EXHIBIT E

HEARING REPORT

Prepared Pursuant to Section 4-168(d) of the Connecticut General Statutes and Section 22a-3a-3(d)(5) of the Department of Environmental Protection Rules of Practice

Regarding the Amendment of Sections 22a-174-20, 22a-174-32(b)(3) and 22a-174-33(f)(6) of the Regulations of Connecticut State Agencies

Merrily A. Gere
Hearing Officer
Date of Hearing: May 28, 2009

On March 27, 2009, the Commissioner of the Department of Environmental Protection (DEP) signed a notice of intent to amend sections 22a-174-20, 22a-174-32(b)(3) and 22a-174-33(f) of the Regulations of Connecticut State Agencies (RCSA). Pursuant to such notice, a public hearing was held on May 28, 2009, and the public comment period closed June 1, 2009. The amended regulations will be submitted to the U. S. Environmental Protection Agency (EPA) for review and approval as a revision to the State Implementation Plan.

I. Hearing Report Content

As required by section 4-168(d) of the Connecticut General Statutes (CGS), this report describes the proposal; the principal reasons in support of and in opposition to the proposal; and summarizes and responds to all comments on the proposal. A final recommended version of the amended regulations, inclusive of changes recommended in response to comment, is also provided.

A statement in satisfaction of CGS section 22a-6(h) is located in Attachment 1 to this report.

II. Purpose and Summary of the Proposal

The proposal serves three purposes: (1) adopt requirements consistent with the reasonably available control technology (RACT) level of control established in EPA's control techniques guidelines (CTGs) promulgated in 2006 and 2007; (2) on DEP's initiative, improve DEP's ability to regulate certain activities; and (3) eliminate redundant or conflicting requirements.

EPA issued CTGs in 2006 for offset lithographic and letterpress printing, industrial cleaning solvents and flexible package printing [71 FR 58745] and in 2007 for metal furniture coating, large appliance coating and paper, film and foil coating [72 FR 57215]. As Connecticut currently has requirements controlling volatile organic compound (VOC) emissions from metal furniture coating and paper coating, which are based on earlier CTGs and are included in

RCSA section 22a-174-20, those requirements are proposed to be amended. Requirements for letterpress, offset lithographic and flexible package printing; industrial cleaning solvents; and large appliance coating are proposed for adoption as new requirements within RCSA section 22a-174-20. Minor revisions to RCSA section 22a-174-32 are also proposed to adjust the interaction of RCSA section 22a-174-32 and RCSA section 22a-174-20, given the new requirements of RCSA section 22a-174-20.

In association with revisions proposed in response to EPA's promulgation of the 2006/2007 CTGs, DEP used this opportunity to propose adoption of requirements specific to cleaning of spray application equipment, at the request of some regulated entities. Spray gun cleaning is one of the cleaning operations that would, absent DEP's adoption of specific requirements, be regulated under the industrial cleaning solvents CTG. DEP also proposes to delete the architectural coating requirements in RCSA section 22a-174-20(g) given the adoption of more comprehensive requirements for such coatings in RCSA section 22a-174-41; and to propose the elimination of the reference to the federal Title V application timelines for Acid Rain program sources from RCSA section 22a-174-33(f).

The text of the proposal is located in Attachment 2 to this report.

III. Principal Considerations in Opposition to the Proposal

No comments opposed moving the proposal forward to seek promulgation. Much of the comment requested revision of, and the addition of exemptions to, new subsections (ii) and (jj) of RCSA section 22a-174-20, concerning industrial solvent cleaning and spray gun cleaning.

A detailed discussion of the comments and responses is set out in the next section of this report.

IV. Summary of Comments

Written comments were received from the following persons:

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All comments submitted are summarized below with DEP's responses. Commenters are associated with the individual comments below by the number assigned above. When changes to the proposed text are indicated in response to comment, new text is in bold font and deleted text is in strikethrough font. Comments not specific to a single portion of the proposal are set out first, followed by comments specific to certain provisions in the proposal, organized by regulatory section.

