



Economic Impact Analysis Virginia Department of Planning and Budget

9 VAC 5-20 and 9 VAC 5-40 – Regulations for the Control and Abatement of Air Pollution Department of Environmental Quality October 3, 2005

Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 2.2-4007.H of the Administrative Process Act and Executive Order Number 21 (02). Section 2.2-4007.H requires that such economic impact analyses include, but need not be limited to, the projected number of businesses or other entities to whom the regulation would apply, the identity of any localities and types of businesses or other entities particularly affected, the projected number of persons and employment positions to be affected, the projected costs to affected businesses or entities to implement or comply with the regulation, and the impact on the use and value of private property. The analysis presented below represents DPB's best estimate of these economic impacts.

Summary of the Proposed Regulation

The State Air Pollution Control Board (the board) proposes to revise chapter 20 and 40 of the Regulations for the Control and Abatement of Air Pollution (9 VAC 5-20 and 9 VAC 5-40). Major changes include:

1. The volatile organic compounds (VOC) and NO_x emission control areas designated in 9 VAC 5-20-206 will be expanded in responding to the expansion of the new 8-hour ozone nonattainment areas. The new Fredericksburg VOC and NO_x Emission Control Area is established which consists of the County of Spotsylvania and the City of Fredericksburg. The Richmond VOC and NO_x Emission Control Area is being expanded to include the County of Prince George and the City of Petersburg. The Hampton Roads VOC and NO_x Emission Control Area is being expanded to include the counties of Gloucester and Isle of Wight.

2. Some regulatory rules in Chapter 40 of the Regulations for the Control and Abatement of Air Pollution (Regulations) that currently apply to certain emission control areas will be expanded to other areas. Specifically, Article 42 (Portable Fuel Containers), Article 48 (Mobile Equipment Repair and Refinishing), Article 49 (Architectural and Industrial Maintenance Coatings), and Article 50 (Consumer Products), which currently apply in the Northern Virginia Emission Control Area only, will be expanded to apply in the Richmond and Fredericksburg areas as well. Article 53 (Lithographic Printing) will be expanded to apply in all VOC emission control areas instead of just the Northern Virginia and Richmond areas.
3. The board also proposes to amend some of the chapter 40 rules that apply to certain VOC and NO_x emission control areas to manage the extension of applicability of these provisions with coherence and consistency. For example, Article 4 (General Process Operations) is being amended to ensure that VOC Reasonable available control technique (RACT) is not required from large VOC sources in the newly added areas within the Richmond VOC Emissions Control Area. Article 36 (Packaging and Publishing Rotogravure Printing, and Flexographic Printing) is being amended to add appropriate exemptions for small facilities in those VOC emissions control areas that currently have no such exemptions. Article 37 (Storage or Transfer of Petroleum Liquids) is being amended to remove applicability redundancies resulting from this change and a previous amendment that added the Western VOC Emissions Control Areas.

Estimated Economic Impact

Ground-level or "bad" ozone is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. Emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NO_x and VOC.

The federal Clean Air Act requires the Environmental Protection Agency (EPA) to prescribe primary and secondary air quality standards to protect public health and public welfare, respectively, for each air pollutant for which air quality criteria were issued before the enactment of the Clean Air Act in 1970. These standards are known as the National Ambient Air Quality Standards (NAAQS). Each state is required to adopt and submit to EPA a plan (the state

implementation plan or SIP) that provides for the implementation, maintenance, and enforcement of NAAQS within each air quality control region in the state.

Areas that do not meet the ozone NAAQS are designated as ozone nonattainment areas as opposed to attainment or unclassifiable areas. Nonattainment areas are further classified as marginal, moderate, serious, severe, and extreme, and are subject to more stringent measures as the classification moves from marginal nonattainment to extreme nonattainment.¹ The state regulations establish VOC and NO_x emissions control areas to provide the legal mechanism to define the geographic areas in which Virginia implements control measures to attain and maintain the air quality standards for ozone. The emissions control areas may or may not coincide with the nonattainment areas, depending on the necessity of the planning requirements.

