

# Regulatory Analysis Form

(Completed by Promulgating Agency)



## SECTION I: PROFILE

(1) Agency:  
Environmental Protection

(2) Agency Number:  
Identification Number: #7-449

IRRC Number:

2010 JAN - 5 PM 4: 24  
INDEPENDENT REGULATORY  
REVIEW COMMISSION  
2813

RECEIVED

(3) Short Title:  
Large Appliances and Metal Furniture Surface Coating Processes

(4) PA Code Cite:  
25 Pa. Code Chapter 129

(5) Agency Contacts (List Telephone Number, Address, Fax Number and Email Address):  
Primary Contact: Michele Tate, 783-8727  
Secondary Contact: Kelly J. Heffner, 783-8727

(6) Primary Contact for Public Comments (List Telephone Number, Address, Fax Number and Email Address) – Complete if different from #5:

Environmental Quality Board  
PO Box 8477  
Harrisburg, PA 17105-8477  
Phone: 717.787.4526

(All Comments will appear on IRRC'S website)

(7) Type of Rulemaking (check applicable box):

- Proposed Regulation
- Final Regulation
- Final Omitted Regulation
- Emergency Certification Regulation;
  - Certification by the Governor
  - Certification by the Attorney General

## Regulatory Analysis Form

Large Appliances and Metal Furniture Surface Coating Processes

(8) Briefly explain the regulation in clear and nontechnical language. (100 words or less)

The proposed rulemaking would amend 25 Pa. Code Chapter 129 (relating to standards for sources) to limit emissions of volatile organic compounds (VOCs) from the use and application of coatings and cleaning materials in large appliance and metal furniture surface coating processes. The proposal would add 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes), and amend 25 Pa. Code §§ 129.51 and 129.52 (relating to general; and surface coating processes). The proposed rulemaking, which is required under the Clean Air Act (CAA) requirements that states regulate sources covered by Control Techniques Guidelines (CTGs) issued by the U.S. Environmental Protection Agency (EPA), is reasonably necessary to attain and maintain the health- and welfare-based 8-hour ozone National Ambient Air Quality Standards (NAAQS) in this Commonwealth, and when final will be submitted to the EPA as a revision to the State Implementation Plan (SIP).

(9) Include a schedule for review of the regulation including:

- A. The date by which the agency must receive public comments: March 2010
- B. The date or dates on which public meetings or hearings will be held: February 2010
- C. The expected date of promulgation of the proposed regulation as a final-form regulation: 4<sup>th</sup> Quarter 2010
- D. The expected effective date of the final-form regulation: 1<sup>st</sup> Quarter 2011
- E. The date by which compliance with the final-form regulation will be required: January 1, 2011  
(as currently proposed in Annex A)
- F. The date by which required permits, licenses or other approvals must be obtained: N/A

## SECTION II: STATEMENT OF NEED

(10) Provide the schedule for continual review of the regulation.

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

(11) State the statutory authority for the regulation. Include specific statutory citation.

Statutory authority for this action comes from section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth and from section 5(a)(8) of the APCA (35 P.S. § 4005(a)(8)), which grants the Board the authority to adopt rules and regulations designed to implement the provisions of the CAA.

## Regulatory Analysis Form

### Large Appliances and Metal Furniture Surface Coating Processes

(12) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

Yes. State regulations to control VOC emissions from large appliance and metal furniture surface coating operations are required under Federal law and will be reviewed by the EPA for whether they meet the “reasonably available control technology” (RACT) requirements of the CAA and its implementing regulations. *Consumer and Commercial Products; Control Techniques Guidelines in lieu of Regulations for Paper, Film, and Foil Coatings; Metal Furniture Coatings; and Large Appliance Coatings*, 72 FR 57215, 57218 (October 9, 2007).

Section 183(e) of the CAA directs the EPA to list for regulation those categories of products that account for at least 80% of the VOC emissions from consumer and commercial products in ozone nonattainment areas. 42 U.S.C. § 7511b(e). Section 183(e)(3)(C) of the CAA further provides that the EPA may issue a CTG document in place of a National regulation for a product category where the EPA determines that the CTG will be “substantially as effective as regulations” in reducing emissions of VOC in ozone nonattainment areas. 42 U.S.C. § 7511b(e)(3)(C). The CTG provides states with the EPA’s recommendation of what constitutes RACT for the covered category. States can use the recommendations provided in the CTG to inform their own determination as to what constitutes RACT for VOC emissions from the covered category. State air pollution control agencies are free to implement other technically-sound approaches that are consistent with the CAA requirements and the EPA’s implementing regulations or guidelines.

Section 172(c)(1) of the CAA provides that SIPs for nonattainment areas must include “reasonably available control measures,” including RACT, for sources of emissions. 42 U.S.C. § 7502(c)(1). Section 182(b)(2) of the CAA provides that for moderate ozone nonattainment areas, states must revise their SIPs to include RACT for sources of VOC emissions covered by a CTG document issued by the EPA prior to the area’s date of attainment. 42 U.S.C. § 7511a(b)(2). More importantly, § 184(b)(1)(B) of the CAA requires that states in the Ozone Transport Region (OTR), including Pennsylvania, submit a SIP revision requiring implementation of RACT for all sources of VOC emissions in the state covered by a specific CTG. 42 U.S.C. § 7511c(b)(1)(B).

In 1995, the EPA listed large appliance coatings and metal furniture coatings on its § 183(e) list and, in 2007, issued CTGs for these two product categories. 60 FR 15264 (March 23, 1995) and 72 FR 57215 (October 9, 2007). In the 2007 notice, the EPA determined that the CTGs would be substantially as effective as National regulations in reducing VOC emissions from this product category in ozone nonattainment areas. 72 FR at p. 57220.

The Department has reviewed the recommendations included in the 2007 CTGs for large appliance and metal furniture coatings for their applicability to the ozone reduction measures necessary for this Commonwealth. The Department has determined that the measures provided in the CTGs for large appliance and metal furniture coatings are appropriate to be implemented in this Commonwealth as RACT for this category.

Section 182(b)(2) of the CAA requires that a CTG issued by the EPA after November 15, 1990, include the date by which states subject to § 182(b) must submit SIP revisions in response to the CTG. 42 U.S.C. § 7511a(b)(2). The EPA issued the large appliance coatings and metal furniture coatings

## Regulatory Analysis Form

### Large Appliances and Metal Furniture Surface Coating Processes

CTGs on September 28, 2007. The EPA provided a 1-year period for the required SIP submittal, making SIP revisions for the large appliance coatings and metal furniture coatings CTGs due by September 28, 2008.

The Department has missed this deadline and has negotiated with the EPA to submit the SIP revision for these CTG categories by December 31, 2010. This negotiated submittal date does not, however, relieve the Commonwealth of the consequences of not meeting the required due date, including a potential "finding of failure to submit" a SIP revision.

If the EPA Administrator finds that a state has failed to submit an acceptable implementation plan or has failed to implement the requirements of an approved plan, sanctions will be imposed, though sanctions cannot be imposed until 18 months after the Administrator makes the determination, and sanctions cannot be imposed if a deficiency has been corrected within the 18-month period.

Section 179 of the CAA authorizes the EPA to use two types of sanctions: 1) withholding of certain Federal highway funds; and 2) imposing what are called "2:1 offsets" on new or modified sources of emissions. 42 U.S.C. § 7509. Under § 179 and its implementing regulations, the Administrator first imposes offsets, and then, if the deficiency has not been corrected within 6 months, also applies highway sanctions. 40 CFR 52.31. Withholding Federal highway funds could have a deleterious impact on the Governor's Accelerated Building Bridges Program.

(13) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

Implementation of the proposed control measure would benefit the health and welfare of the approximately 12 million human residents and numerous animal residents, and crops, vegetation and natural areas, of this Commonwealth by reducing emissions of VOCs, which are precursors to ground-level ozone air pollution. Exposure to ground-level ozone is a serious human and animal health and welfare threat, causing respiratory illnesses and decreased lung function, agricultural crop loss, visible foliar injury to sensitive plant species, and damage to forests, ecosystems and infrastructure.

This proposed rulemaking is designed to adopt the standards in the 2007 CTGs for large appliance coatings and metal furniture coatings, in order to meet the requirements of CAA §§ 172(c)(1), 182(b)(2) and 184(b)(1)(B). 42 U.S.C. §§ 7502(c)(1), 7511a(b)(2) and 7511c(b)(1)(B). The proposed rulemaking would apply the CTG standards across this entire Commonwealth, as required by CAA § 184(b)(1)(B). 42 U.S.C. § 7511c(b)(1)(B). This statewide implementation of the rule would assist in reducing VOC emissions from large appliance and metal furniture surface coating operations locally and the resultant local formation of ground-level ozone and transport of VOC emissions and ground-level ozone to downwind states, and would facilitate implementation and enforcement of the rule within this Commonwealth.

Although the proposed amendments are designed primarily to address ozone air quality, the reformulation or substitution of coating products to meet the VOC content limits applicable to users may also result in reduction of hazardous air pollutant (HAP) emissions, which are also a serious health threat. The proposed rulemaking provides as one compliance option that coatings used on or applied to large appliance or metal furniture products manufactured in this Commonwealth meet specified limits

## Regulatory Analysis Form

### Large Appliances and Metal Furniture Surface Coating Processes

for VOC content, usually through substitution of low VOC-content solvents or water for the high VOC-content solvents. The reduced levels of high VOC-content solvents would also benefit water quality through reduced loading on water treatment plants and in reduced quantities of high VOC-content solvents leaching into the ground. Owners and operators of affected large appliance and metal furniture surface coating process facilities may also reduce VOC emissions with add-on controls, or a combination of complying coatings and add-on controls. Adoption of VOC emission requirements for large appliance and metal furniture surface coating operations is part of the Commonwealth's strategy, in concert with other Ozone Transport Region (OTR) jurisdictions, to further reduce transport of VOC ozone precursors and ground-level ozone throughout the OTR to attain and maintain the 8-hour ozone NAAQS.

In this Commonwealth about 4 large appliance surface coating operations combine to emit an estimated total of 18.2 tons of VOCs per year; about 16 metal furniture surface coating operations combine to emit an estimated total of 50.33 tons of VOCs per year. The EPA estimates that implementation of the recommended control options for large appliance coatings processes will result in approximately a 30% reduction in VOC emissions. The maximum anticipated additional annual VOC reductions from the large appliance surface coating facilities as a result of this rulemaking is approximately 5.5 tons (18.2 tons x 30%). The EPA estimates that implementation of the recommended control options for metal furniture coatings processes will result in approximately a 35% reduction in VOC emissions. The maximum anticipated additional annual VOC reductions from the metal furniture surface coating facilities as a result of this rulemaking is approximately 17.6 tons (50.33 tons x 35%).

