



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

CONTROL OF VOC EMISSIONS FROM
FLEXIBLE PACKAGING PRINTING PRESSES,
OFFSET LITHOGRAPHIC PRINTING PRESSES AND
LETTERPRESS PRINTING PRESSES,
and
ADHESIVES, SEALANTS, PRIMERS AND SOLVENTS

25 Pa. Code Chapters 121, 129 and 130

42 Pa.B. 779 (February 11, 2012)

Environmental Quality Board Regulation #7-469
(Independent Regulatory Review Commission #2930)

Comment and Response Document

Bureau of Air Quality

Flexible Packaging Printing Presses;
Offset Lithographic Printing Presses and Letterpress Printing Presses; and
Adhesives, Sealants, Primers and Solvents

On February 11, 2012, the Environmental Quality Board (Board, EQB) published a *Pennsylvania Bulletin* notice of public hearings and written comment period on the proposed amendments to Chapters 121, 129 and 130 (relating to general provisions; standards for sources; and standards for products) for flexible packaging printing presses, offset lithographic printing presses, letterpress printing presses and adhesives, sealants, primers and solvents (42 *Pa.B.* 779). The proposed rulemaking amends terms and definitions in § 121.1 (relating to definitions) and adds provisions to Chapters 129 and 130 for the control of emissions of volatile organic compounds (VOC) from flexible packaging printing presses, offset lithographic printing presses and letterpress printing presses. The proposed rulemaking also makes clarifying amendments to §§ 129.77 and 130.703 (relating to control of emissions from the use or application of adhesives, sealants, primers and solvents; and exemptions and exceptions).

The comment period opened on February 11, 2012, and closed on April 16, 2012. Three public hearings were held on the proposed rulemaking as follows:

March 14, 2012 1:00 PM	Department of Environmental Protection Southwest Region Office Upper Allegheny Conference Room 400 Waterfront Drive Pittsburgh, PA 15222-4745
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March 15, 2012 1:00 PM	Department of Environmental Protection Southeast Regional Office Delaware Conference Room 2 East Main Street Norristown, PA 19401
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March 16, 2012 1:00 PM	Department of Environmental Protection Rachel Carson State Office Building Conference Room 105 400 Market Street Harrisburg, PA 17105
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This document summarizes the written comments received during the public comment period as well as those received from the Independent Regulatory Review Commission (IRRC). No testimony was received during the public hearings. The Board invited each commentator to prepare a one-page summary of the commentator's comments. No one-page summaries were submitted to the Board for this rulemaking. Each comment is listed with the identifying commentator number for each commentator that made the comment. A list of the commentators, including name and affiliation (if any), can be found on page 4 of this document.

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

Copies of all comments received are posted on the web site of the Independent Regulatory Review Commission (IRRC) at <http://www.irrc.state.pa.us>. Search by Regulation # 7-469 or IRRC # 2930.

Acronyms used in this Comment/Response Document

BAT – Best Available Technology
BAQ – Bureau of Air Quality
CTG – Control Techniques Guideline
EMAP – Environmental Management Assistance Program
EPA – United States Environmental Protection Agency
FPP – Flexible Package Printing
GAA – Graphics Arts Association
GP – General Permit
GPA – General Plan Approval
HAP – Hazardous Air Pollutant
IRRC – Independent Regulatory Review Commission
LLP – Lithographic Printing and Letterpress Printing
MACT – Maximum Achievable Control Technology
NESHAP – National Emission Standard for Hazardous Air Pollutant
NSR – New Source Review
OTR – Ozone Transport Region
PADEP – Pennsylvania Department of Environmental Protection
RACT – Reasonably Available Control Technology
SIP – State Implementation Plan
TPY – Tons per Year
TSD – Technical Support Document

Frequently Referenced Materials

FPP CTG – *Control Techniques Guidelines for Flexible Package Printing*, EPA 453/R-06-003, Office of Air Quality Planning and Standards, EPA, September 2006

LLP CTG – *Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing*, EPA 453/R-06-002, Office of Air Quality Planning and Standards, EPA, September 2006.

The CTGs are available on EPA's website at:
www.epa.gov/airquality/ozonepollution/SIPToolkit/ctgs.html.

Table of Commentators for the Environmental Quality Board
Flexible Packaging Printing Presses; Offset Lithographic Printing Presses and
Letterpresses Printing Presses; Adhesives, Sealants, Primers and Solvents
Rulemaking EQB #7-469
(IRRC #2930)

ID	Name/Address	Submitted one page Summary for distribution to EQB	Provided Testimony	Requested Copy of Final Rulemaking following EQB Action
1	Ms. Doreen Monteleone, PhD Director of EHS, Membership & Special Projects Flexographic Technical Association 3920 Veterans Memorial Highway Suite 9 Bohemia, NY 11716			
2	Mr. Craig Timm Manager, Public Affairs Domtar Regional Public Affairs Office 301 Point Basse Avenue Nekoosa, WI 54457-1422			
3	Mr. Howard Hofmeister Director, Environmental Affairs Bemis Company, Inc. P.O. Box 2968 Oshkosh, WI 54903-2968			
4	Ms. Margaret Baumhauer President, The Graphic Arts Association 1210 Northbrook Drive Suite 250 Trevose, PA 19053			
5	Mr. David Sumner Executive Director Independent Regulatory Review Commission (IRRC) 333 Market Street, 14 th Floor Harrisburg, PA 17101			

General Support of Proposed Rulemaking

1. Comment: A commentator supports the Department overall in its use of the EPA’s 2006 Control Techniques Guidelines (CTG) for flexible package printing. (1)

Response: The Department of Environmental Protection (Department, DEP) thanks the commentator for the support.

2. Comment: A commentator supports the Department overall in its use of the EPA’s 2006 CTG for offset lithographic printing and letterpress printing. (4)

Response: The Department thanks the commentator for the support.

Effect of printing industry emissions on the environment

3. Comment: An overall negative effect of small printers to the environment doesn’t seem to be clearly shown. (2)

Response: The Department disagrees. Both the Flexible Package Printing (FPP) CTG and the Offset Lithographic and Letterpress Printing (LLP) CTG provide emission estimates and impacts of the emissions from the printing industry. For instance, page 3 of the FPP CTG states: “In section 183(e), Congress directed EPA to assist States in achieving VOC emission reductions from consumer and commercial products. These products individually may result in relatively small amounts of VOC emissions, but, in the aggregate, they contribute significantly to ozone formation in nonattainment areas.”

Furthermore, 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 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 in place of a National regulation for a product category when the EPA determines that the CTG will be “substantially as effective as regulations” in reducing emissions of VOC in ozone nonattainment areas. In 1995, the EPA listed flexible packaging printing materials, lithographic printing materials and letterpress printing materials on its section 183(e) list and, in 2006, issued CTGs for flexible packaging printing materials and for offset lithographic printing and letterpress printing materials. See 60 FR 15264 (March 23, 1995) and 71 FR 58745 (October 5, 2006).

Definitions

4. Comment: A commentator wrote that several definitions need to be revised or added to provide clarity and consistency with the CTG. “Batch” should be revised to reflect that it applies to both fountain solutions and “cleaning solution” and definitions should be added for “cleaning solution,” “heatset” and “non-heatset.” The commentator provided suggested language to revise the definitions in accordance with the comment. (4)

Response: The Department revised the definition of “batch,” which already applies to “fountain solution,” to also apply to “cleaning solution,” as requested by the commentator.

The Department added a definition of “cleaning solution” using wording similar to that provided by the commentator.