The original ozone air quality standard was a 1-hour standard. Three VOC and NO_x emissions control areas, Northern Virginia, Hampton Roads, and Richmond, were established in Virginia in order to implement control measures to attain the 1-hour ozone air quality standard. On April 15, 2004, EPA promulgated its decision as to the 8-hour ozone NAAQS and some of the planning requirements. The new 8-hour ozone nonattainment areas became effective on June 15, 2004, together with the 1-hour standard. The 8-hour standard replaced the 1-hour standard on June 15, 2005. Accordingly, the board promulgated the state 8-hour ozone nonattainment areas which took effect on August 25, 2004. In order to implement control measures to attain and maintain the air quality standards for ozone, the board proposes to expand the VOC and NO_x emissions control areas (9 VAC 5-20-206) and extend the geographic applicability of the VOC and NO_x regulatory rules in Chapter 40 of the Regulations into the new 8-hour nonattainment areas.²

The proposed regulation will expand the VOC and NO_x emission control areas designated in 9 VAC 5-20-206. The new Fredericksburg VOC and NO_x Emission Control Area is being established which consists of the County of Spotsylvania and the City of Fredericksburg. The Richmond VOC and NO_x Emission Control Area is being expanded to include the County of Prince George and the City of Petersburg and the Hampton Roads VOC and NO_x Emission

¹ The Richmond Ozone Nonattainment Area has been reclassified from moderate to marginal on November 3, 2004, which became effective since January 1, 2005, based on a decision by EPA.

² The western Virginia Emission Control Area, which was designated nonattainment for the 8-hour ozone standard, was added to the list of VOC and NO_x Emissions Control Area in March 2004 (Rev. N04), prior to EPA's final decision regarding the 8-hour nonattainment areas.

Control Area is being expanded to include the counties of Gloucester and Isle of Wight. Most of the Chapter 40 VOC emission standards apply to VOC and NO_x emission control areas designated in 9 VAC 5-20-206 and will be extended automatically to include these newly added areas when the VOC emissions control areas in 9 VAC 5-20-206 are amended. Part A of Table 1 provides a list of these Chapter 40 VOC rules.

Table 1. Proposed Change in Applicability of the Regulatory Rules in Chapter 40

	#	Source Type	Article #	Applicability
A	1	Synthesized pharmaceutical product manufacturing	5	VOC emission control areas designated in 9 VAC 5-20-206 (some with exemption), applicability automatically expanded after 9VAC 5-20-206 is amended.
	2	Rubber tire manufacturing operations	6	
	3	Petroleum refineries operations	11	
	4	Solvent metal cleaning operations	24	
	5	VOC storage and transfer operations	25	
	6	Large appliance coating operations	26	
	7	Magnet wire coating operations	27	
	8	Automobile and light duty truck coating operations	28	
	9	Can coating operations	29	
	10	Metal coil coating operations	30	
	11	Paper and fabric coating operations	31	
	12	Vinyl coating operations	32	
	13	Metal furniture coating operations	33	
	14	Miscellaneous metal parts coating operations	34	
	15	Flatwood paneling coating operations	35	
	16	Packaging and publishing rotogravure printing, and flexographic printing	36	
	17	Petroleum Liquid Storage and Transfer Operations	37	
	18	Asphalt paving operations.	39	
B	19	Portable fuel containers	42	Currently apply to the Northern Virginia area (with exemption), will be expanded to the Richmond and Fredericksburg areas.
	20	Mobile equipment repair and refinishing	48	
	21	Architectural and Industrial Maintenance Coatings	49	
	22	Consumer product	50	
C	23	Lithographic printing	53	Currently apply to the Northern and Richmond areas (with exemption), will be expanded to all VOC areas