General comment

1. Comment: Connecticut's proposal addresses all of the 2006 and 2007 CTGs, except for the flat wood paneling CTG. We understand that DEP is not aware of any sources that would be subject to the CTG. If true, DEP should submit a negative declaration to EPA for this CTG including a summary of how DEP made its determination. [1]

Response: EPA's understanding is correct: DEP is not aware of any sources in the state that meet the applicability of the flatwood paneling coating CTG. The same lack of awareness of sources is true for automobile and light-duty truck assembly coating and fiberglass boat manufacturing materials.

DEP has proposed for public hearing a reasonably available control technology (RACT) update State Implementation Plan revision that includes negative declarations for three of the CTGs: flatwood paneling coating, automobile and light-duty truck assembly coating; and fiberglass boat manufacturing materials. Following the public hearing on August 27, 2009, DEP will submit that RACT update to EPA.

2. Comment: The proposed requirements include some recordkeeping provisions. In addition, although not explicitly stated in the proposal, it appears that the coating and printing operations addressed in the proposal are also subject to the requirements of subsection (aa), recordkeeping and test methods, and subsection (bb), compliance methods, of Connecticut's RCSA section 22a-174-20. DEP should verify this point in their response to comments, since recordkeeping provisions stated in the proposal are not sufficient to make all of the proposed requirements enforceable. Furthermore, it should be noted, that some of the provisions included in subsection (aa) and (bb) state that they apply to subsections (m) through (s) of RCSA section 22a- 174-20. Therefore, those requirements would only apply to the metal furniture and paper, film and foil coating operations addressed in the proposal, and not to the other categories included in the proposal (i.e., large appliance coating or printing operations). [1]

Response: RCSA section 22a-174-20 currently includes CTG-responsive requirements in subsections (m) through (s) and (v). The record keeping requirements for those subsections are set out in subsection (aa), the compliance methods in subsection (bb) and an alternative emissions reductions option in subsection (cc). In adopting the 2006 and 2007 CTGs for coating and printing operations, DEP amended existing subsections (p) and (q) and added new subsections (ff) through (jj). DEP's proposal did not fully take into account how subsections (aa) through (cc) apply to subsections (p), (q) and (ff) through (jj). DEP appreciates the opportunity EPA's comment offers to correct this oversight.

DEP intends that the requirements of subsections (aa) through (cc) shall not apply to new subsections (ff) through (jj). As subsections (aa) through (cc) do not reference subsections (ff) through (jj) and as subsections (ff) through (jj) are drafted to stand independent of subsections (aa) through (cc), no revision is necessary to accomplish this result.

For revised subsections (p) and (q), DEP intends that subsection (aa) shall continue to apply, except for subsection (aa)(10), which establishes a two-year record retention minimum. Since subsection (aa)(1) through (9) apply, the record keeping requirements in proposed subsections (p)(7)(B) through (D) and (q)(7)(B) and (C) should be deleted. DEP further intends that subsection (bb) shall not apply to subsections (p) and (q); DEP will need to add language to subsections (p) and (q) to achieve this result. DEP also intends that the alternative emission reduction option provided in subsection (cc) shall continue to be available to owners and operators operating under subsections (p) and (q). No change to the proposal is required to accomplish this result, although DEP should add language to allow those operations now operating pursuant to an order issued under

subsection (cc)(2) or a permit issued under subsection (cc)(3) to continue to operate pursuant to such order or permit.

So that subsections (p) and (q) are consistent with the preceding description, DEP should make the following revisions to subsections (p)(3), (p)(5), (p)(7), (q)(3), (q)(5) and (q)(7) and add new subsections (p)(8) and (q)(8). In addition to making these changes, for administrative clarity, current subsection (q)(4) should be deleted and replaced entirely with new subsection (q)(3).

Subsection (p)

(3) Exemptions and exceptions.

(A) The requirements of this subsection shall not apply to the following coatings or lubricant:

(~~A~~**i**) Stencil coating,

(~~B~~**ii**) Safety-indicating coating,

(~~C~~**iii**) Solid-film lubricant,

(~~D~~**iv**) Electric-insulating and thermal-conducting coating,

(~~E~~**v**) Touch-up and repair coating, or

(~~F~~**vi**) Coating applied with a hand-held aerosol can~~;~~ **.**

(B) An owner or operator of a metal furniture coating unit operating in accordance with subdivision (5) of this subsection is exempt from any obligation to comply with subsection (bb) of this section.