The Department added definitions for “heatset” and “non-heatset” using some of the commentator’s suggested language and also using information available in the CTG. Under the definition of “non-heatset,” the polymerization curing processes of infrared drying, ultraviolet curing and electron beam curing are included.

5. Comment: The Independent Regulatory Review Commission (IRRC) believed the clarity of the rulemaking would be improved by defining the term “heatset.” (5)

Response: The Department added a definition for “heatset” to § 121.1 (relating to definitions) in the final-form rulemaking. Please see the response to Comment No. 4 concerning the added “heatset” language.

6. Comment: The commentator and IRRC recommended that “thin metal” be deleted from the definitions of “lithographic plate” and “lithographic printing,” because plates can also be made from paper or plastic. IRRC further noted that this language also appears in the definition of “offset lithographic printing.” (4, 5)

Response: The Department agrees and has removed the words “thin metal” from the definitions of “lithographic plate,” “lithographic printing” and “offset lithographic printing.”

7. Comment: The commentator and IRRC requested the acronyms MSDS and CPDS be explained or defined for clarity in the subsection in which they first appear, namely § 129.67b(e)(2)(ii). The commentator suggested wording. (4, 5)

Response: The Department agrees that the acronyms MSDS and CPDS should be defined. In fact, both terms are already defined in § 121.1, as they are used in other portions of *25 Pa. Code* Chapters 121—145. Since both terms are already defined in § 121.1, the Department did not move the definitions into § 129.67b(e)(2)(ii). Instead, the Department revised the definition of “CPDS” in § 121.1 to make it applicable to § 129.67b and left the generally-applicable definition of “MSDS” as is.

8. Comment: IRRC commented that under § 121.1, relating to definitions, the new definition of “batch” begins with the phrase “For purposes of § 129.67b ...”, the new definition of “first installation date” begins with the phrase “For purposes of § 129.67a . . . and 129.67b . . .” and the new definition of “varnish” begins with the phrase “For purposes of § 129.67b . . .” Since these definitions are specific to the sections referenced in each definition, IRRC suggested that the definitions be moved to those particular sections. (5)

Response: The Department agrees with the suggestion to move the definition of “first installation date.” The Department moved the definition into Table 1 in § 129.67a, where the term is used in the table headers. The Department also moved the definition into § 129.67b(d)(1), where the term is used in § 129.67b(d)(1)(i) and the definition fits comfortably in § 129.67b(d)(1)(ii).

The Department considered the recommendation to move the definition of the term “batch” to § 129.67b, but has left it in § 121.1, along with the rest of the definitions for this rulemaking. The term’s definition is lengthy and does not fit well into § 129.67b, where the term appears in paragraphs (e)(2) and (e)(3). The wording “For purposes of § 129.67b” is necessary in § 121.1, because the term “batch” appears in unrelated definitions in § 121.1 and also in unrelated §§ 129.17, 129.63 and 123.22 (relating to Kraft pulp mills; degreasing operations; and combustion units).

Similarly, the Department has left the term “varnish” in § 121.1, as its definition also does not fit well into § 129.67b, where the term appears in subsections (a), (d), (f), (h) and (l). Further, the term is used in the definition of the term “non-heatset” newly added to § 121.1. The wording “For purposes of § 129.67b” is necessary in § 121.1, because the term “varnish” also appears in unrelated § 129.102 (relating to emission standards) and in three unrelated sections in Chapter 130, Subchapter C (relating to architectural and industrial maintenance coatings).

9. Comment: IRRC commented that the last sentence of the definition of “first installation date” found in § 121.1 is substantive and should be moved to the appropriate section or sections of the rulemaking. (5)

Response: The Department agrees and has moved the definition and substantive language of the term “first installation date” into Table 1 of § 129.67a and into § 129.67b(d)(1)(ii), as explained in the response to Comment No. 8.

Applicability

10. Comment: Conservative material use estimates should be followed that would allow facilities to determine applicability by tracking material use volumes rather than completing complex and time-consuming calculations. (2, 4)

Response: The Department disagrees that the regulation should contain material usage tracking limits for purposes of applicability. The Department has not included the suggested limits in the final-form rulemaking. The Department consulted with the EPA on this matter and has decided not to create a separate applicability criterion based on material use limits since the lower applicability limits are based on ACTUAL emissions of 450 pounds per month and 2.7 tons per 12-month rolling total, before consideration of add-on controls. The Department plans to include material use information in a Frequently Asked Questions document or Fact Sheet to assist owners and operators in making a preliminary determination of whether they might be subject to the regulation.

Additionally, the Department has added flexibility by removing the “per day” applicability level and by allowing actual emissions to be estimated by using the highest VOC content in any material in a class to represent that class of materials.

Furthermore, the Department and staff of the Environmental Management Assistance Program (EMAP) are willing to work with the GAA on its toolkit for GAA members to provide assistance with the emission calculations when necessary. The Pennsylvania Small Business Development Centers EMAP is a partnership funded, in part, through the Departments of Community and Economic Development and Environmental Protection, the U.S. Small Business Administration, and the participating colleges and universities. EMAP offers free and confidential environmental assistance to small businesses on a non-discriminatory basis.

11. Comment: The material use approach makes it much easier for facilities to determine their applicability and was approved by the EPA in its *PTE Guidance for Specific Source Categories* released on April 14, 1998. The commentator suggested specific numeric edits and language to revise the section in accordance with the comment. (4)

Response: The Department does not agree that it is technically advisable to use Potential to Emit (PTE) guidance to determine ACTUAL emissions. The Department believes that, since the EPA did not reference the PTE guidance document in the LLP CTG document when it referenced other documents, the EPA did not intend the PTE guidance to be used to determine applicability for the offset lithographic printing and letterpress printing source categories. Furthermore, the levels suggested by the commentator seem not to take into account the “50% of the major source threshold margin of safety factor” suggested by the PTE guidance document. Therefore, the Department is not including material use thresholds as an applicability criterion in the final-form rulemaking. Please also see the response to Comment No. 10.

12. Comment: The commentator stated that proposed § 129.67b(a)(1)(i) is not consistent with the CTG because in the CTG the exemption threshold of a potential to emit, prior to controls, of at least 25 tpy of VOC emissions applies only to the emissions of VOC from petroleum ink oil and not to total VOC emissions from the press dryer as was proposed. The commentator suggested language to revise the section in accordance with the comment. IRRC acknowledged comments regarding certain sections of the rulemaking being inconsistent with the CTG. IRRC referenced proposed § 129.67b(a)(1)(i) –(iii) and asked the Board to explain the need to deviate from the CTG. (4, 5)

Response: The Department disagrees that the final-form rulemaking should be revised to account for only some, but not all, of the potential VOC emissions from the dryers, prior to controls, of heatset web offset lithographic printing and letterpress printing operations in determining applicability. Even though the LLP CTG recommends basing the “potential to emit” applicability threshold on potential emissions from the dryer, prior to controls, of VOCs from ink oils, basing the threshold on potential emissions, prior to controls, of all VOC emissions from the dryer is also reasonable. The majority of the potential VOC emissions will come from the ink oils and implementation of the add-on air pollution control measure requirements will

continue to be cost-effective even if the small amounts of potential VOC emissions from coatings and adhesives are included.

The Department had detailed discussions with EPA Region 3 concerning this issue. It was generally understood that lithographic printing presses and letterpress printing presses would have small to no amounts of adhesives and coatings going through the press as compared to flexible package printing presses; therefore, for lithographic printing, the majority of potential VOC emissions would be from ink oil and the applicability would effectively be only to potential VOC emissions from heatset inks.