As a result of the amendment of 9VAC 5-20-206, facilities in the newly added VOC control areas including Spotsylvania County, Prince George County, Gloucester County, Isle of Wight County and the cities of Fredericksburg and Petersburg (newly added VOC control areas), will be required to comply with the corresponding VOC rules no later than 90 days after the effective date of the amendment. Exceptions are given for sources that require certain physical

or process changes to comply, in which case compliance is required no later than one year after the effective date of the amendment. Some facilities will have to install or upgrade emissions control equipment. Some gas stations will have to install and test vapor recovery systems. There will be some additional emission control requirements and increased costs associated with the manufacture and distribution of compliant coatings and consumer products.

The fifth column of Table 2 shows the projected source specific costs in the newly affected areas for some of the source types listed in part A of Table 1. According to Virginia Department of Environmental Quality (DEQ), source-specific cost estimates were not determined for all the applicable source types because no facilities were identified for some of the source types. And, the source specific costs provided in Table 2 are the maximum possible costs in the newly applicable areas, while the actual costs will depend on the size, type, and location of the facilities, the controls required, and how many of the control requirements have been already installed currently. Specifically, the projected total cost will be as much as \$65,000 to bring the facilities in synthesized pharmaceutical manufacturing into compliance. For petroleum transfer and storage operations including stage I requirements for any applicable gasoline dispensing facilities, the projected cost could be as much as \$5,600,000 to bring all of the identified and unidentified facilities into compliance. Implementing stage II requirements, in addition to the other petroleum transfer and storage operations requirements, at gasoline dispensing facilities in Prince George County and Petersburg may cost as much as \$200,000.³ The projected cost will be \$56,000 for paper and fabric coating operations, and \$110,000 for solvent metal cleaning operations. For asphalt paving operations, a total cost of \$39,000 is estimated for bringing the known facilities and any additional unidentified facilities into compliance. Large facilities in flexographic, packaging rotogravure and publication rotogravure printing with a potential to emit 100 tons or more of VOC per year will cost as much as \$73,000 to comply in the new added VOC control areas.

For those source types with no source specific costs available, the average cost per ton of VOC removal will be \$115,000 for miscellaneous parts coating operations and \$2,400 for the other source types (sixth column of Table 2), if any such facilities exist. The actual figure for each facility will vary widely depending on the source type, size, location, and controls required.

³ Stage II regulations only apply within Northern Virginia and Richmond VOC Emission Control Areas. (9VAC 5-40-5200)

Table 2. Projected Cost of Implementing the Chapter 40 Rules in the Newly Applicable Areas

	#	Source Type	Article #	Projected Total Cost (\$)	Cost per Ton of Emission Reductions (\$/ton)
A	1	Synthesized pharmaceutical product manufacturing	5	65,000	2,400
	2	Rubber tire manufacturing operations	6		2,400
	3	Petroleum refineries operations	11		2,400
	4	Solvent metal cleaning operations	24	110,000	1,400
	5	VOC storage and transfer operations	25		2,400
	6	Large appliance coating operations	26		2,400
	7	Magnet wire coating operations	27		2,400
	8	Automobile and light duty truck coating operations	28		2,400
	9	Can coating operations	29		2,400
	10	Metal coil coating operations	30		2,400
	11	Paper and fabric coating operations	31	56,000	2,400
	12	Vinyl coating operations	32		2,400
	13	Metal furniture coating operations	33		2,400
	14	Miscellaneous metal parts coating operations	34		115,000
	15	Flatwood paneling coating operations	35		2,400
	16	Packaging and publishing rotogravure printing, and flexographic printing	36	73,000	2,000
		17	Petroleum Liquid Storage and Transfer Operations	37	stage I: 5,600,000; stage II: 200,000 ⁴
	18	Asphalt paving operations.	39	39,000	121
B	20	Portable fuel containers	42	13,000	450
	21	Mobile equipment repair and refinishing	48	88,000	1,534
	22	Architectural and Industrial Maintenance Coatings	49	1,100,000	6,400
	23	Consumer products	50	84,000	800
C	24	Lithographic printing	53	1,300,000	2,000