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(5) Compliance options. Except as provided in subdivision (3) of this subsection, no owner or operator of a metal furniture coating unit shall apply any coating, inclusive of any VOC-containing materials added to the original coating supplied by the manufacturer, unless the owner or operator uses one of the following methods to limit emissions of VOCs:

(A) Use only coatings with an as-applied VOC content no greater than the level specified in Table 20(p)-1, according to coating category and drying method. The VOC content limits of Table 20(p)-1 apply to the volume of coating as-applied, less water and less exempt VOC; ~~Table 20(p)-1 establishes the minimum low solvent content coating technology pursuant to subsection (bb)(1)(A) of this section;~~

(B) ~~Notwithstanding subdivisions (1)(B), (1)(C) and (2) through (6) of subsection (bb) of this section, install,~~ **Install,** operate and maintain according to the manufacturer's recommendations an emissions control

system that reduces uncontrolled VOC emissions to the atmosphere from a coating unit by an overall control efficiency of at least 90%; or

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(7) Records. An owner or operator shall maintain records of the information necessary for the commissioner to determine compliance with the applicable requirements of this subsection~~, as follows:~~. **All records shall be:**

~~(A) All such records shall be:~~

(~~i~~**A**) Made available to the commissioner to inspect and copy upon request; ~~and~~

(~~ii~~**B**) Maintained for five years from the date such record is created; **and**

(C) As described in subsection (aa)(1) through (9) of this section.

~~(B) Owners and operators of sources using add-on control technology in accordance with subdivision (5)(B) of this subsection shall maintain records demonstrating compliance with the required level of control;~~

~~(C) An owner or operator of any metal furniture operation using an application method in accordance with subdivision (4)(G) of this subsection shall maintain records demonstrating the transfer efficiency achieved; and~~

~~(D) Additional information sufficient to demonstrate compliance may include the following:~~

~~(i) Name and quantity of any coating or cleaning solvent used,~~

~~(ii) VOC content of each coating or solvent used, as applied, and~~

~~(iii) A catalog of Materials Safety Data Sheets for all coatings and solvents used.~~

(8) An owner or operator of a metal furniture coating unit operating under a valid order issued pursuant to subsection (cc)(2) of this section or a valid permit issued pursuant to subsection (cc)(3) of this section shall operate as required in such order or permit, regardless of the requirements of this subsection.

Subsection (q)

[(4) The provisions of this subsection do not apply to any coating line with a continuous web that has both paper coating and printing stations and that is subject to the requirements of section 22a-174-20(v) of the Regulations of Connecticut State Agencies.]

(3) Exemptions and exceptions.

(A) The provisions of this subsection shall not apply to the following activities:

(~~A~~**i**) Coating performed on any coating line that has both paper coating and printing stations and that is conducted pursuant to subsection (v) of this section,

(~~B~~**ii**) The application of sizing or water-based clays in association with the use of a papermaking machine, or

(~~C~~**iii**) The application of inks, coatings or adhesives in association with flexible package printing conducted pursuant to subsection (ff) of this section or offset lithographic or letterpress printing conducted pursuant to subsection (gg) of this section.

(B) An owner or operator of a paper, film and foil coating operation operating in compliance with subdivisions (4) and (5) of this subsection is exempt from any obligation to comply with subsection (bb) of this section.

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(5) Additional requirements. The owner and operator of any paper, film and foil coating line with a potential to emit greater than 25 tons per year, prior to the use of controls, shall use one of the following methods to control emissions of VOCs:

(A) Use only coatings that result in VOC emissions no greater than the applicable emission limit of subparagraph (A)(i) or (A)(ii) of this subdivision, calculated either per coating or per coating line, as provided in subparagraph (A)(iii) of this subdivision~~. The limits of subparagraphs (A)(i) and (A)(ii) of this subdivision establish the level of minimum low solvent content coating technology pursuant to subsection (bb)(1)(A) of this section:~~

(i) For all coatings except pressure sensitive tape and label coatings, use only coatings that result in VOC emissions no greater than 0.40 kilograms of VOC per kilogram of coating solids applied,

(ii) Use only pressure sensitive tape and label coatings that result in VOC emissions no greater than 0.20 kg VOC/kg of coating solids applied, and