Section 109(b) of the CAA provides that the Administrator of the EPA must set NAAQS for air pollutants at levels that protect public health and the environment. 42 U.S.C § 7409(b). Section 109(d) of the CAA provides that the NAAQS be reviewed at periodic intervals to ensure the standards reflect the latest scientific knowledge on the effects of air pollutants. 42 U.S.C. § 7409(d). The EPA set the primary ground-level 8-hour ozone NAAQS in July 1997 and revised it in March 2008 "...to provide increased protection for children and other 'at risk' populations against an array of ozone-related adverse health effects that range from decreased lung function and increased respiratory symptoms to serious indicators of respiratory morbidity including emergency department visits and hospital admissions for respiratory causes, and possibly cardiovascular-related morbidity as well as total nonaccidental and cardiorespiratory mortality." 73 FR 16436 (March 27, 2008). In both 1997 and 2008, the EPA also set the secondary standard to be identical to the primary standard, indicating that the new standard would "provide increased protection to the public welfare against ground-level ozone-induced effects on vegetation, such as agricultural crop loss, damage to forests and ecosystems, and visible foliar injury to sensitive species." 62 FR 38855 (July 18, 1997).

In July 1997, the EPA established primary and secondary ozone NAAQS at a level of 0.08 parts per million (ppm) averaged over 8 hours. 62 FR 38855 (July 18, 1997). In 2004, the EPA designated 37 counties in this Commonwealth as 8-hour ozone nonattainment areas for the 1997 8-hour ozone NAAQS. This Commonwealth is meeting the 1997 standards in all areas except the five-county Philadelphia and seven-county Pittsburgh-Beaver Valley areas. The areas in which the 1997 standard has been attained are required to have permanent and enforceable control measures to ensure violations do not occur for the next decade. The Commonwealth must demonstrate that the two areas currently not attaining the 1997 standard will meet the 1997 standard as expeditiously as practicable. Should these two areas not attain the standard during the 2009 ozone season, additional reductions will be required.

## Regulatory Analysis Form

### Large Appliances and Metal Furniture Surface Coating Processes

In March 2008, the EPA lowered the standards to 0.075 ppm averaged over 8 hours to provide even greater protection for children, other at-risk populations and the environment against the array of ozone-induced adverse health and welfare effects. 73 FR 16436 (March 27, 2008). As required by the CAA, the Commonwealth submitted recommendations to the EPA in 2009 to designate 29 counties as nonattainment for the 2008 8-hour ozone NAAQS. The EPA is expected to take final action on the designation recommendations by March 2010. The EPA's designations will take effect 60 days after the EPA publishes a notice in the *Federal Register*. Monitors in most urban areas and some rural areas of this Commonwealth are currently not meeting the 2008 ozone standard.

The measures in the proposed rulemaking are reasonably necessary to attain and maintain the health- and welfare-based 8-hour ozone NAAQS in this Commonwealth.

(14) If scientific data, studies or references are used to justify this regulation, please submit material with the regulatory package. Please provide full citation and/or links to internet source.

The Department bases this proposed rulemaking upon the EPA's 2007 CTGs for large appliance and metal furniture coatings. The EPA's notice of final determination and availability of the final CTG was published at 72 FR 57215 (October 9, 2007), and copies of the EPA's CTGs are available at [http://www.dep.state.pa.us/dep/deputate/airwaste/aq/attain/ctgs/final\\_large\\_app\\_ctg.pdf](http://www.dep.state.pa.us/dep/deputate/airwaste/aq/attain/ctgs/final_large_app_ctg.pdf) and [http://www.dep.state.pa.us/dep/deputate/airwaste/aq/attain/ctgs/final\\_metal\\_furniture\\_ctg.pdf](http://www.dep.state.pa.us/dep/deputate/airwaste/aq/attain/ctgs/final_metal_furniture_ctg.pdf).

(15) Describe who and how many will be adversely affected by the regulation. How are they affected?

The emission limits and other requirements of the proposed amendments would apply to the owner and operator of a large appliance surface coating operation or metal furniture surface coating operation with actual VOC emissions equal to or greater than 15 pounds per day or 2.7 tons per 12-month rolling period, including related cleaning activities, before consideration of controls.

The 4 large appliance surface coating facilities potentially affected by this proposed rulemaking reported combined VOC emissions totaling 18.2 tons in 2008; the 16 metal furniture surface coating facilities potentially affected by this proposed rulemaking reported combined VOC emissions totaling 50.33 tons of VOCs in 2008.

The proposed amendments would require that the VOC emissions from coatings be controlled in one of three ways, namely through the use of: 1) low VOC-content coatings; 2) add-on controls with an overall VOC control efficiency of 90% for each affected coating line; or 3) a combination of low VOC-content coatings and add-on controls. Users of coating products that meet the proposed VOC emission limits would benefit by not needing to use add-on controls to control VOC emissions.

The recommended control approaches for cleaning materials discussed in the CTGs would apply to the owners and operators of each subject facility. These include taking steps to ensure that VOC emissions are minimized from mixing operations, storage tanks and other containers, and handling operations for coatings, thinners, cleaning materials and waste materials.

## Regulatory Analysis Form

### Large Appliances and Metal Furniture Surface Coating Processes

(16) List the persons, groups or entities that will be required to comply with the regulation. Approximate the number of people who will be required to comply.

The coating limits and work practice standards in the proposed rulemaking would apply to the owner and operator of a large appliance surface coating operation or metal furniture surface coating operation with VOC emissions equal to or greater than 15 pounds per day or 2.7 tons per 12-month rolling period, including related cleaning activities, before consideration of controls. This Commonwealth has 4 large appliance surface coating and 16 metal furniture surface coating facilities potentially subject to the proposed rulemaking. These facilities are listed in the following tables along with their reported 2008 VOC emissions.

Large Appliance Coating Facility	Total Reported 2008 VOC Emissions, tons
YORK REFRIG (FRICK)/WAYNESBORO	18.2
QUALITY COMPONENTS INC/DAGUSCAHONDA	*
GEA FES INC/YORK	*
JOHNSON CONTROLS INC/EAST YORK PLT (formerly YORK INTL CORP/EAST YORK PLT)	*
Total reported emissions for 2008, tons	18.2

\*These sources have emissions of VOC that are too low to report into the Department's Air Information Management System database.

Metal Furniture Coating Facility	Total Reported 2008 VOC Emissions, tons
LUMAX IND/ALTOONA PLT	7.35
POLYVISION CORP/DIXONVILLE	4.5
CERALN CORP/SOUTH WILLIAMSPORT PLT	4.08
STANLEY VIDMAR INC/STORAGE TECH	5.1
TRANSWALL OFFICE SYS INC/WEST CHESTER (formerly KIMBALL INTL MARKETING/TRANSWALL)	9
CORRY CONTRACT INC/CORRY	5.72
MODEL FINISHING	3.4
ADELPHIA STEEL	4.54
HOUSEHOLD METALS	6.44
CRAMCO	0.20
HENDRICK MFG CO/CARBONDALE PLT	*
HPM IND INC/ATLAS PRESSED METALS DUBOIS	*
ASSOC SPRING BARNES /CORRY DIV	*
GENLYTE THOMAS GROUP/HADCO DIV	*
KARDEX SYS INC METAL PROD/LEWISTOWN	*
YORKRAFT DISPLAY MFG	*
Total reported emissions for 2008, tons	50.33

\*These sources have emissions of VOC that are too low to report into the Department's Air Information Management System database.

## Regulatory Analysis Form

Large Appliances and Metal Furniture Surface Coating Processes

### SECTION III: COST AND IMPACT ANALYSIS

(17) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The costs of complying with the proposed new requirements include the cost of using alternative product formulations, such as low-VOC or water-based coatings, and the cost of using add-on controls. The facility owner or operator is given the flexibility to choose controls.

The EPA estimates that implementation of the recommended control options for large appliance coatings processes will result in approximately a 30% reduction in VOC emissions. The maximum anticipated additional annual VOC emission reductions from the large appliance surface coating facilities as a result of this rulemaking is approximately 5.5 tons (18.2 tons x 30%). Based on information provided by the EPA in the large appliance coating CTG, the cost effectiveness of reducing VOC emissions from large appliance surface coating operations is estimated to be \$500 per ton of VOC emissions reduced. This estimate is based on the use of low VOC-content coatings for control. The estimated annual costs for the owners or operators of the affected large appliance surface coating facilities in this Commonwealth, combined, is \$2,750 (5.5 tons VOC emissions reduced x \$500 per ton reduced).

Similarly, the EPA estimates that implementation of the recommended control options for metal furniture coatings processes will result in approximately a 35% reduction in VOC emissions. The maximum anticipated additional annual VOC emission reductions from the metal furniture surface coating facilities as a result of this rulemaking is approximately 17.6 tons (50.33 tons x 35%). Based on information provided by the EPA in the metal furniture coating CTG, the cost effectiveness of reducing VOC emissions from metal furniture surface coating operations is estimated to be \$200 per ton of VOC emissions reduced. This estimate is based on the use of low VOC-content coatings for control. The estimated annual costs for the owners or operators of the affected metal furniture coating facilities in this Commonwealth, combined, is \$3,520 (17.6 tons VOC emissions reduced x \$200 per ton reduced).

The implementation of the work practice requirements for cleaning materials is expected to result in a net cost savings. The recommended work practices should reduce the amount of cleaning materials used by reducing the amount of cleaning materials lost to evaporation, spillage and waste.

(18) Provide a specific estimate of the costs and/or savings to **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The proposed rulemaking is expected to impose no additional direct regulatory costs or savings on local governments.

If a local government purchases affected large appliance or metal furniture products, however, additional costs or savings commensurate with those for the private sector may be experienced.

## Regulatory Analysis Form

### Large Appliances and Metal Furniture Surface Coating Processes

(19) Provide a specific estimate of the costs and/or savings to **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

The proposed rulemaking is expected to impose no additional direct regulatory costs or savings on state government, except those nominal costs the Commonwealth will incur to provide training, outreach and technical assistance to the regulated community. No new staff resources are anticipated to be necessary.

To the extent that state government purchases affected large appliance or metal furniture products, costs or savings will be commensurate with those the private sector will experience.

(20) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year 08/09	FY +1 Year 09/10	FY +2 Year 10/11	FY +3 Year 11/12	FY +4 Year 12/13	FY +5 Year 13/14
<b>SAVINGS:</b>						
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Savings</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>COSTS:</b>	LA = large appliance facilities MF = metal furniture facilities					
Regulated Community	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Costs</b>	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520	LA \$2,750 MF \$3,520
<b>REVENUE LOSSES:</b>						
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Revenue Losses</b>	0.00	0.00	0.00	0.00	0.00	0.00

## Regulatory Analysis Form

Large Appliances and Metal Furniture Surface Coating Processes

(20a) Provide the past three year expenditure history for programs affected by the regulation.

