

<h1>Regulatory Analysis Form</h1> <p>(Completed by Promulgating Agency)</p> <p>(All Comments submitted on this regulation will appear on IRRC's website)</p>		<p>INDEPENDENT REGULATORY REVIEW COMMISSION IRRC</p> <p>2018 MAY 11 A 11: 33</p>	
(1) Agency: Environmental Protection		IRRC Number: 3173	
(2) Agency Number: Identification Number: 7-492			
(3) PA Code Cite: 25 Pa. Code Chapters 121 and 129			
(4) Short Title: Control of VOC Emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing and Rework; and Additional RACT Requirements for Major Sources of NO _x and VOCs			
(5) Agency Contacts (List Telephone Number and Email Address): Primary Contact: Laura Edinger, 783-8727, ledinger@pa.gov Secondary Contact: Jessica Shirley, 783-8727, jessshirley@pa.gov			
(6) Type of Rulemaking (check applicable box):			
<input type="checkbox"/> Proposed Regulation <input checked="" type="checkbox"/> Final Regulation <input type="checkbox"/> Final Omitted Regulation		<input type="checkbox"/> Emergency Certification Regulation <input type="checkbox"/> Certification by the Governor <input type="checkbox"/> Certification by the Attorney General	
(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)			
<p>This final-form rulemaking amends 25 Pa. Code Chapters 121 and 129 (relating to general provisions; and standards for sources) to add § 129.63a (relating to control of VOC emissions from industrial cleaning solvents) to adopt reasonably available control technology (RACT) requirements and RACT emission limitations for stationary sources of volatile organic compound (VOC) emissions from industrial cleaning solvents that are not regulated elsewhere in Chapter 129 or Chapter 130 (relating to standards for products). Amendments are finalized for §§ 121.1 and 129.51 (relating to definitions; and general) to support the addition of § 129.63a.</p> <p>Amendments are made to § 129.73 (relating to aerospace manufacturing and rework) to correct a numbering error in Table II (relating to allowable content of VOCs in aerospace coatings). Amendments are made to §§ 129.96, 129.97, 129.99, and 129.100 under the recently promulgated regulations for additional RACT requirements for major sources of nitrogen oxides (NO_x) and VOCs (RACT 2) to update the list of presumptive VOC RACT regulations for which RACT 2 does not apply and to clarify certain requirements. RACT 2 was promulgated at 46 Pa.B. 2036 (April 23, 2016).</p> <p>Section 129.63a applies to the owner and the operator of a facility at which an industrial cleaning solvent is used or applied in a cleaning activity to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil, or grease, from a cleaning unit operation or work production-related work area or from a part, product, tool, machinery, equipment, vessel, floor, or wall, except as specified in § 129.63a(c), which lists exceptions and exemptions. A cleaning activity is the use or application of an industrial cleaning solvent formulated with one or more regulated VOCs to remove a contaminant from a substrate or from equipment used to apply a material. The VOC emissions limitations, work practice requirements, compliance demonstration</p>			

requirements, and recordkeeping and reporting requirements apply to the owner and the operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. The VOC emissions limitations and the work practice requirements do not apply to the owner or operator of a subject facility if the total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. An owner or operator claiming this exemption, however, is required by § 129.63(h) to maintain monthly records to demonstrate that the subject VOC emissions are below 2.7 tons (2,455 kilograms) per 12-month rolling period.

This final-form rulemaking will be submitted to the United States Environmental Protection Agency (EPA) for approval as a revision to the Commonwealth's State Implementation Plan (SIP) following promulgation of the final-form rulemaking.

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

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

(9) 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.

Federal mandates

Yes. State regulations to control VOC emissions from existing stationary sources of industrial cleaning solvents are required under Federal law. The state regulation will be reviewed and approved by the EPA as a revision to the Commonwealth's SIP. See 71 FR 58745, 58747 (October 5, 2006). The EPA defines RACT as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." See *State Implementation Plans; General Preamble for Proposed Rulemaking on Approval of Plan Revisions for Nonattainment Areas—Supplement (on Control Techniques Guidelines)*, 44 FR 53761 (September 17, 1979) and 71 FR 78747.

In accordance with sections 172(c)(1), 182(b)(2)(A) and 184(b)(1)(B) of the CAA (42 U.S.C.A. §§ 7502(c)(1), 7511a(b)(2)(A) and 7511c(b)(1)(B)), final-form § 129.63a establishes VOC emission limitations and other requirements generally consistent with the EPA's recommendations in the *Control Techniques Guidelines: Industrial Cleaning Solvents*, EPA 453/R-06-001, Office of Air Quality Planning and Standards, EPA, September 2006 (Industrial Cleaning Solvents (ICS) Control Techniques Guidelines (CTG) (2006 ICS CTG)) as RACT for these sources in this Commonwealth. See *Consumer and Commercial Products, Group II: Control Techniques Guidelines in Lieu of Regulations for Flexible Packaging Printing Materials, Lithographic Printing Materials, Letterpress Printing Materials, Industrial Cleaning Solvents, and Flat Wood Panel Coatings*, 71 FR 58745.

Section 101(a)(3) of the CAA (42 U.S.C.A. § 7401(a)(3)) provides that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the

source) and air pollution control at its source is the primary responsibility of States and local governments. Section 101(a)(4) of the CAA (42 U.S.C.A. § 7401(a)(4)) provides that Federal financial assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

Section 109(b) of the CAA (42 U.S.C.A. § 7409(b)) provides that the EPA Administrator must establish permissible ambient air limits, or National Ambient Air Quality Standards (NAAQS), for criteria air pollutants at levels that protect public health and welfare and the environment. The criteria air pollutants are commonly found throughout the United States and currently include six air pollutants: ground-level ozone, particle pollution (often referred to as particulate matter), carbon monoxide, sulfur dioxide, NO_x (with nitrogen dioxide (NO₂) as the indicator), and lead. These air pollutants, when present in sufficient concentration in the ambient air, can cause harm to public health and welfare as well as animal and plant health and welfare and to the environment.

The EPA calls these six principal air pollutants "criteria" air pollutants because it regulates them by developing human health-based or environmentally-based, or both, criteria (science-based guidelines) for setting permissible ambient air levels. The set of limits based on human health is called primary standards. The set of limits intended to prevent environmental and property damage is called secondary standards. Of the six criteria air pollutants, high concentrations of ground-level ozone and particle pollution are the most widespread health and welfare threats.

Section 110(a) of the CAA (42 U.S.C.A. § 7410(a)) provides that each state shall adopt and submit to the EPA a plan to implement measures [State Implementation Plan or "SIP"] to enforce the NAAQS or a revision to the NAAQS promulgated under section 109(b) of the CAA.

Section 172(c)(1) of the CAA provides that SIPs for nonattainment areas must include "reasonably available control measures," including "reasonably available control technology" or "RACT," for sources of emissions of NO_x and VOC. Section 182(b)(2) of the CAA (42 U.S.C.A. § 7511a(b)(2)) 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 of the applicable ozone NAAQS. CTG documents provide states with information about a VOC emission source category and recommendations of what the EPA considers to be RACT for the source category to attain and maintain the applicable ozone NAAQS. State air pollution control agencies may use the Federal recommendations provided in the CTG to inform their own determination as to what constitutes RACT for VOC emissions from the covered source category for subject sources located within the State. State air pollution control agencies may implement other technically-sound approaches that are consistent with the CAA requirements and the EPA's implementing regulations or guidelines. Control measures approved by the EPA as elements of the State's SIP are Federally-enforceable, ensuring the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

Section 183(e) of the CAA (42 U.S.C.A. § 7511b(e)) directs the EPA to list for regulation those categories of products that account for at least 80% of the aggregate VOC emissions from consumer and commercial products in ozone nonattainment areas. Section 183(e)(3)(C) of the CAA (42 U.S.C.A. § 7511b(e)(3)(C)) further provides that the EPA may issue a CTG document in place of a National regulation for a product category on the section 183(e) list where the EPA determines that the recommendations of the CTG, when implemented by the affected states, will be "substantially as effective as regulations" in reducing emissions of VOC in ozone nonattainment areas. Under section 183(e) of the CAA, a National regulation for consumer or commercial products is limited to the measures applicable to manufacturers, processors, distributors, or importers of the solvents, materials, or products supplied to the consumer or industry.

Section 183(e) of the CAA does not authorize the EPA to issue regulations that would directly regulate end-users of these products. By contrast, CTGs are guidance documents that recommend RACT measures that States can adopt and apply to the end-users of products. This dichotomy (i.e., that the EPA cannot directly regulate end-users under section 183(e) of the CAA, but can address end-users through a CTG) created by Congress is relevant to the EPA's evaluation of the relative merits of promulgating a National regulation for a source category versus issuing a CTG. See 71 FR 58747. Control measures consistent with recommendations provided in a CTG and approved by the EPA as elements of a State's SIP are Federally-enforceable.

In 1995, the EPA listed industrial cleaning solvents on its section 183(e) list and, in 2006, the EPA issued a CTG for this product category. See 60 FR 15264, 15267 (March 23, 1995); 71 FR 58745; and *Control Techniques Guidelines for Industrial Cleaning Solvents*, EPA 453/R-06-001, Office of Air Quality Planning and Standards, EPA, September 2006. The 2006 ICS CTG is available on the EPA website at: <https://www.epa.gov/stationary-sources-air-pollution/clean-air-act-guidelines-and-standards-solvent-use-and-surface>.

Section 184(a) of the CAA (42 U.S.C.A. § 7511c(a)) provides that the entire Commonwealth is included in the Ozone Transport Region (OTR) (www.otcair.org), which is also established under section 184 of the CAA. Section 184(b) of the CAA (42 U.S.C.A. § 7511c(b)) addresses provisions for the SIP of a state included in the OTR. Section 184(b)(1)(B) of the CAA requires that states in the OTR, including this Commonwealth, submit a SIP revision requiring implementation of RACT for all sources of VOC emissions in the state covered by a specific CTG and not just for those sources that are located in designated nonattainment areas of the state. Consequently, the Commonwealth's SIP must include regulations applicable statewide to control VOC emissions from stationary sources of industrial cleaning solvents covered by the applicable CTG issued under the following notice: *Consumer and Commercial Products, Group II: Control Techniques Guidelines in Lieu of Regulations for Flexible Packaging Printing Materials, Lithographic Printing Materials, Letterpress Printing Materials, Industrial Cleaning Solvents, and Flat Wood Panel Coatings*, 71 FR 58745, 58747. In the 2006 notice of final determination and availability of final control techniques guidelines, the EPA determined that the recommendations of the 2006 ICS CTG would be substantially as effective as National regulations in reducing VOC emissions from the industrial cleaning solvents consumer and commercial products category in moderate ozone nonattainment areas. See 71 FR 58745, 58747.

The Department's Bureau of Air Quality (BAQ) reviewed the RACT recommendations regarding VOC emission reduction measures included in the 2006 ICS CTG for their applicability to the ground-level ozone reduction measures necessary for this Commonwealth. BAQ determined that VOC emission reduction measures and other requirements generally consistent with the recommendations provided in the 2006 ICS CTG are appropriate to be implemented in this Commonwealth as RACT for this source category. The VOC emission reduction measures included in final-form § 129.63a will achieve VOC emission reductions and lowered concentrations of ground-level ozone locally and will also reduce the amounts of VOC emissions and ground-level ozone transported to downwind states. Adoption of VOC emission reduction requirements for these sources is part of the Commonwealth's strategy, in concert with other OTR jurisdictions, to further reduce the transport of VOC ozone precursors and ground-level ozone throughout the OTR to attain and maintain the 8-hour ozone NAAQS.

Deadlines for action– *Section 182(b)(2) of the CAA*

Section 182(b)(2) of the CAA (42 U.S.C.A. § 7511a(b)(2)) requires that a CTG issued by the EPA after November 15, 1990, include the date by which states subject to section 182(b) of the CAA must submit SIP revisions in response to the CTG. The EPA issued the 2006 ICS CTG on October 5, 2006. The EPA provided a 1-year period for the required SIP submittal, making SIP revisions for implementation of the 2006 ICS CTG recommendations due by October 5, 2007. See 71 FR 58745, 58748.

– *Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements*

The EPA published the notice of final rulemaking for the Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements on March 6, 2015 (80 FR 12264). The EPA stated that RACT SIP revisions for areas designated as nonattainment for the 2008 ozone NAAQS would be due no later than 24 months after the effective date of designation of an area as nonattainment for the 2008 ozone NAAQS. The EPA stated further that RACT measures for the 2008 ozone NAAQS must be implemented “as expeditiously as practicable, but no later than January 1 of the 5th year after the effective date of a nonattainment designation.” The nonattainment designations across the country for the 2008 ozone NAAQS were effective on July 20, 2012. Consequently, RACT measures for the 2008 8-hour ozone NAAQS must be implemented by January 1, 2017. While the implementation date for final-form § 129.63a will occur later than January 1, 2017, the Department will move forward as quickly as possible toward finalizing the final ICS VOC emission reduction measures and submitting the SIP revision to the EPA.

– *Complaint filed in the United States District Court for the Northern District of California*

On July 21, 2016, three environmental groups filed a complaint in the United States District Court for the Northern District of California (*Center for Biological Diversity et al. v. McCarthy*, N.D. Cal. No. 4:16-cv-04092) alleging that the EPA failed to make findings of a failure to submit under section 110(k)(1)(B) of the CAA and to publish notice of those findings in the Federal Register for specified nonattainment areas and specified SIP elements for the 2008 ozone NAAQS. The Commonwealth was listed in the lawsuit as failing to submit specified SIP revisions including the 2006 ICS CTG RACT elements.

On February 3, 2017, the EPA published a finding that the District of Columbia and 15 states, including the Commonwealth, failed to submit SIP revisions in a timely manner to satisfy certain requirements for the 2008 ozone NAAQS that apply to states in the OTR. See 82 FR 9158 (February 3, 2017). The finding related to the Commonwealth is based on its failure to submit certain required RACT SIP elements, including RACT for industrial cleaning solvents, by July 20, 2014. See 82 FR 9158, 9160. The effective date of the finding of failure to submit was March 6, 2017. The Commonwealth must submit the missing SIP elements to the EPA by 18 months from the effective date, or September 6, 2018. The timely submission of a SIP revision based on this final-form rulemaking, when promulgated, is necessary to avoid costs to the Commonwealth from potential sanctions imposed by the EPA under section 179 of the CAA (42 U.S.C.A. § 7509), including the costs of additional offsets for new or modified sources of emissions and costs related to the loss of Federal highway funding.

– *Potential consequences for missing the deadline*

Section 179 of the CAA (42 U.S.C.A. § 7509) provides that if the EPA Administrator finds that a state has failed to submit an acceptable implementation plan (i.e., “failure to submit” finding), sanctions will be imposed. Sanctions cannot be imposed until 18 months after the Administrator makes the “failure to submit” finding and sanctions cannot be imposed if a deficiency has been corrected within the 18-month period after the finding.

Section 179 of the CAA authorizes the EPA to use two types of sanctions: 1) imposing what are called “2:1 offsets” on new or modified sources of emissions; and 2) withholding of certain Federal highway funds. Under section 179 of the CAA and its implementing regulations, the Administrator first imposes 2:1 emission offset sanctions on the new or modified major stationary sources in the nonattainment area, and then, if the deficiency has not been corrected within 6 months, also applies Federal highway funding sanctions. See 40 CFR § 52.31 (relating to selection of sequence of mandatory sanctions for findings made pursuant to section 179 of the Clean Air Act). The EPA may reverse the order of sanctions under 40 CFR § 52.31(d)(6). The Commonwealth receives approximately \$1.6 billion in Federal transportation funding annually, which will be at risk if the Commonwealth does not implement RACT requirements for the control of VOC emissions from industrial cleaning solvents as quickly as possible to avoid sanctions.

While final-form § 129.63a was not promulgated by the CTG-specified deadline of January 1, 2017, the Department is moving the final-form rulemaking through the regulatory rulemaking process as quickly as possible to avoid the sanctions that will be imposed on the Commonwealth if DEP fails to submit the SIP revision to the EPA by September 6, 2018. See 82 FR 9158.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions are not mandated by any Federal law or state law or court order, or Federal regulation and are not subject to any deadline.

(10) 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.

The final-form rulemaking implements control measures and other requirements in § 129.63a to reduce VOC emissions from the use and application of industrial cleaning solvents by the owner and the operator of a facility at which an industrial cleaning solvent is used or applied in a cleaning activity at a cleaning unit operation or work production-related work area that is not regulated elsewhere in Chapters 129 and 130. The VOC emission control measures and other requirements in § 129.63a are generally consistent with the recommendations in the EPA’s 2006 ICS CTG and will reduce VOC emissions from the industrial cleaning solvents source category throughout this Commonwealth at those affected sources that do not already comply with the final-form control measures.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions will not provide additional VOC emission reduction benefits beyond what these regulations already achieve.

Emissions of VOCs are precursors to the formation of ground-level ozone, a criteria air pollutant. Ground-level ozone is not emitted directly to the atmosphere by the use and application of industrial cleaning solvents, but forms from the photochemical reaction between emissions of VOCs and NO_x in the presence of sunlight. The EPA regulates ground-level ozone as a criteria air pollutant because of its widespread

adverse health and environmental effects. Exposure to high concentrations of 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.

Adoption of the VOC emission control measures and other requirements in final-form § 129.63a will allow the Commonwealth to make substantial progress in achieving and maintaining the 1997 and 2008 8-hour ozone NAAQS statewide; implementation of and compliance with the final-form VOC emission reduction measures will also assist the Commonwealth in reducing the levels of ozone precursor emissions that contribute to potential nonattainment of the 2015 ozone NAAQS. The VOC emission control measures in final-form § 129.63a are reasonably necessary to attain and maintain the health-based and welfare-based 1997 and 2008 8-hour ozone NAAQS in this Commonwealth and to satisfy related CAA requirements.

The Department estimates that implementation of the control measures in final-form § 129.63a could generate VOC emission reductions of as much as 12,499 tons per year (tpy); these reductions will benefit the health and welfare of the approximately 12.77 million residents and the numerous animals, crops, vegetation, and natural areas of this Commonwealth by reducing the amount of ground-level ozone air pollution created by this industry sector. Ground-level ozone air pollution can also be transported downwind via regional air currents and meteorological events. Reductions of ground-level ozone in this Commonwealth will therefore also benefit the residents of downwind states and downwind environments.

Ozone NAAQS; Implementation of permanent and enforceable control measures for attainment and maintenance

The EPA promulgated the ground-level ozone NAAQS in July 1997 at 0.08 part per million (ppm) averaged over 8 hours. See 62 FR 38855 (July 18, 1997). Because ozone ambient air monitoring data is measured out to three decimal places, the standard effectively became 0.084 ppm because of rounding; areas with ozone levels as high as 0.084 ppm (84 parts per billion (ppb)) were considered as meeting the 0.08 ppm standard. In 2004, the EPA designated 37 counties in this Commonwealth as 8-hour ozone nonattainment areas for the 1997 8-hour ozone NAAQS. See 69 FR 23858, 23931 (April 30, 2004). Based on the certified ambient air monitoring data for the 2016 ozone season as well as the preliminary 2017 ozone season data, all monitored areas of the Commonwealth are attaining the 1997 8-hour ozone NAAQS. Maintenance plans have been submitted to the EPA and approved for the 1997 ozone standard. Section 175A(a) of the CAA (42 U.S.C.A. § 7505a(a)) prescribes that the maintenance plans include permanent and enforceable control measures that will provide for the maintenance of the 1997 ozone NAAQS for at least 10 years following the EPA's redesignation of the areas to attainment of the 1997 ozone standard. Implementation of the final-form VOC emission control measures for the use and application of industrial cleaning solvents will allow the Commonwealth to continue to attain and maintain the 1997 ozone NAAQS.

In March 2008, the EPA lowered the ozone NAAQS to 0.075 ppm (75 ppb) averaged over 8 hours to provide greater protection for children, other at-risk populations and the environment against the array of ozone-induced adverse health and welfare effects. See 73 FR 16436 (March 27, 2008). In April 2012, the EPA designated five areas in this Commonwealth as nonattainment for the 2008 ozone NAAQS. See 77 FR 30088, 30143 (May 21, 2012). These areas include all or a portion of Allegheny, Armstrong, Beaver, Berks, Bucks, Butler, Carbon, Chester, Delaware, Fayette, Lancaster, Lehigh, Montgomery, Northampton, Philadelphia, Washington, and Westmoreland Counties. The certified 2016 ambient air monitoring data indicate that all ozone monitors in this Commonwealth, except for the Bristol and Northeast Airport monitors in Bucks and Philadelphia counties, respectively, are monitoring attainment of the 2008 ozone NAAQS. The Department's analysis of the preliminary 2017 ambient air monitoring data shows that all

ozone monitors in this Commonwealth, except for the Bristol, Northeast Airport and Northwest Waste (Philadelphia County) monitors, are monitoring attainment of the 2008 ozone NAAQS. The Department must ensure that the 2008 ozone NAAQS is attained and maintained by implementing permanent and enforceable control measures.

On October 1, 2015, the EPA lowered the primary and secondary ozone NAAQS to 0.070 ppm (70 ppb) averaged over 8 hours. See 80 FR 65292 (October 26, 2015). As required under section 107(d) of the CAA (42 U.S.C.A. § 7407), the Commonwealth submitted designation recommendations for the 2015 ozone NAAQS to the EPA on October 3, 2016, based on the ambient ozone concentrations from the 2013-2015 ozone seasons following opportunity for public notice and comment. See 46 Pa. B. 5162 (August 20, 2016). The Commonwealth submitted revised designation recommendations to the EPA on April 22, 2017. See 47 Pa. B. 2387 (April 22, 2017). The EPA issued final designations for the attainment/unclassifiable areas on November 16, 2017. See 82 FR 54232 (November 16, 2017). However, the EPA has not yet issued final nonattainment area designations. DEP submitted a request to the EPA on February 20, 2018 requesting that the EPA not include “exceptional” ambient air monitoring data from the 2016 Canadian forest fires in determining the final nonattainment area designations. Based on certified ambient air monitoring data for the 2014-2016 ozone seasons, eight monitors in seven counties in this Commonwealth have design values that violate the 2015 ozone NAAQS. The monitors are in Berks, Bucks, Chester, Delaware, Lebanon, Montgomery and Philadelphia counties. If the EPA concurs on the Department’s exceptional event analysis with respect to the Fort McMurray wildfires in Alberta, Canada from May 2016, only five monitors in this Commonwealth will have design values that violate the 2015 ozone NAAQS based on the certified data for the 2014-2016 ozone seasons. The monitors are in Bucks, Chester, Delaware, and Philadelphia counties. Following designation of nonattainment areas for the 2015 ozone NAAQS, the Department must ensure that the 2015 ozone NAAQS is attained and maintained by implementing permanent and Federally-enforceable control measures as necessary and appropriate. Implementation of and compliance with the final VOC emission reduction measures in § 129.63a will assist the Commonwealth in reducing the levels of ozone precursor emissions that contribute to potential nonattainment of the 2015 ozone NAAQS.

Monetized public health benefits of attaining the 2008 and 2015 ozone NAAQS

The EPA has estimated the monetized health benefits of attaining the 2008 and 2015 ozone NAAQS. The EPA estimated that the monetized health benefits of attaining the 2008 8-hour ozone NAAQS of 0.075 ppm range from \$8.3 billion to \$18 billion on a National basis by 2020.¹ Prorating that benefit to the Commonwealth, based on population, results in a public health benefit of \$337 million to \$732 million. Similarly, the EPA estimated that the monetized health benefits of attaining the 2015 8-hour ozone NAAQS of 0.070 ppm range from \$1.5 billion to \$4.5 billion on a National basis by 2025.² Prorating that benefit to the Commonwealth, based on population, results in a public health benefit of \$63 million to \$189 million. The EPA estimates are indicative of the benefits to Commonwealth residents of attaining the 2008 and 2015 8-hour ozone NAAQS through the implementation of a variety of measures to control VOC emissions in the aggregate from different source categories.

Adverse health and welfare effects of ground-level ozone on humans, animals, and the environment

¹ *Regulatory Impact Analysis, Final National Ambient Air Quality Standard for Ozone*, July 2011, <http://www.nrc.gov/docs/ML1224/ML12240A237.pdf>.

² *Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone*, September 2015, https://www3.epa.gov/tneacas1/docs/ria/naaqs-o3_ria_final_2015-09.pdf.

Exposure to high levels of ground-level ozone air pollution 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 time, 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 ground-level ozone also affect animals including pets, livestock, and wildlife, in ways similar to humans.

In addition to causing adverse human and animal health effects, the EPA has concluded that ground-level ozone affects vegetation and ecosystems, leading to reductions in agricultural crop and commercial forest yields by destroying chlorophyll; reducing the size and quality of seeds; reducing growth and survivability of tree seedlings; and increasing 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. These effects can have adverse impacts including loss of species diversity and changes to habitat quality and water and nutrient cycles. 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.

Adverse effects of ground-level ozone on the Commonwealth's economy

Ground-level ozone also impacts Pennsylvania's farm crops, fruit industries, forests, parks, and timber. The economic value of some welfare losses due to high concentrations of ground-level ozone can be calculated, such as crop yield loss from both reduced growth and smaller, lower-quality seeds and tubers with less oil or protein. If ozone episodes last a few days, visible injury to some leaf crops, including lettuce, spinach, and tobacco, as well as visible injury to the leaves of ornamental plants, including grass, flowers, and shrubs, can appear. This injury can be seen as small pale yellow or brown blotches, below which the cells have died. Other types of welfare loss may not be quantifiable, such as the reduced aesthetic value of trees growing in heavily visited parks.

Information about the economic benefit of the Pennsylvania agricultural industry to the Commonwealth is provided by the Pennsylvania Department of Agriculture. Pennsylvania's 59,000 farm families are the stewards of more than 7.7 million acres of farmland. With \$7.5 billion in cash receipts annually from production agriculture, Pennsylvania farmers and agribusinesses are the leading economic driver in our state. In addition to production agriculture, the industry also raises revenue and supplies jobs through support services such as food processing, marketing, transportation, and farm equipment. In total, production agriculture and agribusiness contributes nearly \$75 billion to Pennsylvania's economy and nearly 500,000 jobs.³ These families, farms, and related businesses benefit directly from the reduction of ground-level ozone air pollution concentrations to attain and maintain the ozone NAAQS.

³ Pennsylvania Department of Agriculture, 2016, About PDA, <http://www.agriculture.pa.gov/Pages/About-PDA.aspx> and Fast Facts on Agriculture and Food Careers in Pennsylvania, December 10, 2015,

The Pennsylvania Department of Conservation and Natural Resources (DCNR) is the steward of the state-owned forests and parks. DCNR awards millions of dollars in construction contracts each year to build and maintain the facilities in its parks and forests. Hundreds of concessions throughout the park system help complete the park experience for both state and out-of-state visitors. Pennsylvania's 2.2 million-acre state forest system, found in 48 of Pennsylvania's 67 counties, comprises 13% of the forested area in the Commonwealth.⁴ The state forest represents one of the largest expanses of public forestland in the eastern United States, making it a truly priceless public asset. The state forest provides an abundance of high quality forest products, which help to support a forest products industry with sales in excess of \$11.5 billion annually, a total economic impact of \$19 billion annually, and that employs in excess of 58,000 people.⁵

Information about Pennsylvania's hardwoods industry is provided by the Pennsylvania Department of Agriculture in its 2009-2010 biennial Hardwoods Development Council report. The following information and references are found in that report. Pennsylvania leads the Nation in growing volume of hardwood species, with 17 million acres in forest land. As the leading producer of hardwood lumber in the United States, Pennsylvania also leads in the export of hardwood lumber, exporting nearly \$800 million annually in lumber, logs, furniture, and paper products to more than 70 countries around the world. Recent U.S. Forest Service data shows that the state's forest growth-to-harvest rate is better than 2 to 1. This vast renewable resource puts the hardwoods industry at the forefront of manufacturing in the Commonwealth. Through 2006, the total annual direct economic impact generated by Pennsylvania's wood industry was \$18.4 billion. The industry employed 128,000 people, with \$4.7 billion in wages and salaries earned. Production was 1.1 billion board feet of lumber annually. (Strauss, Lord, Powell; PSU, June 2007).⁶

(11) 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 statutory or regulatory RACT limits for VOC emissions from the use and application of industrial cleaning solvents. Final-form § 129.63a is designed to adopt VOC emission limitations and control measures for the use and application of industrial cleaning solvents that are generally consistent with the standards and recommendations in the 2006 ICS CTG to meet the requirements of sections 172(c)(1), 182(b)(2) and 184(b)(1)(B) of the CAA. Section 129.63a applies the control measures across this entire Commonwealth, as required by section 184(b)(1)(B) of the CAA. The VOC emission limitations and other requirements included in § 129.63a are not more stringent than the recommendations included in the 2006 ICS CTG upon which § 129.63a is based.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. The emission control limitations, emission reduction measures, and other requirements in these sections are not amended in this final-form rulemaking.

[http://www.agriculture.pa.gov/Encourage/Documents/Fast%20Facts%20on%20Agriculture%20and%20Food%20Careers%20in%20Pennsylvania%20\(revised\).pdf](http://www.agriculture.pa.gov/Encourage/Documents/Fast%20Facts%20on%20Agriculture%20and%20Food%20Careers%20in%20Pennsylvania%20(revised).pdf).

⁴ Pennsylvania Department of Conservation and Natural Resources, 2016, DCNR Bureau of Forestry, Our Mission and What We Do, http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_010470.pdf.

⁵ Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry, 2016 State Forest Resource Management Plan, page 20.

<http://www.dcnr.state.pa.us/forestry/stateforestmanagement/sfrmp/2016sfrmp/index.htm>

⁶ Pennsylvania Hardwoods Development Council Biennial Report, 2009-2010.) A copy of this document is available from the Bureau of Air Quality upon request.

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

The VOC emission reduction measures and other requirements in final-form § 129.63a are similar to the measures and requirements in regulations already adopted by Delaware, Maryland, and New Hampshire, which are members of the OTR, as is Pennsylvania. These final measures and requirements are also similar in many respects to the regulations adopted by Indiana, Missouri, and Ohio. The measures and requirements in § 129.63a will have little or no effect on Pennsylvania's ability to compete with other states that have industrial cleaning solvent operations.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not impact Pennsylvania's ability to compete with other states that have similar regulations.

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

No.

