boom", excerpts of which can be found here. The citizens voted down a cruise ship pier and the cruise lines side-stepped the community by helping to finance a business for a privately run pier; this also happened in Key West. In a recent Sitka survey, 63% of respondents said the cruise industry negatively impacted their lives. Despite a clear message from residents, the industry places profits before the will of the people. Bar Harbor, Maine, recently passed a law limiting tourism to 1,000 passengers per day, and it has been fighting costly court challenges. There are growing numbers of such stories worldwide.



Graph of Cruise Industry Over-Tourism in Sitka, Alaska

In Yorktown, Virginia, the cruise industry lobbied local government and legislators outside of the public eye to secure funding for a cruise ship pier on private property (the non-profit Watermen's Museum). After finding out from local media outlets, residents fought back through town educational meetings, a website, and a petition. A resident from Juneau, Alaska read about the effort to stop Princess Cruise Lines from coming to Yorktown and wrote a letter that in part stated,

> *"You are in a critical moment, and I am encouraged to see you organizing so quickly. The industry are colonizers, and they go through stages in their colonization and exploitation. I think you could be in the position to be assertive and in their face and turn them away. If they start coming, they will get locals who sell out and every local who gets money from them will make it harder to stop.*
>
> *"They promise the sun and the moon. They will externalize all costs, make demands that have you giving up what is dear to you, and frame a lot of 'facts' that are not facts."*

A concerned woman from Charleston, North Carolina, shared her experience in a heart-felt letter to the York County Board of Supervisors as well:

> *"Over the years, the cruise ship industry touted economic benefits of cruise traffic, while downplaying the harmful consequences. The boats pollute our air, create effective no-go zones for residents, and tax city infrastructure and public services. All a very sugar-coated, hidden agenda."*

The story in each port city is remarkably similar. The cruise industry's tactic is to work behind the scenes promising economic benefits while downplaying negative impacts. They work to get a foot in the door with local businesses and organizations, asking to start small, maybe with a pilot program. They will lobby local and state officials promoting their agenda, outside of the public eye if possible, and contribute to their campaigns. Once a program is initiated, they make it difficult to back out. Businesses are pitted against citizens, allowing cruise lines to continue to operate and expand. Over time a majority of residents organize and push back but it is costly and difficult to unseat this multibillion-dollar industry once it moves into an area. The cases are well documented in articles and reports. An article from the Business Insider tells the story of these port communities through images.

Foreign-flagged Ships

Most cruise ships are registered outside the United States and fly "flags of convenience." This greatly reduces their U.S. tax burden on gambling profits and their compliance with U.S. labor laws, conferring a competitive advantage over shore-based businesses, including casinos. The article, Economics of Cruise Ships, states: "According to annual report filings, the major cruise lines pay an average tax rate of 0.8%." Thus, the industry exploits U.S. infrastructure but does not give back its fair share (the Federal corporate tax rate is 21%). The various port and permit fees required of cruise lines do not adequately compensate states and localities for use of personnel, infrastructure, or for environmental and cultural impacts.

The Congressional Research Service report warned that the complicated legal structure behind cruise ships and their flags-of-convenience system makes it difficult to enforce international standards to prevent or investigate environmental accidents, due to the poor response in many cases from the countries where the vessels are registered. Although not a cruise ship, the vessel that recently collapsed the Keystone Bridge in Baltimore is a foreign-flagged ship that "follows the regulations enforced by that country despite sailing out of an American port," according to News Nation. The article also states, "the use of a foreign-built ship sailing out of an American port follows a trend in which the U.S. Department of Transportation reported a significant drop in American-built ships being used in international trade."

Cruise Ship Economics

The cruise ship industry talks about economic benefit to the community but that is simply not the case. Research shows the economic benefit to the community is about 5% of what is promised. When detrimental impacts (e.g. pollution) are considered, there is a significant net loss to the community. Cruise ship tourists spend less than virtually all other categories of tourists – even backpacker spend more. This makes perfect sense, remember this industry's sole focus is maximizing profits. Cruise ship tourists typically eat breakfast on-board, are bussed to an excursion, and are back on-board by dinnertime. And even the little spent ashore is minimized by "pay to play" agreements that compel onshore tour operators and retail businesses to pay to do business with the cruise lines.