(iii) The VOC emissions limits of subparagraphs (A)(i) and (A)(ii) of this subdivision may be met either if every coating applied individually meets the applicable emission limit or if the daily weighted average of the VOC content of every coating used on a single coating line meets the applicable emission limit;

(B) ~~Notwithstanding subdivisions (1)(B), (1)(C) and (2) through (6) of subsection (bb) of this section, install~~ **Install**, operate and maintain according to the manufacturer's recommendations an emissions control

system that reduces uncontrolled VOC emissions to the atmosphere from a coating line by an overall control efficiency of at least 90%; or

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(7) Records. An owner or operator shall maintain records of the information necessary for the commissioner to determine compliance with the applicable requirements of this subsection~~, as follows:~~ **. All records shall be:**

~~(A) All such records shall be:~~

(~~i~~**A**) Made available to the commissioner to inspect and copy upon request; ~~and~~

(~~ii~~**B**) Maintained for five years from the date such record is created; **and**

(C) As described in subsection (aa)(1) through (9) of this section.

~~(B) Owners and operators of sources using add-on control technology in accordance with subdivision (5)(B) of this subsection shall maintain records demonstrating compliance with the required level of control; and~~

~~(C) Additional information sufficient to demonstrate compliance may include the following:~~

~~(i) Name and quantity of any coating or cleaning solvent used,~~

~~(ii) VOC content of each coating or solvent used, as applied, and~~

~~(iii) A catalog of Materials Safety Data Sheets for all coatings and solvents used.~~

(8) An owner or operator of a paper, film and foil coating line operating under a valid order issued pursuant to subsection (cc)(2) of this section or a valid permit issued pursuant to subsection (cc)(3) of this section shall operate as required in such order or permit, regardless of the requirements of this subsection.

As stated above, DEP does not intend that subsections (aa) through (cc) apply to new subsections (ff) through (jj). However, EPA has indicated that the record keeping requirements proposed in subsections (ff) through (jj) are not acceptable to support enforcement of the proposed control requirements. EPA indicated verbally that the record keeping requirements of subsection (aa) are preferable to those proposed in subsections (ff) through (jj) and that EPA finds the term “may” particularly troublesome, as it appears to make the existence, rather than the form, of records discretionary.

DEP should revise the record keeping requirements of subsections (ff) through (jj) to make the requirement to maintain records clearly mandatory and to specify the required frequency and quality of records. DEP should also specify record keeping requirements for sources below the applicability threshold for each regulated activity so that DEP might verify the lack of applicability of the control requirements. DEP does not believe

that maintenance of such records is burdensome, since facilities need to track the use of coatings, inks or other similar materials for inventory and quality control purposes.

In each of subsections (ff) through (jj), the subdivision addressing records should be replaced in the format provided through the example of subsection (ff)(5), as follows:

(5) Records.

(A) An owner or operator of any flexible package printing press shall maintain records of the information necessary for the commissioner to determine compliance with the applicable requirements of this subsection. All such records shall be:

(i) Made available to the commissioner to inspect and copy upon request, and

(ii) Maintained for five years from the date such record is created.

(B) An owner or operator of a flexible package printing press that meets or exceeds the applicability threshold of subdivision (2) of this subsection shall maintain daily records of all inks, coatings, adhesives or cleaning solvents used, as follows:

(i) Name and description of each ink, coating, adhesive or cleaning solvent,

(ii) VOC content of each ink, coating, adhesive or cleaning solvent, as-applied, and the associated calculations. As-applied VOC content shall be determined using an EPA reference method, a California Air Resources Board reference method or other method approved by the commissioner,

(iii) VOC content of each ink, coating, adhesive or cleaning solvent, as-supplied,

(iv) The amount of each ink, coating, adhesive or cleaning solvent,

(v) A Material Safety Data Sheet for each ink, coating, adhesive or cleaning solvent,

(vi) Documentation of control device efficiency and capture efficiency, if applicable, using an applicable EPA reference method or alternate method as approved by the commissioner, and

(vii) Date and type of maintenance performed on air pollution control equipment, if applicable.

(C) The owner or operator of any flexible package printing press for which the 12-month rolling aggregate of materials purchased for the printing operation is below the applicability threshold of this subsection shall maintain material purchase records to verify that the applicability threshold is not exceeded.