(14) Describe the communications with and solicitation of input from the public, any advisory council/group, small businesses and groups representing small businesses in the development and drafting of the regulation. List the specific persons and/or groups who were involved. ("Small business" is defined in Section 3 of the Regulatory Review Act, 71 P. S. § 745.3.)

The Board approved publication of the proposed rulemaking at its meeting of March 21, 2017. The proposed rulemaking was published at 47 Pa.B. 3356 (June 17, 2017). Three public hearings were held on July 18, 19, and 20, 2017, in Norristown, Pittsburgh, and Harrisburg, respectively. A 66-day public comment period closed on August 21, 2017. Public comments were received from seven public commentators, including the EPA. The Independent Regulatory Review Commission (IRRC) separately provided comments on the proposed rulemaking. The comments received on the proposed rulemaking are summarized in the Preamble to this rulemaking and are also addressed in a separate Comment and Response Document that accompanies this rulemaking. All comments on the rulemaking were considered and addressed.

On January 24, 2018, the Department briefed the Small Business Compliance Advisory Committee (SBCAC) on this final-form rulemaking and on the comments received on the proposed rulemaking. The SBCAC recommended the Department conduct education and outreach for the regulated community on this final-form rulemaking. The Department initially added language to the draft final-form rulemaking Annex A in § 129.96 to address comments of the EPA and the Independent Regulatory Review Commission (IRRC) regarding retroactive applicability of § 129.63a(a); this language was in the draft final-form rulemaking Annex A provided to the SBCAC, denoted in bolded capitals as § 129.63a(e), (f) and (g). However, in further considering the comments provided by the EPA and IRRC prior to the SBCAC meeting, the Department concluded that this additional language created unnecessary complexity and determined that the language would be removed. The Department advised the SBCAC during the January 2018 meeting of its intent to remove draft § 129.63a(e), (f) and (g) from the draft final-form rulemaking Annex A. The SBCAC voted unanimously (6-0-0) to concur with the Department's recommendation to move this final-form rulemaking forward to the Board for consideration.

The Department briefed the Air Quality Technical Advisory Committee (AQTAC) on this final-form rulemaking and on the comments received on the proposed rulemaking at the February 8, 2018, AQTAC meeting. The AQTAC members had no concerns and voted unanimously (14-0-0) to concur with the Department's recommendation to move this final-form rulemaking forward to the Board for consideration.

The Department discussed this final-form rulemaking with the Citizens Advisory Council's (CAC) Policy and Regulatory Oversight Committee on February 9, 2018. On the recommendation of the CAC's Policy and Regulatory Oversight Committee, on February 20, 2018, the CAC concurred with the Department's recommendation to move this final-form rulemaking to the Board.

Advisory committee meetings are advertised and open to the public.

(15) Identify the types and number of persons, businesses, small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012) and organizations which will be affected by the regulation. How are they affected?

Summary

The Department expects a maximum of about 576 facility owners and operators across the Commonwealth will potentially be subject to final-form § 129.63a. Of the 576 facility owners and operators, as many as 253 facility owners and operators may meet the definition of small business as defined in Section 3 of the Regulatory Review Act. It is possible that far fewer than 576 facility owners and operators will be subject to § 129.63a, depending on whether the VOC emissions are from a cleaning unit operation subject to an existing regulation elsewhere in Chapter 129 or Chapter 130, as well as depending on the accuracy of the self-reporting of facility owners and operators into the industry classification system used in North America.

The Department estimates that the annual financial impact on potentially affected Pennsylvania facility owners and operators could range from an average savings of \$282 per affected facility owner and operator to an average cost of \$27 per affected facility owner and operator. The estimated amount of VOC emission reductions from the potentially affected 576 facility owners and operators, including small businesses, could be as much as 12,499 tpy. The estimated average amount of potential VOC emission reductions per affected owner and operator could be approximately 22 tpy per affected facility (12,499 tpy/576 facilities).

Other potentially affected persons and businesses could include manufacturers, distributors, and sellers of complying and noncomplying industrial cleaning solvents due to restrictions on the VOC content of the materials, as well as the manufacturers, distributors, and sellers of VOC emission capture systems and add-on air pollution control devices. Estimating the numbers of these potentially affected persons and businesses is not feasible since this population includes entities outside of this Commonwealth for which the Department does not have records or data.

Types of persons, businesses, small businesses, and organizations that would be affected and how they are affected

The types of persons, businesses, small businesses, and organizations in this Commonwealth that will be affected by § 129.63a varies. The EPA's 2006 ICS CTG states that the recommendations apply to industries that use organic solvent to conduct cleaning activities in cleaning unit operations such as mixing

vessels (tanks), spray booths, and parts cleaners. The cleaning activities for the removal of foreign material from the substrate being cleaned include actions (activities) such as wiping, flushing, or spraying.⁷

The EPA listed 469 North American Industry Classification System (NAICS) codes for identifying businesses potentially covered by the recommendations of the 2006 ICS CTG. The complete list is found in Appendix C, *Summary of NAICS Codes for nonattainment facilities estimated to meet the applicability criteria recommended in this CTG*, of the EPA's 2006 ICS CTG. The NAICS is an industry classification system developed by Canada, Mexico, and the United States that groups establishments into industry groups based on the economic activities, producing and nonproducing, in which the establishment is primarily engaged. The NAICS is a two-digit through six-digit hierarchical classification code system, offering five levels of detail. Each digit in the code is part of a series of progressively narrower categories, and more digits in the code signify greater classification detail. The first two digits designate the economic sector. The third digit designates the subsector. The fourth digit designates the industry group. The fifth digit designates the NAICS industry, and the sixth digit designates the National industry. A complete and valid NAICS code contains six digits. See <http://www.naics.com/frequently-asked-questions/>, "*Why are some NAICS codes only 5-digits long?*" More information about the United States portion of the NAICS is available at: <http://www.census.gov/eos/www/naics/>

Final-form § 129.63a applies to the owner and operator of a facility that uses or applies an industrial cleaning solvent to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil, or grease, from a cleaning unit operation or work production-related area or from a part, product, tool, machinery, equipment, vessel, floor, or wall. For purposes of § 129.63a, a cleaning unit operation is an operation at a facility that is a source of VOC emissions from a cleaning activity. A cleaning activity is the use or application of an industrial cleaning solvent formulated with one or more regulated VOCs to remove a contaminant from a substrate or from equipment used to apply a material. Cleaning unit operations include VOC emissions from cleaning activities related to spray gun cleaning, spray booth cleaning, manufactured components cleaning, parts cleaning, equipment cleaning, line cleaning, floor cleaning, and tank cleaning. Cleaning unit operations do not include VOC emissions from the use of consumer products subject to §§ 130.201—130.471 (relating to consumer products), including an institutional product or industrial and institutional product as defined in § 130.202 (relating to definitions) for cleaning offices, bathrooms, or other areas that are not part of a cleaning unit operation or work production-related work area.

The VOC emission limitations of § 129.63a(e) do not apply to the owner and operator of a cleaning unit operation associated with certain categories specified under exceptions and exemptions in subsection (c). The VOC emission limitations do not apply to the owner and operator of a cleaning unit operation that uses an industrial cleaning solvent subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration, or other Federal government entity, or that uses an industrial cleaning solvent associated with the cleaning of screen printing equipment if the industrial cleaning solvent has an as applied VOC content that does not exceed 4.2 pounds VOC per gallon solvent (lb VOC/gal solvent) (500 grams VOC per liter solvent (g VOC/l solvent)). These owners and operators are subject to the work practice requirements for industrial cleaning solvents, used shop towels, and waste materials and to the specified recordkeeping and reporting requirements of § 129.63a(f) and (h).

Subsection 129.63a(e) establishes VOC emission limitations for the use or application of an industrial cleaning solvent in a subject cleaning unit operation for the owner and operator of a facility at which the

⁷ *Control Techniques Guidelines: Industrial Cleaning Solvents*, EPA 453/R-06-001, Office of Air Quality Planning and Standards, EPA, September 2006, page 5.

total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. Subsection 129.63a(e) establishes a presumptive VOC content limit of less than or equal to 0.42 lb VOC/gal solvent (50 g VOC/l solvent) of industrial cleaning solvent as applied, as well as an alternative presumptive VOC composite vapor pressure limit of less than or equal to 8 millimeters of Mercury (mmHg) at 68°F (20°C) of industrial cleaning solvent as applied. The alternative presumptive limit for VOC composite vapor pressure ensures that many of the industrial cleaning solvents most commonly used for affected cleaning activities, like mineral spirits, Stoddard solvent, and medium to heavier weight petroleum naphtha, comply with the emissions limitations in § 129.63a.

An affected owner or operator may also choose to comply through the installation and use of a VOC emissions capture system and add-on air pollution control device. The overall emission reduction of the VOC emissions capture system and add-on air pollution control device, as determined by the specified test methods and procedures, may be no less than 85% or may be no less than the equivalent efficiency as calculated by the specified equation, whichever is less stringent.

Subsection 129.63a(f) establishes work practice standards for the use, storage, and disposal of industrial cleaning solvents, used shop towels, and waste materials by the owner and operator of a subject facility at which the total combined actual VOC emissions from all cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls.

Subsection 129.63a(h) establishes monthly recordkeeping requirements for the owner and operator of a subject facility, regardless of the total amount of combined actual VOC emissions from all cleaning unit operations at the facility. Recordkeeping requirements are expected to be minimal for the affected facility owners and operators; the recordkeeping requirements for many affected facility owners and operators will likely be met by using the monthly purchase records and material safety data sheets (MSDS) that most facility owners and operators already keep for other purposes.

The numbers of persons, businesses, small businesses, and organizations that may be affected

– *The EPA's estimate of affected Pennsylvania facility owners and operators, based on the 2002 National emissions inventory*

The EPA estimated that as many as 166 Pennsylvania facility owners and operators would be subject to the recommended control measures provided in the 2006 ICS CTG. See 2006 ICS CTG, Appendix D, *Number of nonattainment facilities organized by State that are estimated to meet the applicability criteria recommended in the CTG*. The EPA number of potentially affected facility owners and operators is based on data from the 2002 EPA National Emissions Inventory (NEI).

– *Small Business Development Center's Environmental Management Assistance Program*

The Department expects that the universe of potentially affected facility owners and operators could be larger than the group of 166 facility owners and operators identified by the EPA due to the threshold of 2.7 tons of VOC emissions per 12-month rolling period, before consideration of controls, for implementation of the VOC emissions control measures. This threshold is equivalent to an average daily emission rate of 15 pounds (6.8 kilograms) of VOC emissions per day, which is equivalent to the evaporation of approximately 2 gallons of VOC-containing industrial cleaning solvent per day. The Department therefore requested the assistance of the Commonwealth's Small Business Development Center's (SBDC) Environmental

Management Assistance Program (EMAP) in generating a list of potentially affected businesses in this Commonwealth.

The SBDC EMAP provided the Department with a list of potentially affected businesses in this Commonwealth using the 469 NAICS codes included in the EPA's 2006 ICS CTG. The initial list identified 144,222 facilities of all sizes. It is likely that many of the facility owners and operators identified by the SBDC EMAP solely through the EPA list of NAICS codes may be subject to other regulations codified in Chapter 129 or Chapter 130 and therefore not subject to § 129.63a. The Department has found that NAICS classifications tend to be broad in scope and lists of potentially affected facility owners and operators generated by NAICS codes may include facility owners and operators that are not engaged in the specific activities covered under this final-form rulemaking. Further, it is important to note that a business owner or operator selects and self-reports the NAICS code of its choosing. Prior experience by Department staff has shown that this self-reporting of NAICS codes is problematic when trying to accurately identify potentially affected facility owners and operators in this Commonwealth.

Upon further research on how to meaningfully analyze the list of 144,222 potentially affected facility owners and operators identified by the SBDC EMAP through the NAICS codes, the Department reviewed an analysis prepared in 2010 by E.H. Pechan & Associates, Inc. (Pechan) for the State of Texas Commission on Environmental Quality (TCEQ). The analysis was used by the TCEQ to assess the impact of its proposed industrial cleaning solvents rulemaking, finalized December 29, 2011, on the Texas business community. The survey data and statistical analysis generated by Pechan appeared to provide a better representation of the potentially affected industry and the impact of the Texas industrial cleaning solvents rulemaking than the general guidance provided in the 2006 ICS CTG. The Department applied a process similar to the one used by Pechan for the TCEQ analysis to estimate the number of Pennsylvania businesses potentially impacted by § 129.63a.

The Department cross-referenced the NAICS codes from the SBDC EMAP list of 144,222 facilities with the list of NAICS codes generated by Pechan as being potentially subject to the Texas industrial cleaning solvents rulemaking. Ten NAICS codes from the Pechan Texas report list were identified in the SBDC EMAP list. This cross-referencing reduced the number of potentially affected facility owners and operators in this Commonwealth to 45,718. From the Pechan analysis, it was further determined that only about 1.26% of identified facilities in Texas would likely be subject to the Texas industrial cleaning solvents rulemaking. Applying the same percentage to the Commonwealth's 'universe' of 45,718 identified by the SBDC EMAP, the Department estimated that as many as 576 ($45,718 \times 1.26\%$) facility owners and operators in this Commonwealth may potentially be subject to § 129.63a. Also from the Pechan analysis, it was determined that 44% of the potentially subject facilities in Texas were likely small businesses. Applying this percentage to the potentially subject group of 576 facility owners and operators identified by the SBDC EMAP, the Department estimated that 253 ($576 \times 44\%$) facility owners and operators may be small businesses.

– Department databases

The Department also gathered information about potentially affected facility owners and operators from the Environmental Facility Application Compliance Tracking System (eFACTS) database and the Air Information Management System (AIMS) database. These are Department databases that share data and interface with each other. The eFACTS database contains facility-specific information, including the NAICS code, for permitted facilities and some previously inspected facilities for which permits are not required. The AIMS database contains site-specific source and air pollutant emissions data, as well as NAICS codes, to maintain the air quality emission inventory. The AIMS and eFACTS systems do not

provide an exhaustive list of all facility owners and operators that conduct industrial cleaning solvent activities in this Commonwealth. The databases include only those with which the Department has had contact and for which the Department has a reason to input data; these are usually the largest emitters of air pollutants, which may or may not meet the definition of “small business” in accordance with Section 3 of the Regulatory Review Act.

A search of the AIMS and eFACTS databases revealed that the owners or operators of approximately 3,154 facilities in this Commonwealth have a permit issued by the Department that includes provisions for the control of VOC emissions from industrial cleaning solvent processes. Using the factor of 1.26% developed by Pechan for the Texas analysis, the Department estimates that approximately 40 (1.26% x 3,154) of these permitted facility owners and operators will be subject to the requirements of final-form § 129.63a. The remaining 3,114 permitted facility owners and operators are likely subject to cleaning solvent requirements codified elsewhere in Chapter 129 or Chapter 130 and therefore reflected in the exceptions listed in § 129.63a(c). Of the potentially affected 40 permitted facility owners and operators, the Department applied the 44% factor developed by Pechan to calculate that as many as 18 (40 x 44%) facility owners and operators identified from the Department’s databases may be small businesses.

Financial impact on affected facility owners and operators and on small businesses

The Department expects the impact of the requirements of final-form § 129.63a on affected owners and operators, including small businesses, will be minimal. The owner and operator of a facility that is subject to § 129.63a will likely incur a cost benefit or incur little, if any, cost to implement the requirements of § 129.63a. VOC compliant solvents are readily available, and industrial cleaning solvents such as Stoddard solvent, mineral spirits, and most other common solvents provided by suppliers have vapor pressures well below the 8 mmHg at 68°F (20°C) limit specified in § 129.63a(e). The owners and operators of potentially affected facilities such as automobile repair garages and metal parts manufacturing facilities using these materials will likely not have to make any changes to their industrial cleaning solvents.

The EPA based the costs of complying with the recommended control measures on the costs of operating a parts cleaner using industrial cleaning solvents. The Department regulates the VOC emissions from parts cleaners under existing § 129.63 (relating to degreasing operations), but the types of industrial cleaning solvents used in parts cleaners and in other solvent cleaning activities are the same. The EPA estimated in the 2006 ICS CTG that the annual costs for operating a mineral spirits parts cleaner were about \$1,453. The costs of switching to aqueous parts cleaners would range from \$1,171 to \$1,480. The owners and operators of affected facilities could incur an annual increase of as much as 1.8% in cleaning costs ($\$1,480 - \$1,453 / \$1,453 = 1.8\%$) or realize an annual cost savings of as much as 19% ($\$1,453 - \$1,171 / \$1,453 = 19\%$) as a result of switching to aqueous parts cleaning solvents.

Pechan’s cost analysis for the Texas proposed rulemaking updated the savings cited in the EPA’s 2006 ICS CTG through the use of updated cost factors. The 2010 Pechan report for Texas estimated that small businesses in Texas would save an average of \$2,760 annually from adoption of the 2006 ICS CTG recommendations. Based upon Pechan’s estimated cost savings for Texas and upon the EPA’s estimated overall cost savings in the 2006 ICS CTG, it is likely that Pennsylvania businesses will see similar cost savings as a result of implementing § 129.63a because low-VOC content industrial cleaning solvent materials are readily available at a cost that is equal to or lower than the high-VOC content industrial cleaning solvent materials they replace as a result of similar requirements already in effect in neighboring states.

Using the EPA cost number of \$1,453 as the baseline for annual operating costs and the cost range of \$1,171 to \$1,480 to implement the recommended control measures, the Department calculated that the annual financial impact on potentially affected Pennsylvania facility owners and operators could range from an average savings of \$282 per affected facility owner and operator to an average cost of \$27 per affected facility owner and operator. Please see the response to Question 19 for more detail on the potential costs and savings.

Incorporation of applicable requirements into existing operating permits

The VOC emission limitations and other requirements established by § 129.63a will not require the submission of plan approval applications or applications for permit modifications for amendments to existing operating permits. These requirements will be incorporated as applicable requirements in the operating permit at the time of permit renewal, if less than 3 years remain in the permit term, as specified under § 127.463(c) (relating to operating permit revisions to incorporate applicable standards). If 3 years or more remain in the permit term, the requirements will be incorporated as applicable requirements in the permit within 18 months of the promulgation of the final-form rulemaking, as required under § 127.463(b). Most importantly, § 127.463(e) specifies that “[r]egardless of whether a revision is required under this section, the permittee shall meet the applicable standards or regulations promulgated under the Clean Air Act within the time frame required by standards or regulations.” Consequently, upon promulgation as final-form rulemaking, the requirements will apply to affected owners and operators irrespective of a modification to the Operating Permit.

No new legal, accounting or consulting procedures are contained in this final-form rulemaking.

Effects of the final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not change the types or numbers of persons, businesses, small businesses, or organizations affected by these regulations or the financial impact of these regulations on affected facility owners and operators or small businesses.

(16) List the persons, groups or entities, including small businesses, which will be required to comply with the regulation. Approximate the number that will be required to comply.

The Department estimates that as many as 576 facility owners and operators across this Commonwealth could be affected by the final-form measures for control of VOC emissions from industrial cleaning solvents. About 253 of these potentially subject facility owners and operators may meet the definition of small business (as defined in Section 3 of the Regulatory Review Act (71 P. S. § 745.3)). The measures in final-form § 129.63a could affect the owners and operators of facilities involved in food manufacturing, wood and wood product manufacturing, fabricating metals, manufacturing and assembling industrial machinery and transportation equipment, fiber and fabric manufacturing, and other industries, if the potentially subject owners and operators are not already in compliance with the applicable requirements in § 129.63a.

It is possible that final-form § 129.63a will also apply to the owners and operators of industrial cleaning solvent operations at facilities that have not yet been identified. Please see the response to Question 15 for discussion of how the Department estimated the number of potentially subject facility owners and operators.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not change the types or numbers of persons, businesses, small businesses, or organizations required to comply with these regulations.

(17) Identify the financial, economic and social impact of the regulation on individuals, small businesses, businesses and labor communities and other public and private organizations. Evaluate the benefits expected as a result of the regulation.

Summary

The Department expects that the financial impact on individuals, small businesses, businesses, and labor communities will be minimal. The owner and operator of a facility that will be subject to the final-form measures for control of VOC emissions from industrial cleaning solvents will likely incur little, if any, cost to implement the requirements of § 129.63a. Industrial cleaning solvents such as Stoddard solvent, mineral spirits, and most other common solvents provided by suppliers have vapor pressures well below the 8 mmHg at 68°F (20°C) limit specified in final-form § 129.63a. The owners and operators of potentially affected facilities such as automobile repair garages and metal parts manufacturing facilities using these common industrial cleaning solvent materials will likely not have to make any changes to their cleaning materials. The estimated average amount of potential VOC emission reductions per affected owner and operator could be approximately 22 tpy per affected facility with an annual financial impact ranging from an average savings of \$282 per affected facility owner and operator to an average cost of \$27 per affected facility owner and operator. The Department expects the regulated industry in this Commonwealth to realize cost savings because low-VOC content industrial cleaning solvent materials are readily available at a cost that is equal to or lower than the high-VOC content industrial cleaning solvent materials they replace as a result of similar requirements already in effect in neighboring states.

Estimated amount of potential VOC emission reductions

Appendix D of the EPA's 2006 ICS CTG lists the estimated number of nonattainment facilities identified by the EPA in each state that were expected to meet the applicability criteria recommended in the 2006 ICS CTG. The table in Appendix D also included the EPA's estimate of the baseline total emissions of VOC from industrial cleaning solvent use at these facilities.⁸ The EPA estimated that there were 166 facilities in Pennsylvania that could potentially be affected by the recommended CTG control measures, with baseline total emissions of VOC of 3,660 megagrams per year (Mg/yr). The 3,660 Mg/yr converts to 4,034 tpy.

The EPA assumed that the average solvent density of uncontrolled solvent is 900 grams of solvent per liter of solvent (g/l). The EPA-recommended control limit is 50 g/l. Solvent is considered to be 100% VOC. Reducing the VOC content of industrial cleaning solvent allowed to be used in subject cleaning activities from 900 g/l to 50 g/l would be a reduction of approximately 95% or 95% control efficiency ($[(900 \text{ g/l} - 50 \text{ g/l}) / 900 \text{ g/l}] \times 100 = 95\%$).

Using data from the 2002 NEI database, the EPA provides in the 2006 ICS CTG that of the total VOC emissions nationally from solvent cleaning operations (64,000 Mg/yr; 71,000 tpy), approximately 4,000 Mg/yr (4,400 tpy) were from degreasing operations that use industrial cleaning solvents. The Department regulates the VOC emissions from degreasing operations under existing § 129.63. The remaining 60,000 Mg/yr (66,600 tpy) were from the other industrial solvent cleaning activities that are the subject of final-

⁸ *Control Techniques Guidelines: Industrial Cleaning Solvents*; EPA 453/R-06-001 September 2006; Appendix D, Number of nonattainment facilities organized by State that are estimated to meet the applicability criteria recommended in the CTG.

form § 129.63a. Therefore, of the total VOC emissions from industrial cleaning solvent cleaning operations of 71,000 tpy, approximately 6% of those emissions were from degreasing operations and approximately 94% were from other industrial cleaning solvent cleaning activities.

The EPA estimated that the 166 facilities in Pennsylvania had baseline total emissions of VOC of 3,660 Mg/yr (4,034 tpy). Prorating this amount of emissions to the Department's estimated group of 576 potentially affected facility owners and operators projects total VOC emissions of as much as 13,997 tpy (576 facilities/X tpy = 166 facilities/4,034 tpy) from the group of 576 affected facility owners and operators estimated by the Department using the SBDC EMAP data if the VOC emissions from subject cleaning activities are not already controlled. Of the total projected VOC emissions of 13,997 tpy from the potentially affected group of 576 facility owners and operators, as much as 13,157 tpy (13,997 tpy x 94%) may be from the other industrial cleaning solvent cleaning activities addressed by final-form § 129.63a.

The Department estimated the maximum amount of potential VOC emission reductions that may be generated by implementing the control measures in final-form § 129.63a by using the EPA's control efficiency of 95% times the estimated projected amount of total VOC emissions of 13,157 tpy. The estimated amount of VOC emission reductions from the potentially affected 576 facility owners and operators, including small businesses, could be as much as 12,499 tpy (13,157 tpy x 95%). The estimated average amount of potential VOC emission reductions per affected owner and operator could be approximately 22 tpy per affected facility (12,499 tpy/576 facilities). The amount of VOC emission reductions achieved by implementing these control measures could be less depending on the level of compliance already demonstrated by the affected facility owners and operators.

Estimated potential financial impact on affected owners and operators

Using the EPA cost number of \$1,453 as the baseline for annual operating costs and the cost range of \$1,171 to \$1,480 to implement the recommended control measures, the Department calculated that the annual financial impact on potentially affected Pennsylvania facility owners and operators could range from an average savings of \$282 per affected facility owner and operator to an average cost of \$27 per affected facility owner and operator. Please see the responses to Questions 18 and 19 for additional detail.

Social impact and benefits

The VOC emission control measures in final-form § 129.63a will help ensure that the owners and operators of regulated facilities, farms and agricultural enterprises, hardwoods and timber industries and tourism-related businesses, and employees, residents of labor communities, citizens and the environment of this Commonwealth experience the benefits of improved health and welfare resulting from the implementation of the VOC emission reduction measures to attain and maintain the ozone NAAQS in this Commonwealth. Although final-form § 129.63a is designed primarily to address ground-level ozone air quality, the substitution of no-VOC or low-VOC content cleaning materials for materials with noncomplying VOC contents to meet the VOC content limits applicable to users may also result in other health and environmental benefits. The reduced levels of high-VOC content industrial cleaning solvents will benefit groundwater quality through reduced loading on water treatment plants and in reduced quantities of high-VOC content industrial cleaning solvents leaching into the ground and streams and rivers. The improvements in ground-level ozone air quality and groundwater quality through reduced emissions of VOCs from industrial cleaning solvent operations will provide economic and social benefits through reduced need for medical treatment for asthma and lung-related illnesses and reduced costs for repairing damage to infrastructure, as well as through improved crop yields, healthier forests and wildlife, and increased tourism to see the beautiful natural areas of the Commonwealth.

Economic opportunities

The final-form measures for the control of VOC emissions from industrial cleaning solvents may create economic opportunities for industrial cleaning solvent material and VOC emission control technology innovators, manufacturers, and distributors through an increased demand for new or improved industrial cleaning solvent material products and control technology. In addition, the owners and operators of regulated facilities that choose to comply by using a VOC emissions capture system and add-on air pollution control device may be required to install and operate an emissions monitoring system or equipment necessary for an emissions monitoring method to demonstrate compliance with the final-form emissions limitations, thereby creating an economic opportunity for the emissions monitoring industry.

Effects of the final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not change the financial, economic, amount of emission reductions, or social impact of these regulations on affected persons, businesses, small businesses, labor communities, or private or public organizations. The benefit of these final-form revisions is improved clarity.

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

In addition to the health, environmental, and economic benefits anticipated from implementing the control measures in final-form § 129.63a, § 129.63a is expected to result in an overall cost savings to the regulated community. In the 2006 ICS CTG, the EPA estimates that facilities could face a slight annual increase of about 1.8% in cleaning costs or realize an annual cost savings of about 19% as a result of switching to aqueous parts cleaning. Pechan's cost analysis for the Texas proposed rulemaking updated the savings cited in the 2006 ICS CTG through the use of updated cost factors. The 2010 Pechan report for Texas estimates that small businesses in Texas will save an average of \$2,760 annually from adoption of the 2006 ICS CTG recommendations. Please see the response to Question 15 for further explanation.

As discussed in the response to Question 10, the monetized health benefits to Commonwealth residents and the economic benefits to the Commonwealth's agricultural, hardwoods and tourism industries as a result of attaining and maintaining the ground-level 8-hour ozone NAAQS, achieved in part through reduced emissions of ozone precursors from the use of compliant industrial cleaning solvents in the Commonwealth, are considerable in comparison to the costs that will be incurred by the owners and operators of potentially subject facilities to comply with the control measures in final-form § 129.63a. The EPA has estimated the monetized health benefits of attaining the 2008 and 2015 8-hour ozone NAAQS. The EPA estimated that the monetized health benefits of attaining the 2008 8-hour ozone NAAQS of 0.075 ppm range from \$8.3 billion to \$18 billion on a National basis by 2020.⁹ Prorating that benefit to the Commonwealth, based on population, results in a public health benefit of \$337 million to \$732 million. Similarly, the EPA estimated that the monetized health benefits of attaining the 2015 8-hour ozone NAAQS of 0.070 ppm range from \$1.5 billion to \$4.5 billion on a National basis by 2025.¹⁰ Prorating that benefit to the Commonwealth, based on population, results in a public health benefit of \$63 million to \$189 million. The EPA estimates are indicative of the benefits to Commonwealth residents of attaining the 2008 and 2015 8-hour ozone

⁹ *Regulatory Impact Analysis, Final National Ambient Air Quality Standard for Ozone*, July 2011, <http://www.nrc.gov/docs/ML1224/ML12240A237.pdf>.

¹⁰ *Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone*, September 2015, https://www3.epa.gov/tneacas1/docs/ria/naaqs-o3_ria_final_2015-09.pdf.

NAAQS through the implementation of various measures to control VOC emissions in the aggregate from different source categories.

The estimated combined total economic impact for the owners and operators of the 576 potentially affected facilities ranges from annual costs of as low as \$15,552 to total annual savings of \$162,432. The worst-case scenario of \$15,552 annual costs for the affected owners and operators is very small in comparison to the potential economic gains in public health and welfare to Commonwealth residents of attaining and maintaining the 8-hour ozone NAAQS. The Department further calculated that the annual financial impact on potentially affected Pennsylvania facility owners and operators, including small businesses, could range from an average annual savings of \$282 per affected facility owner and operator to an average annual cost of \$27 per affected facility owner and operator.

The Department expects that negative impacts on individuals, small businesses, businesses, and labor communities will be minimal to none. In fact, the owner and operator of an affected facility will likely incur savings or, in the worst-case scenario, little-to-no cost to implement the requirements in final-form § 129.63a. Industrial cleaning solvents such as Stoddard solvent, mineral spirits, and most other common solvents provided by suppliers have vapor pressures well below the 8 mmHg at 68°F (20°C) limit specified in final-form § 129.63a(e). The owners and operators of potentially affected facilities such as automobile repair garages and metal parts manufacturing facilities, as well as other affected manufacturing facilities already using these materials will likely not need to make any changes to their industrial cleaning solvent materials. The Department expects the regulated industry in this Commonwealth to realize cost savings because low-VOC content industrial cleaning solvent materials are readily available at a cost that is lower than the high-VOC content industrial cleaning solvent materials they replace as a result of similar requirements already in effect in neighboring states.