Appendix D: Letters of Support

Friends of Earth

Friends of the Earth

A Statement on the Cruise Industry in Virginia

Friends of the Earth (FoE) is a non-profit international organization that strives for a healthier and more just world. FoE is a recognized leader for well-reasoned environmental policy analysis and change that describes what needs to be done, rather than what is seen as politically feasible or desirable. Over FoE's 50+ year history, it has supported grassroots efforts, such as Protect-Virginia.org, that are working to affect positive change in their communities that align with sound environmental principles. FoE is a voice to speak uncomfortable truths to policy makers when their decisions have detrimental societal impacts.

We advocate for laws and regulations to stop cruise ships from dumping waste into our oceans and rivers, polluting our beaches, contaminating our coral reefs, and destroying our valuable marine ecology. Cruise ships the size of small cities ply the waters off our coasts, producing and then dumping large amounts of sewage and other wastes into our oceans, polluting our beaches, contaminating our coral reefs, and destroying our valuable marine ecology. Some of that waste is treated prior to dumping; other waste is dumped directly to the ocean without a second thought.

A large cruise ship, in a one-week voyage is estimated to generate 210,000 gallons (or 10 backyard swimming pools) of human sewage and 1 million gallons (40 more swimming pools) of graywater (water from sinks, baths, showers, laundry and galleys). Cruise ships also generate large volumes of oily bilge water, sewage sludge, garbage, and hazardous wastes. In addition, these luxury liners, which allow passengers access to sensitive ecosystems, spew a range of pollutants into the air that can lead to serious public health problems and contribute to global warming. In one week, a cruise ship can produce eight times the CO2 of a land-based vacation.

The rapidly expanding size and number of cruise ships in U.S. waters has triggered a national cruise ship pollution crisis. Environmental laws have not kept pace with growth of the industry. Cruise lines travel the most pristine waters of America, dumping all the way. Current laws are insufficient to prevent environmental damage from this industry.

Due to the global impacts of the cruise industry, FoE has researched this industry and reports on sewage treatment, air pollution, water quality compliance and transparency. Cruise lines currently coming to Virginia include Viking, Princess, Crystal Cruise, Holland America, and Carnival; these lines have pollution ratings of F. D, F, D-, and F respectively.

The Chesapeake Bay, rivers, and estuaries are home to more than 3,000 species of plants and animals. These fragile ecosystems will be further stressed by an industry that has not made substantial changes to address the ecological impacts they incur. Virginia has no regulatory structure in place to protect against the environmental damage this industry will cause. Friends of the Earth strongly opposes cruise industry expansion in Virginia waters and endorses the proposed cruise ship pollution regulations proposed by Protect Viginia.org.

FoE.org

Sierra Club

In Support of Stronger Environmental Regulations
For Large Cruise Ships in Virginia Waters

To Whom it May Concern,

The York River Group, Sierra Club, a grassroots environmental organization of over 900 members located in the Virginia Peninsula area, to include all of Yorktown and the York River, stands in support of Protect Virginia in their Petition for Rulemaking, submitted by Dr. Robert Hodson to the Department of Environmental Quality. This petition requests urgent, more protective regulation of cruise ships in Virginia waters.

The enormous ships, three football fields in length, and carrying thousands of passengers, have a well-known record for contaminating the air and waters. Princess Cruise Lines has a record of illegal discharges of contaminated wastewater, for which they paid the largest ever fines for maritime pollution in 2016, 2019, and 2022. Most ships use bunker fuel, or Heavy Fuel Oil (HFO), a tarry sludge left over from the crude oil refining process. The emissions of toxic nitrogen oxides, sulfur oxides and heavy metals from the burning of HFOs are a threat to human health and to the surrounding marine life. The scrubber process typically used to clean the exhaust merely transfers air pollutants into the water, and emissions of CO_2 contribute to ocean acidification and climate change.

Virginia's coastal waters support a diversity of flora and fauna including 348 species of finfish, 173 species of shellfish, more than 2,700 plant species, and more than 16 species of underwater grasses in the Chesapeake Bay watershed. The cruise ships will generate contaminants that will impact the watermen, sportsmen, and businesses who depend on a healthy marine environment.

Kindly accept these comments for your consideration.