The same format shall be used, with appropriate adjustments for the name of the regulated activity and the types of VOC-containing material, as a replacement for proposed subsections (gg)(7), (hh)(7), (ii)(6) and (jj)(6), except that the requirements of sample subparagraph (C) are not applicable to subsection (jj). Subsections (ii)(6) and (jj)(6) should also include a requirement to maintain records to verify the applicability of certain exemptions and exceptions.

3. Comment: The subdivision and subsection designations are not consistent throughout RCSA section 22a-174-20. DEP should take the opportunity provided by this proposal to make the numbering consistent throughout. [6]

Response: DEP should not revise the proposal in response to this comment. The proposal does not include all of RCSA section 22a-174-20. While older subsections of RCSA section 22a-174-20 are not numbered and lettered precisely in the format recommended by the Legislative Commissioner's Office *Manual for Drafting Regulations*, which sets the standard for formatting new language and for revising old language, the differences are not significant to the identification of locations within RCSA section 22a-174-20 and so do not require DEP to open the entire section for revision.

4. Comment: DEP should consider adding a definition of "coating" to subsections (n), (o) and (q) or add a definition of "coating" to RCSA section 22a-174-1 to make clear what is considered a coating in all contexts. [6]

Response: DEP should not revise the proposal in response to this comment. Of the subsections to which the commenter suggests adding a definition of "coating," only subsection (q) is included in the proposal; subsection (q)(2)(C) includes a definition of "coating." As a general matter of regulatory interpretation, terms that are not defined should be assigned their ordinary meaning, and the commenter should assume that is how "coating" is used in subsections without a specific meaning ascribed. "Coating" is not a good candidate for addition to RCSA section 22a-174-1, since, in that general context, the term would likely have little meaning beyond its ordinary use.

RCSA section 22a-174-20(f), Organic solvents

5. Comment: RCSA section 22a-174-20(f) should be clarified to apply to coating operations. Subsection (f) originated in LA Rule 66, which was provided as guidance for the original round of State Implementation Plans in 1972. The portion of that old rule reflected in subsection (f) was designed primarily for coating operations. [2]

Response: As the commenter suggests, subsection (f) does regulate coating operations in the absence of specific requirements in other subsections of RCSA section 22a-174-20. However, regardless of its origins, subsection (f) has been applied to VOC-emitting activities other than coating. While DEP agrees that subsection (f) could be less

ambiguous in the scope of its applicability, the subsection will likely continue to apply to a variety of activities. DEP should consider revising the applicability of subsection (f) in a future rulemaking, as discussed further in the response to Comment 6.

6. Comment: Subdivision (9)(C) states that subsection (f) shall not apply to: "The use of any organic material where the as-applied volatile content of the material consists only of water and organic solvent, and the organic solvent content does not exceed 20% by volume of the material." This appears to mean that a material must contain both water and organic solvent to qualify for exemption. Would a material be exempt if it contains less than 20% solvent but does not contain water? What if water is part of the volatile content of the organic material? Subtracting the water content would be consistent with the CTG VOC definition, i.e., lb VOC/gal, less water.

The language might be more clearly stated as follows:

> " . . .the as-applied volatile content of the material consists of organic solvent or organic solvent and water, and the organic content does not exceed 20% by volume of the material, less water." [6]
>
> **Response:** Regardless of intentions to the contrary, DEP agrees that the proposed language for RCSA section 22a-174-20(f)(9)(C) is as obscure as the existing language, in part because the terms "organic material" and "organic solvent" are not defined. At this time, DEP should proceed only with the proposed revision to subparagraph (A) of subsection (f)(9) and retain the current language of subparagraph (C).
>
> To address the ambiguity infused through subsection (f), DEP should propose a complete revision of subsection (f) in the future to reduce ambiguity and improve the air quality protection provided by subsection (f), given that the control requirements of the subsection are quite old. In anticipation of a comprehensive review of subsection (f), DEP should retain subsections (f)(2) and (f)(13), which were proposed for deletion, as well as subsection (f)(9)(C).
>
> An additional consideration against the proposed removal of subsection (f)(2) is that such a deletion would leave emissions resulting from the use of a "highly photochemically reactive solvent" now regulated under subsection (f)(2) with no limitation except as provided in subsection (f)(4), which has much higher discharge limits than subsection (f)(2). Such a result is unacceptable.
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> Since DEP is, at this time, retaining subsections (f)(2) and (f)(13), DEP should also retain RCSA section 22a-174-20(h) and (i), rather than deleting subsections (h) and (i) as proposed. Subsection (f)(2) references subsection (i), and subsection (f)(13) uses terms defined in subsection (i). If, at a future date, DEP revises subsection (f) *in toto*, DEP should consider also eliminating subsections (h) and (i).