Effects of the final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only and do not change the financial impact of these sections on affected persons or the regulated community. The benefit of these final-form revisions is improved clarity.

(19) 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 EPA estimates in the 2006 ICS CTG that the owner and operator of an affected facility could face a slight annual increase of as much as 1.8% in cleaning costs or realize an annual cost savings of as much as 19% as a result of switching to aqueous parts cleaning solvents. Pechan's cost analysis for the Texas proposed rulemaking updated the savings cited in the 2006 ICS CTG through the use of updated cost factors. The 2010 Pechan report for Texas estimates that small businesses in Texas would save an average of \$2,760 annually from adoption of the 2006 ICS CTG recommendations. The Department expects the regulated industry in this Commonwealth to realize cost savings because low-VOC content industrial cleaning solvent materials are readily available at a cost that is equal to or lower than the high-VOC content industrial cleaning solvent materials they replace as a result of similar requirements already in effect in neighboring states. Please see the response to Question 15 for further explanation.

Using the EPA cost number of \$1,453 as the baseline for annual operating costs and the cost range of \$1,171 to \$1,480 to implement the recommended control measures, the estimated combined total economic impact for the owners and operators of the estimated 576 potentially affected facilities, including small

businesses, ranges from annual costs of as low as \$15,552 to total annual savings of \$162,432. The Department calculated this estimate as follows:

576 facilities x \$1,453 = \$836,928 baseline costs
 576 facilities x \$1,171 = \$674,496 lower cost solvent replacement
 \$836,928 – \$674,496 = \$162,432 total cost savings

576 facilities x \$1,453 = \$836,928 baseline costs
 576 facilities x \$1,480 = \$852,480 higher cost solvent replacement
 \$852,480 – \$836,928 = \$15,552 total costs

The Department further calculated that the annual financial impact on potentially affected Pennsylvania facility owners and operators, including small businesses, could range from an average annual savings of \$282 per affected facility owner and operator to an average annual cost of \$27 per affected facility owner and operator.

$\$162,432 / 576 \text{ affected facilities} = \$282 \text{ savings per affected facility owner and operator}$

$\$15,552 / 576 \text{ affected facilities} = \$27 \text{ cost increase per affected facility owner and operator}$

The cost effectiveness could range from a savings of approximately \$12.99 per ton of VOC emissions reduced per year ($\$162,432 \text{ total savings} / 12,499 \text{ tons of total VOC emissions reduced per year}$) to a cost of approximately \$1.24 per ton of VOC emissions reduced per year ($\$15,552 \text{ costs} / 12,499$).

The Department anticipates that the impact of final-form § 129.63a on the regulated community will be to generate overall cost savings of as much as \$162,432 per year or an average of approximately \$282 savings per affected facility owner and operator, including small businesses. The savings could be greater, considering the updated cost savings cited in the 2010 Pechan Texas report of \$2,760 per affected small business. If there are increased costs, the Department estimates that the increase will likely not be more than \$15,552 per year and the corresponding impact on an individual affected facility owner and operator will be minimal, with an estimated average impact of \$27 per affected facility owner and operator, including small businesses. Industrial cleaning solvents such as Stoddard solvent, mineral spirits, and most other common solvents provided by suppliers have vapor pressures well below the 8 mmHg at 68°F (20°C) limit specified in final-form § 129.63a(e). The owners and operators of potentially affected facilities such as automobile repair garages, metal parts manufacturing facilities, and other affected manufacturing facilities using these materials will not likely have to make any changes to their industrial cleaning solvent materials.

If an owner or operator of a facility were to elect to comply by installing and operating a VOC emissions capture system and add-on air pollution control device, the owner or operator will likely experience increased costs. It is unlikely, however, that an owner or operator would choose this option, given the wide availability of low cost compliant VOC content industrial cleaning solvent materials.

No new legal, accounting or consulting procedures are contained in final-form § 129.63a.

Effects of the final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not change the financial impact of these sections on the regulated community.

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

Costs and/or savings to local governments will be the same as, or similar to, those described in response to Question 19. Please also see the responses to Questions 15 and 17 for further explanation.

Effects of the final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not change the financial impact of these sections on local governments.

(21) Provide a specific estimate of the costs and/or savings to the **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.

Costs and/or savings to state governments will be the same as, or similar to, those described in response to Question 19. Please also see the responses to Questions 15 and 17 for further explanation.

Effects of the final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not change the financial impact of these sections on affected state government entities.

(22) For each of the groups and entities identified in items (19)-(21) above, 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.

(22a) Are forms required for implementation of the regulation?

No new legal, accounting or consulting procedures are contained in final-form § 129.63a for entities listed in (19)-(21) above. No new forms are required by final-form § 129.63a. The measures for the control of VOC emissions from industrial cleaning solvents in final-form § 129.63a establish monthly recordkeeping requirements for the owners and operators of affected facilities. Recordkeeping costs should be minimal however, as the affected facility owners and operators may use typical industry records such as monthly purchase records and material safety data sheets (MSDS) as part of the documentation to demonstrate compliance.

Effects of the final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not change the legal, accounting, consulting, or recordkeeping and reporting impact of these sections on the entities listed in questions 19–21.

(22b) If forms are required for implementation of the regulation, **attach copies of the forms here**. If your agency uses electronic forms, provide links to each form or a detailed description of the information required to be reported. **Failure to attach forms, provide links, or provide a detailed description of the information to be reported will constitute a faulty delivery of the regulation.**

N/A because no forms are required for the implementation of the final-form rulemaking.

(23) 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 17/18	FY+1 Year 18/19	FY+2 Year 19/20	FY+3 Year 20/21	FY+4 Year 21/22	FY+5 Year 22/23
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	121,824.00	162,432.00	162,432.00	162,432.00	162,432.00
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
Total Savings	0.00	121,824.00	162,432.00	162,432.00	162,432.00	162,432.00
COSTS:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	11,664.00	15,552.00	15,552.00	15,552.00	15,552.00
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
Total Costs	0.00	11,664.00	15,552.00	15,552.00	15,552.00	15,552.00
REVENUE LOSSES:	\$	\$	\$	\$	\$	\$
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
Total Revenue Losses	0.00	0.00	0.00	0.00	0.00	0.00

(23a) Provide the past three-year expenditure history for programs affected by the regulation.

Program	FY-3 (14/15)	FY-2 (15/16)	FY-1 (16/17)	Current FY (17/18)
Environmental Program Management (161-10382)	\$28,517,000	\$28,277,000	\$26,885,000	\$30,054,000
Clean Air Fund Major Emission Facilities (215-20077)	\$16,870,000	\$17,373,000	\$16,931,000	\$18,786,000
Clean Air Fund Mobile and Area Facilities (233-20084)	\$9,811,000	\$10,142,000	\$8,228,000	\$10,886,000

(24) For any regulation that may have an adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), provide an economic impact statement that includes the following:

(a) An identification and estimate of the number of small businesses subject to the regulation.

The Department anticipates that the owners and operators of as many as 576 facilities across the Commonwealth may be subject to the final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities. Of these potentially subject facility owners and operators, as many as 253 may meet the definition of small business (as defined in Section 3 of the Regulatory Review Act). Please see the response to Question 15 for a detailed explanation of how the Department estimated these numbers. As noted in the response to Question 15, it is also possible that far fewer will be subject to the requirements of final-form § 129.63a.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not change the types or numbers of small businesses required to comply with these regulations.

(b) The projected reporting, recordkeeping and other administrative costs required for compliance with the final regulation, including the type of professional skills necessary for preparation of the report or record.

Reporting, recordkeeping, and administrative costs relating to implementation of the final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities will be minimal. The owners and operators of affected facilities that use common VOC-compliant cleaning solvents and maintain monthly purchase records along with MSDS sheets will likely not incur additional costs to meet the reporting, recordkeeping, and administrative requirements of final-form § 129.63a. The professional skills required to keep the necessary records are the same as the skills the facility owner and operator requires when keeping normal business records.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions will likely not impact the reporting, recordkeeping, or administrative costs incurred by those entities required to comply with these regulations.

(c) A statement of probable effect on impacted small businesses.

The Department expects that the impact on small businesses will be minimal. The owner and operator of a facility that would be subject to the final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities will likely incur little, if any, cost to implement the applicable requirements. Industrial cleaning solvents such as Stoddard solvent, mineral spirits, and most other common solvent products have vapor pressures well below the 8 mmHg at 68°F (20°C) limit specified in final-form § 129.63a(e). The owners and operators of potentially affected facilities such as automobile repair garages and metal parts manufacturing facilities using these materials will likely not have to make any changes to their industrial cleaning solvent materials. In the 2006 ICS CTG, the EPA estimates that affected facility owners and operators could face a slight annual increase of about 1.8% in cleaning costs or realize an annual cost savings of about 19% as a result of switching to aqueous parts cleaning solvents. Pechan's cost analysis for the Texas proposed rulemaking updated the savings cited in the 2006 ICS CTG through the use of updated cost factors. The 2010 Pechan report for Texas estimates that small businesses in Texas will save an average of \$2,760 annually from adoption of the 2006 ICS CTG recommendations. The Department expects the regulated industry in this Commonwealth to likewise realize cost savings because low-VOC content industrial cleaning solvent materials are readily available at a cost that is likely equal to or lower than the high-VOC content industrial cleaning solvent materials they replace as a result of similar requirements already in effect in neighboring states. Please see the response to Question 15 for additional information.

Final-form § 129.63a allows the use of a VOC emissions capture system and add-on air pollution control device as an additional compliance option. If an owner or operator of a facility were to elect to comply by installing and operating a VOC emissions capture system and add-on air pollution control device, the owner or operator will likely experience increased costs. It is unlikely that an owner or operator will choose this option however, given the wide availability of low-cost compliant VOC-content materials.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not have an impact on those small businesses required to comply with these regulations.

(d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

There are no alternative regulatory provisions available. Final-form § 129.63a includes flexibility for compliance, but the final-form measures for control of VOC emissions from industrial cleaning solvent cleaning activities must satisfy the Federal CAA requirements. Adopting RACT regulations is a Federal CAA requirement. The emission control requirements of the RACT regulations must apply to the owners and operators of all subject sources that meet the applicable VOC emission thresholds regardless of business size. In accordance with sections 172(c)(1), 182(b)(2)(A) and 184(b)(1)(B) of the CAA, final-form § 129.63a establishes VOC emission limitations and other requirements consistent with the recommendations of the EPA 2006 ICS CTG as RACT for these sources in this Commonwealth. See *Consumer and Commercial Products, Group II: Control Techniques Guidelines in Lieu of Regulations for Flexible Packaging Printing Materials, Lithographic Printing Materials, Letterpress Printing Materials, Industrial Cleaning Solvents, and Flat Wood Panel Coatings*, 71 FR 58745 (October 5, 2006).

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions will not likely have any impact on those entities required to comply with these regulations.

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

The Department expects that the impact on minorities, the elderly, small businesses, and farmers will be minimal. Minorities, the elderly, small businesses, and farmers who are not owners or operators of an industrial cleaning solvent cleaning unit operation subject to final-form § 129.63a will not be affected by this final-form rulemaking. For those that are owners or operators of a subject industrial cleaning solvent cleaning unit operation, no special provisions are necessary. Reporting, recordkeeping, and administrative costs relating to implementation of the final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities will be minimal.

The owner and operator of a facility that is subject to the final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities will likely incur little, if any, cost to implement the applicable requirements. Industrial cleaning solvents such as Stoddard solvent, mineral spirits and most other common solvents products have vapor pressures well below the 8 mmHg at 68°F (20°C) limit specified in final-form § 129.63a(e). The owners and operators of potentially affected facilities such as automobile repair garages and metal parts manufacturing facilities using these materials will likely not have to make any changes to their industrial cleaning solvent materials or recordkeeping procedures.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. Special provisions to implement these revisions are not needed.

(26) 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.

The final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities are considered the least burdensome acceptable method of ensuring compliance with the Federal RACT mandate. In accordance with sections 172(c)(1), 182(b)(2)(A) and 184(b)(1)(B) of the CAA, final-form § 129.63a establishes VOC emission limitations and other requirements generally consistent with the recommendations of the EPA 2006 ICS CTG as RACT for these sources in this Commonwealth. See *Consumer and Commercial Products, Group II: Control Techniques Guidelines in Lieu of Regulations for Flexible Packaging Printing Materials, Lithographic Printing Materials, Letterpress Printing Materials, Industrial Cleaning Solvents, and Flat Wood Panel Coatings*, 71 FR 58745.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions should improve the understanding for the regulated community and other impacted entities. Alternative regulatory provisions for these revisions were not considered.

(27) In conducting a regulatory flexibility analysis, explain whether regulatory methods were considered that will minimize any adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), including:

(a) The establishment of less stringent compliance or reporting requirements for small businesses.

Less stringent compliance requirements are not available for small businesses. The Department included flexibilities in final-form § 129.63a, but the final-form measures to control VOC emissions from industrial cleaning solvent activities must satisfy the Federal CAA requirements. Adopting RACT regulations is a Federal CAA requirement. The final-form VOC emission control measures must apply to the owners and operators of all subject sources that emit VOC emissions from the covered industrial cleaning solvent cleaning activities at or above the threshold of total combined actual emissions of 2.7 tons of VOC per 12-

month rolling period, regardless of business size. In accordance with sections 172(c)(1), 182(b)(2)(A) and 184(b)(1)(B) of the CAA, final-form § 129.63a satisfies RACT requirements for owners and operators engaging in these industrial cleaning solvent cleaning activities by establishing VOC emission limitations and other requirements generally consistent with the recommendations in the EPA's 2006 ICS CTG. See *Consumer and Commercial Products, Group II: Control Techniques Guidelines in Lieu of Regulations for Flexible Packaging Printing Materials, Lithographic Printing Materials, Letterpress Printing Materials, Industrial Cleaning Solvents, and Flat Wood Panel Coatings*, 71 FR 58745 .

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions will not impact compliance or reporting requirements for small businesses subject to these regulations.

(b) The establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses.

Minimal to no adverse impact is expected for the owners and operators of small business-sized facilities to implement the final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities. As explained in the response to Question 9, final-form § 129.63a is overdue to the EPA for approval as a SIP revision. Further delay of implementation is not feasible. The Commonwealth's rulemaking process provides ample time for the owners and operators of facilities that might be subject to final-form § 129.63a to prepare to comply as soon as final-form § 129.63a is published in the *Pennsylvania Bulletin* as a final-form regulation. Additionally, many potentially impacted entities may already be complying with the final-form requirements, as compliant VOC-content industrial cleaning solvent materials are readily available at a cost that is likely equal to or lower than the high-VOC content industrial cleaning solvent materials they replace since similar requirements are already in effect for neighboring states. No adverse impact will occur to these entities as a result of this final-form rulemaking.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions will not impact compliance schedules or deadlines for small businesses subject to these regulations.

(c) The consolidation or simplification of compliance or reporting requirements for small businesses.

Minimal to no adverse impact is expected for the owners and operators of small business-sized facilities to implement the final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities. The compliance options in final-form § 129.63a should allow the owners and operators of small business-sized facilities to find an acceptable method of compliance appropriate to their operation. Reporting will only be necessary for these facility owners and operators under final-form § 129.63a if requested in writing by the Department. The professional skills required to keep the necessary records are the same as the skills the facility owner and operator requires when keeping normal business records.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not amend compliance or reporting requirements for small businesses subject to these regulations.

(d) The establishment of performance standards for small businesses to replace design or operational standards required in the regulation.

The final-form measures to control VOC emissions from industrial cleaning solvent cleaning activities include performance standards. If an owner or operator of a subject industrial cleaning solvent cleaning unit operation, including a small business-sized facility, chooses not to comply through the use of compliant VOC-content industrial cleaning solvents, the owner or operator could achieve equivalent compliance through the use of a VOC emissions capture system and an add-on air pollution control device. If the owner or operator is not able to comply with either of these options, the owner or operator may also meet the emission limitations through an alternative method under the final-form amendments to § 129.51.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. These revisions do not require the establishment of performance standards to replace design or operational standards for small businesses subject to these regulations.

(e) The exemption of small businesses from all or any part of the requirements contained in the regulation.

Adopting RACT regulations is a Federal CAA requirement. The VOC emission control measures in final-form § 129.63a must apply Statewide to the owners and operators of *all* facilities at which the total combined actual VOC emissions from all subject industrial cleaning solvent cleaning activities at the facility are equal to or greater than the threshold of 2.7 tons (2,455 kilograms) of VOC emissions per 12-month rolling period, before consideration of controls, regardless of business size. A facility may be classified as a small business under the Federal Small Business Size Regulations under 13 CFR Chapter 1, Part 121, while still emitting sufficient emissions of VOC to subject the owner and operator to regulations designed to implement measures for the control of those VOC emissions.

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. Small businesses subject to these regulations will not be exempted from the implementation of these revisions.

(28) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

The Department reviewed the information provided by the EPA in the 2006 ICS CTG for establishing RACT for the industrial cleaning solvent activities that will be regulated by the final-form measures to control VOC emissions from these covered activities. The Department believes that the data used by the EPA to develop the RACT recommendations meet the acceptability standard for empirical, replicable and testable data. Additionally, according to the EPA's Scientific Integrity Policy, the EPA adheres to the 2002 Office of Management and Budget (OMB) Information Quality Guidelines, the 2005 OMB Information Quality Bulletin for Peer Review, the EPA's Quality Policy (CIO 2106) for assuring the collection and use of sound scientific data and information, the EPA's Peer Review Handbook for internal and external review of scientific products, and the EPA's Information Quality Guidelines for establishing the transparency, integrity and utility of information published on the Agency's websites.¹¹

¹¹ United States Environmental Protection Agency, Scientific Integrity Policy, http://www.epa.gov/osa/pdfs/epa_scientific_integrity_policy_20120115.pdf, page 1.

The Department reviews its own ambient air quality ozone monitoring data for purposes of reporting to the EPA to establish attainment and maintenance of the NAAQS for all areas of this Commonwealth as discussed in the response to Question 9. The Commonwealth's Ambient Air Monitoring Network is operated in accordance with all network design, siting, monitoring and quality assurance requirements set forth in 40 CFR Part 58 (relating to ambient air quality surveillance). All ozone concentration data measured during the ozone monitoring season, which runs from April to October, are subject to comparison with the ozone NAAQS set forth in 40 CFR Part 50 (relating to National primary and secondary ambient air quality standards). Specific guidance on the requirements for quality assurance and quality control of the ozone monitoring network may be found in the EPA's Quality Assurance (QA) Handbook for Air Pollution Measurement Systems, Volume II, Ambient Air Quality Monitoring Program, EPA-454/B-13-003, May 2013. The QA Handbook is available on the EPA web site at:

<http://www.epa.gov/ttnamti1/files/ambient/pm25/qa/QA-Handbook-Vol-II.pdf>

The following list provides complete citations for data sources referenced in this Regulatory Analysis Form:

Consumer and Commercial Products, Group II: Control Techniques Guidelines in Lieu of Regulations for Flexible Packaging Printing Materials, Lithographic Printing Materials, Letterpress Printing Materials, Industrial Cleaning Solvents, and Flat Wood Panel Coatings, 71 FR 58745 (October 5, 2006).

Control Techniques Guidelines: Industrial Cleaning Solvents, EPA 453/R-06-001, Office of Air Quality Planning and Standards, EPA, September 2006. The 2006 ICS CTG is available on the EPA website at: <https://www.epa.gov/stationary-sources-air-pollution/clean-air-act-guidelines-and-standards-solvent-use-and-surface>

Industrial Cleaning Solvents and Adhesives, Inventory Research, Final Report, Texas Commission on Environmental Quality (TCEQ), Austin, TX 78711, TCEQ Grant Agreement No. 582-7-84007, Work Order No. 582-7-84007-FY10-03, Tracking No. 2010-41, July 2010, prepared by Dr. Jonathan G. Dorn, E.H. Pechan & Associates, Inc., 3622 Lyckan Parkway, Suite 2005, Durham, NC 27707. The report is available on the TCEQ website at: <http://www.tceq.texas.gov/assets/public/implementation/air/rules/contracts/2010-cleaning-adhesives-final.pdf>

Pennsylvania Department of Agriculture:

Pennsylvania Department of Agriculture, 2016, About PDA, <http://www.agriculture.pa.gov/Pages/About-PDA.aspx>; and Fast Facts on Agriculture and Food Careers in Pennsylvania, December 10, 2015, at: [http://www.agriculture.pa.gov/Encourage/Documents/Fast%20Facts%20on%20Agriculture%20and%20Food%20Careers%20in%20Pennsylvania%20\(revised\).pdf](http://www.agriculture.pa.gov/Encourage/Documents/Fast%20Facts%20on%20Agriculture%20and%20Food%20Careers%20in%20Pennsylvania%20(revised).pdf)

Pennsylvania Hardwoods Development Council, Biennial Report, 2009-2010. A copy of this report is available from the DEP Bureau of Air Quality upon request.

Pennsylvania Department of Conservation and Natural Resources:

Pennsylvania Department of Conservation and Natural Resources, 2016, DCNR Bureau of Forestry, Our Mission and What We Do, at: http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_010470.pdf

Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry, 2016 State Forest Resource Management Plan, page 20, at:
<http://www.dcnr.state.pa.us/forestry/stateforestmanagement/sfrmp/2016sfrmp/index.htm>

Regulatory Impact Analysis, Final National Ambient Air Quality Standard for Ozone, July 2011, U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards, Research Triangle Park, NC, 27711, at: <http://www.nrc.gov/docs/ML1224/ML12240A237.pdf>

Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone, September 2015, U.S. Environmental Protection Agency, Office of Air and Radiation, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711, at: https://www3.epa.gov/ttnecas1/docs/ria/naaqs-o3_ria_final_2015-09.pdf

State Implementation Plans; General Preamble for Proposed Rulemaking on Approval of Plan Revisions for Nonattainment Areas—Supplement (on Control Techniques Guidelines), 44 FR 53761 (September 17, 1979).

The final-form revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99, and 129.100 are clarifying amendments only. No data was needed to develop these revisions.

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

- | | |
|---|-----------------------------------|
| A. The length of the public comment period: | <u>66 days</u> |
| B. The date or dates on which public meetings or hearings will be held: | <u>July 18,19, & 20, 2017</u> |
| C. The expected date of delivery of the final-form regulation: | <u>Quarter 2, 2018</u> |
| D. The expected effective date of the final-form regulation: | <u>September 1, 2018</u> |
| E. The expected date by which compliance with the final-form regulation will be required: | <u>September 1, 2018</u> |
| F. The expected date by which required permits, licenses or other approvals must be obtained: | <u>NA</u> |

(30) Describe the plan developed for evaluating the continuing effectiveness of the regulation after its implementation.

The Board is not establishing a sunset date for this final-form regulation, since it is needed for the Department to carry out its statutory authority. The Department will closely monitor this final-form rulemaking after promulgation as a final-form regulation for its effectiveness and recommend updates to the Board as necessary.

Small Business Compliance Advisory Committee

to the Pennsylvania Department of Environmental Protection

PO Box 8468

Harrisburg, PA 17105-8468

January 24, 2018

Honorable Patrick McDonnell
Secretary
Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063

Re: Final Rulemaking for Control of VOC Emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing and Rework; and Additional RACT Requirements for Major Sources of NOx and VOCs (RACT 2) (25 Pa. Code Chapters 121 and 129)

Dear Secretary McDonnell:

On January 24, 2018, the Small Business Compliance Advisory Committee (Committee) discussed the final rulemaking draft Annex A to amend 25 Pa. Code Chapters 121 and 129 (relating to general provisions; and standards for sources). The final rulemaking draft Annex A adds provisions to Chapter 129 at § 129.63a to reduce volatile organic compound (VOC) emissions from the use and application of industrial cleaning solvents not regulated elsewhere in Chapter 129. These industrial cleaning solvents are used to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil, grease or the like, from a cleaning unit operation production-related work area or from a part, product, tool, machinery, equipment, vessel, floor, wall or the like.

The amendments for industrial cleaning solvents are designed to meet the Clean Air Act “reasonably available control technology” (RACT) requirements for ozone nonattainment areas. The VOC emission limits and work practice standards are consistent with the recommendations of the United States Environmental Protection Agency set forth as RACT in the 2006 Control Techniques Guidelines for Industrial Cleaning Solvents.

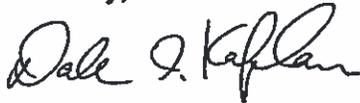
The final rulemaking draft Annex A also includes revisions to §§ 121.1 and 129.73 (relating to definitions; and aerospace manufacturing and rework). The definition of “cleaning solvent” in § 121.1 is amended to add a missing comma. Existing language for aerospace manufacturing and rework in § 129.73 is revised to correct a numbering error in Table II.

Clarifying amendments have been added to §§ 129.96, 129.97, 129.99, and 129.100 under Additional RACT Requirements for Major Sources of NOx and VOCs (RACT 2) to update the VOC presumptive RACT regulations for which RACT 2 does not apply. RACT 2 was promulgated April 23, 2016 (46 Pa. B. 2036).

The Committee requests that the Department's compliance assistance plan include broad outreach to members of the affected community that have not been previously regulated.

The Committee voted 6-0-0 to concur with the Department's recommendation to present the final rulemaking amendments to the Environmental Quality Board for consideration for adoption and publication as a final rulemaking.

Sincerely,

A handwritten signature in black ink, appearing to read "Dale I. Kaplan". The signature is fluid and cursive, with the first name "Dale" being the most prominent.

Dale I. Kaplan
Chair

cc: Krishnan Ramamurthy, Director, PA DEP BAQ
Randy Bordner, PA DEP BAQ
Susan Hoyle, PA DEP BAQ
Susan Foster, PA DEP BAQ
Nancy Herb, PA DEP BAQ
Jesse Walker, PA DEP BRC

Air Quality Technical Advisory Committee

to the Pennsylvania Department of Environmental Protection

PO Box 8468

Harrisburg, PA 17105-8468

February 8, 2018

Honorable Patrick McDonnell
Secretary
Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063

Re: Final Rulemaking for Control of VOC Emissions from Industrial Cleaning Solvents;
General Provisions; Aerospace Manufacturing and Rework; and Additional RACT Requirements
for Major Sources of NOx and VOCs (RACT 2) (25 Pa. Code Chapters 121 and 129)

Dear Secretary McDonnell:

On February 8, 2018, the Air Quality Technical Advisory Committee (Committee) discussed the final rulemaking draft Annex A to amend 25 Pa. Code Chapters 121 and 129 (relating to general provisions; and standards for sources). The final rulemaking draft Annex A adds provisions to Chapter 129 at § 129.63a to reduce volatile organic compound (VOC) emissions from the use and application of industrial cleaning solvents not regulated elsewhere in Chapter 129. These industrial cleaning solvents are used to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil, grease or the like, from a cleaning unit operation production-related work area or from a part, product, tool, machinery, equipment, vessel, floor, wall or the like.

The amendments for industrial cleaning solvents are designed to meet the Clean Air Act “reasonably available control technology” (RACT) requirements for ozone nonattainment areas. The VOC emission limits and work practice standards are consistent with the recommendations of the United States Environmental Protection Agency set forth as RACT in the 2006 Control Techniques Guidelines for Industrial Cleaning Solvents.

The final rulemaking draft Annex A also includes revisions to §§ 121.1 and 129.73 (relating to definitions; and aerospace manufacturing and rework). The definition of “cleaning solvent” in § 121.1 is amended to add a missing comma. Existing language for aerospace manufacturing and rework in § 129.73 is revised to correct a numbering error in Table II.

Clarifying amendments have been added to §§ 129.96, 129.97, 129.99, and 129.100 under Additional RACT Requirements for Major Sources of NOx and VOCs (RACT 2) to update the VOC presumptive RACT regulations for which RACT 2 does not apply. RACT 2 was promulgated April 23, 2016 (46 Pa. B. 2036).

The Committee voted 14-0-0 to concur with the Department's recommendation to present the final rulemaking amendments to the Environmental Quality Board for consideration for adoption and publication as a final rulemaking.

Sincerely,

A handwritten signature in black ink that reads "Patrick K. O'Neill". The signature is written in a cursive style with a large, prominent "P" and "O".

Patrick K. O'Neill Esq.
Chair

cc: Krishnan Ramamurthy, Director, PA DEP BAQ
Randy Bordner, PA DEP BAQ
Kirit Dalal, PA DEP BAQ
Susan Hoyle, PA DEP BAQ
Jesse Walker, PA DEP BRC



February 20, 2018

Allegheny County
Cynthia Carrow
John J. Walliser, Esq

Bedford County
William Fink

Chester County
Donald S. Welsh

Cumberland County
Duane E. Mowery
James Weity
R. Timothy Weston, Esq

Delaware County
James A. Schmid

Fayette County
John R. Over, Jr.

Greene County
Terry L. Dayton

Indiana County
John St. Clair

Lancaster County
James Sandoe

Philadelphia County
David Dunphy
Jerome Shabazz

Tioga County
Thaddeus K. Stevens

Washington County
Mark Caskey

Secretary Patrick
McDonnell, Ex-officio

Honorable Patrick McDonnell
Secretary
Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063

Re: Final Rulemaking for Control of VOC Emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing and Rework; and Additional RACT Requirements for Major Sources of NOx and VOCs (RACT 2) (25 Pa. Code Chapters 121 and 129)

Dear Secretary McDonnell:

On February 20, 2018, the Citizens Advisory Council (“CAC” or “Council”) discussed the final rulemaking draft Annex A to amend 25 Pa. Code Chapters 121 and 129 (relating to general provisions and standards for sources). The final rulemaking draft Annex A adds provisions to Chapter 129 at § 129.63a to reduce volatile organic compound (VOC) emissions from the use and application of industrial cleaning solvents not regulated elsewhere in Chapter 129. These industrial cleaning solvents are used to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil, grease, or the like, from a cleaning unit operation production-related work area or from a part, product, tool, machinery, equipment, vessel, floor, wall, or the like.