Tyla Matteson
Chair, York River Group
Sierra Club
804-275-6476

COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD
SUMMARY AND ANALYSIS OF PUBLIC COMMENTS FOR OCEAN-CLASS PASSENGER CRUISE SHIP INDUSTRY PETITION

INTRODUCTION

On September 30, 2024, the Department of Environmental Quality (DEQ) received a petition from Robert F. Hodson to initiate a rulemaking on ocean-class passenger cruise ships. Specifically, this petition requests that DEQ develop new regulations for cruise ships in Virginia waters. The petition requests the following: (1) mandate the use of low-sulfur fuel, (2) ban the use of exhaust gas cleaning systems (open-loop scrubbers), (3) require the use of shore power, (4) restrict the dumping of graywater, blackwater, and other environmentally detrimental waste products, and (5) require incident reporting and independent monitoring to ensure compliance. Items one through three and five are potentially under the purview of the State Air Pollution Control Board, while item four would be the responsibility of the State Water Control Board.

As required by law, notice of the opportunity to submit written comments was given to the public on October 21, 2024 in the Virginia Register and the public comment period closed on November 11, 2024. About 45 written comments were received during the public comment period.

NATURE OF REQUEST

The petitioner is requesting the Board to (1) mandate the use of low-sulfur fuel, (2) ban the use of exhaust gas cleaning systems (open-loop scrubbers), (3) require the use of shore power, and (5) require incident reporting and independent monitoring to ensure compliance. The Board does not have the authority to address item (4) restrict the dumping of graywater, blackwater, and other environmentally detrimental waste products.

ANALYSIS OF COMMENT

Below is a summary of each person's comment and the accompanying analysis. Included is a brief statement of the subject, the identification of the commenter, the text of the comment and the Board's response (analysis and action taken). Each issue is discussed in light of all of the comments received that affect that issue. The Board has reviewed the comments and developed a specific response based on its evaluation of the issue raised. The Board's action is based on consideration of the overall goals and objectives of the air quality program and the applicable statutory provisions governing the program.

1. **SUBJECT:** General support for the petition

COMMENTER: About 33 commenters

TEXT: Commenters cited a variety of reasons to support the petition:

- Most cruise ships burn low-grade bunker fuel laden with sulfur oxides, nitrogen oxides, heavy metals, and other toxics. Pollutants from exhaust emissions are removed by ship scrubbers spraying seawater into smokestacks and returning the acidic wash water laden with heavy metals etc. back into the environment, turning air pollution into a water pollution problem.
- The onboard technologies employed to control these toxic discharges are often not operated or maintained as to achieve the levels of performance that they advertise, thus releasing the undesirable toxins into the atmosphere.
- Cruise ships are getting bigger, and the smaller ships are looking for other ways into land via ports that haven't been established yet. These smaller ships are older and lack the cleaner set up of the newer ships. These ships are not well maintained and have a history of pollution and accidents.
- Cruise ships are a major contributor to climate change. They have a larger carbon footprint per passenger than virtually all other forms of transportation. Cruise ship passengers have eight times the carbon footprint of land-based tourists.

Commenters also addressed several non-air quality related issues such as water pollution, tourism, and economic impacts.

RESPONSE: The commenters' concerns are appreciated; however, the Board is limited by state statute (§ 10.1-1307 B) to only regulating motor vehicles with respect to a Low and Zero Emissions Vehicle (§ 177) program, or an inspection and maintenance (I/M) program governing on-road motor vehicles in the northern Virginia ozone nonattainment area. The Board has no jurisdiction over off-shore mobile sources such as cruise ships.

Cruise ships are subject to international law and treaty, and changes to pollution controls should be pursued through those venues. The U.S. Environmental Protection Agency (EPA) participates on the U.S. delegation to the International Maritime Organization (IMO), which is part of the United Nations. The Marine Environment Protection Committee is a group of member states within IMO that works on the prevention of marine pollution. The global marine environment standards are contained in the International Convention on the Prevention of Pollution from Ships treaty, also known as MARPOL. Annex VI to MARPOL defines engine and ship requirements related to air pollution. The Board has no legal ability to override these existing legal requirements.

Even if the Board had the authority to regulate cruise ships, it would not be able to complete the work to develop a regulation until well after various international and federal efforts had been conducted; see, for example, https://www.epa.gov/regulations-emissions-vehicles-and-engines/epa-collaboration-international-air-pollution-0.

The Department therefore recommends that the Board deny the petition.