7. Comment: Subsection (f)(11) exempts "such materials which exhibit a boiling point higher than 220 degrees F." Subsection (f)(11) should apply the boiling point exemption to the properties of the whole material and not the properties of the material's constituents. [2]

Response: Subdivision (11) of subsection (f) is not within the scope of this proceeding, and so DEP should not make any revisions in response to the comment. DEP should consider this comment in any future effort to revise subsection (f).

RCSA section 22a-174-20(*l*), Metal cleaning

8. Comment: A phrase appears to be missing from subsection (*l*)(1)(K)(ii), namely "that exposes such metal parts." The named gases are not being reworked. The subclause should be revised to read in a manner similar to subclause (iv), as follows: "In the research, development , manufacture, and rework that exposes such metal parts to ozone, nitrous oxide, ..." [6]

Response: The comment misinterprets subsection (*l*)(1)(K)(ii), as the subclause is referring to the manufacture of the named compounds. The phrase "research, development, manufacture and rework" was used to parallel the structure of subclauses (i) and (iii), but the comment shows that the phrase is confusing in subclause (ii). The definition is stated more clearly if subclause (ii) only refers to manufacturing of the compounds. Research, development and rework were added to subclause (ii) in response to comment in a previous rulemaking, where the phrase is most relevant to precision parts and electronic parts, for which the cleanliness of the metal parts may be of utmost importance. Accordingly, subclause (ii) of the definition of "special and extreme solvent metal cleaning" should be revised as follows:

(K) "Special and extreme solvent metal cleaning" means the use of a cold cleaning unit to clean metal parts where such metal parts are used:

(i) In the research, development, manufacture and rework of electronic parts, assemblies, boxes, wiring harnesses, sensors and connectors used in aerospace service,

(ii) In ~~the research, development, manufacture and rework of~~ **manufacturing** ozone, nitrous oxide, fluorine, chlorine, bromine, halogenated compounds or oxygen in concentrations greater than [twenty-three percent (23%)] 23%,

(iii) In the research, development, manufacture and rework of high precision products for which contamination must be minimized in accordance with a customer or other specification, or

(iv) In a manner that exposes such metal parts to ozone, nitrous oxide, fluorine, chlorine, bromine, halogenated compounds or oxygen in concentrations greater than [twenty-three percent (23%)] 23%.

9. Comment: Subdivision (2)(C) includes an exception for 1,1,1 trichloroethane and trichlorotrifluoroethene, which are Group I ozone depleting substances that were banned from production and use after 1996, with a few "essential use" exemptions. Regardless, exempt VOC are being or may be used for metal cleaning and as additional volatile organic material may be exempt in the future, subdivision (2)(C) should be revised as follows:

"Metal cleaning equipment which uses an exempt volatile organic compound as identified in 40 CFR 51.100(s)(1), as amended from time to time." [6]

Response: DEP should not expand the exemption provided in subsection (*l*)(2)(C) to include all exempt VOCs. The use of exempt VOCs in metal cleaning would by definition be exempt from the VOC content limits of subsection (*l*). Other provisions of subsection (*l*), such as work practices, should continue to apply.

RCSA section 22a-174-20(s)(2)(B), Miscellaneous metal parts and products

10. Comment: DEP should incorporate the Aerospace CTG into RCSA section 22a-174-20. The exemption for coating of the exterior surface of assembled aircraft now included in RCSA section 22a-174-20(s)(2)(B)(vii) is not broad enough to address the coating activities performed at UTC facilities. Often, coating characteristics are mandated by military and other Federal agency requirements and the mandated characteristics do not always allow for compliance with the requirements of RCSA section 22a-174-20(s). [2]

Response: DEP should not make any change in response to this comment at this time. The recommended adoption of the Aerospace CTG is outside the scope of this proceeding. DEP is aware that the aerospace industry is subject to a number of constraints, including safety and military specifications for aerospace parts and products. To date, DEP has addressed the concerns of the aerospace industry within individual regulatory provisions and through permits and orders. Should DEP determine that a new approach is preferable, DEP may propose to take a different course in a future rulemaking.