The EPA provides in the CTGs that the recommendations are guidance and states may promulgate applicability criteria that differ from those recommended in the CTG. For instance, the EPA explains on page 3 of the LLP CTG:

“This CTG provides control recommendations for reducing VOC emissions stemming from the use of fountain solutions, cleaning materials and inks in offset lithographic printing and cleaning materials and inks in letterpress printing. This section addresses EPA’s recommendations as to the scope of entities to which the RACT recommendations in this CTG should apply. As explained above, this document is guidance and provides information for States to consider in determining RACT. When State and local pollution control agencies develop RACT rules, they may elect to adopt control approaches that differ from those described in this document and/or promulgate applicability criteria that differ from those recommended here.”

Several nearby states similarly base this “potential-to-emit” applicability threshold on the VOC emissions from more than just inks. For instance, New York’s regulation is based on the VOC emissions from inks, coatings and adhesives used on the press (see, N.Y. COMP. CODES R. & REGS. Tit. 6, § 234.3(b)(1); Maryland’s regulation is based on all VOC emissions from the press (see, MD. CODE REGS. 26.11.19.11(e)); and Connecticut’s regulation is based on all VOC emissions from the dryers prior to control (see, CONN. AGENCIES REGS. § 22a-174-20(gg)(4)).

After considering this comment and the other information described in this response, the Department determined that no changes to this provision are being made in the final-form rulemaking.

13. Comment: Proposed § 129.67b(a)(1)(ii) and (iii) express the applicability threshold in terms of 15 pounds per day or 2.7 tons per year. This should be revised to reflect a single annual limit of 3 tons per year over a 12-month rolling period, which the EPA has defined as one of several options for an acceptable applicability threshold. The commentator suggested language to revise the section in accordance with its comment. IRRC acknowledged comments regarding certain sections of the rulemaking being inconsistent with the CTG, referencing proposed §§ 129.67a(a)(1)(ii) and 129.67b(a)(1)(i)-(iii), and asked the Board to explain the need to deviate from the CTG. (4, 5)

Response: The Department has considered the comments but disagrees with using only an annual limit for the applicability threshold for actual VOC emissions, and with that limit being 3 tons per year (tpy) over a 12-month rolling period. The Department has established the

applicability threshold for actual VOC emissions in the final-form rulemaking as a per-month or as a per-12-month rolling period threshold. The Department has removed the proposed 15 pounds per day threshold. The monthly threshold provides the basis for evaluating the 12-month rolling period threshold. With regard to whether the 12-month rolling period threshold should be 3 tpy, the Department has historically used 2.7 tpy or 2.7 tons per 12-month rolling period as the equivalent to 15 pounds per day for surface coating and other VOC emission-control regulations. See, for instance, §§ 129.52, 129.52a and 129.52b (relating to surface coating processes; control of VOC emissions from large appliance and metal furniture surface coating processes; and control of VOC emissions from paper, film and foil surface coating processes). The Department derives 2.7 tpy as follows:

15 pounds per day x 365 days per year = 5475 pounds per year

5475 pounds per year / 2000 pounds per ton = 2.7375 tons per year

The Department keeps one decimal place for more accuracy; the EPA rounds 2.7 to 3.

Using 3 tpy in the printing rulemakings would be inconsistent with other air quality regulations in Article III of Title 25 of the *Pennsylvania Code*. The EPA provides in the CTGs that the recommendations are guidance and states may promulgate applicability criteria that differ from those recommended in the CTG.

14. Comment: The commentator states that the “per day” applicability threshold imposes daily recordkeeping which is not acceptable or technically feasible, given the nature of the printing industry and how it utilizes inks, fountain solutions, coatings, and other input materials. (4)

Response: In consideration of this comment and the recordkeeping comments received from other commentators, the Department has replaced the proposed “per day” applicability threshold for this industry sector with a 450 pounds per month applicability threshold in the final-form rulemaking. The monthly applicability threshold allows the owners or operators of all flexible packaging, lithographic printing and letterpress printing facilities to keep monthly records using purchase, use or production records.

A monthly applicability threshold for actual VOC emissions is consistent with the LLP CTG, which states on page 4: “In developing their RACT rules, State and local agencies should consider carefully the facts and circumstances of the affected sources in their States. As noted above, States can adopt the above recommended 15 lb/day actual emissions of VOC applicability criterion before consideration of controls, or an equivalent applicability level expressed on a monthly basis (e.g., 450 lb/month) or 12-month rolling basis (e.g., 3 tons per 12-month rolling period), or they can develop other applicability criteria that they determine are appropriate considering the facts and circumstances of the sources in their particular nonattainment areas.” Page 3 of the FPP CTG has a similar sentence. Therefore, considering the large number of small businesses that would be required to keep daily records to demonstrate applicability only, the Department decided instead to use the alternative monthly basis applicability level. Please also see the portion of the response to Comment No. 12 explaining the flexibility given to states.

Note that for certain other VOC regulations applying to other industry sectors, the Department has found daily recordkeeping to be acceptable and technically feasible. The Department agrees that a “per day” applicability threshold imposes daily recordkeeping.

15. Comment: Proposed § 129.67b(a)(2) excludes only the VOCs from adhesives that are applied via the printing presses. The commentator believes the exclusion needs to be expanded to cover all adhesive application in a graphic arts operation, primarily because of the types of adhesives used. Adhesives are not commonly applied by the press, but for those that are, they are the same adhesives that are applied via other pieces of equipment in the facility. The commentator further requested that adhesives used in graphic arts operations be excluded from the requirements of § 129.77, as well.

The commentator suggested language to revise §§ 129.67b(a)(2) and 129.77(l) in accordance with the comment. The commentator believes these revisions are necessary in order to avoid the confusion that would be caused by requiring the owners and operators of graphic arts facilities to comply with two separate regulations governing their VOC emissions: the lithographic and letterpress regulation or the flexographic printing regulation and the miscellaneous industrial adhesives regulation. (4)

Response: The Department thanks the commentator for the correspondence concerning this issue. However, the Department disagrees with the commentator that all VOC emissions from adhesive application facility-wide should be excluded from regulation under both proposed § 129.67b and § 129.77. Further, the commentator is mistaken in asserting that the proposed rulemaking excludes VOC emissions from adhesives used or applied on or with an offset lithographic printing press or letterpress printing press from being regulated under § 129.67b. Section 129.67b(a)(2) excludes emissions of VOCs from adhesives that are NOT used or applied on or with the printing press from regulation under § 129.67b. Emissions of VOC from adhesives that *are* used or applied on or with an offset lithographic printing press or letterpress printing press are subject to regulation under § 129.67b. The Department consulted with EPA Region 3 about applicability to VOC emissions from adhesives when drafting § 129.67b(a)(2) and revising § 129.77. Please also see the responses to Comments No. 12 and 16.

Integral to understanding these provisions is the meaning of “printing press,” as only adhesives used or applied on or with the printing press are subject to § 129.67b. The Department crafted the definition of “printing press” in consultation with the EPA to address the situations described in the commentator’s comments about how the adhesives used on the press versus the adhesives used elsewhere in the facility were to be regulated. The proposed rulemaking specifically included the following language in § 129.67b(a)(2) to direct the regulated community to other potentially applicable requirements:

“(2) VOCs from adhesives used at a facility that are not used or applied on or with an offset lithographic printing press or a letterpress printing press are not subject to this section and may be regulated under § 129.77 or Chapter 130, Subchapter D (relating to control of emissions from the use or application of adhesives, sealants, primers and solvents; and adhesives, sealants, primers and solvents).”

The Department retained this wording in the final-form rulemaking, as the Department believes it is reasonable and that the regulated parties have the technical capability to implement the different regulations. The Department notes further that proposed § 129.67b(a)(2) is redesignated as § 129.67b(a)(3) in the final-form rulemaking.