The amendments for industrial cleaning solvents are designed to meet the Clean Air Act “reasonably available control technology” (RACT) requirements for ozone nonattainment areas. The VOC emission limits and work practice standards are consistent with the recommendations of the United States Environmental Protection Agency set forth as RACT in the 2006 Control Techniques Guidelines for Industrial Cleaning Solvents. The final rulemaking draft Annex A also includes revisions to §§ 121.1 and 129.73 (relating to definitions; and aerospace manufacturing and rework), and several minor amendments to correct grammatical, typographic or numberings errors.

Honorable Patrick McDonnell
Secretary
Department of Environmental Protection
February 20, 2018
Page 2

Clarifying amendments have been added to §§ 129.96, 129.97, 129.99, and 129.100 under Additional RACT Requirements for Major Sources of NOx and VOCs (RACT 2) to update the VOC presumptive RACT regulations for which RACT 2 does not apply. RACT 2 was promulgated April 23, 2016 (46 Pa. B. 2036).

Council voted to concur with the Department's recommendation to present the final rulemaking amendments to the Environmental Quality Board for consideration for adoption and publication as a final rulemaking.

Sincerely,



Donald S. Welsh, Chair
Citizens Advisory Council

cc: Krishnan Ramamurthy, Director, PA DEP BAQ
Randy Bordner, PA DEP BAQ
Kirit Dalal, PA DEP BAQ
Susan Hoyle, PA DEP BAQ
Jesse Walker, PA DEP BRC
Lee Ann H. Murray, Esq., CAC

FACE SHEET
FOR FILING DOCUMENTS
WITH THE LEGISLATIVE REFERENCE
BUREAU

(Pursuant to Commonwealth Documents Law)

RECEIVED
IRRC

2018 MAY 11 A 11:33

DO NOT WRITE IN THIS SPACE

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

By: _____
(Deputy Attorney General)

DATE OF APPROVAL _____

Check if applicable
Copy not approved. Objections attached.

Copy below is hereby certified to be true and
correct copy of a document issued, prescribed or
promulgated by:

DEPARTMENT OF ENVIRONMENTAL
PROTECTION
ENVIRONMENTAL QUALITY BOARD
(AGENCY)

DOCUMENT/FISCAL NOTE NO. 7-492

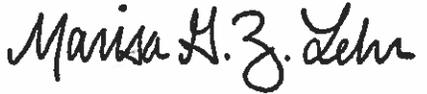
DATE OF ADOPTION APRIL 17, 2018

BY: 

TITLE PATRICK MCDONNELL
CHAIRMAN

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

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

BY: 

APR 24 2018
DATE OF APPROVAL

(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 FINALRULEMAKING

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

Control of VOC Emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing
and Rework; and Additional RACT Requirements for Major Sources of NO_x and VOCs

25 Pa. Code Chapters 121 and 129

**FINAL RULEMAKING
ENVIRONMENTAL QUALITY BOARD
[25 PA CODE CHS. 121 AND 129]
Control of VOC Emissions from Industrial Cleaning Solvents;
General Provisions; Aerospace Manufacturing and Rework; and
Additional RACT Requirements for Major Sources of NO_x and VOCs**

The Environmental Quality Board (Board) amends Chapters 121 and 129 (relating to general provisions; and standards for sources) to read as set forth in Annex A. This final-form rulemaking amends Chapter 129 to add § 129.63a (relating to control of VOC emissions from industrial cleaning solvents) to adopt reasonably available control technology (RACT) requirements and RACT emission limitations for stationary sources of volatile organic compound (VOC) emissions from industrial cleaning solvents that are not regulated elsewhere in Chapter 129 or Chapter 130 (relating to standards for products). This final-form rulemaking also amends §§ 121.1 and 129.51 (relating to definitions; and general) to support the addition of § 129.63a; § 129.73 (relating to aerospace manufacturing and rework) to correct a numbering error in the table of VOC content limits; and §§ 129.96, 129.97, 129.99 and 129.100, which were recently promulgated for additional RACT requirements for major sources of nitrogen oxides (NO_x) and VOCs (RACT 2) to update the list of presumptive VOC RACT regulations for which RACT 2 does not apply and to clarify certain requirements.

This final-form rulemaking will be submitted to the United States Environmental Protection Agency (EPA) for approval as a revision to the Commonwealth's State Implementation Plan (SIP) following promulgation of the final-form regulation.

This order was adopted by the Board at its meeting of April 17, 2018.

A. Effective Date

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

B. Contact Persons

For further information, contact Kirit Dalal, Chief, Division of Air Resource Management, Bureau of Air Quality, Rachel Carson State Office Building, P.O. Box 8468, Harrisburg, PA 17105-8468, (717) 772-3436; or Jesse C. Walker, Assistant Counsel, Bureau of Regulatory Counsel, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This final-form rulemaking is available on the Department of Environmental Protection's (Department) web site at www.dep.pa.gov (select "Public Participation," then "Environmental Quality Board").

C. Statutory Authority

This final-form rulemaking is authorized under 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. Section 5(a)(8) of the APCA also grants the Board the authority to adopt rules and regulations designed to implement the provisions of the Clean Air Act (CAA) (42 U.S.C.A. §§ 7401—7671q).

D. Background and Purpose

The purpose of this final-form rulemaking is to implement control measures to reduce VOC emissions from industrial cleaning solvents used and applied during cleaning unit operations at facilities which are not regulated elsewhere in Chapter 129 or Chapter 130. Industrial cleaning solvents are used or applied in a cleaning activity to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil or grease, from a cleaning unit operation or work production-related work area or from a part, product, tool, machinery, equipment, vessel, floor or wall. This final-form rulemaking also amends §§ 129.96, 129.97, 129.99 and 129.100 to clarify when the presumptive RACT requirements of §§ 129.52d, 129.52e and 129.74 (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings; control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations; and control of VOC emissions from fiberglass boat manufacturing materials) and this final-form rulemaking apply to the owner or operator of a major source of NO_x emissions or VOC emissions.

VOCs are precursors for ground-level ozone formation. Ground-level ozone, a public health and welfare hazard, is not emitted directly to the atmosphere by industrial cleaning solvents, but forms from a photochemical reaction between VOCs and NO_x in the presence of sunlight. In accordance with sections 172(c)(1), 182(b)(2)(A) and 184(b)(1)(B) of the CAA (42 U.S.C.A. §§ 7502(c)(1), 7511a(b)(2)(A) and 7511c(b)(1)(B)), this final-form rulemaking establishes VOC emission limitations and other requirements generally consistent with the EPA's recommendations in the Control Techniques Guidelines: Industrial Cleaning Solvents, EPA 453/R-06-001, Office of Air Quality Planning and Standards, EPA, September 2006 (2006 ICS CTG) as RACT for these sources in this Commonwealth. See Consumer and Commercial Products, Group II: Control Techniques Guidelines in Lieu of Regulations for Flexible Packaging Printing Materials, Lithographic Printing Materials, Letterpress Printing Materials, Industrial Cleaning Solvents, and Flat Wood Paneling Coatings, 71 FR 58745 (October 5, 2006).

The EPA is responsible for establishing National Ambient Air Quality Standards (NAAQS) for six criteria pollutants considered harmful to public health and welfare, including the environment: ground-level ozone, particulate matter, NO_x, carbon monoxide, sulfur dioxide and lead. Section 109 of the CAA (42 U.S.C.A. § 7409) established two types of NAAQS: primary standards, which are limits set to protect public health; and secondary standards, which are limits set to protect public welfare and the environment, including protection against visibility impairment and from damage to animals, crops, vegetation and buildings. The EPA established primary and secondary ground-level ozone NAAQS to protect public health and welfare.

Ground-level ozone is a highly reactive gas, which at sufficiently high concentrations can produce a wide variety of harmful effects. At elevated concentrations, ground-level ozone can

adversely affect human health, animal health, vegetation, materials, economic values, and personal comfort and well-being. It can cause damage to important food crops, forests, livestock and wildlife. Repeated exposure to ground-level ozone pollution may cause a variety of adverse health effects for both healthy people and those with existing conditions, including difficulty in breathing, chest pains, coughing, nausea, throat irritation and congestion. It can worsen bronchitis, heart disease, emphysema and asthma, and reduce lung capacity. Asthma is a significant and growing threat to children and adults. High levels of ground-level ozone affect animals in ways similar to humans. High concentrations 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 promulgated primary and secondary ozone standards at a level of 0.08 part per million (ppm) averaged over 8 hours. See 62 FR 38856 (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. See 69 FR 23858, 23931 (April 30, 2004). Based on the certified ambient air monitoring data for the 2016 ozone season as well as the preliminary 2017 ozone season data, all monitored areas of this Commonwealth are attaining the 1997 8-hour ozone NAAQS. Maintenance plans have been submitted to the EPA and approved for the 1997 ozone standard. In accordance with section 175A(a) of the CAA (42 U.S.C.A. § 7505a(a)), the maintenance plans include permanent and enforceable control measures that will provide for the maintenance of the ozone NAAQS for at least 10 years following the EPA's redesignation of the areas to attainment.

In March 2008, the EPA lowered the primary and secondary ozone NAAQS to 0.075 ppm (75 ppb) averaged over 8 hours to provide greater protection for children, other at-risk populations and the environment against the array of ozone-induced adverse health and welfare effects. See 73 FR 16436 (March 27, 2008). In April 2012, the EPA designated five areas in this Commonwealth as nonattainment for the 2008 ozone NAAQS. See 77 FR 30088, 30143 (May 21, 2012). These areas include all or a portion of Allegheny, Armstrong, Beaver, Berks, Bucks, Butler, Carbon, Chester, Delaware, Fayette, Lancaster, Lehigh, Montgomery, Northampton, Philadelphia, Washington and Westmoreland Counties. The certified 2016 ambient air monitoring data indicate that all ozone monitors in this Commonwealth, except for the Bristol and Northeast Airport monitors in Bucks and Philadelphia counties, respectively, are monitoring attainment of the 2008 ozone NAAQS. The Department's analysis of the preliminary 2017 ambient air monitoring data shows that all ozone monitors in this Commonwealth, except for the Bristol, Northeast Airport and Northwest Waste (Philadelphia County) monitors, are monitoring attainment of the 2008 ozone NAAQS. The Department must ensure that the 2008 ozone NAAQS is attained and maintained by implementing permanent and enforceable control measures.

On October 1, 2015, the EPA lowered the primary and secondary ozone NAAQS to 70 ppb averaged over 8 hours. See 80 FR 65292 (October 26, 2015). As required under section 107(d) of the CAA (42 U.S.C.A. § 7407), the Commonwealth submitted designation recommendations for the 2015 ozone NAAQS to the EPA on October 3, 2016, based on the ambient ozone concentrations from the 2013-2015 ozone seasons following opportunity for public notice and

comment. See 46 Pa. B. 5162 (August 20, 2016). The Commonwealth submitted revised designation recommendations to the EPA on April 22, 2017. See 47 Pa. B. 2387 (April 22, 2017). The EPA issued final designations for the attainment/unclassifiable areas on November 16, 2017. See 82 FR 54232 (November 16, 2017). However, the EPA has not yet issued final nonattainment area designations. The Department submitted a request to the EPA on February 20, 2018 requesting that the EPA not include “exceptional” ambient air monitoring data from the 2016 Canadian forest fires in determining the final nonattainment area designations. Based on certified ambient air monitoring data for the 2014-2016 ozone seasons, eight monitors in seven counties in this Commonwealth have design values that violate the 2015 ozone NAAQS. The monitors are in Berks, Bucks, Chester, Delaware, Lebanon, Montgomery and Philadelphia counties. If the EPA concurs on the Department’s exceptional event analysis with respect to the Fort McMurray wildfires in Alberta, Canada, from May 2016, only five monitors in this Commonwealth will have design values that violate the 2015 ozone NAAQS based on the certified data for the 2014-2016 ozone seasons. The monitors are in Bucks, Chester, Delaware, and Philadelphia counties.

Following the EPA’s designation of nonattainment areas, the Department must ensure that the 2015 ozone NAAQS is attained and maintained in these areas by implementing permanent and Federally-enforceable control measures. Reductions in VOC emissions that are achieved following the adoption and implementation of VOC RACT emission control measures for source categories covered by Control Techniques Guidelines (CTG), including the use and application of industrial cleaning solvents during a cleaning activity at a cleaning unit operation, will assist the Commonwealth in making substantial progress in achieving and maintaining the ozone NAAQS.

In this final-form rulemaking, § 129.63a adopts VOC emission limitations and other requirements consistent with the RACT recommendations in the EPA’s 2006 ICS CTG to meet the requirements of sections 172(c)(1), 182(b)(2) and 184(b)(1)(B) of the CAA. These VOC emission limitations and other requirements will apply across this Commonwealth as required under section 184(b)(1)(B) of the CAA. The control measures in § 129.63a will reduce VOC emissions from the industrial cleaning solvents source category at those affected sources that are not regulated elsewhere under Chapter 129 or Chapter 130. The VOC emission reduction measures in § 129.63a are reasonably necessary to attain and maintain the health-based and welfare-based ozone NAAQS in this Commonwealth and to satisfy related CAA requirements.

There are no Federal statutory or regulatory RACT limits for VOC emissions from industrial cleaning solvents used or applied during a cleaning activity at a cleaning unit operation. When developing the recommendations for the VOC emission reduction RACT measures included in its 2006 ICS CTG, the EPA took into account the data collected during the development of the 1994 Alternative Control Techniques (ACT) Document-Industrial Cleaning Solvents. See 2006 ICS CTG, Appendix A (Alternative Control Techniques Document-Industrial Cleaning Solvents, EPA-453/R-94-015 February 1994).

State regulations to control VOC emissions from existing stationary sources of industrial cleaning solvents used or applied during a cleaning activity at a cleaning unit operation are required under Federal law. The regulation will be reviewed and approved by the EPA as a

revision to the Commonwealth's SIP if the provisions meet the RACT requirements of the CAA and its implementing regulations. See 71 FR 58745. The EPA defines RACT as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." See 44 FR 53761 (September 17, 1979).

Section 110(a) of the CAA (42 U.S.C.A. § 7410(a)) provides that each state shall adopt and submit to the EPA a plan to implement measures (a SIP) to enforce the NAAQS or revision to the NAAQS promulgated under section 109(b) of the CAA. 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 of VOC and NO_x. 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 of the applicable ozone NAAQS. More importantly, section 184(b)(1)(B) of the CAA requires that states in the Ozone Transport Region (OTR), including this Commonwealth, submit a SIP revision requiring implementation of RACT for all sources of VOC emissions in the state covered by a specific CTG and not just for those sources that are located in designated nonattainment areas of the state. Consequently, the Commonwealth's SIP must include regulations applicable statewide to control VOC emissions from existing stationary sources of industrial cleaning solvents used or applied during cleaning unit operations at facilities that are not regulated elsewhere in Chapter 129 or Chapter 130. The ground-level ozone reduction measures included in proposed § 129.63a should achieve VOC emission reductions and lowered concentrations of ground-level ozone locally and should also reduce the amounts of VOC emissions and ground-level ozone transported to downwind states. Adoption of VOC emission reduction requirements for these sources is part of the Commonwealth's strategy, in concert with other OTR jurisdictions, to further reduce the transport of VOC ozone precursors and ground-level ozone throughout the OTR to attain and maintain the 8-hour ozone NAAQS.

Section 183(e) of the CAA (42 U.S.C.A. § 7511b(e)) directs the EPA to list for regulation those categories of products that account for at least 80% of the aggregate VOC emissions from consumer and commercial products in ozone nonattainment areas. 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 on the section 183(e) list when the EPA determines that the recommendations of the CTG, when implemented by the affected states, will be "substantially as effective as regulations" in reducing emissions of VOC in ozone nonattainment areas. In 1995, the EPA listed industrial cleaning solvents on its section 183(e) list and, in 2006, issued a CTG for this product category. See 60 FR 15264, 15267 (March 23, 1995); 71 FR 58745; and Control Techniques Guidelines: Industrial Cleaning Solvents, EPA 453/R-06-001, Office of Air Quality Planning and Standards, EPA, September 2006. The 2006 ICS CTG is available on the EPA web site at: <https://www.epa.gov/stationary-sources-air-pollution/clean-air-act-guidelines-and-standards-solvent-use-and-surface>.

In the 2006 notice of final determination and availability of final CTGs, the EPA determined that the recommendations of the 2006 ICS CTG will be "substantially as effective as National regulations" in reducing VOC emissions from the industrial cleaning solvents product category

in ozone nonattainment areas. See 71 FR 58745. The CTG provides states with the EPA's recommendation of what constitutes RACT for the covered category. State air pollution control agencies may use the Federal 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 may implement other technically-sound approaches that are consistent with the CAA requirements and the EPA's implementing regulations or guidelines.

The Department's Bureau of Air Quality reviewed the RACT recommendations regarding VOC emission reduction measures included in the 2006 ICS CTG for their applicability to the ground-level ozone reduction measures necessary for this Commonwealth. The Bureau of Air Quality determined that VOC emission reduction measures and other requirements generally consistent with the recommendations provided in the 2006 ICS CTG are appropriate to be implemented in this Commonwealth as RACT for this source category.

The types of persons, businesses, small businesses and organizations that would be affected by proposed § 129.63a vary. The 2006 ICS CTG states that the recommendations apply to industries that have to use organic solvent to conduct cleaning activities in cleaning unit operations such as mixing vessels (tanks), spray booths and parts cleaners. The cleaning activities for the removal of foreign material from the substrate being cleaned include actions (activities) such as wiping, flushing or spraying. Section 129.63a applies to the owner and the operator of a facility at which an industrial cleaning solvent is used or applied in a cleaning activity to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil or grease, in a cleaning unit operation, a work production-related work area or a part, product, tool, machinery, equipment, vessel, floor or wall, except as specified in § 129.63a(c), which lists exceptions and exemptions. A cleaning unit operation is an operation at a facility that is a source of VOC emissions from a cleaning activity. A cleaning activity is the use or application of an industrial cleaning solvent formulated with one or more regulated VOCs to remove a contaminant from a substrate or from equipment used to apply a material. Cleaning unit operations covered by § 129.63a include cleaning activities such as spray gun cleaning, spray booth cleaning, manufactured components cleaning, parts cleaning, equipment cleaning, line cleaning, floor cleaning and tank cleaning. Cleaning unit operations under § 129.63a do not include operations emitting VOCs from the use or application of consumer products subject to §§ 130.201—130.471 (relating to consumer products), including an institutional product or industrial and institutional product as defined in § 130.202 (relating to definitions) for cleaning offices, bathrooms or other areas that are not part of a cleaning unit operation or production-related work area.

This final-form rulemaking does not apply to the owner or operator of a cleaning unit operation associated with certain categories specified under exceptions and exemptions in § 129.63a(c). Subsection (c)(1) specifies industry sectors and product categories that are exempt from § 129.63a. Subsection (c)(2) specifies that the VOC emission limitations of subsection (e) do not apply to the use or application of an industrial cleaning solvent by the owner or operator of a cleaning unit operation at a facility subject to subsection (a) under certain circumstances: if the use or application of the industrial cleaning solvent is subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration or other Federal government entity; or if the use or application of the industrial cleaning solvent is

associated with the cleaning of screen printing equipment and the industrial cleaning solvent used or applied has an as applied VOC content that does not exceed 4.2 pounds of VOC per gallon (lb VOC/gal) (500 grams of VOC per liter (g VOC/l)). An owner or operator claiming one of these exemptions is subject to specified recordkeeping and reporting requirements.

Subsection (c)(3) specifies that the VOC emission limitations of subsection (e) and the work practice requirements of subsection (f) do not apply to the owner or operator of a facility subject to subsection (a) if the total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. An owner or operator claiming this exemption is subject to specified recordkeeping and reporting requirements.

The EPA estimated that there were as many as 166 facility owners and operators in this Commonwealth that would be subject to the recommended 2006 ICS CTG control measures. The Department expects that the universe of potentially affected facility owners and operators could be larger than the group of 166 facility owners and operators identified by the EPA due to the threshold of 2.7 tons (2,455 kilograms) of VOC emissions per 12-month rolling period, before consideration of controls, for implementing the VOC emission control measures. This threshold is equivalent to an average daily emission rate of 15 pounds (6.8 kilograms) of VOC emissions per day, which is equivalent to the evaporation of approximately 2 gallons of VOC-containing industrial cleaning solvent per day. The Department therefore requested the assistance of the Commonwealth's Small Business Development Center's (SBDC) Environmental Management Assistance Program (EMAP) in generating a list of potentially affected businesses in this Commonwealth. The Department's assessment of the number of owners and operators of facilities potentially subject to § 129.63a resulted from reviewing information obtained from the SBDC EMAP as well as information from databases maintained by the Department. The Department also reviewed the methodology of an analysis prepared in 2010 by E.H. Pechan & Associates, Inc. (Pechan) for the State of Texas. The Pechan analysis was used by Texas Department of Environmental Quality (DEQ) staff to assess the impact of their industrial cleaning solvents proposed rulemaking. The Department applied a process similar to the one used by Pechan in Texas to delineate the number of Pennsylvania businesses that may be impacted by proposed § 129.63a. The results apply equally to the final-form rulemaking.

The EPA listed 469 North American Industry Classification System (NAICS) codes for identifying businesses potentially covered by the 2006 ICS CTG recommendations. The complete list is found in the 2006 ICS CTG in Appendix C, Summary of NAICS Codes for nonattainment facilities estimated to meet the applicability criteria recommended in this CTG. As noted by Pechan for the Texas DEQ, this list of NAICS codes provided by the EPA includes cleaning unit operations at source categories for which VOC emission control regulations already exist in Chapter 129 and Chapter 130. Further, it is important to note that a business owner or operator may select and report the NAICS code of its own choosing. Prior experience by Department staff has shown that this self-reporting of NAICS codes is problematic when trying to accurately identify potentially affected facility owners and operators in this Commonwealth.

The SBDC EMAP provided the Department with a list of potentially affected businesses in this Commonwealth using the 469 NAICS codes included in the 2006 ICS CTG. The initial list identified 144,222 facilities of all sizes. It is likely that many of the facility owners and operators identified by the SBDC EMAP solely through the use of the EPA list of NAICS codes may be subject to other regulations codified in Chapter 129 and Chapter 130 and therefore not subject to § 129.63a. The Department cross-referenced the NAICS codes from the SBDC EMAP list of 144,222 facilities with the list of NAICS codes generated by Pechan as likely being subject to the Texas industrial cleaning solvents rulemaking. Ten NAICS codes from the Pechan Texas report list were identified in the SBDC EMAP list. This cross-referencing reduced the number of potentially affected facility owners and operators in this Commonwealth to 45,718. From Pechan's analysis, it was further determined that only about 1.26% of identified facilities in Texas would be subject to the Texas industrial cleaning solvents rulemaking. Applying the same percentage to the Commonwealth's 'universe' of 45,718, it is estimated that as many as 576 ($45,718 \times 1.26\%$) facility owners and operators in this Commonwealth may potentially be subject to § 129.63a. Also from the Pechan analysis, it was determined that 44% of the potentially subject facilities in Texas were likely small businesses. Applying this percentage to the potentially subject group of 576 facility owners and operators identified by the SBDC EMAP, the Department estimated that 253 ($576 \times 44\%$) facility owners and operators may be small businesses.

The Department also gathered information about potentially affected facility owners and operators from the "Environmental Facility Application Compliance Tracking System" (eFACTS) database and the "Air Information Management System" (AIMS) database. These are Department permitting and air emissions databases that share data and interface with each other. The eFACTS database contains facility-specific information, including the NAICS code, for permitted facilities and for some previously inspected facilities for which permits are not required. The AIMS database contains site-specific source and air pollutant emissions data, as well as NAICS codes, to maintain the air pollutant emissions inventory. The eFACTS and AIMS database systems do not provide an exhaustive list of all facility owners and operators that conduct industrial cleaning solvent activities in this Commonwealth. The databases include only those facility owners and operators with which the Department has had contact and for which the Department has a reason to input data; these are usually the largest emitters of air pollutants, which may or may not meet the definition of "small business" in accordance with Section 3 of the Regulatory Review Act. This database analysis revealed that the owners or operators of approximately 3,154 facilities in this Commonwealth have a permit issued by the Department that includes provisions for the control of VOC emissions from industrial cleaning solvent processes. Using the factor of 1.26% developed by Pechan for the Texas analysis, the Department estimates that approximately 40 ($1.26\% \times 3,154$) of these permitted facility owners and operators would be subject to § 129.63a. The remaining 3,114 permitted facility owners and operators are likely subject to cleaning solvent requirements codified elsewhere in Chapter 129 or Chapter 130 and therefore reflected in the exceptions listed in § 129.63a(c). Of the potentially affected 40 permitted facility owners and operators, the Department applied the 44% factor developed by Pechan to calculate that as many as 18 ($40 \times 44\%$) facility owners and operators identified from the Department's databases may be small businesses.

On January 24, 2018, the Department briefed the Small Business Compliance Advisory Committee (SBCAC) on this final-form rulemaking and on the comments received on the proposed rulemaking. The SBCAC recommended the Department conduct education and outreach for the regulated community on this final-form rulemaking. The Department initially added language to the draft final-form rulemaking Annex A in § 129.96 to address comments of the EPA and the Independent Regulatory Review Commission (IRRC) regarding retroactive applicability of § 129.63a(a); this language was in the draft final-form rulemaking Annex A provided to the SBCAC, denoted in bolded capitals as § 129.63a(e), (f) and (g). However, in further considering the comments provided by the EPA and IRRC prior to the SBCAC meeting, the Department concluded that this additional language created unnecessary complexity and determined that the language would be removed. The Department advised the SBCAC during the January 2018 meeting of its intent to remove draft § 129.63a(e), (f) and (g) from the draft final-form rulemaking Annex A. The SBCAC voted unanimously (6-0-0) to concur with the Department's recommendation to move this final-form rulemaking forward to the Board for consideration. On February 8, 2018, the Department briefed the Air Quality Technical Advisory Committee (AQTAC) on this final-form rulemaking and on the comments received on the proposed rulemaking. The AQTAC members had no concerns and voted unanimously (14-0-0) to concur with the Department's recommendation to move this final-form rulemaking forward to the Board for consideration. The Department discussed this final-form rulemaking with the Citizens Advisory Council's (CAC) Policy and Regulatory Oversight Committee on February 9, 2018. On the recommendation of the CAC's Policy and Regulatory Oversight Committee, on February 20, 2018, the CAC concurred with the Department's recommendation to move this final-form rulemaking to the Board. Advisory committee meetings are advertised and open to the public.

E. Summary of Final-Form Rulemaking and Changes from Proposed to Final-Form Rulemaking

§ 121.1. Definitions.

An error in the definition of "cleaning solvent" is corrected by inserting a comma. Changes were not made to § 121.1 from proposed.

§ 129.51. General.

Subsection (a) is amended to establish that compliance with § 129.63a may be achieved by alternative methods.

Subsection (a)(3) is amended to establish that compliance with the applicable emission limitation in § 129.63a by a method other than the use of compliant materials shall be determined on the basis of equal volumes of solids.

Subsection (a)(6) is amended to establish that the alternative compliance method must be 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 § 129.63a.

Changes were not made to § 129.51 from proposed.

§ 129.63a. Control of VOC emissions from industrial cleaning solvents.

Under subsection (a), this section applies to the owner and the operator of a facility at which an industrial cleaning solvent is used or applied in a cleaning activity to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil or grease, from a cleaning unit operation or production-related work area or from a part, product, tool, machinery, equipment, vessel, floor or wall.

Subsection (b) establishes four terms and their definitions to be used in this section. The terms are “cleaning activity,” “cleaning unit operation,” “industrial cleaning solvent” and “regulated VOC.” The term “cleaning unit operation” is amended in subparagraph (ii)(A) to (H) in response to a comment received from the EPA and IRRC on the proposed rulemaking. Descriptive and clarifying language was added to each of the cleaning activity categories listed under the term. Subparagraph (ii)(I) is deleted. The definition of “industrial cleaning solvent” is amended in response to a comment received from the EPA and IRRC on the proposed rulemaking. The definition now specifies that an industrial cleaning solvent is a product formulated with one or more regulated VOCs that is used in a cleaning activity for a cleaning unit operation.

Subsection (c) establishes exceptions and exemptions for specific circumstances. The exceptions in subsection (c)(1) include cleaning unit operations subject to § 129.63 (relating to degreasing operations) or 40 CFR Part 63, Subpart T (relating to National emission standards for halogenated solvent cleaning), cleaning unit operations associated with a source category covered by a regulation elsewhere in Chapter 129 or Chapter 130 and cleaning unit operations associated with certain other specified source categories. Subsection (c)(1)(ii) is amended to clarify the exception for aerospace coatings. The category is revised to “aerospace manufacturing and rework operations” as recommended by industry commentators and IRRC.

Subsection (c)(2) establishes that the VOC emission limitations of subsection (e) do not apply to the use or application of an industrial cleaning solvent by the owner or operator of a cleaning unit operation at a facility subject to subsection (a) that uses or applies an industrial cleaning solvent subject to a standard or specification required by a Federal government entity or that uses or applies an industrial cleaning solvent associated with the cleaning of screen printing equipment when the as applied industrial cleaning solvent VOC content is 4.2 lb VOC/gal (500 g VOC/l) of industrial cleaning solvent or less. This subsection is amended so as not to identify the industrial cleaning solvents as “noncomplying,” in response to comments made by the EPA and IRRC.

Subsection (c)(3) establishes that the VOC emission limitations of subsection (e) and the work practice requirements of subsection (f) do not apply to the owner or operator of a facility subject to subsection (a) if the total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. These owners and operators are subject to the recordkeeping and reporting requirements of subsection (h). Changes were not made to subsection (c)(3) from proposed.

With regard to the exceptions and exemptions of subsection (c), the Board requested comment in the proposed preamble on the need to establish an exemption for the use and application of an industrial cleaning solvent subject to a standard or specification required by a plastic recycling operation. Comments were not received and changes were not made from proposed.

Subsection (d) establishes that the requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a cleaning unit operation subject to this section prior to _____ (*Editor's Note: The blank refers to the effective date of adoption of this final-form rulemaking.*) under §§ 129.91—129.95 (relating to stationary sources of NO_x and VOCs) to control, reduce or minimize VOCs from cleaning unit operation cleaning activities at the facility, except to the extent the RACT permit contains more stringent requirements.