The proposed regulation will also expand the applicability of some chapter 40 rules from the Northern Virginia VOC Emissions Control Area to the Richmond and Fredericksburg VOC areas in addition to the Northern Virginia area. These rules, as listed in part B of Table 2, include Article 42 (Portable Fuel Containers), Article 48 (Mobile Equipment Repair and Refinishing), Article 49 (Architectural and Industrial Maintenance Coatings), and Article 50 (Consumer Products). Owners and operators of facilities that manufacture or distribute portable

⁴ Petroleum transfer and storage operations, including Stage I requirements for any applicable gasoline dispensing facilities could cost as much as \$5,600,000; Implementing stage II requirements, in addition to the other petroleum transfer and storage operations requirements, at gasoline dispensing facilities in Prince George County and Petersburg may cost as much as \$200,000 more. (Stage II regulations only apply within Northern Virginia and Richmond VOC Emission Control Areas)

fuel containers, architectural and industrial maintenance coatings⁵ and certain categories of consumer products that contain VOC⁶ for sale within Spotsylvania County, Charles City County, Chesterfield County, Hanover County, Henrico County, Prince George County, and the cities of Fredericksburg, Colonial Heights, Hopewell, Richmond and Petersburg, will be affected. According to DEQ, the total costs associated with expanding the applicability of the VOC standards are predicted to be up to \$84,000 for consumer products, and \$1,100,000 for architectural, industrial and maintenance coating. The costs to the manufacturers of expanding the applicability of spillage requirements for portable fuel containers into the Richmond and Fredericksburg VOC Emissions Control Areas are expected to be up to \$13,000. And the total cost associated with expanding the applicability of the VOC limits for mobile repair and refinishing operations to facilities in the Fredericksburg and Richmond VOC Emissions Control Areas could be as much as \$88,000.

The Lithographic Printing regulation (Article 53) in chapter 40 of the regulations, which currently apply only within Northern Virginia and Richmond VOC Emission Control Areas, will be expanded to apply in all VOC emission control areas. Owners and operators of lithographic printing facilities with a potential to emit 100 tons of VOC per year or more may be affected in Spotsylvania County, Prince George County, Gloucester County, Isle of Wight County, James City County, York County, Botetourt County, Frederick County, Roanoke County and the cities of Fredericksburg, Petersburg, Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg. The projected total cost to bring the identified lithographic printing facilities into compliance could be as much as \$1,300,000. The actual figure, again, will vary widely depending on the size and location of the facility, the controls required, and how many of the requirements have been installed currently.

The board also proposes to amend some of the chapter 40 rules that apply to certain VOC and NO_x emission control areas to manage the extension of applicability with coherence and consistency. For example, 9 VAC 5-40-300 (Article 4, General Process Operations) is being amended to ensure that RACT is not required from large VOC sources in the newly added

⁵ Architectural and industrial maintenance coatings include, but not limited to, paints, varnishes, sealers, primers, and stains.

⁶ Examples of consumer products that contain VOC are adhesives, air fresheners, deodorants, cleaning supplies, degreasers, pesticides, and hair products.

localities in the Richmond VOC Emissions Control Area -- Prince George County and Petersburg City. Article 4 currently applies to the Northern Virginia and Richmond Emissions Control Areas designated in 9VAC 5-20-206. With the addition of Prince George County and Petersburg to the Richmond VOC Emissions Control Area, VOC RACT would normally automatically apply to all large existing sources in the County of Prince George and the City of Petersburg. However, the Richmond Ozone nonattainment Area was re-classified from moderate to marginal on November 3, 2004, and this re-classification became effective from January 1, 2005. According to DEQ, EPA only requires existing sources in nonattainment areas that are classified as moderate and above to implement VOC RACT. Since currently there is no EPA requirement that requires Virginia to do VOC RACT in these newly added areas, Article 4 is being amended to ensure that large existing facilities in Prince George County and Petersburg city will not be automatically required to do VOC RACT before EPA publishes new guidance on the requirements for nonattainment areas. This amendment will not change the requirements for facilities in the newly added areas and therefore will not have any economic impact.