Please see the response to Comment No. 10 about available assistance for the owners and operators of affected facilities.

16. Comment: The commentator indicated that the printing industry submitted comments on September 26, 2011, to EPA Region III requesting that a modification of the applicability requirements for § 129.77 be made that would specifically exclude adhesives used in graphic arts from the requirements of § 129.77. The commentator included an appendix with its comments to the EPA to support this comment. (4)

Response: The September 26, 2011, comments to the EPA were submitted with reference to the EPA's proposed approval of the Pennsylvania SIP revision submittal to incorporate the adhesive and sealant rulemaking into the SIP. The EPA addressed the printing industry comments in its final action approving the SIP revision, stating that, "Pennsylvania's regulation for adhesives and sealants clearly addresses the adhesives and adhesive application activities regulated.... Thus, we believe the Pennsylvania regulations are clear that the adhesives used in printing operations were considered and that the state intended to cover those adhesives." The EPA approved the SIP revision on September 26, 2012, at 77 FR 59090. See page 59091 for the quoted material.

17. Comment: IRRC noted that a commentator suggested that the exemption under § 129.67b(a)(2) for VOCs from adhesives used at facilities that are not used or applied with an offset lithographic printing press or a letterpress printing press needs to be expanded to cover all adhesives applied in graphic art operations. IRRC further noted that § 129.67a(a)(3) contains a similar provision relating to flexible packaging printing presses. IRRC asked whether the Board considered expanding the exemption as suggested by the commentator. (5)

Response: Yes, the Department considered the comments and decided not to modify the final-form rulemaking in this area. Please see the responses to Comments No. 12, 15 and 16, which set forth the Department's reasoning. The Department notes further that proposed § 129.67b(a)(2) is redesignated as § 129.67b(a)(3) in the final-form rulemaking.

Recordkeeping

18. Comment: Several commentators commented that they believe the daily recordkeeping requirements in the proposed rulemaking would be burdensome to printers without any benefit. (1, 2, 4)

Response: In consideration of the recordkeeping comments received from these commentators, the Department replaced the "per day" applicability threshold -- which necessitated keeping daily material use records -- with a 450 pounds per month applicability threshold. Please also see the responses to Comments No. 14, 19 and 20.

In addition, the Department made several changes to streamline the recordkeeping requirements. For instance, the Department added language to the recordkeeping subsections that states: “Records maintained for compliance demonstrations may include purchase, use, production and other records.”

Furthermore, the Department has removed the requirement commented on, which specified records of particular parameters of each ink used. The Department added flexibility by including a paragraph that states:

“An owner or operator claiming exemption from a VOC control provision of this section based on potential or actual VOC emissions, as applicable, shall maintain records that demonstrate to the Department that the press or facility is exempt.”

The final-form rulemaking does not prescribe the records to be kept, but allows the owner or operator of the facility to calculate VOC emissions by whatever means are appropriate to demonstrate that the amount of emissions is below the level of actual or potential VOC emissions necessary to be exempted from the control provisions of the regulation.

Furthermore, language was added in the recordkeeping subsections allowing an owner or operator to group materials into classes using the highest VOC content in any material in a class to represent that class of materials. Please also see the response to Comment No. 23.

19. Comment: The minimum recordkeeping requirements as set out under § 129.67a(e)(1) should be narrowed to only apply to companies using a “compliant ink” approach to comply with the rulemaking (under § 129.67a(c)(1), (2) or possibly (4)). (3)

Response: The Department agrees. The recordkeeping requirements set forth under final-form § 129.67a(e)(1) for an owner or operator subject to § 129.67a(a)(1)(i) using an add-on air pollution control device are specific to the add-on air pollution control device and not to the inks used. Final-form § 129.67a(e)(2) requires the owner or operator subject to § 129.67a(a)(1)(i) that is NOT using an add-on air pollution control device (in other words, using the “compliant ink” approach) to maintain records of the as applied VOC content of inks, coatings and adhesives sufficient to demonstrate compliance with the limitations set forth under § 129.67a(c)(1) or (2). Proposed § 129.67a(c)(4), referenced in the comment, has been deleted at final because it was redundant. Please also see the response to Comment No. 24.

20. Comment: The compliance demonstration for sites choosing to meet the requirements of the rulemaking through the use of an add-on control device is to meet a minimum overall control efficiency. The compliance demonstration under this option is completely independent of the composition or quantity of the ink being used. Since the material specific records are not needed to demonstrate compliance with the provisions of the rulemaking, there is no environmental or compliance benefit to maintain them. We suggest the rulemaking set separate recordkeeping requirements specifically addressing appropriate records for the control device for sites meeting the rulemaking through § 129.67a(c)(3). (3)

Response: The Department agrees. The records required of an owner or operator subject to § 129.67a(a)(1)(i) using an add-on air pollution control device in accordance with § 129.67a(c)(3) are set forth under final-form § 129.67a(e)(1) and are specific to the add-on air pollution control device. Similar revisions were made to § 129.67b(f). See provisions added to §§ 129.67a(e) and 129.67b(f). In addition, the Department revised the final-form rulemaking to move the recordkeeping requirements relating to control devices from the compliance and monitoring portions of the final-form rulemaking (§§ 129.67a(d) and 129.67b(e)) to the recordkeeping sections (§§ 129.67a(e) and 129.67b(f)) of the rulemaking. Please also see the response to Comment No. 19.

21. Comment: Proposed § 129.67b(f) requires daily recordkeeping for a variety of parameters. This entire subsection should be deleted and replaced with the recordkeeping requirements that are necessary to demonstrate compliance with the actual limits in the rulemaking (documentation of the composition of fountain solutions and cleaning solvents). Recordkeeping of the composition of materials such as ink, varnish or coating, or the quantities of materials consumed are not relevant to demonstrating compliance. This type of recordkeeping is associated with determining VOC emissions and is contained in all plan approvals and operating permits issued to printing operations. (4)

Response: The Department disagrees that the entire subsection (f) of § 129.67b should be deleted. The Department agrees that the recordkeeping of fountain solution and cleaning solvent composition requirements is necessary to demonstrate compliance with the requirements set forth under § 129.67b(c)(1) and (2) and for determining applicability under § 129.67b(a).

The Department made several changes to streamline the recordkeeping requirements. For instance, the Department added language to the recordkeeping subsections that states: “Records maintained for compliance demonstrations may include purchase, use, production and other records.”

The Department has revised § 129.67b(f) to set forth recordkeeping requirements under final-form § 129.67b(f)(1) specific to the add-on air pollution control device for those owners or operators subject to § 129.67b(a)(1)(i) and further revised § 129.67b(f) to specify under final-form § 129.67b(f)(2) the cleaning solution and fountain solution records required. The Department has also revised § 129.67b(f) to specify under final-form § 129.67b(f)(3) to specify that “An owner or operator claiming exemption from a VOC control provision of this section based on potential or actual VOC emissions, as applicable, shall maintain records that demonstrate to the Department that the press or facility is exempt.”

In addition, the Department added flexibility to final-form § 129.67b(f)(4) by allowing an owner or operator to group materials into classes using the highest VOC content in any material in a class to represent that class of material, rather than requiring the actual VOC content of each individual material in the class be used for records. Please also see the responses to Comments No. 18-20 and 22.

22. Comment: In many instances daily recordkeeping is in direct conflict with the recordkeeping requirements that are included in plan approvals and operating permits issued to printing operations. The most common recordkeeping requirements are monthly. (4)

Response: The Department recognizes the commentator's concern. The Department has both revised the recordkeeping requirements in the final-form rulemaking and provided additional flexibility, as described in the responses to Comments No. 18-21.