Subsection (e) establishes that, beginning _____ (*Editor's Note: The blank refers to the effective date of adoption of this final-form rulemaking.*), the owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, may not cause or permit the emission into the outdoor atmosphere of VOCs from an industrial cleaning solvent used or applied in a cleaning unit operation subject to this section at the facility, unless the industrial cleaning solvent meets one of the two specified emissions limitation options. The first emissions limitation option is to use an industrial cleaning solvent with either a VOC content less than or equal to 0.42 lb VOC/gal (50 g VOC/l) as applied or a VOC composite vapor pressure less than or equal to 8 millimeters mercury (mmHg) at 68°F (20°C) as applied. The second emissions limitation option is to use a VOC emissions capture system and an add-on air pollution control device that is acceptable under § 129.51(a) to reduce the weight of VOCs emitted to the atmosphere from cleaning unit operation cleaning activities. The overall emission reduction of a control system, as determined by the test methods and procedures specified in Chapter 139 (relating to sampling and testing), may be no less than 85% or may be no less than the equivalent efficiency as calculated by the specified equation, whichever is less stringent. As with all RACT regulations, an owner or operator with VOC emissions at or above the threshold to implement the VOC emission control measures remains subject to the VOC emission control requirements of § 129.63a even if the VOC emissions from the affected sources fall below the emissions threshold for implementation of the VOC emission control measures.

Subsection (e) establishes the emissions threshold of 2.7 tons (2,455 kilograms) of VOC per 12-month rolling period, before consideration of controls, for consistency with other SIP-approved regulations in Chapter 129 and with SIP-approved requirements in other states. Emission levels at, above and below this threshold will determine with which other specified requirements a subject facility owner or operator must comply, including VOC emission limitations, work practice requirements, and recordkeeping and reporting requirements. The emission of 2.7 tons (2,455 kilograms) of VOCs per 12-month rolling period is equivalent to an average daily emission rate of 15 pounds (6.8 kilograms) per day, which is equivalent to the evaporation of approximately 2 gallons of industrial cleaning solvent per day. The Board requested comment on whether the emissions threshold should be established at 15 pounds (6.8 kilograms) of VOC per day as recommended by the 2006 ICS CTG. Comments were not received regarding the 15 pounds (6.8 kilograms) of VOC per day threshold. The Board, however, received a comment

supporting the proposed 2.7 tons of VOC per 12-month rolling period. The emissions threshold of 2.7 tons (2,455 kilograms) per 12-month rolling period provides greater flexibility for small businesses by providing the opportunity to average subject emissions over 12 months by adding the most recent month of data to the 12-month rolling period and dropping the oldest month of data. An affected owner or operator with 1 or more days of VOC emissions higher than 15 pounds (6.8 kilograms) may average those emissions over the month and the 12-month rolling period to maintain an emission rate below the 2.7 tons (2,455 kilograms) per 12-month rolling period and thereby not be required to implement the VOC emission control measures. If the threshold for implementing the VOC emission controls were 15 pounds (6.8 kilograms) per day, an affected owner or operator with just 1 day of 15 pounds (6.8 kilograms) or more of emissions would be required to implement the VOC emission control measures, regardless of whether the level of emissions on the other days of operation was consistently below the 15 pounds (6.8 kilograms) per day.

Subsection (f) establishes work practice requirements for industrial cleaning solvents, used shop towels and waste materials.

Subsection (g) establishes requirements for affected owners and operators to demonstrate compliance.

Subsection (h) establishes recordkeeping and reporting requirements.

Subsection (i) establishes procedures for determining the composite vapor pressure of organic compounds in cleaning unit operation industrial cleaning solvents.

Subsection (j) establishes procedures for determining the vapor pressure of each single component compound in a cleaning unit operation industrial cleaning solvent.

Subsection (k) establishes ASTM method references.

Changes were not made to subsections (a), (d), (e), (f), (g), (h), (i), (j) and (k) from proposed.

§ 129.73. Aerospace manufacturing and rework.

Table II (relating to allowable content of VOCs in aerospace coatings) is amended to correct a numbering error that was promulgated at 29 Pa. B. 1879 (April 10, 1999). The coating type, "high-temperature coating," was numbered incorrectly as (20)(a) and is renumbered as (21). The succeeding coating types are renumbered accordingly. The title of Table II is revised to delete the redundant phrase "allowable VOC content." Changes were not made from proposed.

§ 129.96. Applicability

Subsections (a) and (b) are amended from proposed to address comments from the EPA and IRRC that the proposed changes to this section created an issue with respect to retroactive applicability. Subsection (a) is amended to clarify that the owner or operator of a major NO_x emitting facility or a major VOC emitting facility that was in existence on or before July 20,

2012, that is subject to a presumptive RACT requirement or presumptive RACT emission limitation under § 129.52d, § 129.52e or § 129.63a is also subject to §§ 129.96—129.100 and had to comply with the applicable provisions by January 1, 2017.

Subsection (b) is amended to clarify that the requirements of §§ 129.96—129.100 do not apply to the owner or operator of a NO_x emitting facility or a VOC emitting facility when the installation of a new source or a modification or change in operation of an existing source after July 20, 2012, results in the source or facility meeting the definition of a major NO_x emitting facility or a major VOC emitting facility and for which a presumptive RACT requirement or a presumptive RACT emission limitation has been established under § 129.52d, § 129.52e, § 129.63a or 129.74.

§ 129.97. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule

§ 129.99. Alternative RACT proposal and petition for alternative compliance schedule

§ 129.100. Compliance demonstration and recordkeeping requirements

Sections 129.97(k)(1)(ii) and 129.99(i)(1)(ii) (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) are amended to add the phrase “or major VOC emitting facility” for clarity. An owner or operator of a source that meets the definition of a major NO_x emitting facility, who seeks an alternative compliance schedule under either of these sections, must submit a petition requesting an alternative compliance schedule by the later of October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility. The same applies to an owner or operator of a major VOC emitting facility.

Subsection 129.100(a) (relating to compliance demonstration and recordkeeping requirements) is amended to add the word “RACT” in two places for clarity.

Changes were not made to §§ 129.97, 129.99 and 129.100 from proposed.

F. Summary of Major Comments and Responses

The Board approved publication of the proposed rulemaking at its meeting on March 21, 2017. The proposed rulemaking was published at 47 Pa. B. 3356 (June 17, 2017). Three public hearings were held on July 18, 19 and 20, 2017, in Norristown, Pittsburgh and Harrisburg, respectively. A 66-day public comment period closed on August 21, 2017. Public comments were received from seven public commentators, including the EPA. IRRC separately provided comments on the proposed rulemaking. The comments received on the proposed rulemaking are summarized in this section and are also addressed in a comment and response document which is available from the Department.

IRRC Criteria

IRRC commented that EPA Region III cited several concerns in its comments related to § 129.63a and the proposed amendments to § 129.96. IRRC explained that, because the EPA's comments relate to IRRC's criteria regarding implementation, ambiguity, reasonableness and clarity, IRRC shares the EPA's concerns and incorporates them into IRRC's comments on the proposed rulemaking. IRRC commented that the Board should carefully review the EPA's comments and work closely with the EPA to make the necessary amendments to bring this regulation into compliance with Federal requirements. IRRC indicated that it will consider the Board's response to the EPA in making a final determination as to whether the regulation is in the public interest. After the Department carefully considered the comments of IRRC and the EPA (as well as all other comments) and held discussions with EPA Region III, the Department amended the proposed rulemaking, as appropriate. The most significant EPA comments incorporated by IRRC are discussed in this section of the preamble.

Applicability

The EPA commented that the emissions threshold at which a facility owner or operator becomes subject to the emissions limitations and work practice standards under §§ 129.63a(e) and 129.63a(f) of the proposed rulemaking, 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, should be included in the general applicability provision, § 129.63a(a), for clarity and ease of implementation. After careful consideration, the Board decided, however, not to move the emissions threshold to § 129.63a(a) because including it under the general applicability subsection could cause confusion. For instance, owners and operators of facilities with total VOC emissions below the 2.7 tons per 12-month rolling period emissions threshold, before consideration of controls, might only read § 129.63a(a) and incorrectly assume that no portion of § 129.63a applies to them. The Board retained the general applicability of § 129.63a(a) without changes in this final-form rulemaking.

Exemptions and Alternatives to § 129.63a

Two commentators expressed concern that the exemption for "aerospace coatings" in § 129.63a(c)(1)(ii)(A) could be interpreted to limit the exemption to aerospace solvent cleaning activities associated with coatings only. The commentators asserted that the interpretation would be contrary to the EPA's Aerospace CTG, the 2006 ICS CTG, and the Pennsylvania Aerospace regulation under § 129.73, and that it is not feasible to use low VOC or aqueous industrial cleaning solvents for all operations at their aerospace manufacturing and rework facilities. The commentators suggested that § 129.63a(c)(1)(ii)(A) be amended by changing the exemption category name from "Aerospace Coatings" to "Aerospace Manufacturing and Rework Operations." IRRC also asked the Board to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation. Upon consideration of the commentators' concerns, the Board revised the category name to "Aerospace Manufacturing and Rework Operations." This revision clarifies that non-coating applications conducted during aerospace manufacturing and rework operations are exempt from this rulemaking.

A commentator noted that the regulation should include a specific categorical exemption in § 129.63a(c) to exclude emission sources that have previously proposed or established RACT in accordance with the alternative RACT requirements of §§ 129.96—129.100. IRRC also asked the Board to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation. The EPA 2006 ICS CTG, however, does not provide for a categorical exemption or alternative RACT approach in a State's regulations for control of VOC emissions from industrial cleaning solvents. For this reason, this final-form rulemaking was not amended. Further, the commentator's battery cleaning operations fit under the exempted category of electrical and electronic components in § 129.63a(c)(1)(ii)(Z).

A commentator noted that it is technically infeasible to use an alternative non-VOC or low-VOC content industrial cleaning solvent as a wiping solution for battery cleaning operations. IRRC asked the Board to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation. Upon consideration of the commentators' concerns, the Board made no changes to this final-form rulemaking. The assertion of technical infeasibility of using alternative solvent wiping solutions in battery cleaning operations is already addressed by the exemption of electrical and electronic components, which includes battery manufacturing, in § 129.63a(c)(1)(ii)(Z).

A commentator noted that the regulation should include an alternative compliance option under § 129.63a(e) to allow facilities to propose alternative RACT conditions to the Department in accordance with the provisions of §§ 129.96—129.100. The commentator further noted that it is technically infeasible to use alternative non-VOC or low-VOC content industrial cleaning solvent as solvent wiping solutions in battery cleaning operations and that the installation of a VOC emissions capture system and add-on pollution control device is not cost effective. The commentator notes that a "case-by-case" compliance option should be allowed for facilities that cannot meet the available compliance options due to the technical infeasibility of alternative materials or the cost infeasibility of add-on capture and control systems. IRRC also asked the Board to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation.

RACT requirements and RACT emissions limitations in the proposed rulemaking were consistent with the recommendations in the 2006 ICS CTG, which includes an Alternative Composite Vapor Pressure Limit compliance option, in which the EPA recommends inclusion of a composite vapor pressure limit of 8 mmHg at 68°F (20°C) either as a replacement for the recommended 50 g/l VOC content limit entirely, or as an alternative limit that may be used in place of the recommended 50 g/l VOC content limit for specific operations as determined by the State or local agency. The 2006 ICS CTG does not provide for other alternative compliance options and therefore no changes were made from proposed to final.

The EPA commented that the Department must further justify the exceptions in § 129.63a(c)(2), because the exceptions are not following the EPA's recommendations in the 2006 ICS CTG. In response, the Board clarified § 129.63a(c)(2) by removing the term "noncomplying." The EPA also requested "further justification" for the exceptions.

The exceptions in this final-form rulemaking are consistent with the EPA's 2006 ICS CTG. The requested further justification is as follows:

Federal Agency Requirements. Major sources of VOC falling under the exception in § 129.63a(c)(2)(i) for the use or application of industrial cleaning solvent subject to a standard or specification required by the U.S. Department of Defense, Federal Aviation Administration or other Federal government entity, are still required to meet RACT under the requirements of §§ 129.96—129.100. The Board created the exception pertaining to Federal agency requirements because it determined that meeting the VOC requirements in this final-form rulemaking may not be technically feasible or reasonable when operations must use a particular solvent specified by Federal agencies that are acting to protect public health or safety. The EPA approved exceptions for industrial cleaning solvent operations in New Hampshire and Connecticut based on similar reasoning. Consequently, the Board retained this exception in this final-form rulemaking.

Screen Printing. Screen printing technology in this Commonwealth is not different from screen printing technology in other states. The Department reviewed Connecticut's screen printing industrial cleaning solvents rule because the EPA has previously advised other states to review Connecticut's industrial cleaning solvent standards regarding RACT for screen printing operations. The EPA has approved SIP revisions for other states, including Ohio and Indiana, which also incorporated the Connecticut industrial cleaning solvent standards for screen printing operations. The EPA approved the same RACT standard for New Jersey in 2017. During the public comment period, Specialty Graphic Imaging Association (SGIA) agreed that the Board's exception and alternate VOC content of 4.2 lb/gallon as applied constitutes RACT for the industry. Based on recommendations and approvals made by the EPA, and the comments provided by SGIA, the Board finalized the exception for the use or application of industrial cleaning solvent associated with the cleaning of screen printing equipment. The Board did not amend the exception in this final-form rulemaking.

Definitions

The EPA expressed concern that the definition provided in § 129.63a(b) for "industrial cleaning solvent" is poorly worded and should be revised to be consistent with the 2006 ICS CTG. The EPA recommended that the Department consider the State of Georgia's definition of "industrial cleaning solvent" and page 3-1 of the 2006 ICS CTG that includes a more detailed discussion for each activity. Upon consideration of the commentator's concern, the Department reviewed the State of Georgia's definition as well as other States' definitions. As a result, the final-form definition is amended as follows: "a product formulated with one or more regulated VOCs that is used in a cleaning activity for a cleaning unit operation."

The EPA recommended adding to the regulation a description or definition for each of the cleaning activities that is listed under the definition of "cleaning unit operation," consistent with Appendix C of the 2006 ICS CTG. This final-form rulemaking adds a description for each of the cleaning activities. Descriptions of cleaning activities are consistent with the descriptions of those cleaning activities in Appendix C of the 2006 ICS CTG. The cleaning activities "large

manufactured components cleaning” and “small manufactured components cleaning” have been combined in this final-form rulemaking as one cleaning activity: “manufactured components cleaning.” This change is made to streamline the compliance and enforcement of the activity “manufactured components cleaning” because the terms “large” and “small” may be subjective and ambiguous to the regulated community. The EPA did not provide a precise measure in the 2006 ICS CTG to differentiate between a large manufactured component and a small manufactured component. See 2006 ICS CTG, p. C-8.

Recordkeeping and Monitoring

The EPA recommended moving the provisions in § 129.63a(h), regarding the method to estimate the composite vapor pressure, from the recordkeeping requirements portion of the regulation to the compliance demonstration requirements in § 129.63a(g) to have all the compliance requirements together.

The methods to estimate composite vapor pressure were specified in proposed §§ 129.63a(i) and (j). They are not compliance demonstration requirements; rather, they are methods to follow to meet the compliance demonstration requirements of subsection (g). For this reason, proposed subsections (i) and (j) were incorporated into the compliance demonstration requirements of subsection (g) by cross-reference in subsection (g)(3). Consequently, changes are not made from proposed.

The EPA commented that the Department should provide specific monitoring requirements for the operation of a capture system and add-on air pollution control device to ensure adequate compliance with the control requirements in § 129.63a(e)(2). This final-form rulemaking was not amended to provide specific monitoring requirements for the operation of a capture system and add-on air pollution control device because the monitoring requirements are determined on a case-by-case basis during the permitting process. Adequate standards already exist in the Department’s regulations to guide this determination.

Retroactive Applicability Issues of § 129.96

The EPA commented that the proposed amendments under § 129.96(a) to add §§ 129.52d, 129.52e and 129.74 would not retroactively relieve affected VOC sources subject to § 129.52d, § 129.52e or § 129.74 from the requirements of the RACT 2 regulations, which required sources subject to § 129.96(a) to comply with any applicable provisions by January 1, 2017. The Board is not making the change to add §§ 129.52d and 129.52e to § 129.96(a). However, the Board notes that there is no retroactive applicability issue with respect to existing sources subject to § 129.74, because the compliance deadline for that regulation was December 19, 2015. See § 129.74(e). Moreover, the EPA approved § 129.74 as a revision to Pennsylvania’s SIP on August 17, 2016, and the regulation meets RACT requirements for sources covered by the EPA’s CTG for fiberglass boat manufacturing materials. See 81 FR 54744 (August 17, 2016). Therefore, existing sources under § 129.74 were not subject to §§ 129.96—129.100. As a result, the Board has amended § 129.96(a) to add § 129.74.

The EPA commented that the proposed changes under § 129.96(b) are appropriate for VOC sources subject to §§ 129.52d, 129.52e and 127.74 that become subject to §§ 129.96—129.100 in the future. Section 129.96(b) is amended to add §§ 129.52d, 129.52e and 129.74.

The EPA commented that the Department must clarify the RACT level of control that would apply to VOC sources subject to these different sets of RACT requirements, specifying one set of requirements as RACT. Because the Department is required under § 129.99 to act on each RACT proposal received under the RACT 2 regulations, the Department should determine RACT on a case-by-case basis for these affected sources when acting on the individual proposals. The Department should make source-specific RACT determinations for each affected source in light of all applicable control requirements, including CTG RACT requirements such as those in §§ 129.52d, 129.52e and 129.74. Further, the Department must require RACT controls for these sources that are no less stringent than the EPA's corresponding CTG RACT requirements for these source-specific RACT determinations to be approvable into the SIP. To clarify as requested, the RACT level of control that would apply to VOC sources subject to either the RACT 2 regulations or any CTG regulation would be the more stringent set of requirements.

The EPA commented that in describing the amendments to § 129.96, the preamble of the proposed rulemaking did not list § 129.63a as a regulation to be excluded. If the Department's intention is to exclude CTG RACT sources from the RACT 2 regulations, then the Department should clearly state that in the preamble and include § 129.63a. Proposed § 129.96(a) included § 129.63a in the range of §§ 129.54—129.69. To address the concern raised by the EPA of retroactively relieving affected sources subject to § 129.63a from the applicability of §§ 129.96—129.100, final-form § 129.96(a) is amended to exclude § 129.63a. Further, § 129.96(b) includes § 129.63a in the range of §§ 129.54—129.69 for affected sources that become subject to §§ 129.96—129.100 in the future.

G. Benefits, Costs and Compliance

Benefits

The Board estimates that the owners and operators of as many as 576 facilities across this Commonwealth may potentially be subject to § 129.63a, of which as many as 253 may meet the definition of small business as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012. It is possible that far fewer than 576 facility owners and operators will be subject to this section, depending on whether the VOC emissions are from a cleaning unit operation subject to an existing regulation codified in Chapter 129 or Chapter 130 or qualify for an exemption under subsection (c).

Using data from the 2002 National Emissions Inventory database, the EPA provides in the 2006 ICS CTG that of the total VOC emissions from solvent cleaning operations Nationally (64,000 megagrams per year (Mg/yr); 71,000 tons per year (tpy)), approximately 4,000 Mg/yr (4,400 tpy) were from degreasing operations that use industrial cleaning solvents. The Department regulates the VOC emissions from degreasing operations under existing § 129.63. The remaining 60,000 Mg/yr (66,600 tpy) were from the other solvent cleaning activities that are the subject of

proposed § 129.63a. Therefore, of the total VOC emissions from solvent cleaning operations of 71,000 tpy, approximately 6% of those emissions were from degreasing operations and approximately 94% were from other industrial cleaning solvent cleaning activities.

The EPA estimated that there are 166 facilities in this Commonwealth that will be affected by the recommended 2006 ICS CTG control measures, with baseline total emissions of VOC of 3,660 Mg/yr. The 3,660 Mg/yr converts to 4,034 tpy. Prorating this amount of emissions to the Board's estimated group of 576 potentially affected facility owners and operators projects total VOC emissions of as much as 13,997 tpy (576 facilities/X tpy = 166 facilities/4,034 tpy) if the VOC emissions from subject cleaning activities are not already controlled. Of the total projected VOC emissions of 13,997 tpy from the potentially affected group of 576 facility owners and operators, as much as 13,157 tpy (13,997 tpy x 94%) may be from the other solvent cleaning activities addressed by § 129.63a.

The EPA assumed that the average solvent density of uncontrolled solvent is 900 grams of solvent per liter of solvent (g/l). The EPA-recommended control limit is 50 g/l. Solvent is considered to be 100% VOC. Reducing the VOC content of industrial cleaning solvent allowed to be used in subject cleaning activities from 900 g/l to 50 g/l would be a reduction of approximately 95% or 95% control efficiency ($[(900 \text{ g/l} - 50 \text{ g/l}) / 900 \text{ g/l}] \times 100 = 95\%$).

The Department estimated the maximum amount of potential VOC emission reductions that may be generated through implementation of the control measures in § 129.63a by using the EPA's control efficiency of 95% times the estimated projected amount of total VOC emissions of 13,157 tpy. The estimated amount of VOC emission reductions from the potentially affected 576 facility owners and operators, including small businesses, could be as much as 12,499 tpy (13,157 tpy x 95%). The estimated average amount of potential VOC emission reductions per affected owner and operator could be approximately 22 tpy per affected facility (12,499 tpy/576 facilities). The amount of VOC emission reductions achieved by implementing these control measures could be less depending on the level of compliance already demonstrated by the affected facility owners and operators.

The Statewide implementation of the VOC emission control measures in § 129.63a will benefit the health and welfare of the approximately 12.77 million residents and the numerous animals, crops, ecosystems and natural areas of this Commonwealth by reducing emissions of VOCs, which are precursors to the formation of ground-level ozone air pollution. Exposure to high concentrations of ground-level ozone is a serious human and animal health and welfare threat, causing respiratory illnesses and decreased lung function as well as other adverse health effects leading to a lower quality of life. Reduced ambient concentrations of ground-level ozone will reduce the incidences of hospital admissions for respiratory ailments including asthma and improve the quality of life for citizens overall. 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 ground-level ozone while engaged in activities that involve physical exertion. High levels of ground-level ozone affect animals, including pets, livestock and wildlife, in ways similar to humans.

In addition to causing adverse human and animal health effects, the EPA has concluded that high levels of ground-level ozone affect 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.

The economic value of some welfare losses due to high concentrations of ground-level ozone can be calculated, such as crop yield loss from soybeans due to both decreased seed production and reduced size and quality of seeds and from 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. This Commonwealth's 59,000 farm families are the stewards of more than 7.7 million acres of farmland, with \$7.5 billion in cash receipts annually from production agriculture. In addition to production agriculture, the industry also raises revenue and supplies jobs through support services such as food processing, marketing, transportation and farm equipment. In total, production agriculture and agribusiness contributes nearly \$75 billion to the economy in this Commonwealth (source: Department of Agriculture).

The Department of Conservation and Natural Resources (DCNR) is the steward of State-owned forests and parks. DCNR awards millions of dollars in construction contracts each year to build and maintain the facilities in these parks and forests. Timber sales on State forest lands contribute to the \$5 billion-a-year timber industry. Hundreds of concessions throughout the park system help complete the park experience for both State and out-of-State visitors (source: DCNR). Further, this Commonwealth leads the Nation in growing volume of hardwood species, with 17 million acres in forest land. As the leading producer of hardwood lumber in the United States, the Commonwealth also leads in the export of hardwood lumber, exporting nearly \$800 million annually in lumber, logs, furniture products and paper products to more than 70 countries around the world. Recent United States Forest Service data show that the forest growth-to-harvest rate in this Commonwealth is better than 2 to 1. This vast renewable resource puts the hardwoods industry at the forefront of manufacturing in this Commonwealth. Through 2006, the total annual direct economic impact generated by the Commonwealth's wood industry was \$18.4 billion. The industry employed 128,000 people, with \$4.7 billion in wages and salaries earned. Production was 1.1 billion board feet of lumber annually (source: Strauss, Lord, Powell; Pennsylvania State University, June 2007, cited in Pennsylvania Hardwoods Development Council Biennial Report, 2009-2010).

Through deposition, ground-level ozone also contributes to pollution in the Chesapeake Bay. These effects can have adverse impacts including loss of species diversity and changes to habitat quality and water and nutrient cycles. 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 reduction of ground-level ozone air pollution concentrations directly benefits the human and animal populations in this Commonwealth with improved ambient air quality and

healthier environments. The agriculture and timber industries and related businesses benefit directly from reduced economic losses that result from damage to crops and timber. Likewise, the natural areas and infrastructure within this Commonwealth and downwind benefit directly from reduced environmental damage and economic losses.

The Statewide implementation of the control measures in § 129.63a will assist the Department in reducing VOC emissions from the specified industrial cleaning solvents activities locally and reducing the resultant local formation of ground-level ozone and transport of VOC emissions and ground-level ozone to downwind states. Statewide implementation will also facilitate enforcement of § 129.63a within this Commonwealth. The measures in § 129.63a are reasonably necessary to attain and maintain the health-based and welfare-based 8-hour ozone NAAQS and to satisfy related CAA requirements in this Commonwealth.

Section 129.63a may create economic opportunities for VOC emission control technology innovators, manufacturers and distributors through an increased demand for new or improved equipment. In addition, the owners and operators of regulated facilities may elect to install and operate an emissions monitoring system or equipment necessary for an emissions monitoring method to comply with § 129.63a, thereby creating an economic opportunity for the emissions monitoring industry.

The revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99 and 129.100 are clarifying amendments only. These revisions will not change the social or environmental impact of these sections on the health and welfare of the residents and the ecosystems and natural areas of this Commonwealth or the regulated community. The benefit of these revisions is improved clarity.

Compliance Costs

Using the EPA cost number of \$1,453 as the baseline for annual operating costs and the cost range of \$1,171 to \$1,480 to implement the recommended control measures in § 129.63a, the estimated combined total economic impact for the owners and operators of the estimated 576 potentially affected facilities, including small businesses, ranges from annual costs of as low as \$15,552 to total annual savings of \$162,432. The annual financial impact on potentially affected facility owners and operators could range from an average savings of \$282 per affected facility owner and operator to an average cost of \$27 per affected facility owner and operator. The cost effectiveness could range from a savings of approximately \$12.99 per ton of VOC emissions reduced per year (\$162,432 total savings / 12,499 tons of total VOC emissions reduced per year) to a cost of approximately \$1.24 per ton of VOC emissions reduced per year (\$15,552 costs / 12,499).

The monetized health benefits to Commonwealth residents and the economic benefits to the Commonwealth's agricultural, hardwoods and tourism industries as a result of attaining and maintaining the ground-level 8-hour ozone NAAQS, achieved in part through reduced emissions of ozone precursors from the use of compliant industrial cleaning solvents in this Commonwealth, are considerable in comparison to the costs that may be incurred by the owners and operators of potentially subject facilities to comply with § 129.63a. The EPA has estimated the monetized health benefits of attaining the 2008 and 2015 ozone NAAQS. The EPA

estimated that the monetized health benefits of attaining the 2008 8-hour ozone NAAQS range from \$8.3 billion to \$18 billion on a National basis by 2020. See Regulatory Impact Analysis, Final National Ambient Air Quality Standard for Ozone, July 2011. Prorating that benefit to the Commonwealth, based on population, results in a public health benefit of \$337 million to \$732 million. Similarly, the EPA estimated that the monetized health benefits of attaining the 2015 8-hour ozone NAAQS range from \$1.5 billion to \$4.5 billion on a National basis by 2025. See Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone, September 2015. Prorating that benefit to the Commonwealth, based on population, results in a public health benefit of \$63 million to \$189 million. The Board is not stating that these estimated monetized health benefits will all be the result of implementing the RACT measures in § 129.63a, but the EPA estimates are indicative of the benefits to Commonwealth residents of attaining and maintaining the 2008 and 2015 8-hour ozone NAAQS through the implementation of a variety of measures to control VOC emissions in the aggregate from different source categories.

The estimated combined total economic impact for the owners and operators of the 576 potentially affected facilities ranges from annual costs of \$15,552 to total annual savings of \$162,432. The worst-case scenario of annual costs of \$15,552 for the affected owners and operators is very small in comparison to the potential economic gains in public health and welfare to Commonwealth residents of attaining and maintaining the 8-hour ozone NAAQS. The estimated annual financial impact on potentially affected facility owners and operators, including small businesses, could range from an average annual savings of \$282 per affected facility owner and operator to an average annual cost of \$27 per affected facility owner and operator, again a very small financial impact on the regulated community in comparison to the potential economic gains in public health and welfare.

The Board expects that negative impacts on individuals, small businesses, labor communities and the regulated community will be minimal to none. The owner and operator of an affected facility will likely incur savings or, in the worst-case scenario, little-to-no cost to implement the requirements of § 129.63a. Common industrial cleaning solvents, such as Stoddard solvent, mineral spirits and other common solvents provided by suppliers, have vapor pressures well below the 8 mmHg limit in § 129.63a. The owners and operators of potentially affected facilities, such as automobile repair garages and metal parts manufacturing facilities, as well as other common manufacturing facilities already using these materials, will likely not need to make any changes to their industrial cleaning solvent materials.

Because of the wide availability and lower cost (compared to the installation and operation of a VOC emissions capture system and an add-on air pollution control device) of compliant VOC content industrial cleaning solvent materials, these are generally used to reduce VOC emissions from industrial cleaning solvent activities. The Board expects the regulated industry in this Commonwealth to realize cost savings because low-VOC content industrial cleaning solvent materials are readily available at a cost that is lower than the high-VOC content industrial cleaning solvent materials they replace as a result of similar requirements already in effect in neighboring states.

The VOC emission limitations established by § 129.63a will not require the submission of applications for amendments to existing operating permits. These requirements will be incorporated as applicable requirements at the time of permit renewal, if less than 3 years remain in the permit term, as specified under § 127.463(c) (relating to operating permit revisions to incorporate applicable standards). If 3 years or more remain in the permit term, the requirements will be incorporated as applicable requirements in the permit within 18 months of the promulgation of the final-form rulemaking, as required under § 127.463(b). Most importantly, § 127.463(e) specifies that “[r]egardless of whether a revision is required under this section, the permittee shall meet the applicable standards or regulations promulgated under the Clean Air Act within the time frame required by standards or regulations.” Consequently, upon promulgation as final-form rulemaking, § 129.63a will apply to affected owners and operators irrespective of a modification to the Operating Permit.

The revisions to §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99 and 129.100 are clarifying amendments only. These revisions will not change the financial impact of these sections on affected persons or the regulated community. The benefit of these revisions is improved clarity.