Program	FY-3 (05/06)	FY-2 (06/07)	FY-1 (07/08)	Current FY (08/09)
Environmental Program Management (161-10382)	\$37,049,000	\$36,868,000	\$39,909,000	\$41,800,000
Clean Air Fund Major Emission Facilities (215-20077)	\$24,290,000	\$26,218,000	\$23,872,000	\$24,053,000
Clean Air Fund Mobile and Area Facilities (233-20084)	\$8,231,000	\$12,863,000	\$8,505,000	\$9,613,000

(21) Explain how the benefits of the regulation outweigh any cost and adverse effects.

Implementation of this VOC emission reduction measure is reasonably necessary in this Commonwealth to attain and maintain the health- and welfare-based 8-hour ozone NAAQS. The proposed amendments may also reduce ambient outdoor and indoor concentrations of HAPs. The estimated total annual costs to the regulated industry of \$2,750 for large appliance surface coating operations and \$3,520 for metal furniture surface coating operations are negligible compared to the improved health and environmental benefits that would be gained from this proposed rulemaking.

(22) Describe the communications with and input from the public and any advisory council/group in the development and drafting of the regulation. List the specific persons and/or groups who were involved.

The concepts of the proposed rulemaking were discussed with the Air Quality Technical Advisory Committee (AQTAC) at its October 30 and December 11, 2008, meetings. The proposed rulemaking was discussed with the AQTAC on May 28, 2009. The AQTAC concurred with the Department's recommendation to present the proposed amendments to the Board for approval for publication as a proposed rulemaking. The Department also consulted with the Citizens Advisory Council on July 21, 2009, and with the Small Business Compliance Advisory Committee on October 22, 2008, and April 22 and July 22, 2009.

(23) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

There are no alternative regulatory provisions available that will achieve the needed level of emission reductions from the affected large appliance coatings and metal furniture coatings categories.

(24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

There are no Federal standards for large appliance and metal furniture coatings. The requirements in the proposed rulemaking are consistent with the recommendations of the EPA in the 2007 CTGs for large appliance and metal furniture coatings, though the proposed rulemaking retains existing VOC emission limits for certain coating types that are more stringent than those recommended by EPA.

## Regulatory Analysis Form

### Large Appliances and Metal Furniture Surface Coating Processes

The as applied VOC emission limits for large appliance coatings in Table I (relating to emission limits of VOCs for large appliance surface coatings) of the proposed rulemaking are more stringent than the recommendations of the large appliance coatings CTG for several coating types, as the recommended limits in the CTG are less stringent than the existing VOC emission limit for large appliance coatings in § 129.52. The coating types for which the proposed rulemaking is more stringent than the recommendations in the CTG are baked extreme high gloss, extreme performance, heat resistant, metallic, pretreatment and solar absorbent coatings, and air dried extreme performance, heat resistant, metallic, pretreatment and solar absorbent coatings. The more stringent standards are being retained due to the CAA prohibition against backsliding.

The as applied VOC emission limits for metal furniture coatings in Table II (relating to emission limits of VOCs for metal furniture surface coatings) of the proposed rulemaking are more stringent than the recommendations of the metal furniture coatings CTG for several coating types, as the recommended limits in the CTG are less stringent than the existing VOC emission limit for metal furniture coatings in § 129.52. The coating types for which the proposed rulemaking is more stringent than the recommendations in the CTG are baked metallic and pretreatment coatings, and air dried extreme performance, heat resistant, metallic, pretreatment and solar absorbent coatings. The more stringent standards are being retained due to the CAA prohibition against backsliding.

The additional VOC emission reductions that would result from the proposed amendments will help reduce ambient levels of ozone precursors and protect public health and welfare. This proposed rulemaking is reasonably necessary as part of the Commonwealth's efforts to attain and maintain the health- and welfare-based 8-hour NAAQS for ozone. Additionally, the proposed amendments would provide additional reductions of VOC emissions to meet the revised 8-hour ozone standard of 0.075 ppm, down from 0.08 ppm, promulgated by the EPA on March 27, 2008.

(25) How does this regulation compare with those of other states? How will this affect Pennsylvania's ability to compete with other states?

As discussed in the response to question 12, § 184(b)(1)(B) of the CAA requires that states in the OTR submit a SIP revision requiring implementation of RACT for all sources of VOC emissions in the state covered by a specific CTG. 42 U.S.C. § 7511c(b)(1)(B). All states in the OTR that have large appliance or metal furniture surface coating operations are required to implement RACT or equivalent control measures. Pennsylvania will not be at a disadvantage with the other states in the OTR.

(26) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No.

## Regulatory Analysis Form

### Large Appliances and Metal Furniture Surface Coating Processes

(27) Submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

The owners and operators of affected large appliance or metal furniture surface coating operations would be required to keep daily operational records of information for coatings and cleaning solvents sufficient to demonstrate compliance, including identification of materials, VOC content and volumes used. The records must be maintained for 2 years and submitted to the Department upon request. Persons claiming the small quantity exemption or use of exempt coating would be required to keep records demonstrating the validity of the exemption. Persons seeking to comply through the use of add-on controls would be required to meet the applicable reporting requirements specified in 25 Pa. Code Chapter 139 (relating to sampling and testing).

(28) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

There are no special provisions.

FACE SHEET  
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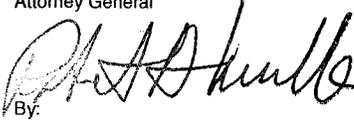
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REVIEW COMMISSION

DO NOT WRITE IN THIS SPACE

Copy below is hereby approved as to form and legality.  
Attorney General

  
By:

(Deputy Attorney General)

DEC 15 2009

DATE OF APPROVAL

Check if applicable  
Copy not approved. Objections attached.

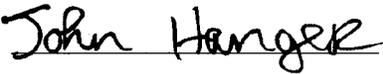
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promulgated by:

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
ENVIRONMENTAL QUALITY BOARD

(AGENCY)

DOCUMENT/FISCAL NOTE NO. 7-449

DATE OF ADOPTION November 17, 2009

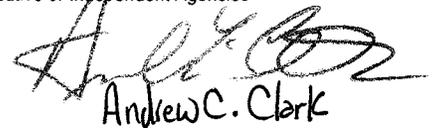
BY 

TITLE JOHN HANGER  
CHAIRPERSON

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

Copy below is hereby approved as to form and legality  
Executive or Independent Agencies

BY

  
Andrew C. Clark

DATE OF APPROVAL

NOV 20 2009

(Deputy General Counsel)

~~(Chief Counsel - Independent Agency)~~  
(Strike inapplicable Title)

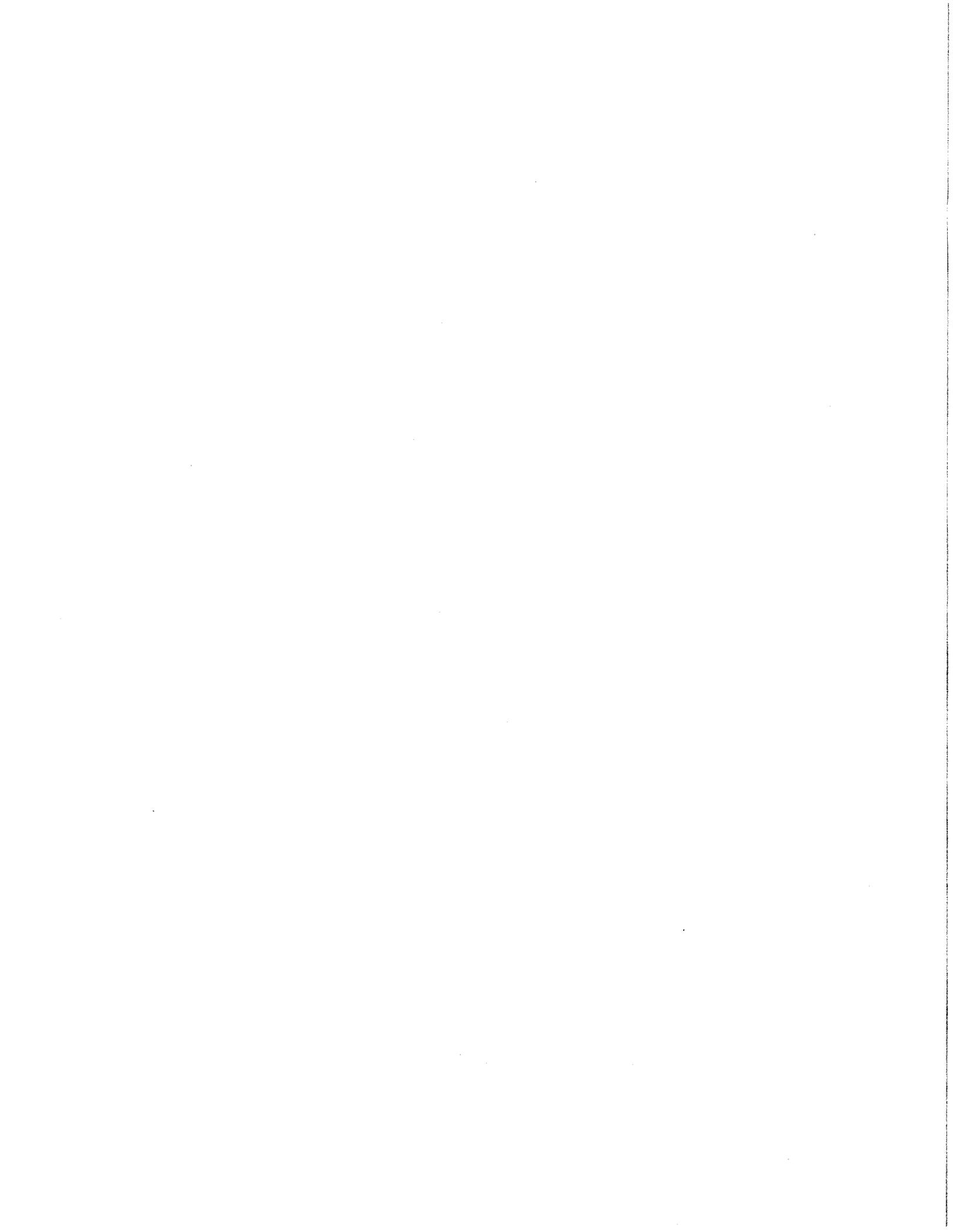
Check if applicable. No Attorney General Approval  
or objection within 30 days after submission.

NOTICE OF PROPOSED RULEMAKING

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ENVIRONMENTAL QUALITY BOARD

Large Appliance and Metal Furniture Surface Coating Processes

25 Pa. Code, Chapter 129



**Notice of Proposed Rulemaking**  
**Department of Environmental Protection**  
**Environmental Quality Board**  
**(25 Pa. Code Chapter 129)**  
**Large Appliance and Metal Furniture Surface Coating Processes**

**Preamble**

The Environmental Quality Board (Board) proposes to amend Chapter 129 (relating to standards for sources) to read as set forth in Annex A.