23. Comment: Since the applicability threshold for permitting presses is 2.7 tons per year, which is equivalent to the proposed threshold for this regulation, there is no reason to deviate from the current approach which is to allow monthly recordkeeping of input materials and to allow for the grouping of such materials into classes using the highest VOC content in any material in that class to represent that class of material. The commentator suggested language to revise the section in accordance with the comment. (4)

Response: The proposed rulemaking had an applicability threshold of 15 pounds per day or 2.7 tons per 12-month rolling basis of VOC emissions. As discussed in the response to Comment No. 14, the "per day" applicability threshold would have required daily recordkeeping. However, in consideration of the recordkeeping comments received from commentators, the Department has replaced the "per day" applicability threshold with a 450 pounds per month applicability threshold. The Department revised the recordkeeping requirements so as not to prescribe the records to be kept, but rather to enable the owner or operator of the facility to calculate VOC emissions by whatever means are appropriate to demonstrate that the amount of emissions is below the level of actual or potential VOC emissions necessary to be exempted from the control provisions of the regulation. Further, the Department agrees that facilities can group like materials into classes to determine applicability. Please see the responses to Comments No. 18-21 for an explanation of revisions in the final-form rulemaking.

Emission limit options

24. Comment: A commentator noted that the compliance option of § 129.67a(c)(4) would appear to provide an equivalency approach where a site could meet the RACT rule by means of an averaging approach which would allow for use of non-complying materials using control efficiencies below those specified under § 129.67a(c)(3). We question whether it meets the intent of RACT as suggested in the CTG. IRRC acknowledged comments regarding certain sections of the proposed rulemaking being inconsistent with the CTG. IRRC referenced proposed § 129.67a(c)(3) and (4), and asked the Board to explain the need to deviate from the CTG. (3, 5)

Response: In considering this comment, the Department determined that proposed § 129.67a(c)(4) was redundant; therefore, the Department deleted the provision in the final-form rulemaking.

25. Comment: A commentator stated that proposed § 129.67b(c)(1)(i)(B) sets a VOC content limit of 30% VOC by weight. While this limit was included in the 1993 draft CTG for offset

lithography, it is superseded by the 70% VOC by weight content limit issued in the 2006 LLP CTG. The commentator submitted an excerpt from the CTG as support for its request that the proposed limit of 30% be revised to 70%. IRRC acknowledged this comment and asked the Board to explain the need to deviate from the CTG. (4, 5)

Response: As explained in the preamble to the proposed rulemaking, the Department proposed the 30% VOC by weight content limit for cleaning materials in part because a 30% VOC by weight content limit has been implemented in the Bureau of Air Quality-General Plan Approval/General Permit-7 (BAQ-GPA/GP-7) and BAQ-GPA/GP-10, which have been approved for use by permitted facilities since July 2, 1998, and July 3, 1999, respectively. These are the Department's general permits for sheet-fed offset lithographic printing presses and for non-heatset web offset lithographic printing presses, respectively. The limit of 30% VOC by weight content limit for cleaning materials is considered Best Available Technology (BAT) in the GPs; this limit has also been used in plan approvals and state-only operating permits. The Department specifically sought comment on this proposed provision in the preamble.

In considering comments received on the proposed 30% VOC by weight content limit for cleaning materials, the Department evaluated different options, including options to retain the 30% VOC by weight content limit while allowing flexibility, but the Department concluded that the most reasonable solution, on balance, is that suggested by the commentators. Consequently, the Department selected the CTG limit of 70% VOC by weight content limit for cleaning materials for the final-form rulemaking. Adopting the 70% VOC by weight content limit will not result in more VOC emissions from cleaning materials used at facilities subject to the final-form rulemaking than anticipated, since the emission reductions discussed in the proposed rulemaking were based on EPA calculations that used the CTG-recommended limit of 70%. Permits that already have the more stringent BAT limit of 30% VOC by weight content from cleaning materials will keep that limit to prevent backsliding. The Department notes further that the term cleaning materials in the proposed rulemaking has been revised to cleaning solutions in the final-form rulemaking.

26. Comment: The commentator noted that proposed § 129.67b(c)(1)(ii) allows a 55 gallon cleaning material allowance for those materials that do not meet the VOC limits in § 129.67b(c)(1)(i). The commentator believes that due to the nature of the equipment being cleaned, 55 gallons per year is not adequate to allow a facility to achieve the amount of cleaning required to be done with cleaning materials that do not meet the limit, and suggests an exclusion of 110 gallons per year as suggested in the LLP CTG. The commentator submitted an excerpt from the LLP CTG as support for its request that the proposed limit of 55 gallons be revised to 110 gallons. IRRC acknowledged this comment and asked the Board to explain the need to deviate from the CTG. (4, 5)

Response: As explained in the preamble to the proposed rulemaking, the Department proposed the 55 gallon limit because this limit has been implemented in BAQ-GPA/GP-7 and BAQ-GPA/GP-10, which have been approved for use by facilities since July 2, 1998, and July 3, 1999, respectively. These are the Department's GPs for sheet-fed offset lithographic printing presses and for non-heatset web offset lithographic printing presses. The limit of 55 gallons for non-compliant VOC solvent is considered BAT in the GPs; this limit has also been used in plan

approvals and state-only operating permits. The Department specifically sought comment on this proposed provision in the preamble. In considering the comments received on the 55 gallon limit, the Department evaluated different options, including options to retain the 55 gallon limit while allowing flexibility, but the Department concluded that the most reasonable solution, on balance, is that suggested by the commentators. Consequently, the Department selected the CTG limit of 110 gallons of non-compliant VOC solvent for the final-form rulemaking. Adopting the 110 gallon limit will not result in more VOC emissions than anticipated from cleaning activities performed by facilities subject to the final-form rulemaking, since the emission reductions discussed in the proposed rulemaking were based on EPA calculations that used the CTG limit of non-compliant VOC solvent usage of 110 gallons. Permits that already have the more stringent BAT limit of 55 gallons will keep that limit to prevent backsliding.

27. Comment: Proposed § 129.67b(c)(2)(i) is very confusing as currently written because it seems to be setting a single limit for alcohol content in all fountain solutions and the limit is the same one that is specified in § 129.67b(c)(2)(i)(A). The same comment applies to §§ 129.67b(c)(2)(ii) and 129.67b(c)(2)(ii)(A) as well. (4)

Response: The Department agrees that §§ 129.67b(c)(2)(i) and 129.67b(c)(2)(i)(A) are duplicative, as are §§ 129.67b(c)(2)(ii) and 129.67b(c)(2)(ii)(A). The Department revised the language in the final-form rulemaking to remove the repetitive language.

28. Comment: Proposed § 129.67b(c)(2)(i)(A) is not consistent with § 129.67b(c)(2)(i)(B) or (C). The words “Reducing the” in § 129.67b(c)(2)(i)(A) should be deleted and replaced with the word “Using.” The same comment applies for § 129.67b(c)(2)(ii)(A). (4)

Response: The Department agrees. The Department revised the provision in the final-form rulemaking to remove the word “reducing” and to base the provision on use.

29. Comment: Proposed §§ 129.67b(c)(2)(i), 129.67b(c)(2)(ii) and 129.67b(c)(2)(iii) should express the fountain solution content limit as “VOC content” and not as a specific material such as “alcohol” or “alcohol substitute,” as some printing operations are still using a combination of alcohol and alcohol substitutes in their fountain solution. Using “VOC content” will allow for this situation. The commentator suggested language to revise the section in accordance with the comment. (4)

Response: The Department agrees that using “VOC content” in place of “alcohol” or “alcohol substitute” is an acceptable change. Upon consultation with the EPA, review of other states’ regulations, and review of the Department’s own general permits BAQ-GPA/GP-7) and BAQ-GPA/GP-10, which use “VOC content,” the Department has replaced the “alcohol” or “alcohol substitute” limits with VOC content limits since alcohols are VOCs and the commentator has a point that other VOCs may be present.