Article 36 (Packaging and Publishing Rotogravure Printing, and Flexographic Printing) will be amended to add appropriate exemptions for small facilities with a potential to emit less than 100 tons of VOC per year in the Western Virginia Area (Botetourt County, Frederick County, Roanoke County and the cities of Roanoke, Salem and Winchester). Article 36 applies to all the VOC emission control areas designated in 9VAC 5-20-206 with small facilities exempted from compliance. According to DEQ, currently the small facilities in the Western Virginia Area with a potential to emit less than 100 tons of VOC per year are not required to comply but were not exempted from compliance when the Western Virginia Emission Control Area was added to the list of VOC and NO_x emissions control areas in March 2004. The proposed change of the language will only technically exempt compliance of these facilities without causing any economic effect.

In sum, the expansion of the applicability of the Chapter 40 rules listed in Table 1 will cause a projected total cost of as much as \$8,728,000, not including the potential cost for those categories whose projected source specific costs are not available. The actual cost, however, may be only a fraction of this number depending on how many of the requirements have been fulfilled currently. The increased costs will reduce profit for the businesses and may be passed on to the public in the form of price increases.

On the other hand, the proposed change in the extension of applicability will significantly decrease emissions of VOCs and therefore reduce the level of ground level ozone within the new 8-hour ozone nonattainment areas, thus benefiting public health and welfare. According to EPA, exposure to ozone at the ground level can cause a number of respiratory problems such as irritation of the respiratory system, reduced operation of the lungs, inflammation and damage to the cells lining the lungs, and aggravation of existing lung problems. Repeated ozone exposure can cause permanent damage to children's developing lungs and accelerate the decline in lung function with age in adults. Thus, reducing the level of ozone will provide economic benefits in the future in terms of respiratory health problems and fatalities prevented (reflected in lower health care and other costs) and increased productivity. Levy, Carrothers, Tuomisto, Hammitt and Evans (2001) studied the public health benefits of reduced ozone concentrations in Houston, Texas, and estimated that the annual monetary value of health benefits from reducing ozone concentrations in Houston is approximately \$10 per person per microgram per cubic meter (24-hour average) reduced (95% confidence interval, \$0.70-\$40). In a study of ozone reductions in the Los Angeles Air Basin, Smith, Sieg, Banzhaf and Walsh (2003) indicated that the estimated annual general equilibrium benefits in 2000 and 2010 associated with the ozone reductions due to continuing the policies mandated under the 1990 Clean Air Act Amendments range from \$33 to \$2,400 annually per household (in 1990 dollars).

Table 3 shows the estimated VOC emission reductions for some of the source types provided by DEQ. The estimated VOC emission reductions for the other source types are not available because there is no inventory data. The proposed regulatory action will reduce VOC emissions by as much as 3916 tons per year. Since the relationship between ozone formation and VOC and NO_x emissions is nonlinear and must be modeled, it is not possible to predict local changes in the maximum ambient air concentration of ozone without extensive and time-consuming modeling. Thus the total benefits resulting from these VOC reductions cannot be calculated in monetary terms. Therefore it is unknown whether the total benefit would exceed the maximum estimated total cost of the VOC emission reductions as proposed.