The proposed rulemaking would amend Chapter 129 to limit emissions of volatile organic compounds (VOCs) from the use and application of coatings and cleaning materials in large appliance and metal furniture surface coating processes. The proposal would add § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes) and amend §§ 129.51 and 129.52 (relating to general; and surface coating processes).

This proposal was adopted by the Board at its meeting on November 17, 2009.

**A. Effective Date**

This proposed rulemaking will be effective upon final-form publication in the *Pennsylvania Bulletin*.

**B. Contact Persons**

For further information contact Arleen J. Shulman, Chief, Division of Air Resource Management, P.O. Box 8468, Rachel Carson State Office Building, Harrisburg, PA 17105-8468, (717) 772-3436, or Kristen Campfield Furlan, Assistant Counsel, Bureau of Regulatory Counsel, P.O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposal appears in Section J of this preamble. Persons with a disability may use the AT&T Relay Service by calling (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposal is available electronically through the Department of Environmental Protection's (Department) Web site at [www.depweb.state.pa.us](http://www.depweb.state.pa.us) (Quick Access: Public Participation).

**C. Statutory Authority**

This proposed rulemaking is authorized under section 5 of the Air Pollution Control Act (APCA) (35 P. S. § 4005), which in subsection (a)(1) grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth, and which in subsection (a)(8) grants the Board the authority to adopt rules and regulations designed to implement the provisions of the Clean Air Act (CAA).

#### **D. Background and Purpose**

The purpose of this proposed rulemaking is to reduce VOC emissions from large appliance and metal furniture surface coating operations. VOCs are a precursor for ozone formation. Ground-level ozone is not emitted directly by surface coatings to the atmosphere, but is formed by a photochemical reaction between VOCs and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight. The proposed rulemaking adopts the emission limits and other requirements of the U.S. Environmental Protection Agency's (EPA) 2007 Control Techniques Guidelines (CTGs) for large appliance coatings and metal furniture coatings in order to meet Federal CAA requirements.

The EPA is responsible for establishing National Ambient Air Quality Standards (NAAQS) for six criteria pollutants considered harmful to public health and the environment: ozone, particulate matter, NO<sub>x</sub>, carbon monoxide, sulfur dioxide and lead. The CAA established two types of NAAQS: primary standards, limits set to protect public health; and secondary standards, limits set to protect public welfare, including protection against visibility impairment and from damage to animals, crops, vegetation and buildings. The EPA has established primary and secondary ozone NAAQS to protect public health and welfare.

When ground-level ozone is present in concentrations in excess of the Federal health-based 8-hour NAAQS for ozone, public health and welfare are adversely affected. Ozone exposure correlates to increased respiratory disease and higher mortality rates. Ozone can inflame and damage the lining of the lungs. Within a few days, the damaged cells are shed and replaced. Over a long time period, lung tissue may become permanently scarred, resulting in permanent loss of lung function and a lower quality of life. When ambient ozone levels are high, more people with asthma have attacks that require a doctor's attention or use of medication. Ozone also makes people more sensitive to allergens including pet dander, pollen and dust mites, all of which can trigger asthma attacks.

The EPA has concluded that there is an association between high levels of ambient ozone and increased hospital admissions for respiratory ailments including asthma. While children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to high levels of ambient ozone while engaged in activities that involve physical exertion. High levels of ozone also affect animals in ways similar to humans.

In addition to causing adverse human and animal health effects, the EPA has concluded that ozone affects vegetation and ecosystems, leading to reductions in agricultural crop and commercial forest yields by destroying chlorophyll; reduced growth and survivability of tree seedlings; and increased plant susceptibility to disease, pests, and other environmental stresses, including harsh weather. In long-lived species, these effects may become evident only after several years or even decades and have the potential for long-term adverse impacts on forest ecosystems. Ozone damage to the foliage of trees and other plants can decrease the aesthetic value of ornamental species used in residential landscaping, as well as the natural beauty of parks and recreation areas. Through deposition, ground-level ozone also contributes to pollution in the Chesapeake Bay. The economic value of some welfare losses due to ozone can be calculated, such as crop yield loss from both reduced seed production and visible injury to some leaf crops,

including lettuce, spinach and tobacco, as well as visible injury to ornamental plants, including grass, flowers and shrubs. Other types of welfare loss may not be quantifiable, such as the reduced aesthetic value of trees growing in heavily visited parks.

High levels of ground-level ozone can also cause damage to buildings and synthetic fibers, including nylon, and reduced visibility on roadways and in natural areas. The implementation of additional measures to address ozone air quality nonattainment in this Commonwealth is necessary to protect the public health and welfare, animal and plant health and welfare and the environment.

In July 1997, the EPA established primary and secondary ozone standards at a level of 0.08 parts per million (ppm) averaged over 8 hours. 62 FR 38855 (July 18, 1997). In 2004, the EPA designated 37 counties in this Commonwealth as 8-hour ozone nonattainment areas for the 1997 8-hour ozone NAAQS. This Commonwealth is meeting the 1997 standard in all areas except the five-county Philadelphia and seven-county Pittsburgh-Beaver Valley areas. The areas in which the 1997 standard has been attained are required to have permanent and enforceable control measures to ensure violations do not occur for the next decade. The Commonwealth must demonstrate that the two areas currently not attaining the 1997 standard will meet the 1997 standard as expeditiously as practicable. Should these two areas not attain the standard during the 2009 ozone season, additional reductions will be required.

In March 2008, the EPA lowered the standards to 0.075 ppm averaged over 8 hours to provide even greater protection for children, other at-risk populations and the environment against the array of ozone-induced adverse health and welfare effects. 73 FR 16436 (March 27, 2008). As required by the CAA requirements that states regulate sources covered by CTGs issued by the EPA, the Commonwealth submitted recommendations to the EPA in 2009 to designate 29 counties as nonattainment for the 2008 8-hour ozone NAAQS. The EPA is expected to take final action on the designation recommendation by March 2010. The EPA's designations will take effect 60 days after the EPA publishes a notice in the *Federal Register*. Monitors in most urban areas and some rural areas of this Commonwealth are currently not meeting the 2008 ozone standard.

There are no Federal statutory or regulatory limits for VOC emissions from large appliance and metal furniture surface coating operations. State regulations to control VOC emissions from large appliance and metal furniture surface coating operations are required under Federal law, however, and will be reviewed by the EPA for whether they meet the "reasonably available control technology" (RACT) requirements of the CAA and its implementing regulations. *Consumer and Commercial Products; Control Techniques Guidelines in lieu of Regulations for Paper, Film, and Foil Coatings; Metal Furniture Coatings; and Large Appliance Coatings*, 72 FR 57215, 57218 (October 9, 2007).

Section 172(c)(1) of the CAA provides that State Implementation Plans (SIPs) for nonattainment areas must include "reasonably available control measures," including RACT, for sources of emissions. 42 U.S.C. § 7502(c)(1). Section 182(b)(2) of the CAA provides that for moderate ozone nonattainment areas, states must revise their SIPs to include RACT for sources of VOC emissions covered by a CTG document issued by the EPA prior to the area's date of attainment. 42 U.S.C. § 7511a(b)(2). More importantly, § 184(b)(1)(B) of the CAA requires

that states in the Ozone Transport Region (OTR), including Pennsylvania, submit a SIP revision requiring implementation of RACT for all sources of VOC emissions in the state covered by a specific CTG. 42 U.S.C. § 7511c(b)(1)(B).

Section 183(e) of the CAA directs the EPA to list for regulation those categories of products that account for at least 80% of the VOC emissions from consumer and commercial products in ozone nonattainment areas. 42 U.S.C. § 7511b(e). Section 183(e)(3)(C) of the CAA further provides that the EPA may issue a CTG in place of a National regulation for a product category where the EPA determines that the CTG will be “substantially as effective as regulations” in reducing emissions of VOC in ozone nonattainment areas. 42 U.S.C. § 7511b(e)(3)(C).

In 1995, the EPA listed large appliance coatings and metal furniture coatings on its § 183(e) list and, in 2007, issued CTGs for these two product categories. 60 FR 15264 (March 23, 1995) and 72 FR 57215 (October 9, 2007). In the 2007 notice, the EPA determined that the CTGs would be substantially as effective as National regulations in reducing VOC emissions from these product categories in ozone nonattainment areas. 72 FR at p. 57220.

The CTG provides states with the EPA’s recommendation of what constitutes RACT for the covered category. States can use the recommendations provided in the CTG to inform their own determination as to what constitutes RACT for VOC emissions from the covered category. State air pollution control agencies are free to implement other technically sound approaches that are consistent with the CAA requirements and the EPA’s implementing regulations or guidelines.

The Department has reviewed the recommendations included in the 2007 CTGs for large appliance and metal furniture coatings for their applicability to the ozone reduction measures necessary for this Commonwealth. The Department has determined that the measures provided in the CTGs for large appliance and metal furniture coatings are appropriate to be implemented in this Commonwealth as RACT for this category.

This rulemaking, if adopted as a final rule, would assist in reducing VOC emissions locally as well as reducing the transport of VOC emissions and ground-level ozone to downwind states. Adoption of VOC emission requirements for large appliance and metal furniture surface coating operations is part of the Commonwealth’s strategy, in concert with other OTR jurisdictions, to further reduce transport of VOC ozone precursors and ground-level ozone throughout the OTR to attain and maintain the 8-hour ozone NAAQS. The proposed rulemaking is required under the CAA and is reasonably necessary to attain and maintain the health-based 8-hour ozone NAAQS in this Commonwealth. When final, this rulemaking will be submitted to the EPA as a revision to the SIP.

The concepts of the proposed rulemaking were discussed with the Air Quality Technical Advisory Committee (AQTAC) at its October 30 and December 11, 2008, meetings. The proposed rulemaking was discussed with the AQTAC on May 28, 2009. The AQTAC concurred with the Department’s recommendation to present the proposed amendments to the Board for approval for publication as a proposed rulemaking. The Department also consulted with the Citizens Advisory Council on July 21, 2009, and with the Small Business Compliance Advisory Committee on October 22, 2008, and April 22 and July 22, 2009.

## **E. Summary of Regulatory Requirements**

The proposed rulemaking would amend § 129.51(a) to extend its coverage to large appliance and metal furniture surface coating processes covered by this proposed rulemaking, as well as to paper, film and foil surface coating processes and flat wood paneling surface coating processes, which are covered in parallel rulemakings. Section 129.51(a) provides an alternative method for owners and operators of facilities to achieve compliance with air emission limits.