30. Comment: Proposed §§ 129.67b(d)(1) and (2) and 129.67b(d)(2)(iii) are confusing because of the exclusions contained in each. Furthermore, the applicability language of § 129.67b(d)(1) duplicates that of § 129.67b(a)(1)(i). The commentator suggested language to revise the section in accordance with the comment. (4)

Response: The Department thanks the commentator for expressing the confusion. The Department revised § 129.67b(d)(1) through (4) to remove the duplicative language found in subsection (d)(1), and changed the order of the remaining paragraphs to clarify what is excluded.

31. Comment: Proposed §§ 129.67b(d)(3) and (d)(4) should be renumbered to reflect the changes discussed in Comment No. 30. (4)

Response: The paragraphs have been appropriately renumbered in the final-form rulemaking. Please also see the response to Comment No. 30.

Control Options

32. Comment: The commentator noted that proposed § 129.67b(d)(4)(i) should be revised by deleting the word “overall” and replacing it with “destruction” so that it is consistent with the LLP CTG and does not introduce an unnecessary compliance demonstration for capture testing. The term “overall” is used to describe a requirement that is the product of both the capture of VOC emissions and their subsequent destruction by the use of a capture/control system. IRRC acknowledged comments regarding certain sections of the rulemaking being inconsistent with the CTG. IRRC referenced proposed § 129.67b(d)(4)(i) and asked the Board to explain the need to deviate from the CTG. (4, 5)

Response: The Department agrees with the description of “overall” efficiency as it refers to “capture” x “destruction” efficiencies. The final-form rulemaking means to limit the control (destruction) efficiency of any type of add-on air pollution control device including a thermal oxidizer or other approved device.

The Department has revised § 129.67b(d)(1)(i) in the final-form rulemaking to replace the word “overall” with “control.” The Department believes this change is warranted due to the following other changes in the final-form rulemaking. Section 129.67b(d)(1) requires that the heatset dryer pressure must be maintained lower than the press room area pressure so that air flows into the heatset dryer at all times when the press is operating. This is operating at negative pressure. Since the unit is required to operate at negative pressure, the owner or operator of the facility may use the capture efficiency factor of 100% added under final-form § 129.67b(l)(2)(i) in the calculation of overall efficiency for control (destruction) of volatilized ink oils from oil-based heatset paste inks and varnishes. The use of 100% is equivalent to 1 (that is, 100/100), which would mean that control (destruction) efficiency and overall efficiency would be equal.

The final-form rulemaking has also been revised to clearly state that capture efficiency testing is not required for offset lithographic and letterpress printing presses in the compliance and monitoring subsection (e)(1)(iv). Please also see the response to Comment No. 33.

33. Comment: The commentator noted that the EPA has stated in both the LLP CTG and the Technical Support Document for Title V Permitting of Printing Operations that capture testing is not required and that only a one time demonstration is necessary to demonstrate that the air flow is into the dryer. (4)

Response: The Department agrees. The Department has removed the capture efficiency testing requirement from § 129.67b(h) and added § 129.67b(e)(1)(iv), which states: “The negative dryer pressure shall be established during the initial test using an air flow direction indicator, such as a smoke stick or aluminum ribbons, or a differential pressure gauge. Capture efficiency retesting and continuous dryer air flow monitoring are not required.”

34. Comment: The commentator noted that proposed § 129.67b(d)(4)(ii) should be revised to reflect that in addition to presses with a low inlet concentration, a press with a combination dryer/oxidizer unit does not have an inlet that meets the requirement for testing. The commentator suggested language to revise the section in accordance with the comment. IRRC acknowledged this comment and requested that if the concern can be addressed while meeting the required EPA standards, that the Board please do so. (4, 5)

Response: The Department agrees and has revised the final-form rulemaking to allow the owner or operator of a press with a combination dryer and oxidizer, or other control equipment configuration without an identifiable, measurable inlet, to apply for an alternative limit. The Department further notes that proposed § 129.67b(d)(4)(ii) is redesignated as § 129.67b(d)(1)(iii) in the final-form rulemaking.

35. Comment: Proposed § 129.67b(d)(4)(ii) should be revised to eliminate the requirement to seek an alternative limit in writing since that issue would be addressed at the time of permitting a press, thus making the requirement redundant as it imposes an unnecessary administrative burden. The commentator suggested language to revise the section in accordance with the comment. IRRC acknowledged this comment and requested that if the concern can be addressed while meeting the required EPA standards, that the Board please do so. (4, 5)

Response: The Department disagrees that the alternative limit issue would always be resolved at the time of permitting a press and that the proposed regulatory requirement is therefore redundant and imposes an unnecessary administrative burden. For existing permitted presses subject to the rulemaking requirements upon final-form publication in the Pennsylvania Bulletin, the compliance date of the final-form rulemaking would be after the issuance of the original plan approval or permit and would not supersede existing plan approval or permit requirements unless the plan approval or permit requirements are less stringent than the requirements in the final-form rulemaking. For a new press subject to the final-form rulemaking and installed after final-form publication of the requirements in the Pennsylvania Bulletin, that uses a combination dryer and oxidizer, the alternative limit could be requested at the time of plan approval, but BAT may require a more stringent limit than the default limit in the final-form rulemaking.

Whether an alternative limit is obtained through a plan approval, permit or other written approval from the Department, as appropriate, it is important from an environmental standpoint that the Department consider and approve (or disapprove) the request in writing, as an alternative limit could be less stringent than the 90% or 95% required efficiency. The final-form rulemaking continues to require a written request and specifies the information required for the Department to make the appropriate determination. The Department further notes that the language of

proposed § 129.67b(d)(4)(ii) is revised as set forth in § 129.67b(d)(1)(iii) and (iv) in the final-form rulemaking.

Compliance and Monitoring

36. Comment: Proposed § 129.67b(e) contains both monitoring and recordkeeping requirements. The recordkeeping requirements should be removed and placed into § 129.67b(f) which is dedicated to recordkeeping. (4)

Response: The Department agrees. The recordkeeping requirements have been moved to subsection (f) in the final-form rulemaking.

37. Comment: The term “incinerator” in § 129.67b(e)(1)(i)(A) and (B) should be deleted and replaced with the term “oxidizer” as “oxidizer” is a more accurate term to use when describing add-on control devices used to control emissions from printing presses. (4)

Response: The Department concurs and has replaced the term “incinerator” or “incineration” with the term “oxidizer” or “oxidation” throughout the final-form rulemaking. Corresponding changes were made in final-form § 129.67a.

38. Comment: Proposed § 129.67b(e)(1)(i)(A) and (B) should qualify the term “continuously” to indicate that the temperature is to be recorded at least every 15 minutes to be consistent with the guidance found in the EPA *TSD for Title V permitting of Printing Operations* document. IRRC acknowledged this comment and asked if the Board has considered requiring gauges be checked every 15 minutes. (4, 5)

Response: The Department concurs with the comment and has revised § 129.67b(e)(1) of the final-form rulemaking to require that the temperature be continuously monitored; the temperature reading must be recorded at least once every 15 minutes while the oxidizer is operating. The Department made similar revisions in final-form § 129.67a(d)(1).