New legal, accounting or consulting procedures would not be required to comply with this rulemaking.

Compliance Assistance Plan

The Department plans to educate and assist the public and regulated community in understanding the requirements and how to comply with them. This will be accomplished through the Department's ongoing compliance assistance program. The Department will also work with the Small Business Assistance Program to aid the owners and operators of facilities less able to handle permitting matters with in-house staff.

Paperwork Requirements

The owner and operator of a cleaning unit operation subject to § 129.63a is required to keep records of specified information for industrial cleaning solvent materials, as applicable, sufficient to demonstrate compliance with the applicable requirements of this section for the emission levels at, above and below the threshold of 2.7 tons (2,455 kilograms) of VOC emissions per 12-month rolling period, before consideration of controls. Demonstration of VOC emission levels at, above and below this threshold determine with which other specified requirements a subject facility owner or operator needs to comply, including work practice requirements, compliance demonstration requirements and recordkeeping and reporting requirements. Section 129.63a establishes monthly recordkeeping requirements of specified parameters of industrial cleaning solvents, including VOC content and composite vapor pressure, for the owner and operator of an affected facility, regardless of the total amount of combined actual VOC emissions from subject industrial cleaning solvent unit operations at the facility. Records of operating parameters are required of the owner and operator of an affected facility if a VOC emissions capture system and an add-on air pollution control device are used to ensure compliance. Recordkeeping requirements are expected to be minimal for the affected facility owners and operators; the recordkeeping requirements for many affected facility owners and operators will likely be met by

using the monthly purchase records and material safety data sheets that most facility owners and operators already keep for other purposes. Records shall be maintained onsite for 2 years, unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit, consent decree or order issued by the Department. Records shall be submitted to the Department in an acceptable format upon receipt of a written request from the Department.

The revisions for §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99 and 129.100 are clarifying amendments only. These revisions would likely not change the legal, accounting, consulting or recordkeeping and reporting impact of these sections on the regulated entities.

H. Pollution Prevention

The Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) 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 facility owners and operators that permanently achieve or move beyond compliance.

Statewide implementation of the VOC emission control measures in § 129.63a could generate reductions of as much as 12,499 tons of VOC emissions per 12-month rolling period from the potentially affected 576 facilities, depending on the level of compliance already demonstrated by the owners and operators of these facilities. These projected estimated reductions in VOC emissions and the subsequent reduced formation of ozone will help ensure that the owners and operators of regulated facilities, farms and agricultural enterprises, hardwoods and timber industries, and tourism-related businesses, and residents of labor communities and citizens and the environment of this Commonwealth experience the benefits of improved ground-level ozone air quality.

Commonwealth residents would also potentially benefit from improved groundwater quality through reduced quantities of VOCs and hazardous air pollutants (HAP) from low-VOC content and low-HAP content industrial cleaning solvent materials. Although § 129.63a is designed primarily to address ozone air quality, the reformulation of high-VOC content cleaning solvent materials to low-VOC content cleaning solvent materials or substitution of low-VOC content cleaning solvent materials 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 reduced levels of high-VOC content and high-HAP content cleaning solvents will benefit groundwater quality through reduced loading on water treatment plants and in reduced quantities of high-VOC content and high-HAP content cleaning solvents leaching into the ground, streams and rivers.

Section 129.63a provides as one compliance option the use of compliant industrial cleaning solvent materials in proposed subsection (e)(1). Industrial cleaning solvent materials that are compliant with the proposed VOC content limit and composite vapor pressure limit are readily

available to the owners and operators of all sizes of subject facilities. Section 129.63a provides flexibility in compliance through the second option in subsection (e)(2) of installing and operating a VOC emissions capture system and an add-on air pollution control device with an overall control efficiency of at least 85% or no less than the equivalent efficiency calculated using the specified equation.

This final-form rulemaking also provides flexibility to the owners and operators potentially affected by § 129.63a by amending § 129.51(a) to extend its applicability to the owner and operator of a coating operation subject to § 129.63a. Section 129.51(a) authorizes the owner or operator to achieve compliance through an alternative method, which would achieve VOC emission reductions equal to or greater than those achieved by compliance with the proposed control measures, by submitting the alternative method to the Department for review and approval in an applicable plan approval or operating permit, or both.

However, because of the wide availability and lower cost (compared to installation and operation of VOC emissions capture systems and add-on air pollution control devices) of compliant VOC content and composite vapor pressure cleaning solvent materials, compliant cleaning solvent materials are generally expected to be used by affected owners and operators to reduce VOC emissions from industrial cleaning solvent activities subject to § 129.63a.

The implementation of the work practices for the use and application of industrial cleaning solvent materials is expected to result in a net cost savings. The recommended work practices for industrial cleaning solvent activities should reduce the amounts of industrial cleaning solvent materials used by reducing the amounts that are lost to evaporation, spillage and waste.

The revisions for §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99 and 129.100 are clarifying amendments only. These revisions would not change the pollution prevention impact of these sections.

I. Sunset Review

The Board is not establishing a sunset date for this regulation, since it is needed for the Department to carry out its statutory authority. The Department will continue to closely monitor this regulation for its effectiveness and recommend updates to the Board as necessary.

J. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on May 31, 2017, the Department submitted a copy of the notice of proposed rulemaking, published at 47 Pa. B. 3356, to IRRC and the Chairpersons of the House and Senate Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the House and Senate Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on _____, 2018, this final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met _____, 2018, and approved the final-form rulemaking.

K. *Findings*

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P. S. §§ 1201 and 1202) and regulations promulgated thereunder, 1 Pa. Code §§ 7.1 and 7.2.

(2) At least a 60-day public comment period was provided as required by law and all comments were considered.

(3) This final-form rulemaking does not enlarge the purpose of the proposed rulemaking published at 47 Pa. B. 3356.

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this preamble.

(5) These regulations are reasonably necessary to attain and maintain the ozone NAAQS and to satisfy related CAA requirements.

L. *Order*

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapters 121 and 129, are amended by adding § 129.63a and amending §§ 121.1, 129.51, 129.73, 129.96, 129.97, 129.99 and 129.100 to read as set forth in Annex A.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson of the Board shall submit this order and Annex A to IRRC and the House and Senate Committees as required by the Regulatory Review Act (71 P.S. §§ 745.1—745.14).

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(e) This final-form rulemaking will be submitted to the EPA as an amendment to the Pennsylvania SIP.

(f) This order shall take effect immediately upon publication in the *Pennsylvania Bulletin*.

Patrick McDonnell
Chairperson



pennsylvania

DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Bureau of Air Quality

**CONTROL OF
VOLATILE ORGANIC COMPOUND EMISSIONS
FROM
INDUSTRIAL CLEANING SOLVENTS; GENERAL
PROVISIONS; AEROSPACE MANUFACTURING AND
REWORK; ADDITIONAL RACT REQUIREMENTS FOR
MAJOR SOURCES OF NOX AND VOCS**

25 Pa. Code Chapters 121 and 129

47 Pa.B. 3356 (June 17, 2017)

Environmental Quality Board Regulation #7-492

(Independent Regulatory Review Commission #3173)

Comment and Response Document

Control of VOC Emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing and Rework; Additional RACT Requirements for Major Sources of NOx and VOCs

On June 17, 2017, the Environmental Quality Board (Board, EQB) published a *Pennsylvania Bulletin* notice of public hearings and written comment period on the proposed amendments to Chapter 129 (relating to standards for sources) for the control of volatile organic compound (VOC) emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing and Rework; Additional RACT Requirements for Major Sources of NOx and VOCs (47 Pa.B. 3356). The proposed rulemaking would primarily add § 129.63a (relating to control of VOC emissions from industrial cleaning solvents) to adopt VOC emission limitations and other requirements consistent with the reasonably available control technology (RACT) recommendations of the United States Environmental Protection Agency (EPA) in its 2006 Control Techniques Guidelines (CTG) for industrial cleaning solvents in this Commonwealth. See *Consumer and Commercial Products, Group II: Control Techniques Guidelines in Lieu of Regulations for Flexible Packaging Printing Materials, Lithographic Printing Materials, Letterpress Printing Materials, Industrial Cleaning Solvents, and Flat Wood Paneling Coatings*, 71 FR 58745, 58753 (October 5, 2006). The EPA's CTG document, *Control Techniques Guidelines for Industrial Cleaning Solvents*, EPA 453/R-06-001, Office of Air Quality Planning and Standards, EPA, September 2006, is available on the EPA's website at: <https://www.epa.gov/ozone-pollution/control-techniques-guidelines-and-alternative-control-techniques-documents-reducing>

The proposed rulemaking also included amendments to §§ 121.1 and 129.51 (relating to definitions; and general) to support the addition of § 129.63a, as well as amendments to § 129.73 (relating to aerospace manufacturing and rework) to correct a numbering error in the table of VOC content limits. Amendments were also proposed to §§ 129.96, 129.97, 129.99 and 129.100 under the recently promulgated regulations for additional RACT requirements for major sources of nitrogen oxides (NO_x) and VOCs (RACT 2) to update the list of presumptive VOC RACT regulations for which RACT 2 does not apply and to clarify certain requirements in the RACT 2 regulations.

The public comment period opened on June 17, 2017, and closed on August 21, 2017. Three public hearings were held on the proposed rulemaking as follows:

July 18, 2017 1:00 p.m.	Department of Environmental Protection Southeast Regional Office 4th Floor Hearing Room 2 East Main Street Norristown, PA 19401
July 19, 2017 1:00 p.m.	Department of Environmental Protection Southwest Region Office Waterfront Conference Rooms A and B 400 Waterfront Drive Pittsburgh, PA 15222

July 20, 2017
1:00 p.m.

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

This document summarizes the written comments received from the public during the public comment period. The Board invited each public commentator to prepare a one-page summary of the commentator's comments. No one-page summaries were submitted to the Board for this rulemaking. One person provided testimony during the public hearings. The Independent Regulatory Review Commission (IRRC) submitted written comments following the public comment period, which are also summarized in this document. No written comments were received from the Senate or House Environmental Resources and Energy Committees. Each comment is listed with an identifying number for each commentator that made the comment. A list of the commentators, including name and affiliation, can be found below.

The final-form regulation will be submitted to the EPA as a revision to the State Implementation Plan (SIP) upon publication in the *Pennsylvania Bulletin* as a final-form regulation.

Copies of all comments received are posted on the IRRC web site at <http://www.irrc.state.pa.us>. Search by Regulation # 7-493 or IRRC # 3173.

Table of Commentators to the Environmental Quality Board

ID	Name/Address	Submitted One-Page Summary for distribution to EQB	Provided Testimony	Requested Copy of Final Rulemaking following EQB Action
1.	Michael Kocak C.U.E. Inc. 11 Leonburg Rd Cranberry Township, PA 16066	No	No	No
2.	Emlyn Vélez Rosa US Environmental Protection Agency Region III 1650 Arch Street (3AP30) Philadelphia, PA 19103	No	No	No
3.	Rick Hartwig Specialty Graphic Imaging Assoc. (SGIA) 10015 Main Street Fairfax, Virginia 22031	No	Yes	No
4.	Michael Anderson Lockheed Martin Corporation 6000 Midlantic Drive 7 th Floor, North Tower Mt. Laurel, NJ 08054	No	No	No
5.	David Shanks Boeing EHS Policy Analysis and Strategy Mail Stop S111-2491 P.O. Box 516 St. Louis, MO 63166	No	No	No
6.	Eric Peffel Senior Air Quality Engineer East Penn Manufacturing Co., Inc. 102 Deka Rd. Lyon Station, PA 19536	No	No	No
7.	David Darling American Coating Association 901 New York Ave., NW Washington DC, 20001	No	No	No
8.	David Sumner Independent Regulatory Review Commission 333 Market Street, 14th Floor Harrisburg, PA 17101	No	No	No

Acronyms used in this Comment/Response Document

AQTAC – Air Quality Technical Advisory Committee
CAA – Clean Air Act
CTG – Control Techniques Guidelines
DEP – Pennsylvania Department of Environmental Protection
EPA – United States Environmental Protection Agency
EQB – Environmental Quality Board
FR – Federal Register
ICS – Industrial Cleaning Solvent
IRRC – Independent Regulatory Review Commission
NAICS – North American Industry Classification System
RACT – Reasonably Available Control Technology
SGIA – Specialty Graphic Imaging Association
SIP – State Implementation Plan
VOC – Volatile Organic Compound
2006 ICS CTG – The EPA’s 2006 Control Techniques Guidelines for Industrial Cleaning Solvents, EPA 453/R-06-001, September 2006

General Support of Proposed Rulemaking

1. Comment: A commentator supported the proposed rulemaking in 25 Pa. Code § 129.63a because it based the VOC applicability threshold on a 2.7 ton per 12-month rolling period. (1)

Response: The Department thanks the commentator for their support of this rulemaking.

2. Comment. A commentator concurred with the Department’s language to allow screen printing operations to use cleaning solvents with a VOC content of no more than 4.2 pounds per gallon or 500 grams per liter and that this VOC content represents RACT for the industry. (3)

Response: The Department thanks the commentator for their support of this rulemaking.

IRRC Criteria

3. Comment: The IRRC commented that the EPA, Region III, cites several concerns in its comments related to the new rule in Section 129.63a and proposed amendments to the RACT 2 rule in Section 129.96. The IRRC explained that, because EPA’s comments relate to IRRC’s criteria regarding implementation, ambiguity, reasonableness and clarity, IRRC shares EPA’s concerns and incorporates them into the Commission’s comments on the proposed regulation. IRRC commented that the EQB should carefully review EPA’s comments and work closely with EPA to make the necessary amendments to bring this regulation into compliance with Federal requirements. The IRRC indicated that it will consider EQB’s response to EPA in making a final determination as to whether the regulation is in the public interest. (8)

Response: The Department appreciates the comment. After careful consideration of the comments of IRRC and the EPA (as well as all other comments), discussions with EPA Region

III, and revisions to the proposed rulemaking as appropriate, the Department is confident that IRRC will find the final-form rulemaking to be in the public interest and not contrary to the Commission's criteria regarding implementation, ambiguity, reasonableness or clarity. Please see the Department's responses to EPA Comments 5, 10, 12-16, and 18-21.

4. Comment: The IRRC commented that members of the regulated community request revisions to and clarification of the exemptions under Subsection (c) (relating to exceptions and exemptions) and Subsection (e) (relating to emissions limitations). The IRRC asked EQB to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation. (8)

IRRC noted that comments include the following:

- Lockheed Martin asks EQB to modify the regulation to include an exemption for other non-coating application/activities that are critical to aerospace manufacturing and rework facilities. Likewise, Boeing Company states that the term "aerospace coatings" could be interpreted to limit the exemption to aerospace solvent cleaning activities associated with "coatings" only.
- East Penn Manufacturing states that it is "technically infeasible to use an alternate solvent wiping solution for battery cleaning operations" and that the use of an emissions capture system and add-on air pollution control device to abate VOC emissions from a battery cleaning operation is not cost-effective.

Response: The Department appreciates IRRC's concerns. After careful consideration of the referenced comments, the Department has clarified the proposed rulemaking and amended the final-form rulemaking as appropriate. Please see the responses to Comment 6 from Lockheed Martin and Boeing Company and to Comments 8 and 9 from East Penn Manufacturing.

Applicability

5. Comment: The EPA commented that the applicability of the emissions limitations and work practice standards under §§ 129.63a(e) and 129.63a(f) of the proposed regulation are limited to "the owner or operator of a facility at which the total combined actual volatile organic compounds (VOC) emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls." For clarity and ease of implementation, the emissions threshold requirement should also be included in § 129.63a(a), applicability. The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The EPA references the applicability of the emission limitations and work practice standards to the owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. However, the proposed rulemaking also applies to cleaning operations with total VOC emissions below the 2.7 tons per 12-month rolling period, as the owner or operator of a facility with cleaning

operations emitting less than 2.7 tons per 12-month rolling period must demonstrate that they remain below that level by maintaining monthly records. The Department did not move the emissions threshold of 2.7 tons per 12-month rolling period to § 129.63a(a) because including it under the general applicability subsection could cause confusion. For instance, if it were moved to § 129.63a(a), owners and operators of facilities with total VOC emissions below the 2.7 tons per 12-month rolling period, before consideration of controls, might only read § 129.63a(a) and incorrectly assume that no portion of § 129.63a applies to them. The Department retained the general applicability of § 129.63a(a) without changes in the final-form rulemaking.

Exemptions and Alternatives to § 129.63a

6. Comment: Two commentators expressed concern that the exemption for “aerospace coatings” in § 129.63a(c)(1)(ii)(A) can be interpreted to limit the exemption to aerospace solvent cleaning activities associated with coatings only. The commentators asserted that the interpretation would be contrary to the EPA’s Aerospace CTG, the 2006 ICS CTG, and the Pennsylvania Aerospace regulation under § 129.73, and that it is not feasible to use low VOC or aqueous industrial cleaning solvents for all operations at their aerospace manufacturing and rework facilities. The commentators suggested that § 129.63a(c)(1)(ii)(A) be amended by changing the exemption category name from “Aerospace Coatings” to “Aerospace Manufacturing and Rework Operations.” The IRRC asked EQB to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation. (4, 5, 8)

Response: The Department agrees with the commentators. The Department used the exemption category nomenclature specified on page 8 of the 2006 ICS CTG in the proposed rulemaking. The Department revised the category name from “Aerospace Coatings” to “Aerospace Manufacturing and Rework Operations” upon consideration of the commentators’ concerns. This revision clarifies that non-coating applications conducted during aerospace manufacturing and rework operations, such as hand-wipe methods to remove dirt, oil, and grease in the assembly process and composites processing, bonding, and inspection, are exempt from this rulemaking. These operations are subject to the applicable requirements of § 129.73.

7. Comment: A commentator noted that the regulation should include a specific categorical exemption to § 129.63a(c) to exclude emission sources that have previously proposed or established RACT in accordance with the alternative RACT requirements of §§ 129.96—129.100. The IRRC asked the EQB to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation. (6, 8)

Response: The Department appreciates the commentators’ concerns. Proposed § 129.63a did not include a categorical exemption for emission sources that have previously proposed or established RACT requirements in accordance with the alternative RACT requirements of § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule). Please also see the responses to Comments 8 and 9.

The “Control Techniques Guidelines: Industrial Cleaning Solvents,” EPA 453/R-06-001, Office of Air Quality Planning and Standards, EPA, September 2006 (2006 ICS CTG) provides States with recommendations to inform their own determination as to what constitutes RACT for

industrial cleaning solvents. See 2006 ICS CTG at p. 3. The Department reviewed the recommendations and determined that the control measures provided in the 2006 ICS CTG constitute RACT for industrial cleaning solvents in this Commonwealth.

The 2006 ICS CTG does not provide for a categorical exemption for alternative RACT approaches in a State's regulations for control of VOC emissions from industrial cleaning solvents. The RACT requirements and RACT emissions limitations in this final-form rulemaking are consistent with the recommendations of the 2006 ICS CTG for industrial cleaning solvents in this Commonwealth. No changes were made from proposed to final in response to this comment.

8. Comment: The commentator manufactures batteries and noted that it is technically infeasible to use an alternative non-VOC or low-VOC content industrial cleaning solvent as a wiping solution for battery cleaning operations. The IRRC asked the EQB to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation. (6, 8)

Response: The Department appreciates the commentators' concerns. Battery manufacturing falls under the general NAICS code of 335 (pertaining to electrical equipment, appliance, and component manufacturing) and a specific NAICS code of 3359 (pertaining to other electrical equipment and component manufacturing). Proposed § 129.63a(c) listed exceptions and exemptions to which proposed § 129.63a would not apply. Under proposed § 129.63a(c)(1)(ii), an owner or operator of a cleaning unit operation associated with the electrical and electronic components category in § 129.63a(c)(1)(ii)(Z) is not subject to the requirements of this ICS rulemaking. Therefore, the commentator's assertion regarding the technical infeasibility of using alternative solvent wiping solutions in battery cleaning operations is addressed by the Department through the exemption of electrical and electronic components, which includes battery manufacturing, from the requirements of § 129.63a. No changes were made from proposed to final in response to this comment.

9. Comment: The commentator noted that the regulation should include an alternative compliance option under § 129.63a(e) to allow facilities to propose alternative RACT conditions to DEP in accordance with the provisions of §§ 129.96—129.100. The commentator further noted that it is technically infeasible to use alternative non-VOC or low-VOC content industrial cleaning solvent as solvent wiping solutions in battery cleaning operations and that the installation of a VOC emissions capture system and add-on pollution control device is not cost effective. The commentator notes that a "case-by-case" compliance option should be allowed for facilities that cannot meet the available compliance options due to the technical infeasibility of alternative materials or the cost infeasibility of add-on capture and control systems. The IRRC asked the EQB to clarify and explain the reasonableness of exemptions and compliance options in the final-form regulation. (6, 8)

Response: As explained in the response to Comment 7, the RACT requirements and RACT emissions limitations in the proposed rulemaking were consistent with the recommendations in the 2006 ICS CTG. The 2006 ICS CTG does not include a case-by-case compliance option, but does include an Alternative Composite Vapor Pressure Limit compliance option, in which the EPA recommends inclusion of a composite vapor pressure limit of 8 millimeters of mercury

(mmHg) at 20 degrees Celsius, as: 1) a replacement for the recommended 50 grams per liter (g/l) VOC content limit entirely; or 2) an alternative limit that may be used in place of the recommended 50 g/l VOC content limit for specific operations as determined by the State or local agency. See 2006 ICS CTG at p. 8.

Consistent with the recommendation in the 2006 ICS CTG, the Department proposed the Alternative Composite Vapor Pressure Limit of 8 mmHg at 20 degrees Celsius as a compliant solvent option in proposed § 129.63a(e)(1) for all industrial cleaning solvent operations subject to the proposed rulemaking requirements. The Department also amended § 129.51(a) and § 129.51(a)(3) by adding § 129.63a as a section with which a person may demonstrate compliance by an alternative method that meets all of the requirements specified in § 129.51. This amendment provides owners and operators with flexibility to achieve equivalent VOC emission reductions within a facility. No changes were made from proposed to final in response to this comment.

Please see the response to Comment 8 for the discussion of alternative solvent wiping solutions in battery cleaning operations.

10. Comment: The EPA commented that DEP must further justify the exceptions in § 129.63a(c)(2), as these exceptions do not follow the recommendations in the applicable CTG. The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The Department believes that the exceptions in § 129.63a(c)(2) are consistent with the EPA's recommendations in the 2006 ICS CTG. For example, on pages 8 and 9 of the 2006 ICS CTG, the EPA recommends that States exclude from applicability those cleaning operations associated with product categories that the EPA has listed for regulation under section 183(e) of the CAA, as well as categories of cleaning operations that are specifically excluded from applicability in California's Bay Area Regulation 8 rule 4. The EPA provided the Bay Area exclusions in the CTG as examples for consideration by State and local agencies. States can adopt the recommendations in the 2006 ICS CTG and include them in their SIP revisions or adopt RACT regulations that provide for different approaches. For example, a State may offer the flexibility of requiring only work practices for a given industrial sector or cleaning operation when appropriate. See 2006 ICS CTG at p. 7.

The Department proposed the exceptions in § 129.63a(c)(2) to provide different approaches in specified situations in which achieving the VOC content limits recommended by the 2006 ICS CTG was found not to be technically feasible. During development of the proposed rulemaking, the Department briefed the Air Quality Technical Advisory Committee (AQTAC) on the draft proposed Annex A on February 20, 2014. AQTAC concerns included a request to add exemptions and exceptions for feasibility and technical concerns for specialty industries. After consideration of the comments and concerns discussed at the February 20, 2014, AQTAC meeting and further research on the requirements of other States' regulations, the Department revised the draft proposed Annex A and presented it to AQTAC for a second time on February 11, 2016. The revisions included an exemption in § 129.63a(c)(2)(i) for the use or application of a noncomplying industrial cleaning solvent that is subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration, or other Federal

government entity. Likewise, due to feasibility concerns, the revisions included an exemption in § 129.63a(c)(2)(ii) for an industrial cleaning solvent used or applied for the cleaning of screen printing equipment that has an as applied VOC content that does not exceed 4.2 lb VOC/gal (500 g VOC/l) of industrial cleaning solvent. See 47 Pa.B. 3356, 3360. These approaches were also proposed during development of industrial cleaning solvents regulations in other States. Importantly, the EPA has approved those States' SIP revisions containing these approaches.

Additionally, the Department added a clarifying amendment to § 129.63a(c)(2), described in the response to Comment 13, below.

Exception (i) - Federal Agency Requirements

The Department determined that Federal rules and requirements or Federal agency mandates that require the use of specific cleaning solvents are in place to protect public health and safety. Requesting Federal agencies to replace their rules or requirements would necessitate having long lead times for the Federal agencies to develop, test, and approve new cleaning solvents. The Department proposed the exception in § 129.63a(c)(2)(i) pertaining to Federal agency requirements because it determined that meeting the VOC requirements in the proposed rulemaking may not be technically feasible or reasonable when operations must use particular solvents specified by Federal agencies that are acting to protect public health or safety.

A similar concern was expressed when Connecticut developed its industrial cleaning solvent regulation. See comment 18 on Connecticut's proposed rulemaking and Connecticut's response on page 21 of its May 28th, 2009, Hearing Report at:

http://www.ct.gov/deep/lib/deep/air/regulations/proposed_and_reports/ctg_hearing_report_final_oct_09.pdf

The EPA approved the SIP revision containing Connecticut's regulation Section 22a-174-20, "Control of organic compound emissions, loading of gasoline and other volatile organic compounds," subsection (ii), "Industrial solvent cleaning," which included essentially the same exemption as the Department proposed. (79 FR 32873, June 9, 2014). The exemption language in Connecticut's regulation is found under Section 22a-174-20(ii)(3)(A)(viii):

(A) The requirements of this subsection shall not apply to the use of cleaning solvent as follows: ...

(viii) [i]n cleaning, including surface preparation prior to coating, necessary to meet a standard or specification issued or approved by the United States Department of Defense, Federal Aviation Administration or other Federal government entity. Any person claiming exemption pursuant to this clause shall maintain records of the standard or specification[.]

The argument made for Connecticut's exemption also applies in this Commonwealth. The RACT limitations for cleaning solvents as recommended in the 2006 ICS CTG, when necessary to meet a standard or specification issued or approved by the United States Department of Defense,

Federal Aviation Administration, or other Federal government entity do not appear to be reasonable or fit within the technical feasibility criteria of the CTG.

Major sources of VOC falling under the exception in § 129.63a(c)(2)(i) for the use or application of industrial cleaning solvent subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration, or other Federal government entity are still required to meet RACT under the requirements of §§ 129.96—129.100. Sections 129.96—129.100 apply to all major sources of VOC even if the sources are exempted from CTG-related regulations. See 46 Pa.B. 2036 (April 23, 2016). Thus, a case-by-case RACT analysis is required for any major source of VOC emissions even when the source category is exempted in a DEP regulation or when no standards or requirements are established under DEP regulations.

Consequently, the Department retained the exception for the use or application of industrial cleaning solvent that is subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration, or other Federal government entity.

Exception (ii) - Screen Printing Operations

The Department considered whether screen printing technology in Pennsylvania differs from screen printing technology in other States and determined that the processes are similar among the States. Consequently, the Department exempted screen printing operations from the VOC limits of this rulemaking and provided a VOC limit consistent with what the EPA has approved as RACT for other States.

Recommendations and approvals made by the EPA in support of regulations of nearby States support Pennsylvania's exception in § 129.63a(c)(2)(ii). For example, EPA Region II appears to have made a recommendation to New Jersey in 2017, as indicated on page 29 of New Jersey's November 6, 2017, final regulation adoption document found at:

http://www.nj.gov/dep/rules/adoption/adopt_20171106a.pdf

When analyzing Federal standards as part of its ICS VOC RACT rulemaking, the New Jersey Department of Environmental Protection wrote:

Based on stakeholder input, as discussed in the notice of proposal, the Department did not follow the ICS CTG recommendation to exclude all graphic arts printing and coating operations from the recommended VOC content limits for the cleaning solvents used in the industrial cleaning process. The Department excluded all graphic arts printing and coating operations, except screen printing, which makes the new requirement for screen printing operations at N.J.A.C. 7:27-16.24(c) more stringent than the Federal requirements. The Department based this exception on the EPA's recommendation that States consult Connecticut's ICS CTG rule (R.C.S.A. 22a-174-20(ii)(3)(C)) and on stakeholder comments that compliant solvents are readily available and are being used. As discussed in the notice of proposal Economic Impact, cleaning solvents that meet the proposed 500 g/l limit are readily available and companies that switch to compliant solvents, if they have not already done so, will not be subject to any additional burden.

Consistent with EPA Region II's recommendation for New Jersey to evaluate the Connecticut regulation, the Department consulted the Connecticut regulation, and for the same reasons as those identified by the Specialty Graphic Imaging Association (SGIA) during the public comment period for Connecticut's rulemaking, the Department determined that the alternative VOC content limits provided in the exception in the Department's final-form rulemaking represent RACT for this industry in Pennsylvania. See page 28 of the Connecticut hearing report found at:

http://www.ct.gov/deep/lib/deep/air/regulations/proposed_and_reports/ctg_hearing_report_final_oct_09.pdf

The EPA has also acknowledged this approach by approving SIP revisions for Connecticut, Ohio, Indiana, and the District of Columbia. Notably, EPA Region III approved a *full* exemption for screen printing operations included in Subsection 770.9 of the District of Columbia's "Miscellaneous Industrial Solvent Cleaning Operations" regulation when EPA Region III approved the SIP revision for the regulation on April 29, 2013 (78 FR 24992). Subsection 770.9 of the District of Columbia regulation (20 DCMR § 770.9) states:

770.1 through 770.8 [substantive requirements] shall not apply on or after January 1, 2012, to any person who owns, operates, or leases: ... (p) Cleaning and surface preparation operations related to screen printing[.]