Table 3. Estimated VOC Emission Reductions in the Newly Applicable Areas

Source Type	Article #	Estimated Emission Reductions in the Newly Affected Areas (Tons/Year)
Synthesized pharmaceutical product manufacturing	5	27
Solvent metal cleaning operations	24	79
Paper and fabric coating operations	31	23
Packaging and publishing rotogravure printing, and flexographic printing	36	37
Petroleum Liquid Storage and Transfer Operations	37	2412 ⁷
Asphalt Paving	39	322
Portable Fuel Containers	42	28
Mobile Equipment Repair and Refinishing	48	57
Architectural and Maintenance Coatings	49	178
Consumer Products	50	105
Lithographic printing	53	648

Businesses and Entities Affected

The proposed regulation will affect the owners and operators of the facilities in the categories listed in Table 1 in the newly affected areas. For example, some facilities will have to install or upgrade emissions control equipment. Some gas stations will have to install and test vapor recovery systems. Manufacturers of portable fuel containers, architectural coatings and consumer products will have to ensure that the products they produce for sale in the newly applicable areas comply with the VOC limits specified in the corresponding regulations. Distributors and retail outlets are required to distribute or sell the products that meet with the VOC standards. Table 4 shows the number of businesses that might be affected for some of the source types.⁸ According to DEQ, the number of businesses that are going to be affected is not available for the other source types due to lack of inventory and size of the businesses.

⁷ As much as 2330 tons per year from the various petroleum liquid storage and transfer operations in the affected areas, excluding Stage II gasoline dispensing requirements. As much as 82 tons per year from implementing stage II gasoline dispensing requirements in Petersburg and Prince George County.

⁸ The numbers are provided by DEQ by searching its Comprehensive Environmental Data System (CEDS), if not otherwise indicated.

Customers will also be affected because part of the increased cost will be passed on to them in the form of price increases.

Table 4. Number of Businesses to be Affected

Source Type	Article #	Number of Businesses to be Affected
Synthesized pharmaceutical product manufacturing	5	1
Solvent metal cleaning operations	24	significant but unknown number ⁹
Paper and fabric coating operations	31	1
Packaging and publishing rotogravure printing, and flexographic printing	36	7
Petroleum Liquid Storage and Transfer Operations	37	88 ¹⁰
Asphalt paving operations.	39	4
Portable fuel containers	42	Manufacturers: 7; Other facilities: 1081 ¹¹
Architectural and Industrial Maintenance Coatings	49	
Consumer product	50	
Mobile equipment repair and refinishing	48	114 ¹²
Lithographic printing	53	7

Localities Particularly Affected

The proposed regulation will only affect localities in the newly applicable areas. Specifically, facilities in part A of Table 1 in Spotsylvania County, Prince George County, Gloucester County, Isle of Wight County and the cities of Fredericksburg and Petersburg will be affected. Facilities in part B of Table 1 in Richmond and Fredericksburg VOC Emission Control Areas will be required to comply with the corresponding regulations. Also affected are facilities in Lithographic printing in all VOC emission control areas other than Northern Virginia.

Projected Impact on Employment

The proposed regulation is likely to have a negative impact on employment. The increased cost for the businesses in the newly applicable areas to comply with the regulations

⁹ There are likely to be a significant but unknown number of businesses with small, unregistered solvent cleaning operations associated with other business operations such as automobile repair shops, metal-working shops, and certain types of coating operations, which may be affected.

¹⁰ This is the number as of 2001. 55 gasoline dispensing stations were registered in Spotsylvania County, Gloucester County, Isle of Wight County and the city of Fredericksburg, 23 gasoline dispensing stations registered in Prince George County and the city of Petersburg.

¹¹ Other facilities include distributors, retail outlets and contractors. This number is provided by DEQ by searching the Virginia Employment Commission database.

¹² Provided by DEQ by searching the Virginia Employment Commission database.

will reduce their profits and could result in people being laid off at the facilities. There might also be a migration from the facilities in the newly applicable areas to the current applicable areas, since those in the newly applicable areas will lose their current advantage due to non-compliance. Moreover, firms may choose to move to or locate in localities that remain attainment areas.