39. Comment: Proposed § 129.67a(d)(3)(i)(A) and (B) require certain temperatures to be “continuously monitored and recorded daily.” How would a printing facility “continuously” monitor a temperature gauge? IRRC noted that another commentator commented on a similar provision found under § 129.67b(e), and IRRC asked if the Board has considered requiring gauges to be checked every 15 minutes? (5)

Response: Please see the response to Comment No. 38. The Department notes that proposed § 129.67a(d)(3)(i)(A) and (B) are redesignated at final as § 129.67a(d)(1)(i) and (ii).

40. Comment: Proposed § 129.67b(e)(1)(i)(B) requires daily monitoring of the inlet and exhaust gas temperatures of a catalytic unit. Monitoring the outlet temperature of a catalytic unit is not necessary as it provides meaningless data due to the variations in coverage on a per job or per day basis. The commentator included language from the EPA *TSD for Title V Permitting of*

Printing Operations to provide several examples of catalytic oxidizer temperature monitoring that clearly state only the inlet temperature is to be monitored. (4)

Response: The Department agrees that monitoring of only the inlet temperature should occur. The requirement to monitor outlet temperature on the catalytic unit has been removed from the final-form rulemaking in § 129.67a(d)(1)(i)(A) for flexible package printing and § 129.67b(e)(1)(i)(B)(I) for lithographic printing and letterpress printing.

41. Comment: The Department needs to provide guidance to address temperature monitoring for regenerative thermal oxidizers. Since the temperature that is measured during the compliance test becomes the minimum temperature at which the unit can operate, a provision needs to be added specifying that the temperature to be monitored must equal the lower of the minimum operating temperature or “set point” at which the unit is required to run or the temperature that was measured during the compliance test. (4)

Response: The Department agrees that the temperature that is measured during the compliance stack test becomes the minimum temperature at which the unit can operate; however, once compliance is demonstrated at that particular temperature, the “set point” may no longer guarantee compliance with the required control efficiency. The Department has revised final-form §§ 129.67a(d)(1)(i) and 129.67b(e)(1)(i)(A) to read that the “minimum combustion or operating temperature must be continuously monitored” to address this concern.

42. Comment: A new condition needs to be added that recognizes that temperature fluctuations can and do occur with properly operating oxidizers. The EPA recognized this situation in the *TSD for Title V Permitting of Printing Operations* and allows for a 50°F temperature fluctuation over a 3-hour average. The commentator suggested language to revise the section. (4)

Response: The Department agrees and has revised the final-form rulemaking to address this concern. Please see final-form §§ 129.67a(d)(2) and 129.67b(e)(1)(ii).

43. Comment: Proposed § 129.67b(e)(1)(ii)(A) should be revised to clarify that records of the oxidizer temperature must be retained rather than the hours of operation. The temperature monitoring and recording requirements of § 129.67b(e)(1)(i) provide the necessary documentation that the unit was operating. The commentator suggested language to revise the section in accordance with the comment. (4)

Response: The Department agrees. The final-form rulemaking requires records of only the oxidizer temperature because the clarification to recording the temperature from daily as proposed to once every 15 minutes in the final-form rulemaking provides enough data about when the oxidizer is operating. Please see final-form § 129.67b(f)(1) for the records required.

44. Comment: Proposed § 129.67b(e)(2)(iii)(B) should be revised to indicate that the calculation only needs to be performed once for each batch of fountain solution being used, not for each use of a batch of fountain solution. Since more than one fountain solution can be used on different presses in one operation, the calculation needs to be performed for each fountain solution. This is important as once the printing operation determines the proper mix ratio for its

fountain solution, the mix ratio is not altered. The commentator suggested language to revise the section in accordance with the comment. (4)

Response: The Department agrees with the comment and has revised the final-form rulemaking to require that the calculation be performed once for each recipe of fountain solution.

45. Comment: The commentator and IRRC questioned the necessity of permanently installing a temperature monitoring device for the fountain solution recirculating reservoir when a hand held thermometer is sufficient to accomplish the temperature monitoring requirement. The commentator suggested language to revise the section in accordance with its comment. IRRC further noted that § 129.67a(d)(3)(i) has a similar temperature monitoring requirement. (4, 5)

Response: The Department agrees that it is not necessary to permanently install a temperature monitoring device for the fountain solution recirculating reservoir; therefore, the Department has revised § 129.67b(e)(2)(iv) in the final-form rulemaking to delete proposed § 129.67b(e)(2)(iv)(A). The Department believes a hand-held thermometer could be used with the recording of the temperature reading being at least once per operating day. The Department further notes that proposed § 129.67b(e)(2)(iv)(B) has been revised in the final-form rulemaking to be part of § 129.67b(e)(2)(iv).

The Department disagrees that § 129.67a(d)(3)(i) could be modified in the same way as § 129.67b(e)(2)(iv) because § 129.67a(d)(3)(i) discusses monitoring the temperature of the control device, for which use of a hand-held thermometer is not sufficient. Therefore no changes to that section were made. The Department notes that proposed § 129.67a(d)(3)(i) has been redesignated in the final-form rulemaking as § 129.67a(d)(1).

46. Comment: It is not necessary to require permission to use a conductivity meter to monitor the alcohol concentration in fountain solution. This is an unnecessary and burdensome requirement that is not warranted. The commentator suggested language to revise proposed § 129.67b(e)(2)(v)(C) in accordance with the comment. (4)

Response: The Department agrees with the comment and has revised § 129.67b(e)(2)(v)(C) in the final-form rulemaking to remove the written request to the Department. Further, proposed § 129.67b(e)(2)(v)(C) is redesignated as § 129.67b(e)(2)(v)(B) in the final-form rulemaking.

47. Comment: Proposed § 129.67b(e)(3)(v)(B) should be revised to indicate that the calculation only needs to be performed once for each batch of cleaning solution being used, not for each use of a batch of cleaning solution. This is important as once the printing operation determines the proper mix ration for its cleaning solution, the mix ratio is not altered. The commentator suggested language to revise the section in accordance with the comment. (4)

Response: The Department agrees with the comment and has revised the final-form rulemaking to require that the calculation be performed once for each recipe of cleaning solution.

Sampling and Testing

48. Comment: Proposed § 129.67b(h) needs to be revised to reflect the testing requirements necessary for a successful destruction efficiency determination for an oxidizer used to control emissions from a heatset web offset lithographic press. The nature of the emissions from a heatset web offset lithographic press is such that simply following EPA protocols will result in failure forcing either re-testing or enforcement action.

The EPA has recommended in the *TSD for Title V Printing Operations* that compliance testing of the emissions from an add-on air pollution control device should be conducted at operating conditions representative of a typical production schedule. The commentator suggested language to revise the section in accordance with the comment. (4)

Response: The Department agrees that the proposed language for emissions testing could be clearer and has revised § 129.67b(h) in the final-form rulemaking using some of the suggested language.

The Department did not incorporate all of the suggested language relating to stack testing of an add-on air pollution control device. Stack testing of source emissions from an add-on air pollution control device must undergo a stack test protocol review by the Department prior to conducting the stack test. Certain operating conditions, such as temperatures, duration, frequency and loading, are based on the actual source and control device to be tested and should be specified in the stack test protocol submitted to the Departmental for review and approval in accordance with the procedures and test methods of 25 *Pa. Code* Chapter 139 (relating to sampling and testing).

49. Comment: A commentator suggested language for proposed § 129.67b(h) which specified an acceptable time frame for stack testing relative to the compliance date. (4)

Response: The Department agrees that the final-form rulemaking should specify the acceptable time frame for performance of the stack test and has added § 129.67b(h)(1)(ii).