The proposed rulemaking would amend § 129.52 by adding paragraph (i). Section 129.52 specifies requirements and emission limits for various surface coating processes. The amendment in this proposed rulemaking would clarify in new paragraph (i) that the requirements and limits already specified in § 129.52 for metal furniture coatings, large appliance coatings and paper coatings are superseded by the requirements and limits that will be adopted in this proposed rulemaking and in the proposed rulemaking for paper, film and foil surface coating processes.

One emission limit is expressed in § 129.52 for large appliance coatings and one emission limit is expressed for metal furniture coatings, whereas in the CTGs separate emission limits are expressed for eight different coating types within each of these two categories. Several of the limits in the CTGs are more stringent and several are less stringent than the existing limits expressed in § 129.52. As is explained in the discussion, below, regarding Tables I and II (relating to emission limits of VOCs for large appliance surface coatings; and emission limits of VOCs for metal furniture surface coatings), the more stringent limits are adopted in this proposed rulemaking.

The proposed rulemaking would add § 129.52a to regulate VOC emissions from large appliance and metal furniture surface coating processes. The applicability of this new section is described in subsection (a), which establishes that § 129.52a applies to the owner and operator of a large appliance or metal furniture surface coating process if the total actual VOC emissions from all large appliance or metal furniture surface coating operations, including related cleaning activities, at the facility are equal to or greater than 15 pounds (6.8 kilograms) per day or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. The emission limits and other requirements of this section supersede the emission limits and other requirements of § 129.52. Basing the applicability on a 12-month rolling period is generally considered to be more stringent than basing it on a calendar year, as in § 129.52, but is consistent with the CTGs.

Proposed subsection (b) explains that the requirements of § 129.52a supersede the requirements of a RACT permit for VOC emissions from a large appliance or metal furniture surface coating operation already issued to the owner or operator of a source subject to § 129.52a, except to the extent the RACT permit contains more stringent requirements.

Proposed subsection (c) establishes VOC emission limits. Beginning January 1, 2011, a person may not cause or permit the emission into the outdoor atmosphere of VOCs from a large appliance or metal furniture surface coating process, unless (1) the VOC content of each as applied coating is equal to or less than the limit specified in one of the two tables in § 129.52a, or (2) the overall weight of VOCs emitted to the atmosphere is reduced through the use of vapor

recovery, incineration or another method that is acceptable under § 129.51(a). The second option also addresses the overall efficiency of a control system.

Proposed subsection (d) identifies daily records that must be kept to demonstrate compliance with § 129.52a, including records of parameters and VOC content of each coating, thinner, component and cleaning solvent, as supplied, and the VOC content of each as applied coating or cleaning solvent.

Proposed subsection (e) requires that the records be maintained for 2 years and submitted to the Department on request.

Under proposed subsection (f), an owner or operator subject to § 129.52a may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of large appliance or metal furniture surface coatings, unless the coatings are applied using electrostatic coating, roller coating, flow coating, dip coating (including electrodeposition), high volume-low pressure (HVLP) spray, or brush coating. An owner or operator may use another coating application method if a request is submitted in writing that demonstrates that the method is capable of achieving a transfer efficiency equivalent to or better than that achieved by the other methods listed in subsection (f), and is approved in writing by the Department prior to use.

Proposed subsection (g) exempts stencil coatings, safety-indicating coatings, solid-film lubricants, electric-insulating coatings, thermal-conducting coatings, touch-up and repair coatings and coating applications using hand-held aerosol cans from the VOC coating content limits in Tables I and II (relating to emission limits of VOCs for large appliance surface coatings; and emission limits of VOCs for metal furniture surface coatings) of proposed § 129.52a. Subsection (g) also exempts a coating used exclusively for determining product quality and commercial acceptance and other small quantity coatings, if the quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility and if the owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

Proposed subsection (h) establishes work practices that an owner or operator of a large appliance or metal furniture surface coating process subject to § 129.52a must comply with for coating-related activities.

Proposed subsection (i) establishes work practices that an owner or operator of a large appliance or metal furniture surface coating process subject to § 129.52a must comply with for cleaning materials.

Proposed Table I establishes emission limits for VOCs for eight types of large appliance surface coatings, expressed in weight of VOC per volume of coating solids (kilograms per liter (kg/l) or pounds per gallon (lb/gal)), as applied. Limits are prescribed for coatings that are baked and coatings that are air dried. The emission limits for the following coating types are taken from the large appliance coatings CTG: *Baked (kg/l and lb/gal)* – “General, one component” and “General, multi-component”; *Air Dried (kg/l)* – “General, one component”; and *Air Dried (lb/gal)* – “General, one component,” “General, multi-component” and “Extreme high gloss.” The emission limits for *Air Dried (kg/l)* – “General, multi-component” and “Extreme high gloss”

are taken from both the CTG and the emission limit for “large appliance coatings” in § 129.52, as they are the same in both places. The remaining emission limits are taken from § 129.52 because the limit in § 129.52 is more stringent than the recommended limits in the CTG. Whenever the limit in § 129.52 is the same as or more stringent than the recommended limit in the CTG, the limit in § 129.52 is listed due to the CAA prohibition against backsliding from existing emission control requirements.

Proposed Table II establishes emission limits for VOCs for eight types of metal furniture surface coatings, expressed in weight of VOC per volume of coating solids (kg/l or lb/gal), as applied. Limits are prescribed for coatings that are baked and coatings that are air dried. The emission limits from the following coating types are taken from the metal furniture CTG: *Baked (kg/l and lb/gal)* – “General, one component” and “General, multi-component”; and *Air Dried (kg/l and lb/gal)* – “General, one component,” “General, multi-component” and “Extreme high gloss.” The emission limits for *Baked (kg/l)* – “Extreme high gloss,” “Extreme performance,” “Heat resistant” and “Solar absorbent” are taken from both the CTG and the emission limit for “metal furniture coatings” in § 129.52, as they are the same in both places. The remaining emission limits are taken from § 129.52 because the limit in § 129.52 is more stringent than the recommended limits in the CTG. Whenever the limit in § 129.52 is the same as or more stringent than the recommended limit in the CTG, the limit in § 129.52 is listed due to the CAA prohibition against backsliding from existing emission control requirements.

## **F. Benefits, Costs and Compliance**

### **Benefits**

Implementation of the proposed control measure would benefit the health and welfare of the approximately 12 million humans, animals, crops, vegetation and natural areas of this Commonwealth by reducing emissions of VOCs, which are precursors to ground-level ozone air pollution. Although the proposed amendments are designed primarily to address ozone air quality, the reformulation or substitution of coating products to meet the VOC content limits applicable to users may also result in reduction of hazardous air pollutant (HAP) emissions, which are also a serious health threat.

The proposed rulemaking provides as one compliance option that coatings used on or applied to large appliance or metal furniture products manufactured in this Commonwealth meet specified limits for VOC content, usually through substitution of low VOC-content solvents or water for the high VOC-content solvents. The reduced levels of high VOC-content solvents would also benefit water quality through reduced loading on water treatment plants and in reduced quantities of high VOC-content solvents leaching into the ground. Owners and operators of affected large appliance and metal furniture coating process facilities may also reduce VOC emissions through the use of add-on controls, or a combination of complying coatings and add-on controls.

In this Commonwealth approximately 4 large appliance surface coating operations combine to emit an estimated total of 18.2 tons of VOCs per year; about 16 metal furniture surface coating operations combine to emit an estimated total of 50.33 tons of VOCs per year.

The EPA estimates that implementation of the recommended control options for large appliance coatings processes will result in approximately a 30% reduction in VOC emissions. The maximum anticipated additional annual VOC reductions from the large appliance surface coating facilities as a result of this rulemaking is approximately 5.5 tons (18.2 tons x 30%).

The EPA estimates that implementation of the recommended control options for metal furniture coatings processes will result in approximately a 35% reduction in VOC emissions. The maximum anticipated additional annual VOC reductions from the metal furniture surface coating facilities as a result of this rulemaking is approximately 17.6 tons (50.33 tons x 35%).

### **Compliance Costs**

The costs of complying with the proposed amendments include the cost of using alternative product formulations, such as low-VOC or water-based coatings, and the cost of using add-on controls. The facility owner or operator would be given the flexibility to choose controls. Based on information provided by the EPA in the large appliance coating CTG, the cost effectiveness of reducing VOC emissions from large appliance surface coating operations is estimated to be \$500 per ton of VOC reduced. This estimate is based on the use of low VOC-content coatings for control. The estimated annual costs for the owners or operators of the affected large appliance surface coating facilities in this Commonwealth, combined, is \$2,750 (5.5 tons VOC reduced x \$500 per ton reduced).

Similarly, based on information provided by the EPA in the metal furniture coating CTG, the cost effectiveness of reducing VOC emissions from metal furniture surface coating operations is estimated to be \$200 per ton of VOC reduced. This estimate is based on the use of low VOC-content coatings for control. The estimated annual costs for the owners or operators of the affected metal furniture coating facilities in this Commonwealth, combined, is \$3,520 (17.6 tons VOC reduced x \$200 per ton reduced).

The potential total annual costs to the regulated industry of \$2,750 for large appliance surface coating operations and \$3,520 for metal furniture surface coating operations are negligible compared to the improved health and environmental benefits that would be gained from this proposed rulemaking.

The implementation of the work practice requirements for cleaning materials is expected to result in a net cost savings. The recommended work practices should reduce the amount of cleaning materials used by reducing the amount of cleaning materials lost to evaporation, spillage and waste.

### **Compliance Assistance Plan**

The Department plans to educate and assist the public and regulated community in understanding the newly revised requirements and how to comply with them. This will be accomplished through the Department's ongoing compliance assistance program.

## **Paperwork Requirements**

The owners and operators of affected large appliance or metal furniture surface coating operations would be required to keep daily operational records of information for coatings and cleaning solvents sufficient to demonstrate compliance, including identification of materials, VOC content and volumes used. The records must be maintained for 2 years and submitted to the Department upon request. Persons claiming the small quantity exemption or use of exempt coating would be required to keep records demonstrating the validity of the exemption. Persons seeking to comply through the use of add-on controls would be required to meet the applicable reporting requirements specified in *25 Pa. Code* Chapter 139 (relating to sampling and testing).

## **G. Pollution Prevention**

The Federal Pollution Prevention Act of 1990 established a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance. This regulation has incorporated the following pollution prevention incentives:

The proposed amendments will assure that the citizens and the environment of this Commonwealth experience the benefits of reduced emissions of VOCs and HAPs from large appliance and metal furniture surface coating processes. Although the proposed amendments are designed primarily to address ozone air quality, the reformulation or substitution of coating products to meet the VOC content limits applicable to users may also result in reduction of HAP emissions, which are also a serious health threat. The proposed rulemaking provides as one compliance option that coatings used on or applied to large appliance or metal furniture products manufactured in this Commonwealth meet specified limits for VOC content, usually through substitution of low VOC-content solvents or water for the high VOC-content solvents. The reduced levels of high VOC-content solvents would also benefit water quality through reduced loading on water treatment plants and in reduced quantities of high VOC-content solvents leaching into the ground. Owners and operators of affected large appliance and metal furniture surface coating process facilities may also reduce VOC emissions through the use of add-on controls, or a combination of complying coatings and add-on controls.