RCSA section 22a-174-20(ee), RACT for large sources

11. Comment: How will the deletion of subsection (ee) affect orders issued under the requirements of this subsection? Would they lack regulatory authority given the elimination of the underlying regulation? Also, if the subsection is deleted, internal references to the subsection should be deleted, *e.g.*, subsections (cc)(1), (cc)(2), (cc)(3), (dd)(1) and (ii)(3)(iii). [6]

Response: The deletion of subsection (ee) would not invalidate orders issued under that subsection, since the law in effect at the time the order is issued would govern the order. If subsection (ee) is eliminated, should either DEP or the other party to such an order wish to renegotiate, a new order would need to be issued under different regulatory authority or a new compliance approach would be pursued.

The proposed deletion of subsection (ee) is intended as an administrative improvement rather than to achieve any air quality benefit. Any new source of VOC emissions would either comply with an applicable subsection of RCSA section 22a-174-20 or would comply with RCSA section 22a-174-32; no new orders will be issued under RCSA section 22a-174-20(ee) since the ability to issue such an order has a date restriction. Given that the proposed deletion has created concern in some members of the regulated community and given that there is no significant advantage to DEP to phase out all the existing orders issued under RCSA section 22a-174-20(ee), DEP should retain subsection (ee) in the final recommended version of RCSA section 22a-174-20. In retaining the subsection, DEP should revise the references in subsection (ee)(1) to include the new subsections that are part of this proposal, just as is proposed in RCSA section 22a-174-32(b)(3). As a result, subdivision (1) of subsection (ee) will appear as follows:

(1) [subsections (a), (b) or (*l*) through (y), inclusive, of section 22a-174-20 of the Regulations of Connecticut State Agencies;] **any one of the following subsections of section 22a-174-20 of the Regulations of Connecticut State Agencies: (a), (b), (*l*) through (y) or (ff) through (jj);**

Since DEP is retaining subsection (ee), there is no need to address the internal citations as recommended by the commenter.

12. Comment: DEP is proposing to delete RCSA section 22a-174-20(ee). This regulation requires a VOC RACT determination for any site with potential VOC emissions greater than 100 tons per year. In 1990, Consent Order 8010 was issued to Sikorsky's Stratford site to regulate its eight spray booths in operation at that time and used for coating helicopter and helicopter parts (and other now obsolete equipment). This order was issued as a source-specific VOC RACT determination for the paint booths, which were not subject to DEP's control technology guideline-based regulations. Subsequently, Sikorsky submitted an Alternative Emission Reduction Plan, as allowed by 22a-174-20(cc), because several of the coatings used could not meet the limits in Order 8010. Several addendums and Consent Order 8246 have since been issued to Sikorsky, which allows emissions offsets to limit the VOC emissions from painting at the Stratford site.

With the deletion of RCSA section 22a-174-20(ee), Sikorsky does not have the assurance that it can continue legally to operate its Stratford paint booths. The consent order was originally issued under RCSA section 22a-174-20(ee). Sikorsky is very concerned about potentially ambiguous enforceability issues. If the regulation is deleted, what is the Order's regulatory authority? Can other conditions be imposed absent the referenced regulation? Sikorsky recommends that the regulations be amended to recognize its operation under a consent order originally issued under RCSA section 22a-174-20(ee). Alternately, RCSA section 22a-174-20(s)(2)(B)(vii), which exempts the exterior surface of assembled aircraft, could be expanded to include all aerospace applications. Coating of aerospace parts, both interior surfaces and pre-assembled aircraft and parts, is routinely performed at many Sikorsky and supporting facilities. In many applications, the coatings' extreme performance characteristics are mandated by military and other specifications. The extreme performance characteristics required in such cases do not always allow for coatings that comply with the VOC paint limits in RCSA section 22a-174-20(s), CTG-based subsection for miscellaneous metal parts coating. [3]

Response: DEP's retention of subsection (ee) as described in the response to Comment 11 addresses the concerns raised in the comment related to Order 8010. Concerning the recommended expansion of RCSA section 22a-174-20(s)(2)(B)(vii), DEP should not so proceed at this time. See the response to Comment 10 for more discussion of this topic.