50. Comment: A commentator suggested that continuous dryer air flow or pressure monitoring is not required to demonstrate constant negative pressure into the dryer, only an initial stack test. The commentator suggested language to revise proposed § 129.67b(h) in accordance with the comment. (4)

Response: The Department agrees. Final-form § 129.67b(d)(1) requires that negative pressure be maintained at all times the press is operating; otherwise, the owner and operator of the press cannot assume 100% capture of emissions from volatilized ink oils from oil-based heatset paste inks and varnishes into the dryer. The proposed § 129.67b(h)(2) dryer constant negative pressure testing requirement was deleted at final and replaced with requirements in § 129.67b(e)(1)(iv) for compliance and monitoring. Please also see the responses to Comments No. 32 and 33.

51. Comment: Proposed § 129.67b(j) should be modified by inserting the phrase “one of” between “by” and “the” so that it is clear that any of the identified methods are acceptable. (4)

Response: The Department agrees with the comment and revised the final-form rulemaking accordingly.

Fiscal Impact:

52. Comment: IRRC agreed with other commentators that daily recordkeeping requirements could be costly to printing facilities, many of which are small businesses. IRRC asked the Board to quantify the costs of the daily recordkeeping requirements of the proposed rulemaking and explain the need for those requirements. (5)

Response: The Department has reconsidered the need for daily records and has revised the proposed applicability criterion of 15 pounds per day of actual VOC emissions to the equivalent threshold of 450 pounds per month at final. The Department also added language that allows the use of “purchase, use, production and other records” to demonstrate compliance, thereby adding additional flexibility.

These revisions minimize the recordkeeping costs to printing facilities. The Department therefore did not quantify the costs required to comply with the proposed daily recordkeeping requirements.

53. Comment: IRRC writes that the Board has acknowledged the large discrepancy between the number of potentially affected printing facilities identified by a trade association compared to the number of facilities identified by the Department’s Air Information Management System. IRRC appreciates the Board’s efforts to work with the regulated community and DEP’s Small Business Compliance Advisory Committee to gain a better understanding of the number of printing facilities that might be affected by this rulemaking. IRRC asked the Board to incorporate its finding into any new fiscal impact calculations it prepares as it develops the final-form regulation. This should include costs associated with the VOC emissions reductions equipment and record-keeping requirements. (5)

Response: In developing the final-form rulemaking, the Department made some inquiries of small business-sized printers, including certain print shops operated by the Commonwealth, to determine the applicability of this rulemaking to them. The Department did not gain a significantly different understanding of the number of printing facilities that might be affected by this rulemaking. Based on the findings, the Department still believes that the majority of small business-sized printing operations, those 73% of Pennsylvania printers who employ fewer than 20 employees that were a concern for the trade association, will not emit enough VOC emissions to meet the applicability threshold for control requirements in the final-form rulemaking. The owners and operators of these printing operations will, therefore, have no increased cost other than the minimal cost of maintaining records to demonstrate that the amount of VOC emissions from their operation is below the applicability threshold of actual or potential VOC emissions that trigger the control provisions of the regulation. The Department has, however, revised the data presented for the final-form rulemaking cost analysis from the data presented for the proposed rulemaking cost analysis. The data were revised at final based on the slight changes in amounts of annual emissions and number of potentially subject operating facilities in 2011

versus the 2009 data that were used for the proposed rulemaking. Please also see the responses to Comments No. 52, 55 and 56.

Miscellaneous

54. Comment: The commentator supports the comments of the GAA. The commentator requests that the comments from the printing industry and its trade associations be taken into account in the review of the proposed regulation. (2)

Response: The Department has considered all comments received during the public comment period for this proposed rulemaking during the development of the final-form rulemaking. Responses for all comments received are provided in this Comment Response document.

55. Comment: In Pennsylvania, there are approximately 1,812 companies employing about 60,000 workers engaged in the printing industry. As reported in the 2010 Print Market Atlas, reporting 2009 data, the value of goods shipped for the industry in Pennsylvania is approximately \$9.4 billion. Over 73% of printers in Pennsylvania employ fewer than 20 employees. (4)

Response: The Department thanks the commentator for the information.

56. Comment: Since the majority of the printers in the Commonwealth employ 20 persons or less, the proposed rules are too complicated and burdensome with which to comply. (2, 4)

Response: The Department revised the rulemaking from proposed to final in ways that reduce the complexity and burden commented on with regard to the proposed rulemaking. For example, the Department revised the applicability provisions in the final-form rulemaking from daily to monthly emission thresholds and made revisions to recordkeeping requirements applicable to the owners and operators of smaller printing facilities. Furthermore, the addition of the ability to use the highest VOC content in any material in a class to represent that class of material offers an option that reduces the calculation and paperwork burden for the owners and operators of affected facilities in the flexographic, lithographic or letterpress printing industry. Under the final-form rulemaking, the owners and operators of a large portion of small business-sized printing operations will only need to keep minimal records to establish that they are not subject to the remaining control or compliance portions of the final-form rulemaking and report these records to the Department if requested.

As referred to in the response to Comment No. 53, the Department made some inquiries of owners or operators of small business-sized printing operations with less than 20 employees – the size that the printing industry trade association references for considering a printer to be a small business – about amounts of VOC emissions. The Department evaluated the Pennsylvania Department of Transportation's (PennDOT) graphic arts operation, which is staffed with 18 employees and consists of two sheet-fed offset lithographic presses and four (offset) duplicating presses, and the associated annual material throughput of inks, fountain solutions, cleaning materials and adhesives, as an example. The evaluation determined that the print shop would not

meet the minimum VOC emission threshold to be subject to the material VOC content limits or control requirements included in the final-form rulemaking. The Department believes that the PennDOT print shop is similar in size and throughput to the majority of printers in this Commonwealth that employ 20 persons or less and that are of concern to the printing industry trade association. The Department therefore further believes that few of the smaller printing operations will be subject to the control portions of the final-form rulemaking.

As a result of the other revisions described throughout the Comment and Response document, the Department disagrees that compliance with the requirements of the final-form rulemaking is too complicated or burdensome for small businesses. Please also see responses to Comments No. 10, 18, 21 and 23.

Emission and Retention Factors

57. Comment: Printers should be given credit for efficiencies captured on heatset presses. (2)

Response: The Department agrees and included the VOC emission retention factors and capture efficiency factors in the final-form rulemaking. Please see newly added subsection (1) in § 129.67b.

58. Comment: The draft rulemaking does not address key emission and retention factors that are specific to the lithographic printing industry and are necessary to perform accurate emission determinations. In order to ensure that the proper emission and retention factors are applied for purposes of determining applicability and compliance, the appropriate factors need to be included in the revisions to the rulemaking. The recommended section [drafted by the commentator] clarifies the methodology for estimating actual emissions in the lithographic printing industry, saving administrative time and costs for both the Department and the printing industry. The inclusion of the emission and retention factors are supported by the EPA in the CTG on Pages 18-20. The commentator suggested language to revise the section in accordance with the comment. (4)

Response: The Department agrees with the comment and included the VOC emission retention factors and capture efficiency factors in the final-form rulemaking. Please see newly added subsection (1) in § 129.67b.

Provisions more stringent than or inconsistent with CTGs

59. Comment: The Board has identified four sections of the proposed rulemaking that are more stringent than EPA requirements. The Board has explained why the requirements for §§ 129.67a(g) and 129.67b(i) are necessary. However, the Board has not explained the need for the proposed language found in §§ 129.67b(c)(1)(i)(B) and 129.67b(c)(1)(ii). We ask the Board to provide a more detailed explanation of why these requirements are needed. (5)

Response: Please see the responses to Comments No. 25 and 26.