2. **SUBJECT:** General support for the petition

COMMENTER: Three commenters

TEXT: As a Virginia resident, I'm urging DEQ to give utmost consideration to the petition requesting additional regulations for large cruise ships in Virginia waters. Pollution from increasing cruise ship traffic and passenger capacity threatens public health, our coastal ecosystems, and Virginia's seafood industry. These large ships, essentially floating cities carrying thousands of passengers, have an environmental impact far greater than other commercial vessels. Existing federal regulations governing cruise ship operations have proved inadequate to safeguard the vital public resources of the state. The potential for environmental harm from cruise ships is of particular concern for the Chesapeake Bay, its commercial and recreational fisheries, and the fragile ecosystems that support them.

RESPONSE: The commenters' concerns are appreciated; see the response to comment 1 for more information.

3. **SUBJECT:** General opposition to the petition

COMMENTER: About 4 commenters

TEXT: Commenters cited a variety of reasons to oppose the petition:

- Cruise ships are clean. There are issues from time to time, but the ability to create safe and clean effluent that can be off loaded before reaching the bay is a reliable process.
- Access to Yorktown, Williamsburg and Jamestown will drive economic prosperity to James City County and York County. There are statewide benefits as well.
- Addressing rising sea level, shore restoration, septic system failures, Chesapeake bay restoration and state park enhancements to wastewater treatment plants, etc., would be more protective of the environment.

RESPONSE: The Department recommends that the Board deny the petition; see the response to comment 1 for further discussion. Issues not germane to air quality were not considered.

4. **SUBJECT:** General support for the petition

COMMENTER: 7,039 petition signatures and 210 letters sponsored by Friends of the Earth

TEXT: The commenters expressed general support for the petition.

RESPONSE: The commenters' request is acknowledged; see the response to comment 1 for further discussion.

5. **SUBJECT:** Opposition to the petition; economic impacts

COMMENTER: Virginia Tourism Corporation; City of Norfolk, Virginia

TEXT: The City of Norfolk is investing $12 million to expand the cruise industry business. Starting in 2025, year-round service from Norfolk will conservatively generate nearly $19 million annually from Carnival passengers alone. These figures do not account for the numerous jobs supported by the cruise industry, including stevedores, line handlers, CBP, pilots, and various contracted services. The economic impact of the cruise industry also supports a wide range of local businesses, including hoteliers, restaurants, and small businesses. The proposal could severely hinder our ability to capitalize on this growing market, undermining the significant investments already made by both the public and private sectors. We urge you to consider the broader implications of these regulations on Virginia's tourism industry. We can find a balanced approach that protects our environment while fostering economic growth.

RESPONSE: The commenters' observations are noted; see the response to comment 1 for more information.

6. **SUBJECT:** Air pollution, existing regulations.

COMMENTER: Virginia Maritime Association; Virginia Pilot Association

TEXT: Vessels calling on Virginia's port already use low-sulfur fuels or permitted exhaust gas cleaning systems in compliance with international, federal, and state law. MARPOL Annex VI regulates air pollution from ships, and the IMO enforces those rules globally: North American waters, including Virginia's commercial waterways, are designated as emission control areas (ECAs). This limits the sulfur content of fuel used by ships to 0.10% (by mass). MARPOL also sets nitrogen oxides (NO_X) standards for ships, including those operating in North American waters. In accordance with EPA, the U.S. adheres to IMO's ECA standards within 200 nautical miles of the coast, and ships operating in U.S. ECAs must use fuel with a sulfur content not exceeding 0.10% or a permitted exhaust gas cleaning system. Additionally, EPA's Vessel General Permit (VGP) program includes fuel-related provisions focusing on emissions compliance and recordkeeping. Finally, the U.S. Coast Guard enforces compliance with MARPOL standards and conducts inspections to ensure ships meet EPA emission limits and other federal environmental standards.

Furthermore, the Clean Air Act regulates emissions from stationary and mobile sources, including vessels. While it primarily applies to shore-based facilities, it requires adherence to federal ECA standards and other pollution limits.

IMO regulates fuel emissions from ships under MARPOL Annex VI, and under these rules ships can use exhaust gas cleaning systems like open-loop scrubbers to meet sulfur emissions standards if they discharge washwater within allowable parameters. In the U.S., the EPA's VGP requires that vessels using open-loop scrubbers within 3 nautical miles of our shores must meet additional monitoring, effluent limitation, and reporting requirements.