## **H. Sunset Review**

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

## **I. Regulatory Review**

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on January 5, 2010, the Department submitted a copy of these proposed amendments to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, IRRC may convey any comments, recommendations or objections to the proposed rulemaking within 30 days of the close of the public comment period. The comments, recommendations or objections shall specify the regulatory review criteria that have not been met. The Regulatory Review Act specifies detailed procedures for review of these issues by the Department, the General Assembly and the Governor prior to final publication of the regulations.

## **J. Public Comments**

***Written Comments*** - Interested persons are invited to submit comments, suggestions or objections regarding the proposed rulemaking to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by the Board by March 22, 2010. Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by the Board by March 22, 2010. The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulation will be considered.

***Electronic Comments*** - Comments may be submitted electronically to the Board at [RegComments@state.pa.us](mailto:RegComments@state.pa.us) and must also be received by the Board by March 22, 2010. A subject heading of the proposal and a return name and address must be included in each transmission. If an acknowledgement of electronic comments is not received by the sender within 2 working days, the comments should be retransmitted to the Board to ensure receipt.

## **K. Public Hearings**

The Board will hold public hearings in Pittsburgh, Harrisburg, and Norristown for the purpose of accepting comments on this proposed rulemaking. The hearings will be held as follows:

February 16, 2010  
1:00 p.m.

Department of Environmental Protection  
Southwest Regional Office  
Waterfront Conference Room A and B  
400 Waterfront Drive  
Pittsburgh, PA 15222-4745

February 17, 2010  
1:00 p.m.

Department of Environmental Protection  
Rachel Carson State Office Building  
Conference Room 105  
400 Market Street  
Harrisburg, PA 17105

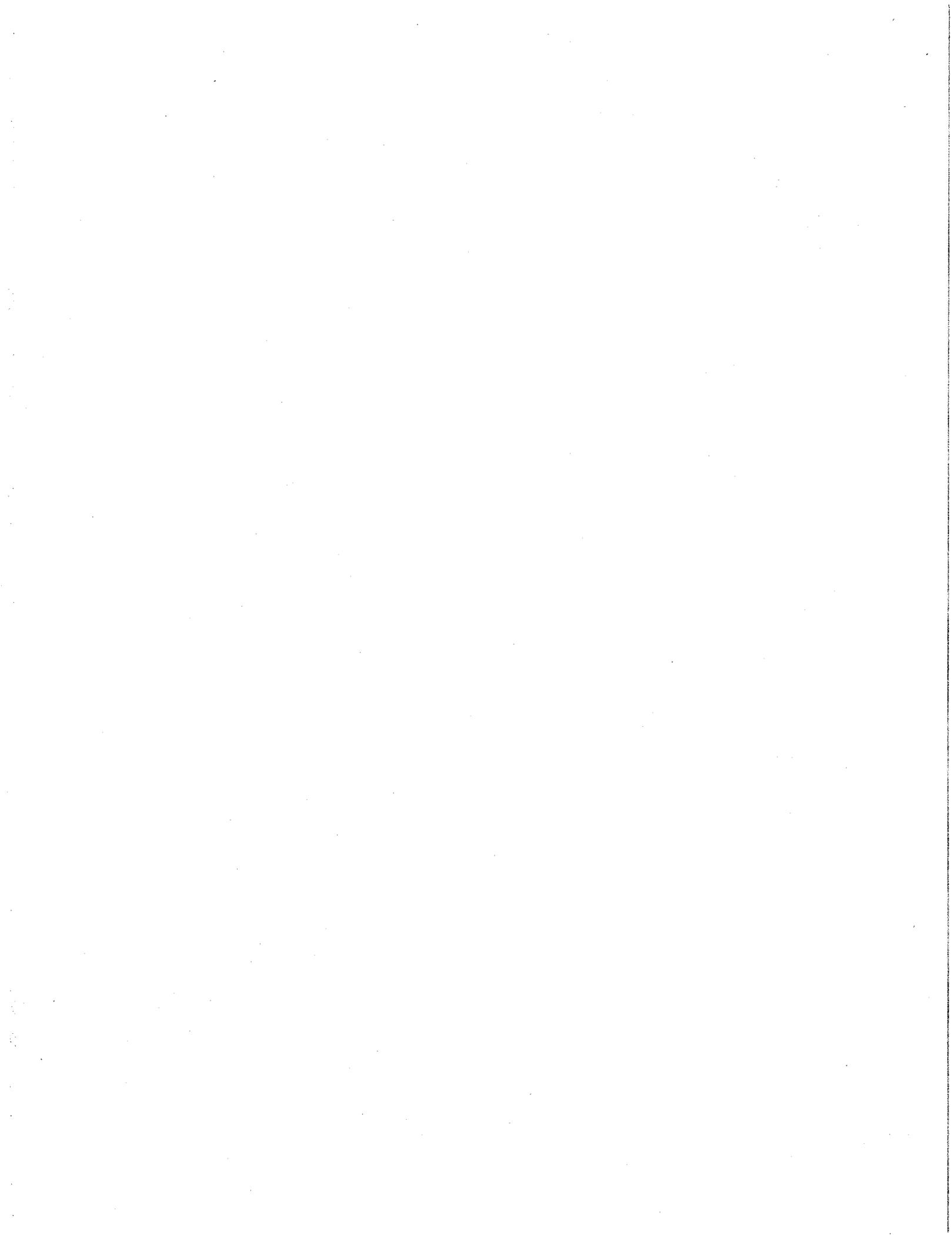
February 18, 2010  
1:00 p.m.

Department of Environmental Protection  
Southeast Regional Office  
Delaware Conference Room  
2 East Main Street  
Norristown, PA 19401

Persons wishing to present testimony at a hearing are requested to contact the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least 1 week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to 10 minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chairperson in order to aid in transcribing the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans With Disabilities Act of 1990 should contact the Board at (717) 787-4526 or through the Pennsylvania AT&T Relay Service at (800) 654-5984 (TDD) or (800) 654-5988 (voice users) to discuss how the Board may accommodate their needs.

JOHN HANGER  
Chairperson



Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

SUBPART C. PROTECTION OF NATURAL RESOURCES

ARTICLE III. AIR RESOURCES

CHAPTER 129. STANDARDS FOR SOURCES

SOURCES OF VOCs

§ 129.51. General.

(a) *Equivalency.* Compliance with §§ 129.52, 129.52a, 129.52b, 129.52c and 129.54—129.73 may be achieved by alternative methods if the following exist:

\* \* \* \* \*

(3) Compliance by a method other than the use of a low VOC coating or ink which meets the applicable emission limitation in §§ 129.52, 129.52a, 129.52b, 129.52c, 129.67 and 129.73 [(relating to surface coating processes; graphic arts systems; and aerospace manufacturing and rework)] shall be determined on the basis of equal volumes of solids.

\* \* \* \* \*

(6) The alternative compliance method is incorporated into a plan approval or operating permit, or both, reviewed by the EPA, including the use of an air cleaning device to comply with § 129.52, § 129.52a, § 129.52b, § 129.52c, § 129.67, § 129.68(b)(2) and (c)(2) or § 129.73.

\* \* \* \* \*

§ 129.52. Surface coating processes.

\* \* \* \* \*

(i) Beginning January 1, 2011, the requirements and limits for metal furniture coatings, large appliance coatings and paper coatings are superseded by the requirements and limits in §§ 129.52a and 129.52b (relating to control of VOC emissions from large appliance and metal furniture surface coating processes; and control of VOC emissions from paper, film and foil surface coating processes), respectively.

\* \* \* \* \*

[Editor's note: Section 129.52a is new and printed in regular type to enhance readability.]

**§ 129.52a. Control of VOC emissions from large appliance and metal furniture surface coating processes.**

(a) *Applicability.* This section applies as follows:

(1) This section applies to the owner and operator of a large appliance or metal furniture surface coating process if the total actual VOC emissions from all large appliance or metal furniture surface coating operations, including related cleaning activities, at the facility are equal to or greater than 15 pounds (6.8 kilograms) per day or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls.

(2) The emission limits and other requirements of this section supersede the emission limits and other requirements of § 129.52 (relating to surface coating processes) for large appliance and metal furniture surface coating processes.

(b) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a source subject to subsection (a)(1) prior to January 1, 2011, under §§ 129.91 – 129.95 (relating to stationary sources of NOx and VOCs) to control, reduce or minimize VOCs from a large appliance or metal furniture surface coating operation, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits.* Beginning January 1, 2011, a person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from a large appliance or metal furniture surface coating process, unless one of the following limitations is met:

(1) The VOC content of each as applied coating is equal to or less than the limit specified in Table I (relating to emission limits of VOCs for large appliance surface coatings) or Table II (relating to emission limits of VOCs for metal furniture surface coatings).

(i) The VOC content of the as applied coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated as follows:

$$\text{VOC} = (\text{W}_o)(\text{D}_c)/\text{V}_n$$

Where:

VOC = VOC content in lb VOC/gal of coating solids

$\text{W}_o$  = Weight percent of VOC ( $\text{W}_v - \text{W}_w - \text{W}_{ex}$ )

$\text{W}_v$  = Weight percent of total volatiles (100%-weight percent solids)

$\text{W}_w$  = Weight percent of water

$\text{W}_{ex}$  = Weight percent of exempt solvent(s)

$D_c$  = Density of coating, lb/gal, at 25°C

$V_n$  = Volume percent of solids of the as applied coating

(ii) The VOC content of a dip coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated on a 30-day rolling average basis using the following equation:

$$\text{VOC}_A = \frac{\sum_i (W_{oi} \times D_{ci} \times Q_i) + \sum_J (W_{oJ} \times D_{dJ} \times Q_J)}{\sum_i (V_{ni} \times Q_i)}$$

Where:

$\text{VOC}_A$  = VOC content in lb VOC/gal of coating solids for a dip coating, calculated on a 30-day rolling average basis

$W_{oi}$  = Percent VOC by weight of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction (that is 55% = 0.55)

$D_{ci}$  = Density of each as supplied coating (i) added to the dip coating process, in pounds per gallon

$Q_i$  = Quantity of each as supplied coating (i) added to the dip coating process, in gallons

$V_{ni}$  = Percent solids by volume of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction

$W_{oJ}$  = Percent VOC by weight of each thinner (J) added to the dip coating process, expressed as a decimal fraction

$D_{dJ}$  = Density of each thinner (J) added to the dip coating process, in pounds per gallon

$Q_J$  = Quantity of each thinner (J) added to the dip coating process, in gallons

(iii) Sampling and testing shall be done in accordance with the procedures and test methods specified in Chapter 139 (relating to sampling and testing).