Effects on the Use and Value of Private Property

The proposed regulation is likely to have a negative impact on the use and value of private properties in the newly applicable areas because of the increased costs and reduced profits for the businesses affected. On the other hand, the proposed regulation will significantly reduce the amount of ground level ozone in the newly applicable areas and therefore may have a positive impact on the value of the residential properties in these areas.

Small Businesses: Costs and Other Effects

Small businesses in the newly applicable areas, if not exempted, will be required to comply with the corresponding rules and therefore incur an increase in cost. For example, gas stations in the newly applicable areas will be affected mainly by three of the Chapter 40 regulations. Firstly, gas stations in Prince George County and Petersburg City will be required to install stage II vapor recovery system, as a result of the automatic expansion of applicability of Article 37 to the newly applicable VOC control areas. The estimated cost of installing the stage II controls will be between \$24,000 and \$41,000 for an existing service station.¹³ Secondly, gas stations in Richmond and Fredericksburg VOC Emission Control Areas that sell portable fuel containers will be required to sell only certain types that meet with the VOC limits in the Portable Fuel Containers Regulations as a result of expansion of the applicability of Article 42. According to Virginia Petroleum Council, gas cans that "lock in" vapors cost about \$17-20 and a standard portable gas container may cost \$3-5. Since the service stations only sell the containers infrequently, this impact will not be big. Finally, as a result of expanded applicability of Article 50, convenience stores in the Richmond and Fredericksburg VOC Emission Control Areas that sell the consumer products will be required to sell only those that meet with the VOC standards in the Consumer Product Regulation. However, part of the price difference will be passed on to the consumers.

Table 5 shows the number of small businesses that are going to be affected in some of the source types. According to DEQ, the number of small businesses that are going to be affected is not available for the other source types due to lack of inventory and size of the businesses.

Table 5. Number of Small Businesses to be Affected

Source Type	Article #	Number of Small Businesses to be Affected
Synthesized pharmaceutical product manufacturing	5	1
Solvent metal cleaning operations	24	significant but unknown number ¹⁴
Paper and fabric coating operations	31	1
Packaging and publishing rotogravure printing, and flexographic printing	36	7
Petroleum Liquid Storage and Transfer Operations	37	88 ¹⁵
Asphalt paving operations.	39	4
Portable fuel containers	42	Manufacturers: 7; Other facilities: 1081 ¹⁶
Architectural and Industrial Maintenance Coatings	49	
Consumer product	50	
Mobile equipment repair and refinishing	48	114 ¹⁷
Lithographic printing	53	7

Small Businesses: Alternative Method that Minimizes Adverse Impact

By the Clean Air Act, once the nonattainment areas are defined, each state is obligated to submit a SIP demonstrating the control measures in areas designated as nonattainment under the 8-hour ozone standard. The control measures contained in SIPs usually fall into two categories: those mandated by the Act or federal government and those selected at the discretion of the state. The proposed regulatory change is being initiated to meet a specific requirement of the Clean Air Act, where the state does not have discretion. Moreover, as an alternative regulatory change, a

¹³ Source: Virginia Petroleum Council

¹⁴ There are likely to be a significant but unknown number of businesses with small, unregistered solvent cleaning operations associated with other business operations such as automobile repair shops, metal-working shops, and certain types of coating operations, which may be affected.

¹⁵ This is the number as of 2001. 55 gasoline dispensing stations were registered in Spotsylvania County, Gloucester County, Isle of Wight County and the city of Fredericksburg, 23 gasoline dispensing stations registered in Prince George County and the city of Petersburg.

¹⁶ Other facilities include distributors, retail outlets and contractors. This number is provided by DEQ by searching the Virginia Employment Commission database.

¹⁷ Provided by DEQ by searching the Virginia Employment Commission database.

cap-and-trade program will require more resources and time to develop and implement. So there will be no alternative method that will have a smaller adverse impact.

References:

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