Shore power is currently not mandated under IMO or the EPA, as their existing fuel and exhaust treatment regulations adequately address the established emissions standards. The infrastructure to support shore power does not exist in Virginia's ports, and the installation of such would be costly and time consuming.

Final, with respect to air emissions reporting, vessels must monitor sulfur content in fuels and report compliance with the North American ECA standards. Fuel switching records are also required when operating within the North American ECA. Reporting of greenhouse gas emissions (e.g., CO_2) is required under the MARPOL Annex VI, and EPA may request emissions data for vessels operating frequently in U.S. waters.

RESPONSE: The commenter's discussion of existing air pollution controls on ships is appreciated. As stated in the response to comment 1, the Department is recommending that the Board deny the petition.

7. **SUBJECT:** Federal legal requirements

COMMENTER: Cruise Lines International Association (CLIA)

TEXT: The Virginia statute that allows citizens to petition for the adoption of regulations requires that the petition make "reference to the legal authority of the agency to take the action requested." By ignoring clear federal preemption, the petition does not satisfy this requirement. The U.S. Supreme Court has held that there is "no beginning assumption" that state laws which "bear upon national and international maritime commerce" are a "valid exercise of [the state's] police powers." Whenever states regulate maritime commerce, courts "ask whether the local laws in question are consistent with the federal statutory structure, which has as one of its objectives a uniformity of regulation for maritime commerce."

Absent from the petition is any substantive discussion of the Vessel Incidental Discharge Act (VIDA) which established a new section of the Clean Water Act, Uniform National Standards for Discharges. This statute was meant to provide for national and uniform regulatory standards, and the federal government has been working for years on issuing such standards. The petition admits that EPA has recently posted a new Vessel Incidental Discharge National Standard and that the U.S. Coast Guard (USCG) has two years to issue final implementing regulations. What the petition does not mention is that, after these USCG regulations are issued, all state regulation of vessel discharges would be subject to an explicit preemption provision: "with respect to every

discharge…no State, political subdivision of a State, or interstate agency may adopt or enforce any law, regulation, or other requirement of the State, political subdivision, or interstate agency with respect to any such discharge." The only exceptions are for state regulations identical or less stringent than the federal regulations. In other words, the petition asks Virginia to issue regulations when in less than two years, these regulations will be preempted by the national standard.

The petition asks that Virginia ban the use of open loop scrubbers, mandate the use of low-sulfur fuel, and require the use of shore power. But EPA has specifically rejected these proposals, stating that "EPA has not received information demonstrating that there is sufficient low sulfur fuel (which may be needed to comply with emissions standards if scrubber discharges are not permitted) or that adequate onshore reception facilities are available for disposal of scrubber washwaters and residues that would be generated by the use of other scrubber configurations such as closed- loop or hybrid systems." As of October 2026, this entire subject area will be subject to final, preemptive federal regulations.

Assuming DEQ could promulgate regulations before October 2026, would Virginia have such authority to issue short-lived regulations? Even if the petition were to be interpreted as seeking regulation by DEQ only until October 2026, such regulation would still be preempted. The EPA General Permit "shall remain in force and effect, and shall not be modified" until the USCG issues its final VIDA regulations – that is, October 2026. Essentially, the General Permit was used by Congress as a mandatory placeholder until final VIDA regulations could be issued.

The General Permit also expressly permits scrubbers, with limits for "for exhaust gas scrubber effluent that are generally consistent with those established by International Maritime Organization guidelines for this discharge type." The General Permit "contains monitoring requirements for certain larger vessels for ballast water, bilgewater, graywater, and/or exhaust gas scrubber effluent if they discharge into waters subject to the permit." EPA, using guidance from international bodies, has decided not to regulate discharges in the way the petition seeks. So, even if the petition were interpreted as asking for regulations with a validity only until October 2026, the bans and mandates sought by the petition would have the effect of altering the General Permit, which is prohibited by VIDA.

There is no explanation of why Virginia should step into the vessel discharge area, just as years of federal agency work has resulted in the issuance of a national standard, with only one step remaining before that standard is implemented. The petition should be rejected.

RESPONSE: The commenter's discussion of federal regulatory requirements is appreciated. Based on this reason, and for the reason that the Board otherwise does not have the legal authority to regulate oceangoing vessels as dictated by state code, the

Department intends to request that the Board deny the petition as summarized in the response to comment 1.

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