(2) The overall weight of VOCs emitted to the atmosphere is reduced through the use of vapor recovery or incineration or another method that is acceptable under § 129.51(a) (relating to general). The overall efficiency of a control system, as determined by the test methods and procedures specified in Chapter 139, may be no less than 90% or may be no less than the equivalent efficiency as calculated by the following equation, whichever is less stringent:

$$O = (1 - E/V) \times 100$$

Where:

V = The VOC content of the as applied coating, in lb VOC/gal of coating solids.

E = The Table I or Table II limit in lb VOC /gal of coating solids.

O = The overall required control efficiency.

(d) *Compliance monitoring procedures.* The owner or operator of a facility subject to this section shall maintain records sufficient to demonstrate compliance with this section. At a minimum, the owner or operator shall maintain daily records of:

(1) The following parameters for each coating, thinner, component and cleaning solvent as supplied:

(i) Name and identification number.

(ii) Volume used.

(iii) Mix ratio.

(iv) Density or specific gravity.

(v) Weight percent of total volatiles, water, solids and exempt solvents.

(vi) Volume percent of solids for each Table I or Table II coating used in the surface coating process.

(2) The VOC content of each coating, thinner, component and cleaning solvent as supplied.

(3) The VOC content of each as applied coating or cleaning solvent.

(e) *Recordkeeping and reporting requirements.* The records required under subsection (d) shall be maintained for 2 years and submitted to the Department on request.

(f) *Coating application methods.* A person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of large appliance or metal furniture surface coatings, unless the coatings are applied using one or more of the following coating application methods:

(1) Electrostatic coating.

(2) Roller coating.

(3) Flow coating.

- (4) Dip coating, including electrodeposition.
- (5) High volume-low pressure (HVLV) spray.
- (6) Brush coating.
- (7) Other coating application method, if approved in writing by the Department prior to use.

(i) The coating application method must be capable of achieving a transfer efficiency equivalent to or better than that achieved by the methods listed in paragraphs (1)-(6).

(ii) The request for approval must be submitted in writing.

(g) *Exempt coatings and coating operations.* The VOC coating content limits in Table I and Table II do not apply to the following types of coatings and coating operations:

- (1) Stencil coatings.
- (2) Safety-indicating coatings.
- (3) Solid-film lubricants.
- (4) Electric-insulating coatings.
- (5) Thermal-conducting coatings.
- (6) Touch-up and repair coatings.
- (7) Coating applications using hand-held aerosol cans.
- (8) A coating used exclusively for determining product quality and commercial acceptance and other small quantity coatings, if the coating meets the following criteria:
  - (i) The quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility.

(ii) The owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

(h) *Work practice requirements for coating-related activities.* The owner or operator of a large appliance or metal furniture surface coating process subject to this section shall comply with the following work practices for coating-related activities:

- (1) Store all VOC-containing coatings, thinners and coating-related waste materials in closed containers.

(2) Ensure that mixing and storage containers used for VOC-containing coatings, thinners and coating-related waste materials are kept closed at all times except when depositing or removing these materials.

(3) Minimize spills of VOC-containing coatings, thinners and coating-related waste materials and clean up spills immediately.

(4) Convey VOC-containing coatings, thinners and coating-related waste materials from one location to another in closed containers or pipes.

(i) *Work practice requirements for cleaning materials.* The owner or operator of a large appliance or metal furniture surface coating process subject to this section shall comply with the following work practices for cleaning materials:

(1) Store all VOC-containing cleaning materials and used shop towels in closed containers.

(2) Ensure that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials.

(3) Minimize spills of VOC-containing cleaning materials and clean up spills immediately.

(4) Convey VOC-containing cleaning materials from one location to another in closed containers or pipes.

(5) Minimize VOC emissions from cleaning of storage, mixing and conveying equipment.

**Table I**

**Emission Limits of VOCs for Large Appliance Surface Coatings**

**Weight of VOC per Volume of Coating Solids, as Applied**

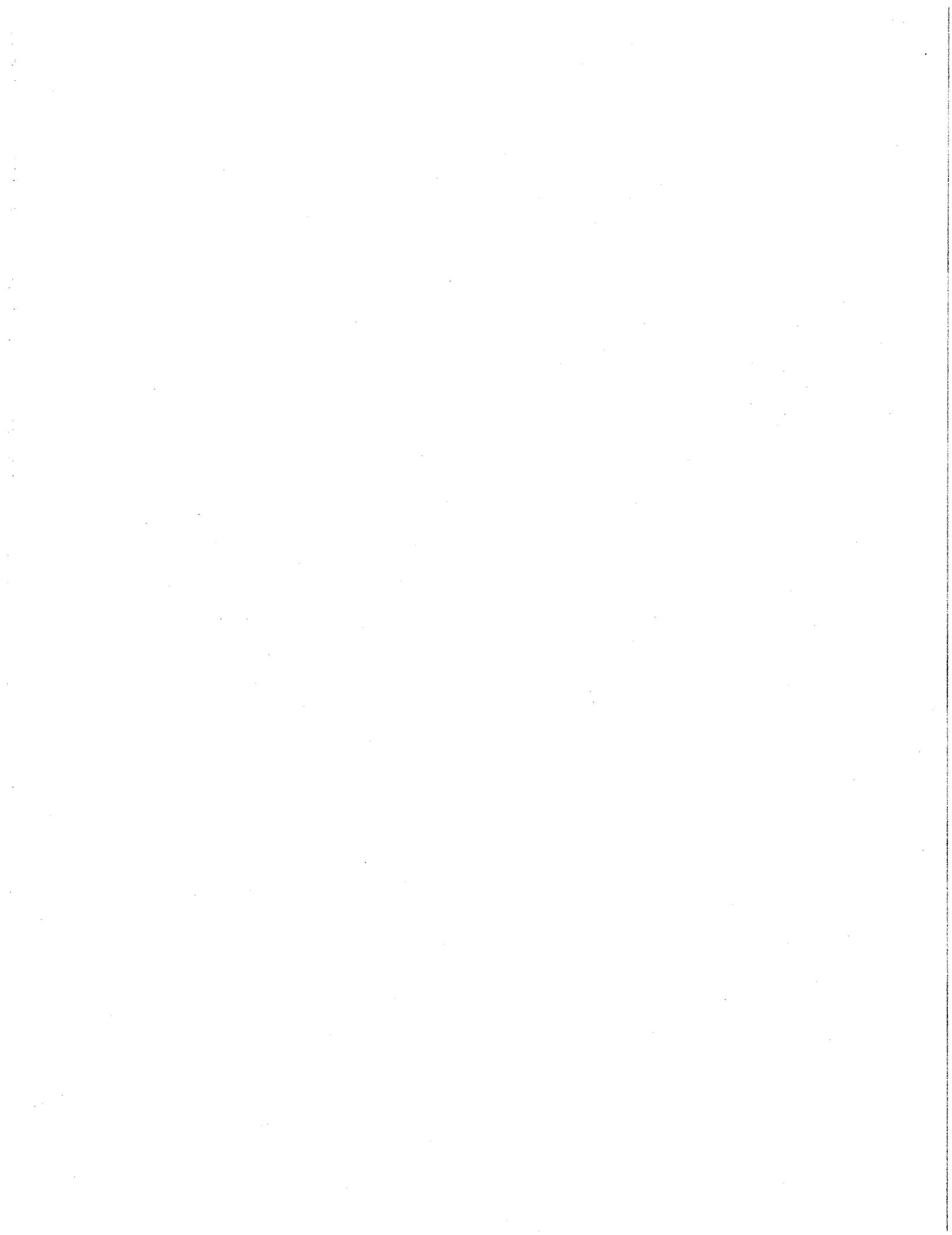
Coating Type	Baked		Air Dried	
	kg/l	lb/gal	kg/l	lb/gal
General, One Component	0.40	3.3	0.40	3.3
General, Multi-Component	0.40	3.3	0.55	4.5
Extreme High Gloss	0.55	4.62	0.55	4.5
Extreme Performance	0.55	4.62	0.55	4.62
Heat Resistant	0.55	4.62	0.55	4.62
Metallic	0.55	4.62	0.55	4.62
Pretreatment	0.55	4.62	0.55	4.62
Solar Absorbent	0.55	4.62	0.55	4.62

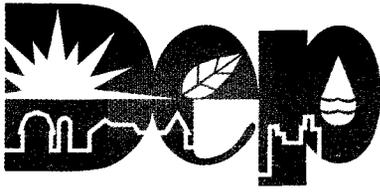
**Table II**

**Emission Limits of VOCs for Metal Furniture Surface Coatings**

**Weight of VOC per Volume of Coating Solids, as Applied**

Coating Type	Baked		Air Dried	
	kg/l	lb/gal	kg/l	lb/gal
General, One Component	0.40	3.3	0.40	3.3
General, Multi-Component	0.40	3.3	0.55	4.5
Extreme High Gloss	0.61	5.06	0.55	4.5
Extreme Performance	0.61	5.06	0.61	5.06
Heat Resistant	0.61	5.06	0.61	5.06
Metallic	0.61	5.06	0.61	5.06
Pretreatment	0.61	5.06	0.61	5.06
Solar Absorbent	0.61	5.06	0.61	5.06





Pennsylvania Department of Environmental Protection

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Rachel Carson State Office Building  
P.O. Box 2063  
Harrisburg, PA 17105-2063  
January 5, 2010

Policy Office

717-783-8727

Kim Kaufman, Executive Director  
Independent Regulatory Review Commission  
14<sup>th</sup> Floor  
333 Market Street  
Harrisburg, PA 17101

Re: Proposed Rulemaking: Large Appliance and Metal Furniture Surface Coating Processes  
(25 Pa. Code, Chapter 129)