The SGIA provided testimony and commented on the Department's proposed ICS rulemaking as the SGIA did in other States, indicating that Pennsylvania's proposed standard is RACT for the industry. The SGIA has represented that 4.2 lb VOC/gal (500 g VOC/l) is RACT and that this standard has been adopted as RACT in various States. Screen printing technology in this Commonwealth is no different than screen printing technology in these other States. The SGIA asked DEP to review their comments on other States' rulemakings and consider the standards adopted as RACT in those States. DEP did this and then, accordingly, exempted screen printing processes from the VOC limit and vapor pressure requirements in DEP's rulemaking and applied an alternative standard of 4.2 pounds of VOC per gallon (*500 grams of VOC per liter (g VOC/l)*) as the VOC content standard. The SGIA's comments on Pennsylvania's proposed rulemaking indicate that 4.2 pounds of VOC per gallon (*500 grams of VOC per liter (g VOC/l)*) is still RACT. The SGIA's comment letter on Connecticut's cleaning solvent rule can be found at: http://www.ct.gov/deep/lib/deep/air/regulations/comments_other/ctg/comments_on_general_solvent_cleaning_proposal.pdf

SGIA's testimony and comments on Pennsylvania's Industrial Cleaning Solvents rule can be found at:

<http://www.ahs.dep.pa.gov/eComment/ViewComments.aspx?enc=8YWIeHIdijzUAfiG53EkjWUbFbNHIt2STxUAwmDbHpY%3d>

Consequently, based on recommendations and approvals made by the EPA, and given the support of the SGIA, the Department made no changes from proposed to final-form rulemaking for § 129.63a(c)(2)(ii).

11. Comment: A commentator concurred with the Department's proposed language in § 129.63a(c) listing digital printing as an exempt category. Including digital printing in this exemption aligns the Commonwealth's proposed rulemaking with other States – most notably Connecticut and Ohio. (3)

Response: The Department thanks the commentator for their support of this rulemaking.

§ 129.63a(b) Definitions

12. Comment: The EPA expressed concern that the definition provided in § 129.63a(b) for "industrial cleaning solvent" is poorly worded and should be revised to be consistent with the applicable CTG document. The EPA recommended that DEP consider the State of Georgia's definition of "industrial cleaning solvent" in its regulation 391-3-1.02(2)(aaaa) and page 3-1 of the 2006 ICS CTG that includes a more detailed discussion for each activity. The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The Department thanks the commentators for the recommendation. The Department considered the State of Georgia's definition as well as other States' definitions when defining the term "industrial cleaning solvent" for the final-form rulemaking. As a result, the Department amended the final-form definition as "a product formulated with one or more regulated VOCs that is used in a cleaning activity for a cleaning unit operation."

13. Comment: The EPA commented that DEP must revise the regulation to clarify the term "noncompliant industrial cleaning solvent" used to describe the exemptions in § 129.63a(c)(2). The EPA recommends adding either a definition for this term in § 129.63a(b) or a clarifying statement as part of § 129.63a(c)(2) for this purpose. The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The Department has removed the term "noncomplying" from § 129.63a(c)(2) to address the commentators' concerns. The Department has amended § 129.63a(c)(2) to read as follows in the final-form rulemaking:

(2) The VOC emission limitations in subsection (e) do not apply to the use or application of ~~a noncomplying~~ AN industrial cleaning solvent by the owner or operator of a cleaning unit operation at a facility subject to subsection (a) under either of the following circumstances:

(i) The use or application of the ~~noncomplying~~ industrial cleaning solvent is subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration or other Federal government entity. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(2).

(ii) The use or application of the ~~noncomplying~~ industrial cleaning solvent is associated with the cleaning of screen printing equipment and the industrial cleaning solvent used or applied has an as applied VOC content that does not exceed 4.2 pounds of

VOC per gallon (lb VOC/gal) (500 grams of VOC per liter (g VOC/l)) of industrial cleaning solvent. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(3).

No amendments were made to § 129.63a(b) in response to this comment.

14. Comment: The EPA recommended adding to the regulation a description or definition for each of the cleaning activities that is listed under the definition of “cleaning unit operation,” consistent with Appendix C of EPA's CTG for Industrial Cleaning Solvents (EPA-453/R06-0012006/09). The IRRC shared the EPA’s concerns and incorporated them into IRRC’s comments. (2, 8)

Response: The Department has amended the final-form rulemaking to add a description for each of the cleaning activities. The Department’s descriptions of cleaning activities under the definition of “cleaning unit operation” are consistent with the descriptions of those cleaning activities in Appendix C of the 2006 ICS CTG. The Department notes that the cleaning activities “large manufactured components cleaning” and “small manufactured components cleaning” have been combined in this final-form rulemaking as one cleaning activity: “manufactured components cleaning.” This change is made to streamline the compliance and enforcement of the activity “manufactured components cleaning” because the terms “large” and “small” may be subjective and ambiguous to the regulated community. The EPA did not provide a precise measure in the 2006 ICS CTG to differentiate between a large manufactured component and a small manufactured component. See 2006 ICS CTG, p. C-8.

Recordkeeping and Monitoring

15. Comment: The EPA recommended moving the provisions in § 129.63a(h), regarding the method to estimate the composite vapor pressure, from the recordkeeping requirements portion of the regulation to the compliance demonstration requirements in § 129.63a(g) to have all the compliance requirements together. The IRRC shared the EPA’s concerns and incorporated them into IRRC’s comments. (2, 8)

Response: Though the commentator indicates that the method to estimate composite vapor pressure is in § 129.63a(h), the methods to estimate composite vapor pressure were specified in §§ 129.63a(i) (relating to composite vapor pressure) and (j) (relating to vapor pressure of single component compound) in the proposed rulemaking. The methods to estimate composite vapor pressure are not compliance demonstration requirements; rather, they are methods to follow to meet the compliance demonstration requirements of § 129.63a(g). For this reason, the proposed rulemaking incorporated both subsections (i) and (j) into the compliance demonstration requirements of subsection (g) by cross-reference in subsection (g)(3). Since the proposed rulemaking already appears to satisfy the concern expressed by the commentator, no changes have been made from proposed to final-form rulemaking in response to this comment.

16. Comment: The EPA commented that DEP should provide specific monitoring requirements for the operation of a capture system and add-on air pollution control device to

ensure adequate compliance with the control requirements in § 129.63a(e)(2). The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The Department did not amend the proposed rulemaking to provide specific monitoring requirements for the operation of a capture system and add-on air pollution control device. The monitoring requirements will be determined on a case-by-case basis during the permitting process. Adequate standards already exist in the Department's regulations to guide this determination.

The Department is likely only to know what the specific monitoring requirements should be for a capture system and add-on air pollution control device when the Department reviews an application for, and issues, a plan approval for such a system. Final monitoring requirements would be established as permit conditions in the final operating permit issued for the operation of the capture system and add-on air pollution control device and will require monitoring and recordkeeping sufficient to demonstrate compliance with the applicable limitation or control requirement.

The requirements of the Department's existing equivalency regulation in § 129.51 must be met by owners or operators that comply with the industrial cleaning solvents regulation using a capture system and add-on air pollution control device under § 129.63a(e)(2). Under § 129.51, the weight of VOCs emitted to the atmosphere from cleaning unit operation cleaning activities is reduced through the use of vapor recovery, incineration or another method that is acceptable under § 129.51(a). The overall emission reductions of a control system in Pennsylvania are determined by the test methods and procedures specified in 25 Pa. Code Chapter 139 (relating to sampling and testing). The 2006 ICS CTG includes the recommendation that the overall emission reductions of a control system may be no less than 85% of the mass of VOC emissions. The Department ensures that the monitoring requirements are met during the permit review and approval process.

Aerospace Manufacturing and Rework Regulation

17. Comment: A commentator suggested that for consistency with the EPA CTG "Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations," EPA-453/R-97-004, December 1997, Pennsylvania raise the Sealant (Extrudable/Rollable/Brushable) limit of 240 g/l to 280 g/l and remove the Self-Priming Topcoat limit (420 g/l) from the table of standards in § 129.73(3). (7)

Response: The commentator's suggested changes to the VOC limits in Table II (relating to allowable content of VOCs in aerospace coatings) of § 129.73 are beyond the scope of the proposed rulemaking. The proposed rulemaking amended Table II only to correct an administrative numbering error. The coating type "high-temperature coating" was numbered incorrectly as (20)(a). DEP proposed to renumber it as (21) and to renumber the succeeding coating types accordingly. The title of Table II is proposed to be amended to delete the redundant phrase "allowable VOC content." No substantive amendments were proposed to this section. No changes were made from proposed to final in response to this comment.

Additional RACT Requirements for Major Sources of NO_x and VOCs (§§ 129.96—129.100)

The EPA commented that DEP is proposing amendments to 25 Pa. Code § 129.96 with the purpose of changing the applicability of all provisions within the RACT 2 Rule (25 Pa. Code §§ 129.96-129.100) to exclude VOC sources subject to 25 Pa. Code §§ 129.52d, 129.52e, and 129.74. The proposed amendments would not retroactively relieve affected VOC sources of the requirements of the RACT 2 Rule, which required for already major nitrogen oxides (NO_x) and/or VOC sources to comply by January 1, 2017. Because the requirements in 25 Pa. Code §§ 129.52d, 129.52e, and 129.74 would also be effective to date, the EPA commented that DEP must specify what RACT should be for those VOC sources subject to both of these requirements. The EPA's specific comments are addressed below in comments 18-21.

18. Comment: The EPA understands that DEP's intention in amending § 129.96 is to relieve affected sources from complying with more than one RACT requirement. However, any existing major VOC source subject to the RACT 2 Rule in accordance with § 129.96 must already be in compliance with any applicable requirements since January 1, 2017. Particularly, § 129.99(d) required affected VOC sources that are not subject to presumptive requirements in the RACT 2 Rule to submit RACT proposals by October 24, 2016, to establish and comply with source-specific VOC RACT limits or requirements by January 1, 2017. The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The Department agrees that subsections (a) and (b) were amended in the proposed rulemaking to exclude VOC sources subject to §§ 129.52d, 129.52e, and 129.74 from the applicability of §§ 129.96—129.100. The intention of these proposed amendments to subsections (a) and (b) was to relieve affected sources subject to § 129.52d, § 129.52e, or § 129.74 from having to comply with more than one RACT requirement.

Sections 129.52d and 129.52e were not included in the RACT 2 regulations when §§ 129.96—129.100 were promulgated at 46 Pa.B 2036 (April 23, 2016), because §§ 129.52d and 129.52e had not been promulgated. Section 129.52d was promulgated at 46 Pa.B. 6758 (October 22, 2016); § 129.52e was promulgated at 46 Pa.B. 6743 (October 22, 2016). Although § 129.74 was promulgated at 45 Pa.B. 7127 (December 19, 2015) prior to the promulgation of §§ 129.96—129.100, this was after the close of the public comment period for the RACT 2 proposed rulemaking on June 30, 2014. The substantive change of adding § 129.74 to § 129.96(a) and (b) could not be made during the RACT 2 final-form rulemaking process.

The Department agrees with the comments as they relate to §§ 129.52d and 129.52e and is not making the change to add §§ 129.52d and 129.52e to § 129.96(a). However, the Department notes that there is no retroactive applicability issue with respect to existing sources subject to § 129.74, because the compliance deadline for that regulation was December 19, 2015. See § 129.74(e). Moreover, the EPA approved § 129.74 as a revision to Pennsylvania's SIP on August 17, 2016, and the regulation meets RACT requirements for sources covered by the EPA's CTG for fiberglass boat manufacturing materials. See 81 FR 54744 (August 17, 2016). As a result, the Department has made the change to add § 129.74 to § 129.96(a) and (b).

19. Comment: The EPA commented that the proposed amendments to § 129.96 are appropriate for VOC sources subject to §§ 129.52d, 129.52e, and 129.74 that would become subject to the RACT 2 Rule in the future. As specified in § 129.96(b), any new NO_x or VOC source or any existing NO_x or VOC source being modified that becomes a major source, will also be subject to the applicable requirements of the RACT 2 Rule. The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The Department agrees and has made the change to add §§ 129.52d and 129.52e to § 129.96(b). The Department notes that § 129.96(b) includes § 129.63a in the range of §§ 129.54—129.69. Please see the response to Comment 18 for the Department's explanation for adding § 129.74 to § 129.96(a) and (b).

20. Comment: The EPA commented that DEP submitted §§ 129.52d, 129.52e, and 129.74 to the EPA for approval into the Pennsylvania SIP to address CTG VOC RACT requirements for different source categories. DEP also submitted the RACT 2 Rule as a SIP revision to address RACT for major sources of NO_x and VOC. DEP must clarify the RACT level of control that would apply to VOC sources subject to these different sets of RACT requirements, specifying one set of requirements as RACT.

Because DEP is required under § 129.99(c) to act on each RACT proposal received under the RACT 2 Rule, DEP should determine RACT on a case-by-case basis for these affected sources when acting on the individual RACT proposals. DEP should make source-specific RACT determinations for each affected source in light of all applicable control requirements, including CTG RACT requirements such as those in §§ 129.52d, 129.52e, and 129.74. Further, DEP must require for these affected sources RACT controls that are no less stringent than the EPA's corresponding CTG RACT requirements, for these source-specific RACT determinations to be approvable into the SIP. The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The Department agrees. The RACT level of control that would apply to VOC sources subject to either the RACT 2 regulations or any CTG regulation would be the more stringent set of requirements.

21. Comment: The EPA commented that in describing the amendments to § 129.96, the preamble of the proposed rulemaking does not list § 129.63a as a regulation to be excluded. See 45 Pa.B. 3362. If DEP's intention is to exclude CTG RACT sources from the RACT 2 Rule, then DEP should clearly state that in the preamble and include § 129.63a. The IRRC shared the EPA's concerns and incorporated them into IRRC's comments. (2, 8)

Response: The Department agrees that the preamble of the proposed rulemaking did not list § 129.63a as a regulation to be excluded. The Department notes that in the proposed rulemaking, § 129.96(a) included § 129.63a in the range of §§ 129.54—129.69. To address the concern raised by the EPA and IRRC of retroactively relieving affected sources subject to § 129.63a from the applicability of §§ 129.96—129.100, the Department is amending final-form § 129.96(a) to exclude § 129.63a. The Department further notes that § 129.96(b) includes § 129.63a in the

range of §§ 129.54—129.69 for affected sources that become subject to §§ 129.96—129.100 in the future. These changes are discussed in the preamble to the final-form rulemaking.

FINAL RULEMAKING
Annex A
TITLE 25. ENVIRONMENTAL PROTECTION
PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION
Subpart C. PROTECTION OF NATURAL RESOURCES
ARTICLE III. AIR RESOURCES
CHAPTER 121. GENERAL PROVISIONS

§ 121.1. Definitions.

The definitions in section 3 of the act (35 P.S. § 4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

Cleaning solvent—A liquid material used for hand-wipe, spray gun or flush cleaning. The term includes solutions that contain VOCs.

* * * * *

CHAPTER 129. STANDARDS FOR SOURCES
SOURCES OF VOCs

§ 129.51. General.

(a) *Equivalency.* Compliance with §§ 129.52, 129.52a, 129.52b, 129.52c, 129.52d, 129.52e, 129.54—~~129.63, 129.63a, 129.64~~—129.67, 129.67a, 129.67b, 129.68, 129.69, 129.71—129.73 and 129.77 may be achieved by alternative methods if **all of** the following exist:

(1) The alternative method is approved by the Department in an applicable plan approval or operating permit, or both.

(2) The resulting emissions are equal to or less than the emissions that would have been discharged by complying with the applicable emission limitation.

(3) Compliance by a method other than the use of a low VOC coating, adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent, cleanup solvent, cleaning solution, fountain solution or ink which meets the applicable emission limitation in §§ 129.52, 129.52a, 129.52b, 129.52c, 129.52d, 129.52e, **129.63a**, 129.67, 129.67a, 129.67b, 129.73 and 129.77 shall be determined on the basis of equal volumes of solids.

(4) Capture efficiency testing and emissions testing are conducted in accordance with methods approved by the EPA.

(5) Adequate records are maintained to ensure enforceability.

(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, § 129.52d, § 129.52e, § 129.63a, § 129.67, § 129.67a, § 129.67b, § 129.68(b)(2) and (c)(2), § 129.73 or § 129.77.

* * * * *

(*Editor's Note:* The following section is new and printed in regular type to enhance readability.)

§ 129.63a. Control of VOC emissions from industrial cleaning solvents.

(a) *Applicability.* This section applies to the owner and the operator of a facility at which an industrial cleaning solvent is used or applied in a cleaning activity at a cleaning unit operation, a work production-related work area or a part, product, tool, machinery, equipment, vessel, floor or wall.

(b) *Definitions.* The following words and terms, when used in this section, have the following meanings unless the context clearly indicates otherwise:

Cleaning activity—The use or application of an industrial cleaning solvent to remove a contaminant, such as an adhesive, ink, paint, dirt, soil, oil or grease, by wiping, flushing, brushing, soaking, **DIPPING**, spraying or a similar effort.

Cleaning unit operation—

(i) An operation at a facility that is a source of VOC emissions from a cleaning activity.

(ii) The term includes the following **CLEANING ACTIVITIES**:

(A) Spray gun cleaning, **INCLUDING THE SPRAY GUN, ATTACHED PAINT LINES AND OTHER SPRAY GUN EQUIPMENT USED TO APPLY A COATING.**

(B) Spray booth cleaning, **INCLUDING THE INTERIOR SURFACES OF THE BOOTH AND THE EQUIPMENT CONTAINED WITHIN THE BOOTH.**

(C) ~~Large-manufactured~~ **MANUFACTURED** components cleaning **AS A STEP IN A MANUFACTURING PROCESS, INCLUDING AUTOMOBILE BODIES, FURNITURE, SHEET METAL, GLASS WINDOWS, ENGINE COMPONENTS, SUBASSEMBLIES, SHEET METAL PANELS, MOLDED PARTS, ELECTRICAL CONTACTS, STEEL AND COPPER COMPONENTS, TIN-PLATED OR SILVER-PLATED TERMINALS, PLASTIC PARTS, UPHOLSTERED PARTS, CIRCUIT BREAKER CASES, SWITCH COVERS, THREADS AND BOLTS.**

(D) Parts cleaning, **INCLUDING APPLICATOR TIPS, BRUSHES, MACHINE PARTS, PUMPS, CIRCUIT BOARDS, TRUCK PARTS, ENGINE BLOCKS, GAUGES,**

CUTOFF STEEL, MACHINED PARTS, TOOL DIES, MOTORS AND ASSEMBLIES, SCREWS, OIL GUNS, WELDED PARTS, BEARINGS AND FILTERS.

(E) Equipment cleaning OF A PIECE OF PRODUCTION EQUIPMENT IN PLACE TO PREVENT CROSS-CONTAMINATION OR FOR MAINTENANCE PURPOSES, INCLUDING PUNCH PRESSES, ELECTRICAL CONTACTS ON EQUIPMENT, PUMP PARTS, PACKAGING EQUIPMENT, ROLLERS, INK PANS, CARTS, PRESS FRAMES AND TABLE TOPS.

(F) Line cleaning, INCLUDING A PIPE, HOSE OR OTHER LINE THAT CONVEYS MATERIAL LIKE PAINT OR RESIN, THAT IS CLEANED SEPARATELY FROM A SPRAY GUN, TANK OR OTHER PROCESS EQUIPMENT.

(G) Floor cleaning IN A PRODUCTION AREA OF THE FACILITY.

(H) Tank cleaning, INCLUDING A TANK, MIXING POT, OR PROCESS VESSEL AND THE ATTACHED LINES.

~~**(I) Small-manufactured-components-cleaning.**~~

(iii) The term does not include VOC emissions from the use or application of consumer products subject to Chapter 130, Subchapter B (relating to consumer products), including an institutional product or industrial and institutional product as defined in § 130.202 (relating to definitions) for cleaning offices, bathrooms or other areas that are not part of a cleaning unit operation or work production-related work area.

***Industrial cleaning solvent*—A product formulated with one or more regulated VOCs THAT IS USED IN A CLEANING ACTIVITY FOR A CLEANING UNIT OPERATION.**

***Regulated VOC*—An organic compound which participates in atmospheric photochemical reactions, that is, an organic compound other than those which the Administrator of the EPA designates in 40 CFR 51.100 (relating to definitions) as having negligible photochemical reactivity.**

(c) *Exceptions and exemptions.*

(1) This section does not apply to all of the following:

(i) An owner or operator of a cleaning unit operation subject to § 129.63 (relating to degreasing operations) or 40 CFR Part 63, Subpart T (relating to National emission standards for halogenated solvent cleaning).

(ii) An owner or operator of a cleaning unit operation associated with a following category:

(A) Aerospace ~~coatings~~ MANUFACTURING AND REWORK OPERATIONS.

- (B) Architectural coatings.
- (C) Automobile and light-duty truck assembly coatings.
- (D) Fabric coating.
- (E) Fiberglass boat manufacturing materials.
- (F) Flat wood paneling coatings.
- (G) Flexible packaging printing materials.
- (H) Graphic arts printing and coating operations.
- (I) Large appliance coatings.
- (J) Letterpress printing materials.
- (K) Lithographic printing materials.
- (L) Magnet wire coating operations.
- (M) Marine vessel coating.
- (N) Metal container, closure and coil coating.
- (O) Metal furniture coatings.
- (P) Miscellaneous metal parts coatings.
- (Q) Miscellaneous industrial adhesives.
- (R) Motor vehicle and mobile equipment coating operations.
- (S) Paper, film and foil coating.
- (T) Plastic parts coatings.
- (U) Polyester resin operations.
- (V) Semiconductor wafer fabrication operations.
- (W) Shipbuilding and repair coatings.
- (X) Wood furniture coatings.

(Y) Wood products coating.

(Z) Electrical and electronic components.

(AA) Precision optics.

(BB) Numismatic dies.

(CC) Stripping of cured inks, coatings and adhesives.

(DD) Cleaning of resin, coating, ink or adhesive mixing, molding and application equipment.

(EE) Resin, coating, ink and adhesive manufacturing.

(FF) Performance or quality assurance testing of coatings, inks or adhesives.

(GG) Flexible and rigid disc manufacturing.

(HH) Research and development laboratories.

(II) Medical device manufacturing.

(JJ) Pharmaceutical manufacturing.

(KK) Janitorial cleaning.

(LL) Digital printing.

(2) The VOC emission limitations in subsection (e) do not apply to the use or application of a **noncomplying** AN industrial cleaning solvent by the owner or operator of a cleaning unit operation at a facility subject to subsection (a) under either of the following circumstances:

(i) The use or application of the **noncomplying** industrial cleaning solvent is subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration or other Federal government entity. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(2).

(ii) The use or application of the **noncomplying** industrial cleaning solvent is associated with the cleaning of screen printing equipment and the industrial cleaning solvent used or applied has an as applied VOC content that does not exceed 4.2 pounds of VOC per gallon (lb VOC/gal) (500 grams of VOC per liter (g VOC/l)) of industrial cleaning solvent. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(3).

(3) The VOC emission limitations in subsection (e) and the work practice requirements in subsection (f) do not apply to the owner or operator of a facility subject to subsection (a) if the

total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(4).

(d) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a cleaning unit operation subject to this section prior to _____ (*Editor's Note: The blank refers to the effective date of adoption of this final-form rulemaking.*), under §§ 129.91—129.95 (relating to stationary sources of NO_x and VOCs) to control, reduce or minimize VOCs from cleaning unit operation cleaning activities at the facility, except to the extent the RACT permit contains more stringent requirements.

(e) *Emissions limitations.* Beginning _____ (*Editor's Note: The blank refers to the effective date of adoption of this final-form rulemaking.*), the owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, may not cause or permit the emission into the outdoor atmosphere of VOCs from an industrial cleaning solvent used or applied in a cleaning unit operation subject to this section at the facility, unless one of the following limitations is met:

(1) *Compliant solvents.* The industrial cleaning solvent meets one of the following VOC limits:

(i) A VOC content less than or equal to 0.42 lb VOC/gal (50 g VOC/l) as applied.

(ii) A VOC composite vapor pressure less than or equal to 8 mm mercury at 68°F (20°C) as applied.

(2) *VOC emissions capture system and add-on air pollution control device.* The weight of VOCs emitted to the atmosphere from cleaning unit operation cleaning activities 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 emission reduction of a control system, as determined by the test methods and procedures specified in Chapter 139 (relating to sampling and testing), may be no less than 85% 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:

O = The overall required control efficiency.

E = 0.42 lb VOC/gal or 50 g VOC/l.

V = The VOC content of the industrial cleaning solvent in lb VOC/gal or g VOC/l.

(f) *Work practice requirements for industrial cleaning solvents, used shop towels and waste materials.* The owner or operator of a facility subject to subsection (e) shall comply with all of the following work practices for industrial cleaning solvents and shop towels used in the cleaning unit operation cleaning activity:

(1) Store all VOC-containing industrial cleaning solvents, used shop towels and related waste materials in closed containers.

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

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

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

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

(6) Minimize air circulation around cleaning unit operations.

(g) *Compliance demonstration.* The owner or operator of a cleaning unit operation subject to this section shall demonstrate compliance as follows:

(1) The owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, shall do either of the following:

(i) Ensure that industrial cleaning solvents used or applied in the subject cleaning unit operations at the facility meet the applicable emissions limitation in subsection (e)(1) and maintain records in accordance with subsection (h)(1)(i).

(ii) Use a VOC emissions capture system and an add-on air pollution control device that meets the VOC emission reduction requirement under subsection (e)(2), equip the add-on air pollution control device with the applicable monitoring equipment and maintain records in accordance with subsection (h)(1)(ii). All of the following apply:

(A) The monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturer's specifications at all times when the add-on air pollution control device is operating.

(B) The add-on air pollution control device must be operating when the cleaning activity is occurring.

(2) The owner or operator of a cleaning unit operation subject to this section claiming exemption under:

- (i) Subsection (c)(2)(i) shall maintain records in accordance with subsection (h)(2).
- (ii) Subsection (c)(2)(ii) shall maintain records in accordance with subsection (h)(3).
- (iii) Subsection (c)(3) shall maintain records in accordance with subsection (h)(4).

(3) The owner or operator of a cleaning unit operation subject to this section shall determine the VOC content of the industrial cleaning solvent as applied by conducting sampling and testing of the industrial cleaning solvent in accordance with the procedures and test methods specified in subsections (i) and (j) and Chapter 139.

(4) The owner or operator of a cleaning unit operation subject to paragraph (3) may use other test methods or documentation to demonstrate compliance with this section if approved in advance in writing by the Department and the EPA.

(h) Recordkeeping and reporting requirements. The owner or operator of a cleaning unit operation subject to this section shall comply with all of the following applicable recordkeeping and reporting requirements:

(1) The owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, shall maintain all of the applicable records:

(i) For an owner or operator that complies with this section by using a complying industrial cleaning solvent under subsection (e)(1), records of all of the following parameters for each cleaning unit operation industrial cleaning solvent:

- (A) The name and identification number.
- (B) The weight percent of total volatiles, water and exempt solvents, as supplied.
- (C) The VOC content or composite vapor pressure, as supplied. The composite vapor pressure as supplied shall be determined in accordance with subsections (i) and (j).
- (D) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).
- (E) The volume used or applied on a monthly basis.

(ii) For an owner or operator that complies with this section through the use of a VOC emissions capture system and an add-on air pollution control device under subsection (e)(2), records sufficient to demonstrate all of the following:

(A) Sampling and testing conducted in accordance with Chapter 139 as required under subsection (e)(2).

(B) Calibration, operation and maintenance of the monitoring equipment installed under subsection (g)(1)(ii) in accordance with manufacturer's specifications.

(2) The owner or operator of a cleaning unit operation claiming exemption under subsection (c)(2)(i) shall maintain records of all of the following information for the exempt industrial cleaning solvent:

(i) A copy of the applicable standard or specification.

(ii) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).

(iii) The volume used or applied monthly.

(3) The owner or operator of a screen printing equipment cleaning unit operation claiming exemption under subsection (c)(2)(ii) shall maintain records of all of the following information for the screen printing equipment industrial cleaning solvent:

(i) The name and identification number.

(ii) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).

(iii) The volume used or applied monthly.

(4) The owner or operator of a facility claiming exemption under subsection (c)(3) shall maintain monthly records of the industrial cleaning solvents used or applied at the subject cleaning unit operations sufficient to demonstrate that the total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls.

(5) Records shall be maintained onsite for 2 years, unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit, consent decree or order issued by the Department.

(6) Records shall be submitted to the Department in an acceptable format upon receipt of a written request from the Department.

(i) *Composite vapor pressure.* The composite vapor pressure of organic compounds in cleaning unit operation industrial cleaning solvents shall be determined by one or more of the following procedures:

(1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using one or more of the following methods:

(i) An appropriate and current ASTM test method with prior written approval from the Department and the EPA.

(ii) Another test method demonstrated to provide results that are acceptable for purposes of determining compliance with this section if prior approval is obtained in writing from the Department and the EPA.

(2) Calculating the composite vapor pressure using the following equation:

$$Pp_c = \frac{\sum_{i=1}^n (W_i) (VP_i) / Mw_i}{\frac{W_w}{Mw_w} + \sum_{e=1}^k W_e / Mw_e + \sum_{i=1}^n W_i / Mw_i}$$

Where:

Pp_c = VOC composite partial pressure at 20°C, in mm mercury.

W_i = Weight of the "i"th VOC compound, in grams, as determined by ASTM E260.

W_w = Weight of water, in grams, as determined by ASTM D3792.

W_e = Weight of the "e"th exempt compound, in grams, as determined by ASTM E260.

Mw_i = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.

Mw_w = Molecular weight of water, 18 grams per g-mole.

Mw_e = Molecular weight of the "e"th exempt compound, in grams per g-mole, as given in chemical reference literature.

VP_i = Vapor pressure of the "i"th VOC compound at 20°C, in mm mercury, as determined by subsection (j).

(3) Providing documentation from the manufacturer of the industrial cleaning solvent that indicates the composite vapor pressure. The documentation may include an MSDS, CPDS or other data certified by the manufacturer.

(j) *Vapor pressure of single component compound.* The vapor pressure of each single component compound in a cleaning unit operation industrial cleaning solvent shall be determined from one or more of the following:

(1) An appropriate and current ASTM test method with prior written approval from the Department and the EPA.

(2) The most recent edition of one or more of the following sources:

(i) *Vapour Pressures of Pure Substances*, Boublik, Elsevier Scientific Publishing Company.

(ii) *Perry's Chemical Engineers' Handbook*, Green and Perry, McGraw-Hill Book Company.

(iii) *CRC Handbook of Chemistry and Physics*, CRC Press.

(iv) *Lange's Handbook of Chemistry*, McGraw-Hill Book Company.

(3) Documentation provided by the manufacturer of the single component compound that indicates the vapor pressure of the single component compound. The documentation may include an MSDS, CPDS or other data certified by the manufacturer.

(k) *ASTM method references.* References to ASTM methods in this section pertain to test methods developed by ASTM International, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, Pennsylvania 19428-2959, www.astm.org.

§ 129.73. Aerospace manufacturing and rework.

Except as provided in paragraph (1), this section applies to the manufacture or rework of commercial, civil or military aerospace vehicles or components at any facility which has the potential to emit 25 tons per year of VOCs or more.

* * * * *

(3) Beginning April 10, 1999, a person may not apply to aerospace vehicles or components, aerospace specialty coatings, primers, topcoats and chemical milling maskants including VOC-containing materials added to the original coating supplied by the manufacturer, that contain VOCs in excess of the limits specified in Table II.

(i) Aerospace coatings that meet the definitions of the specific coatings in Table II shall meet those allowable coating VOC limits.

(ii) All other aerospace primers, aerospace topcoats and chemical milling maskants are subject to the general coating VOC limits for aerospace primers, aerospace topcoats and aerospace chemical milling maskants.

TABLE II
Allowable Content of VOCs in Aerospace Coatings
[Allowable VOC Content]
Weight of VOC Per Volume of Coating (Minus Water and Exempt Solvents)

COATING TYPE	LIMIT	
	POUNDS PER GALLON	GRAMS PER LITER
Specialty Coatings		
	* * *	* *
(20) Fuel-Tank Coating	6.0	720
[(a)] (21) High-Temperature Coating	7.1	850
[(21)] (22) Insulation Covering	6.2	740
[(22)] (23) Intermediate Release Coating	6.2	750
[(23)] (24) Lacquer	6.9	830
[(24)] (25) Maskants:		
(a) Bonding Maskant	10.2	1,230
(b) Critical Use and Line Sealer Maskant	8.6	1,020
(c) Seal Coat Maskant	10.2	1,230
[(25)] (26) Metallized Epoxy Coating	6.2	740
[(26)] (27) Mold Release	6.5	780
[(27)] (28) Optical Anti-Reflective Coating	6.2	750
[(28)] (29) Part Marking Coating	7.1	850
[(29)] (30) Pretreatment Coating	6.5	780
[(30)] (31) Rain Erosion-Resistant Coating	7.1	850
[(31)] (32) Rocket Motor Nozzle Coating	5.5	660
[(32)] (33) Scale Inhibitor	7.3	880
[(33)] (34) Screen Print Ink	7.0	840
[(34)] (35) Sealants:		
(a) Extrudable/Rollable/Brushable Sealant	2.0	240
(b) Sprayable Sealant	5.0	600
[(35)] (36) Self-Priming Topcoat	3.5	420
[(36)] (37) Silicone Insulation Material	7.1	850
[(37)] (38) Solid Film Lubricant	7.3	880
[(38)] (39) Specialized Function Coating	7.4	890
[(39)] (40) Temporary Protective Coating	2.7	320
[(40)] (41) Thermal Control Coating	6.7	800

[(41)] (42) Wet Fastener Installation Coating	5.6	675
[(42)] (43) Wing Coating	7.1	850

* * * * *

ADDITIONAL RACT REQUIREMENTS FOR MAJOR SOURCES OF NO_x AND VOCs

§ 129.96. Applicability.

(a) The NO_x requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major NO_x emitting facility and the VOC requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major VOC emitting facility that were in existence on or before July 20, 2012, for which a requirement or emission limitation, or both, has not been established in §§ 129.51—~~{129.52c}~~ 129.52e, 129.54—129.63, 129.64—129.69, 129.71—~~[129.73,]~~ 129.75, 129.77, 129.101—129.107 and 129.301—129.310.

(b) The NO_x requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a NO_x emitting facility and the VOC requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a VOC emitting facility when the installation of a new source or a modification or change in operation of an existing source after July 20, 2012, results in the source or facility meeting the definition of a major NO_x emitting facility or a major VOC emitting facility and for which a requirement or an emission limitation, or both, has not been established in §§ 129.51— ~~[129.52c]~~ 129.52e, 129.54—129.69, 129.71—~~[129.73,]~~ 129.75, 129.77, 129.101—129.107 and 129.301—129.310.

* * * * *

§ 129.97. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule.

* * * * *

(k) The owner or operator of a major NO_x emitting facility or a major VOC emitting facility subject to § 129.96 that includes an air contamination source subject to one or more of subsections (b)—(h) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation without installation of an air cleaning device may submit a petition, in writing, requesting an alternative compliance schedule in accordance with the following:

(1) The written petition shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

* * * * *

§ 129.99. Alternative RACT proposal and petition for alternative compliance schedule.

* * * * *

(i) The owner and operator of a facility proposing to comply with the applicable RACT requirement or RACT emission limitation under subsection (a), (b) or (c) through the installation of an air cleaning device may submit a petition, in writing, requesting an alternative compliance schedule in accordance with the following:

(1) The written petition requesting an alternative compliance schedule shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO_x emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

* * * * *

§ 129.100. Compliance demonstration and recordkeeping requirements.

(a) Except as provided in subsection (c), the owner and operator of an air contamination source subject to a NO_x RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation, or both, listed in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

* * * * *



May 11, 2018

David Sumner
Executive Director
Independent Regulatory Review Commission
333 Market Street, 14th Floor
Harrisburg, PA 17120

Re: Final Rulemaking: Control of VOC Emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing and Rework; and Additional RACT Requirements for Major Sources of NO_x And VOCs (#7-492)
Final Rulemaking: Safe Drinking Water General Update and Fees (#7-521)

Dear Mr. Sumner:

Pursuant to Section 5(a) of the Regulatory Review Act, please find enclosed copies of two final-form rulemakings for review and comment by the Independent Regulatory Review Commission (IRRC). The Environmental Quality Board (Board) adopted these rulemakings at its April 17, 2018 meeting.

The Control of VOC Emissions from Industrial Cleaning Solvents; General Provisions; Aerospace Manufacturing and Rework; and Additional RACT Requirements for Major Sources of NO_x And VOCs (#7-492) final-form rulemaking addresses the control of volatile organic compound (VOC) emissions from stationary source industrial cleaning solvents that are not regulated elsewhere in 25 Pa. Code Chapters 129 or 130, by adopting Reasonably Available Control Technology (RACT) requirements and RACT emission limitations. The rulemaking is mandated by the Clean Air Act. The final-form rulemaking adds § 129.63a (relating to control of VOC emissions from industrial cleaning solvents) to address VOC emissions from industrial cleaning solvents and amends §§ 121.1 and 129.51 (relating to definitions; and general) to support the addition of § 129.63a. Minor clarifying amendments are made to § 129.73 (relating to aerospace manufacturing and rework) and specified sections of the recently promulgated additional (RACT) requirements for major sources of nitrogen oxides (NO_x) and VOCs (RACT 2). The final-form rulemaking establishes VOC emission limitations, work practice standards, and monthly recordkeeping and reporting requirements consistent with the RACT recommendations of the U.S. Environmental Protection Agency's (EPA) 2006 Industrial Cleaning Solvents Control Techniques Guidelines (2006 ICS CTG).

The Department of Environmental Protection (Department or DEP) must proceed expeditiously with the final-form rulemaking to submit it as a state implementation plan (SIP) revision to the EPA in time for EPA to make a completeness determination by September 6, 2018, for Pennsylvania to avoid the mandatory imposition of sanctions. This follows from a February 3, 2017 (82 FR 9158) EPA finding of failure to submit specific SIP elements for the 2008 ozone National Ambient Air Quality Standards (NAAQS).



The requirements included in this rulemaking apply statewide to the owner and the operator of a facility at which an industrial cleaning solvent is used or applied in a cleaning activity to remove a contaminant, including an adhesive, ink, paint, dirt, soil, oil, or grease, at a cleaning unit operation, a work production-related work area or a part, product, tool, machinery, equipment, vessel, floor, or wall, except as otherwise specified in § 129.63a(c). The VOC emission limitations and work practice standards apply statewide to the owner and the operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons per 12-month rolling period, before consideration of controls. An owner and operator with total combined actual VOC emissions less than 2.7 tons per 12-month rolling period, before consideration of controls, from subject cleaning unit operations is only subject to the monthly recordkeeping and, if requested by the Department, reporting requirements.

The affected owners and operators have two options for bringing VOC emissions into compliance: the use of complying industrial cleaning solvents or the installation and operation of a VOC emissions capture system and an add-on air pollution control device.

The Department estimates that the owners and operators of about 576 facilities across the Commonwealth may be affected by the final-form rulemaking. Of these facility owners and operators, about 253 may meet the definition of small business across this Commonwealth. The Department expects that the impact on these small businesses will be minimal. The owner and the operator of a facility that is subject to final § 129.63a will likely incur little, if any, cost to implement these requirements. Industrial cleaning solvents such as Stoddard solvent, mineral spirits, and most other common solvents provided by suppliers have vapor pressures well below the proposed 8 millimeters of mercury composite vapor pressure compliance limit. The owners and operators of potentially affected facilities such as automobile repair garages and metal parts manufacturing facilities using these common industrial cleaning solvents will likely not have to make any changes to their cleaning materials. Reporting, recordkeeping, and administrative costs have been minimized in the final § 129.63a.

The Department estimates that the annual financial impact on potentially affected facility owners and operators could range from an average savings of \$282 per affected facility owner and operator to an average cost of \$27 per affected facility owner and operator. The estimated amount of VOC emission reductions could be as much as 12,499 tons per year (tpy). The estimated average amount of potential VOC emission reductions per affected owner and operator could be approximately 22 tpy per affected facility (12,499 tpy/576 facilities).

The Independent Regulatory Review Commission (IRRC), in its comments on the rulemaking, incorporated the EPA's comments because the EPA raised concerns relating to IRRC's review criteria. IRRC requested clarification and explanation of the reasonableness of an exemption for aerospace manufacturing and rework operations due to two industry commentators sharing concerns about the use of the term "aerospace coatings" in proposed § 129.63a(c). IRRC also asked for explanation of the reasonableness of exemptions and compliance options regarding the feasibility of proposed § 129.63a to battery cleaning operations due to the concern of an industry commentator. The exempted category of aerospace coatings was changed to aerospace manufacturing and rework operations. Battery cleaning operations are already an exempted category in § 129.63a. All concerns put forward in comments have been addressed and there are no unresolved issues.

On January 24, 2018, the Department briefed the Small Business Compliance Advisory Committee (SBCAC) on the final-form rulemaking and on the comments received on the proposed rulemaking. The SBCAC recommended the Department conduct education and outreach for the regulated community on the final-form rulemaking and voted unanimously to concur with the Department's recommendation to move the rulemaking forward to the Board for consideration. On February 8, 2018, the Department briefed the Air Quality Technical Advisory Committee (AQTAC) on the final-form rulemaking and on the comments received on the proposed rulemaking. The AQTAC members had no concerns and voted unanimously to concur with the Department's recommendation to move the rulemaking forward to the Board. Further, the Department discussed the final-form rulemaking with the Citizens Advisory Council's (CAC) Policy and Regulatory Oversight Committee on February 9, 2018. On the recommendation of the Committee, on February 20, 2018, the CAC also concurred with the Department's recommendation to move the rulemaking forward to the Board.

The **Safe Drinking Water General Update and Fees (#7-521)** final-form rulemaking amends 25 Pa. Code, Chapter 109 to: (1) incorporate the remaining general update provisions that were separated from the proposed Revised Total Coliform Rule (RTCR), including revisions to treatment technique requirements for pathogens, clarifications to permitting requirements, and new requirements for alarms, shutdown capabilities, and auxiliary power; (2) amend existing permit fees and add new annual fees to supplement state costs and fill the funding gap (\$7.5 million); and (3) add new provisions to establish the regulatory basis for issuing general permits, clarify that noncommunity water systems (NCWS) require a permit or approval from the Department prior to construction and operation, and address concerns related to gaps in the monitoring, reporting and tracking of back-up sources of supply.

Collectively, these amendments will provide for the increased protection of public health by every public water system (PWS) within the Commonwealth, and ensure that the Department has adequate funding to enforce the applicable drinking water laws, meet state and Federal minimum program elements, and retain primacy (primary enforcement authority). Safe drinking water is vital to maintaining healthy and sustainable communities. Proactively avoiding incidents such as waterborne disease outbreaks can prevent loss of life, reduce the incidence of illness, and reduce health care costs. Proper investment in PWS infrastructure and operations helps ensure a continuous supply of safe drinking water, enables communities to plan and build future capacity for economic growth, and ensures their long-term sustainability for years to come.

Part I: General Update Provisions

These general updates:

- Clarify the source water assessment, source water protection area, and source water protection program elements and requirements.
- Revise the treatment technique requirements for pathogenic bacteria, viruses and protozoan cysts by adding specific turbidity performance requirements for membrane filtration.
- Revise the disinfection profiling and benchmarking requirements to clarify that all PWSs using filtered surface water or groundwater under the direct influence of surface water (GUDI) must consult with the Department prior to making significant changes to disinfection practices to ensure adequate Giardia inactivation is maintained.

- Revise and clarify the monitoring, calibration, recording and reporting requirements for the measurement of turbidity.
- Revise the permit requirements to clarify the components that must be included in a permit application for a new source, including a source water assessment, a pre-drilling plan, an evaluation of water quantity and quality, and a hydrogeologic report.
- Revise the design and construction standards to require PWSs using surface water or GUDI sources to be equipped with alarm and shutdown capabilities. These provisions are required for plants that are not staffed continuously while the plant is in operation.
- Clarify that treatment technologies must be certified for efficacy through an approved third party.
- Update the system management requirements for community water systems (CWSs) to strengthen system service and resiliency by requiring completion of an uninterrupted system service plan (USSP) which focuses on utilizing auxiliary power or a combination of alternate provisions such as finished water storage and interconnections.
- Clarify system management responsibilities relating to source water assessments and sanitary surveys.
- Revise the corrective action timeframes in response to a significant deficiency for PWSs using groundwater and surface water sources to be consistent.
- Delete the provision that allows a PWS to avoid the requirement for a corrective action by collecting five additional source water samples after an *E. coli*-positive triggered source water sample.

Part II: New Annual Fees and Amended Permit Fees

The current funding available to administer the Safe Drinking Water Program from State and Federal sources is \$ 19.7 million. The fees are expected to generate approximately \$7.5 million, which will allow the Safe Drinking Water Program to restore staffing levels and reverse the decline in services that has occurred since 2009. The fees will provide nearly 50% of the Commonwealth's share of funding for the Safe Drinking Water Program. The remaining portion of the Commonwealth's share (\$7.7 million) is expected to be provided through annual General Fund appropriations. If appropriations from the General Fund do not keep pace with program costs, a funding gap could remain even with this final-form rulemaking.

The annual fees range from \$250 - \$40,000 for CWSs, \$50 - \$1,000 for NCWSs, and \$1,000 - \$2,500 for bottled, vended, retail, and bulk water haulers (BVRB). The fees will most likely be passed on to the 11.3 million customers of these PWSs as a user fee. Per person costs are expected to range from \$0.35 to \$10 per year, depending on the water system size.

Part III: New Provisions

The remaining component of this final-form rulemaking includes amendments to other parts of Chapter 109 to:

- Establish the regulatory basis for the issuance of general permits for high volume, low risk modifications or activities to streamline the permitting process.
- Clarify that NCWSs that are not required to obtain a permit must still obtain Department approval of the facilities prior to construction and operation.
- Address concerns related to gaps in the monitoring, reporting and tracking of back-up water sources and entry points.

One or more of these proposed amendments will apply to all 8,521 PWSs. More specifically:

- The amended source water protection and new source permitting requirements will apply to all 1,952 CWS. Based on historical permit submissions, approximately 50 CWSs per year will be required to comply.
- The revised turbidity treatment technique requirements, filter assessment requirements, and alarm/shutdown capabilities will apply to some or all 353 filter plants in Pennsylvania which are operated by 319 water systems.
- The resiliency requirements for back-up power or alternate provisions will apply to all 1,952 CWSs.
- The new annual fees and amended permit fees will apply to all 8,521 PWSs.
- Clarifications to the monitoring requirements for back-up sources of supply and the comprehensive monitoring plan requirements will apply to all 8,521 PWSs. However, only those PWSs with sources designated as emergency, interim and reserve will see any changes to their monitoring and reporting requirements. The majority of PWSs only have one permanent source and entry point.

Benefits

One or more of these amendments will affect all 8,521 PWSs serving approximately 11.3 million Pennsylvanians. The residents of the Commonwealth will benefit from: (1) the avoidance of a full range of adverse health effects from the consumption of contaminated drinking water such as acute and chronic illness, endemic and epidemic disease, waterborne disease outbreaks, and death; (2) the continuity of a safe and adequate supply of potable water; and (3) the protection of public drinking water sources, which will result in maintaining the highest source water quality available, thereby minimizing drinking water treatment costs.

Source Water Assessment, Protection and Permitting Requirements: Source water protection represents the first barrier to drinking water contamination. A vulnerable drinking water source puts a water utility and the community it serves at risk and at a disadvantage in planning and building future capacity for economic growth. Contamination of a CWS source is costly for the water supplier and the public.

In addition to those benefits, the amendments in the final-form rulemaking more clearly define the requirements regarding the proper order of the permitting process for developing a new PWS source. These clarifications are needed to help insure that the proper level of treatment is designed and installed in a timely manner, thereby resulting in less delay for permitting a new source that may be needed to meet public health protection requirements, or provide redundancy in the event of contamination of existing sources. These amendments should result in cost savings due to the avoidance of expensive permitting mistakes.

Turbidity and Filtration Requirements: Some of the amendments to the monitoring, calibration, recording and reporting requirements for the measurement of turbidity are more stringent than Federal requirements. These amendments will benefit more than 8 million Pennsylvanians that are supplied water by PWSs using filtration technologies. The amendments for combined filter effluent (CFE) turbidity monitoring will require continuous monitoring and recording of the results every 15 minutes. This will enable operators to identify problematic water quality trends and respond more quickly with necessary process control adjustments.

Health effects associated with microbial contaminants tend to be due to short-term, single dose exposure rather than long-term exposure. Therefore, if a short duration single turbidity exceedance of the existing maximum allowable turbidity limit occurs and goes unnoticed, consumers are at risk of exposure to microbial pathogens. By requiring continuous monitoring and recording of the results at least every 15 minutes for CFE at all filter plants, water suppliers will be better able to identify problems before an exceedance occurs and determine compliance with the maximum allowable turbidity limit at all times.

An additional revision will require all surface water filtration plants to implement a filter bed evaluation program that assesses the overall integrity of each filter to identify and correct problems before a turbidity exceedance or catastrophic filter failure occurs. Filters are the final barrier for removal of acute pathogens, and are therefore critical to public health protection.

Automatic Alarms and Shutdown Capabilities: Automated alarms and shutdown capabilities play an important role in modern water treatment and public health protection. Many water suppliers have already taken advantage of readily available technology to reduce personnel costs while still providing safe water to their customers. The amendments will ensure that all surface water filtration plants have the minimum controls in place to ensure that operators are immediately alerted to major treatment problems. The amendments will also ensure that unmanned filter plants are automatically shut down when the plant is producing water that is not safe to drink, which prevents contaminated water from being provided to customers for extended periods of time. These alarms and shutdown capabilities will allow operators at both attended and unattended filtration plants to promptly respond to the water quality problems and treatment needs of the plant. The automated plant shut down is intended to prevent poor quality water from reaching customers, which will protect public health, reduce PWS costs related to corrective actions and issuing public notice, reduce costs to the community, and maintain consumer confidence.

Filter-To-Waste Requirements: The Department's Filter Plant Performance Evaluation (FPPE) program has evaluated approximately 1,250 filters since 1999. The results of these evaluations show that filters are most likely to shed turbidity, particles, and microbial organisms at the beginning of a filter run when the filter is first placed into service following filter backwash and/or maintenance. The amendments will require all filter plants that have the ability to filter-to-waste to do so following filter backwash and/or maintenance and before placing the filter into service. Filtering to waste will reduce the likelihood of pathogens passing through filters and into the finished drinking water.

Strengthen Resiliency Through Auxiliary Power or Alternate Provisions: The revisions to system service and auxiliary power requirements will strengthen system resiliency and ensure that safe and potable water is continuously supplied to consumers and businesses. A continuous and adequate supply of safe drinking water is vital to maintaining healthy and sustainable communities.

New Annual Fees and Amended Permit Fees: To improve program performance, the final-form rulemaking will supplement Commonwealth costs for administering the Safe Drinking Water Program by filling the funding gap. The fees will total approximately \$7.5 million annually and will account for nearly 50% of the Program's Commonwealth funding. The fees will augment the Program funding currently coming from the General Fund (\$7.7 million).

General Permits: These amendments will establish the regulatory basis for the issuance of general permits for high volume, low risk modifications or activities to streamline the permitting process. General permits provide a cost-effective method for a PWS to obtain a permit and for the Department to regulate such activities.

Requirements for NCWSs: These amendments will clarify that NCWSs that are not required to obtain a permit must still obtain the Department approval of the facilities prior to construction and operation. The Department's public water supply well construction standards are measures that can prevent pollution from surface runoff and shallow aquifer zones that are above the source aquifer used for public water supply. Obtaining approval prior to constructing a source and associate water system facilities (such as treatment and storage) ensures the facility is planning and constructing a source and water system facilities that meet Pennsylvania's construction standards. This will avoid the costs for rehabilitating an improperly constructed source and avoid delays in obtaining approvals to operate the water system.

Address Gaps in Monitoring, Reporting and Tracking Back-up Sources: These amendments address concerns related to gaps in the monitoring, reporting and tracking of back-up water sources and entry points. As required under Commonwealth and Federal regulations, all sources and entry points must be included in routine compliance monitoring to ensure water quality meets safe drinking water standards. Sources and entry points that do not provide water continuously are required to be monitored when used. However, monitoring requirements for back-up sources are not currently tracked, which means that verifiable controls are not in place to ensure that all sources and entry points meet safe drinking water standards. Some of these sources have not been used in 5 to 10 years, and, therefore, the Department does not know the water quality for these sources. These amendments will ensure that all sources and entry points are monitored when used. PWSs will also be required to document in a comprehensive monitoring plan how routine compliance monitoring will include all sources and entry points.

Compliance Costs

Proactively avoiding incidents such as waterborne disease outbreaks can prevent loss of life, reduce the incidents of illness and reduce health care costs. For example, it is estimated that the total cost of the May 2000 *E. coli* contamination incident in Walkerton, Ontario was \$64.5 million. Costs related to the 1993 waterborne outbreak of cryptosporidiosis in Milwaukee, Wisconsin were \$96.2 million. Waterborne disease outbreaks result in significant economic and health impacts and can have long-term impacts due to the loss of trust in public water systems.

The fees are necessary to improve program performance and will supplement Commonwealth costs for administering the Safe Drinking Water Program. Program costs are directly tied to the resources needed to meet Federal and Commonwealth mandates for minimum program elements and for the administration of an effective State Drinking Water Program. Failure to meet minimum program elements may result in an increased risk to public health and the loss of primacy for the Safe Drinking Water Program and associated Federal funding.

Source water protection and permitting requirements: Approximately 30 new CWS sources are permitted each year. The Department estimates that an additional 8 hours of work completed for the CWS by a professional geologist will be needed to comply with the new source permitting

amendments. This extra time will amount to approximately \$1,176 per source permitted, based on current hourly rates charged by consulting firms.

Revisions to turbidity monitoring, recording and reporting requirements: Filter plants that need to install continuous monitoring and recording devices will need to spend about \$3,000 - \$4,000 per monitoring site (includes turbidimeter, controller and installation), with estimated annual costs for maintenance and calibration of \$500 per plant. It is estimated that 21 filter plants will need to install this equipment on individual filters and 52 filter plants will need to install this equipment at their combined filter effluent monitoring site.

Automatic Alarms and Shutdown Capabilities: Depending on options chosen, systems may incur \$8,860 to \$11,980 per treatment plant with annual maintenance costs of \$600. Note: it is estimated that 317 of the 353 filter plants already meet these provisions and therefore will not incur any additional costs.

Major comments received on the proposed rulemaking are described as follows. IRRC commented that the current state of the Program, which is the cumulative result of numerous decisions made over many years, is cause for serious concern regarding protection of the public health, safety and welfare. The Safe Drinking Water Act (SDWA) not only envisions, but directs the Board to establish fees to cover services. IRRC asked for explanation as to why services were cut rather than gradually raising fees over time and how the budget will be monitored going forward. The Department explained that a fee increase was put forward in 2010 but halted due to circumstances beyond the control of the Department at that time. The Department provided assurance that protocols have been put into place to ensure the budget will be properly monitored going forward and the SDW program will provide updates to the Board every three years to ensure ongoing monitoring and tracking. Further, the Department is accountable to the EPA to ensure that the SDW Program meets all primacy and grant conditions and is at least as stringent as the Federal program. Annual and triennial reports are required to track performance. Also, the Department provides on its website all compliance monitoring results, violations and enforcement actions, and inspection results for all 8,521 PWSs.

Public comments opposing the proposed fees, and even those supporting them, challenged the methodology for assessing the fees. Commenters questioned whether fees based on parameters including population served, public water system identification number and system construction, bear a reasonable relationship to the actual cost of the services provided by the Department. The Department analyzed the cost of providing services to administer the SDWA and its regulations. The cost of some services can be estimated, while the cost of other services depends on specific circumstances and will vary widely. The annual fees could have been based solely on the costs for the services that could be estimated. However, that approach would have resulted in a disproportionate impact on the smallest CWSs and would have failed to account for the additional costs incurred by the Department to provide services that cannot be readily estimated, which result in substantially higher costs for medium and large water systems. Thus, the annual fees were developed, to the extent possible, to bear a reasonable relationship to the actual costs of the services provided while achieving a reasonable cost to the 11.3 million customers served.

Commenters discussed areas of the proposed regulation that were more stringent than Federal requirements, and they noted concern with the increased regulation relative to lack of staff and increased fees. The Department amended or deleted several provisions in response to the Small Water

Systems Technical Assistance Center Advisory Board (TAC) and public comments. The more stringent provisions are designed to help reduce the occurrence of violations, treatment breakdowns and water supply emergencies, thereby improving system resiliency and reliability and reducing the need for the Department staff resources to respond to these emergency situations.

IRRC noted the comments related to the proposal to reduce acceptable turbidity levels, making the maximum level more stringent than Federal standards. The Department deleted those provisions, deferring action at this time.

The rulemaking adds the requirement that "at a minimum, all entry points shall provide water to the public on an annual basis to ensure all sources and entry points are included in routine compliance monitoring." IRRC requested that the preamble address the economic impact and feasibility of requiring all entry points to provide water to the public, as well as the implementation schedule. Clarifications were made to this section of the rulemaking in response to public, TAC, and IRRC comments.

IRRC asked for clarification related to the pre-drilling plan and source water assessment requirements of this provision in the final regulation. The Department explained that predrilling plans and source approvals are coordinated with other agencies such as the Susquehanna River Basin Commission (SRBC), the Delaware River Basin Commission (DRBC), etc. Pre-drilling plans and subsequent approvals of potential production well site locations have required as part of the permitting process since at least 1997. Other more detailed explanation is provided in the preamble.

IRRC requested clarification related to NSF certification requirements. NSF certification requirements are long-standing and are intended to ensure the safety and efficacy of materials and equipment that come into contact with water.

Public commenters and IRRC also requested clarification and explanation related to triggered monitoring requirements for groundwater sources, specifically related to the deletion of the existing opportunity to collect five additional source water samples to confirm if there is a problem. EPA approves analytical methods based on the reliability of a method to have a low risk of samples being false positive or false negative. A risk to public health exists because the five additional samples may miss detecting the fecal contamination. In other words, the fecal contamination that was detected in the original sample was a true positive; however, because contamination is neither constant nor immobile, the five additional samples may miss detecting the contamination event.

The final-form rulemaking was presented to the TAC Board on December 7, 2017. Final written comments were received on December 22, 2017. The TAC Board made ten recommendations:

- Five of the recommendations were incorporated into this final-form rulemaking.
- TAC recommended that electronic submission of Consumer Confidence Reports (CCRs) to DEP be allowed as an environmentally prudent option. DEP continues to investigate options for water suppliers to submit reports electronically, and intends to move forward with promulgating a regulation to implement this recommendation as soon as a system is available to accept electronic submissions.

May 11, 2018

- TAC made three recommendations regarding NSF certification. These were not incorporated because NSF certification has been a long-standing requirement to ensure the safety and efficacy of materials and equipment that come into contact with water.
- TAC made recommendations regarding the elimination of the fees and whether the fees bear a reasonable relationship to the cost of services. These comments are addressed throughout the preamble to the final rule.

TAC Board comments on the final rulemaking as well as all public comments and IRRC comments have been addressed. Responses to all public comments and IRRC comments are included in the comment and response document that is included with this rulemaking package.

The Department will provide assistance as necessary to facilitate IRRC's review of the enclosed rulemakings under Section 5.1(e) of the Regulatory Review Act.

Please contact me by e-mail at ledinger@pa.gov or by telephone at 717.783.8727 if you have any questions or need additional information.

Sincerely,



Laura Edinger
Regulatory Coordinator

Enclosures



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

I.D. NUMBER: 7- 492

SUBJECT: Control of VOC Emissions from Industrial Cleanly Solvents; General Provisions; Aerospace Manufacturing & Rework; and Additional RACT Requirements for Major Sources of NOx + VOCs

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 Tolerated Regulation
 - a. With Revisions
 - b. Without Revisions

2018 MAY 11 A 11:33

RECEIVED
IRRC

FILING OF REGULATION

DATE	SIGNATURE	DESIGNATION
5/11/18	<i>Shelley K. Kleener</i>	Majority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <i>Representative John Maher</i>
5/11/18	<i>Frank Nitzberg</i>	Minority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <i>Representative Mike Carroll</i>
5/11/18	<i>Patricia Colby</i>	Majority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <i>Senator Celine Yano</i>
5/11/18	<i>Carly Simpson</i>	Minority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <i>Senator John Yudichak</i>
5/11/18	<i>Rep. F. Hoff</i>	INDEPENDENT REGULATORY REVIEW COMMISSION <i>David Sumner</i>
_____	_____	ATTORNEY GENERAL (for Final Omitted only)
_____	_____	LEGISLATIVE REFERENCE BUREAU (for Proposed only)