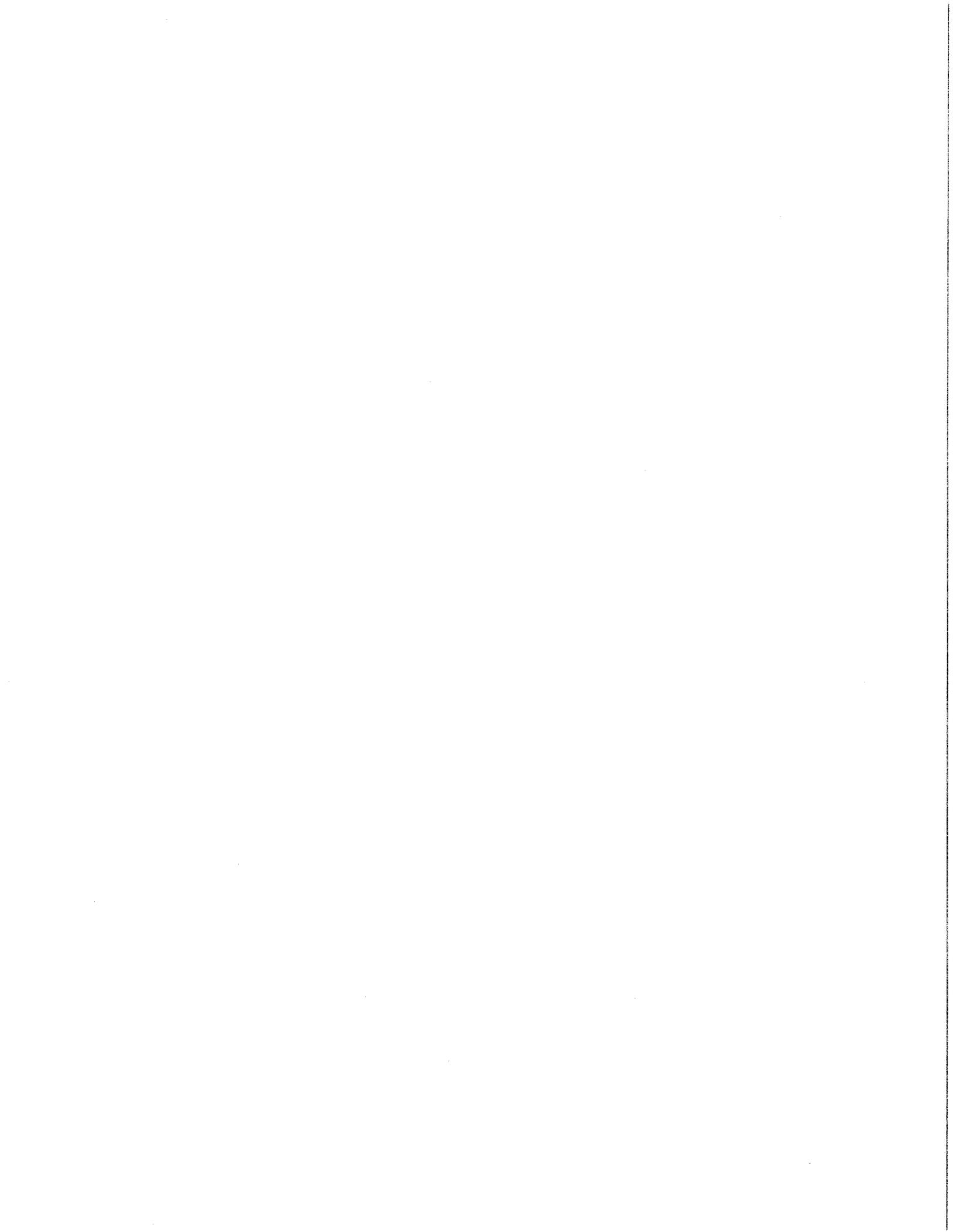
Dear Mr. Kaufman:

Enclosed is a copy of a proposed regulation for review and comment by the Independent Regulatory Review Commission pursuant to Section 5(a) of the Regulatory Review Act. The proposed rulemaking is scheduled for publication in the *Pennsylvania Bulletin* on January 16, 2010, with a 60-day public comment period and three public hearings to occur in Pittsburgh, Harrisburg, and Norristown. The Environmental Quality Board (EQB) adopted this proposal on November 17, 2009.

This proposed rulemaking amends 25 Pa Code, Chapter 129 to limit emissions of volatile organic compounds (VOCs) from the use and application of coatings and cleaning materials in large appliance and metal furniture surface coating processes. Adoption of the VOC emission requirements in the rulemaking is part of the Commonwealth's strategy, in concert with other Ozone Transport Region (OTR) jurisdictions, to further reduce the transport of VOC ozone precursors and ground-level ozone throughout the Ozone Transport Region and to attain and maintain the 8-hour ozone national ambient air quality standard.

Federal statutory or regulatory limits do not exist for VOC emissions from large appliance and metal furniture coating processes; however, the Clean Air Act and its implementing regulations require that State Implementation Plans (SIPs) for nonattainment areas must include "reasonably available control measures," including "reasonable available control technology" (RACT) for sources of emissions. The Clean Air Act further requires that for moderate ozone nonattainment areas, states must revise their SIP to include RACT for sources of VOC emissions covered by a Control Techniques Guideline (CTG) document issued by the EPA prior to the area's date of attainment. The Department has reviewed the recommendations included in the EPA's 2007 Control Techniques Guidelines for large appliance and metal furniture coatings and has determined that the measures are appropriate to be implemented in the Commonwealth as RACT in this proposed rulemaking in order to reduce VOC emissions from the use and application of coatings and cleaning materials in large appliance and metal furniture surface coating processes. The regulation, when adopted by the Board as a final-form rulemaking, will be submitted to the EPA as a revision to the SIP.





There are 4 large appliance surface coating facilities and 16 metal furniture surface coating facilities in the Commonwealth that collectively emitted 68.5 tons of VOC in 2008 and may be subject to the limitations included in the proposed rulemaking. It is estimated that implementation of the recommended control options in this rulemaking will reduce VOC emissions in Pennsylvania by 23 tons per year.

The Department discussed the rulemaking with the Air Quality Technical Advisory Committee over the course of several meetings. On May 28, 2009, the committee concurred with the Department's recommendation to present the proposed amendments to the Board for approval as a proposed rulemaking.

The Department will provide the Commission with the assistance required to facilitate a thorough review of this proposal. Section 5(d) of the Regulatory Review Act provides that the Commission may, within 30 days of the close of the comment period, convey its comments, recommendations and objections to the proposed regulation. The Department will consider any comments, recommendation or suggestions made by the Commission, as well as the Committees and public commentators, prior to final adoption of this rulemaking.

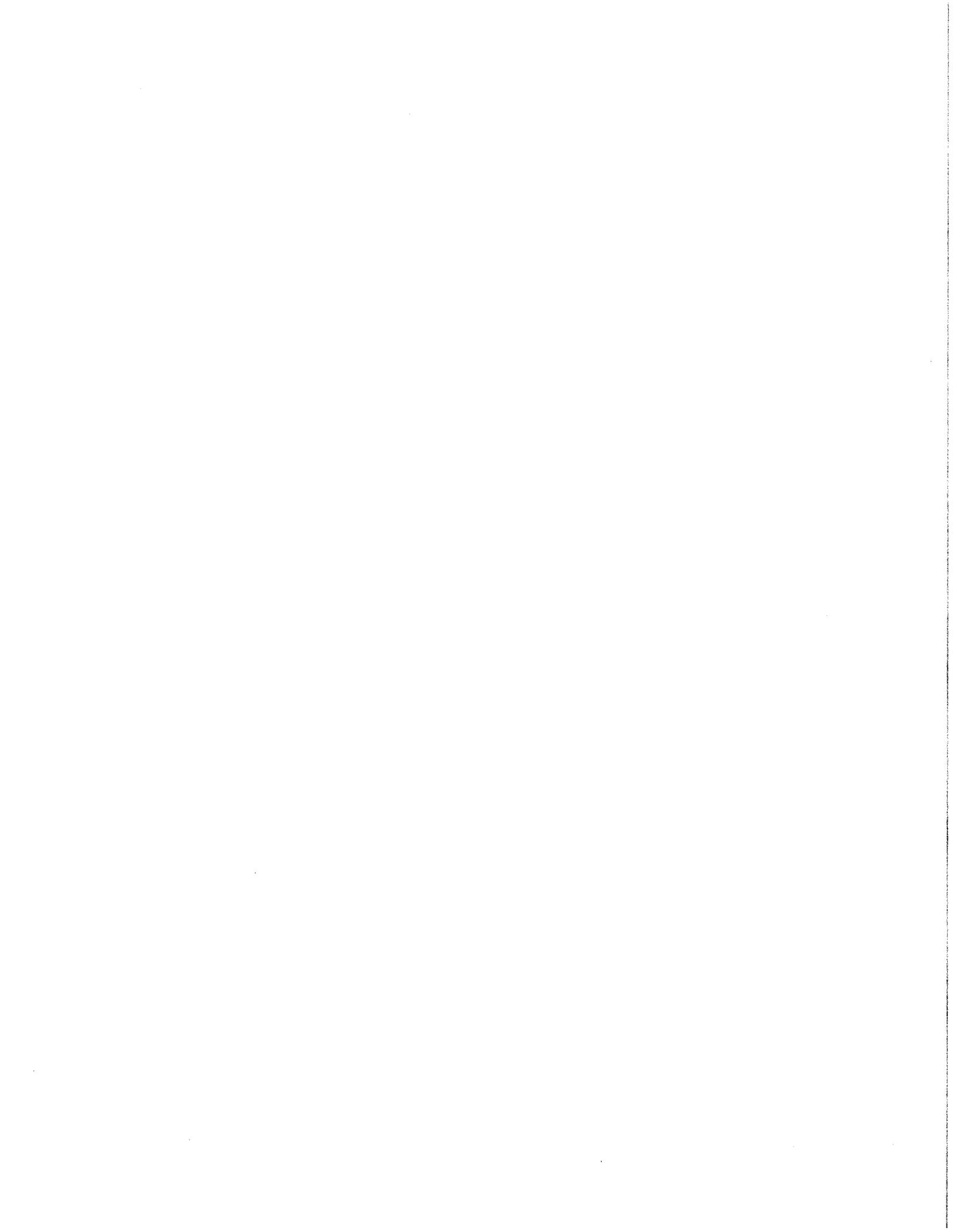
Please contact me at the number above if you have any questions or need additional information.

Sincerely,



Michele L. Tate  
Regulatory Coordinator

Enclosures





**TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO  
THE REGULATORY REVIEW ACT**

I.D. NUMBER: 7-449  
 SUBJECT: Large Appliance and metal furniture surface coating processes  
 AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION

**TYPE OF REGULATION**

- Proposed Regulation
- Final Regulation
- Final Regulation with Notice of Proposed Rulemaking Omitted
- 120-day Emergency Certification of the Attorney General
- 120-day Emergency Certification of the Governor
- Delivery of Tolled Regulation
  - a.  With Revisions
  - b.  Without Revisions

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 INDEPENDENT REGULATORY  
 REVIEW COMMISSION

**FILING OF REGULATION**

DATE	SIGNATURE	DESIGNATION
1-5-10	<i>D. Neundt</i>	Majority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
1-5-10	<i>K. Waitus</i>	Minority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
1-5-10	<i>B. Costello</i>	Majority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
1-5-10	<i>A. Rypaczynski</i>	Minority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
1/5/10	<i>Kathy Cooper</i>	INDEPENDENT REGULATORY REVIEW COMMISSION
		ATTORNEY GENERAL (for Final Omitted only)
1/5/10	<i>n. Lathrop</i>	LEGISLATIVE REFERENCE BUREAU (for Proposed only)