<u>RCSA section 22a-174-20(gg), Offset lithographic printing and letterpress printing</u>

13. Comment: The applicability of subsection (gg) is based on actual daily emissions from offset lithographic or letterpress printing and related cleaning. The CTG also allows for an applicability threshold of 3 tons per rolling 12-month period.

DEP should revise the applicability threshold from the daily actual VOC emissions to the use of purchase records or actual use records of raw materials that would be equivalent to the three tons per rolling 12-month threshold. VOC emissions from offset lithography and letterpress printing

are generally from the following sources: cleanings solvents, fountain solution additives and solvent-based inks.

To determine a conservative material use amount equivalent to the three tons per 12-month threshold, the following assumptions are reasonable:

- Cleaning solvents are 100% VOC and have a product density of 7 pounds per gallon;
- Fountain solution additives have the following VOC contents and product densities:
    - Alcohol: 6.6 pounds per gallon, 100% VOC
    - Alcohol substitutes: 8.5 pounds per gallon, 90% VOC; and
- Solvent-based ink is 45% VOC with a retention factor of 20% and a density of nine pounds per gallon.

Using these assumptions, the material use amount of 855 gallons per rolling 12-month of cleaning solvents, fountain solution and ink combined would be a conservative estimate equivalent to three tons per rolling 12-month period. The applicability should be written using either of the following thresholds: three tons of VOC per rolling 12 month period, or 855 gallons of cleaning solvents, fountain solution additives and heatset ink purchased or used per rolling 12-month period. [8]

Response: DEP should revise the proposal in response to this comment. Although DEP has prior to 2002 used the 15 pound per day actual emissions threshold for many of the CTG-based requirements in RCSA section 22a-174-20, the use of a longer averaging period for determining applicability is consistent with DEP's current approach to source permitting and makes for easier applicability determinations and record keeping. As indicated in the comment, an applicability threshold with a 12-month averaging period is acceptable to EPA.

In 2002, DEP revised its new source review permitting program to focus individual source permitting processes on sources of air emissions with a potential to emit of any single pollutant greater than 15 tons per year (tpy). As an alternative to obtaining an individual permit for certain equipment and operations, DEP adopted permit-by-rule requirements in RCSA sections 22a-174-3b and 22a-174-3c. The two permit-by-rule regulations set out requirements that, if followed, would limit actual emissions to levels below the 15 tpy permitting threshold. RCSA sections 22a-174-3b and 22a-174-3c also provide for ease in record keeping and compliance determinations. The applicability and compliance determinations in RCSA sections 22a-174-3b and 22a-174-3c are generally based on a 12-month rolling aggregate of materials purchased or used, and the record keeping requirements are, in some instances, satisfied with usage records or purchase records.

As the CTG requirements are similarly designed to limit emissions from equipment and activities that may not be subject to individual permitting, similar applicability thresholds, based on a 12-month period, are appropriate. DEP accepts the commenter's suggested applicability of 855 gallons of cleaning solvents, fountain solution additives and heatset ink purchased per rolling 12-month period.

In sum, DEP should revise the applicability of subsection (gg)(2) to 855 gallons of cleaning solvents, fountain solution additives and solvent-based ink purchased in aggregate per rolling 12-month period.

In allowing for a longer averaging time to determine applicability, some facilities that would be subject to the requirements of subsection (gg) if applicability was determined on a daily basis will go unregulated. The number of such facilities, which is likely small, is acceptable. As in source permitting, sources with a rare, high activity day that results in a singular or occasional breach of the applicability threshold should not be required to meet the VOC RACT requirements. The longer averaging period imposes the requirements on sources with emissions that consistently exceed a level where the cost of control is appropriate, allowing the smallest and typically less sophisticated operations to remain outside of the regulation. The longer applicability period also allows DEP to focus its enforcement and compliance-assistance resources on the regulation of the larger operations. Not including sources for a short-term spike in emissions is particularly important since EPA applies a "once in, always in" policy for RACT sources. If a source's actual emissions ever exceed the RACT applicability threshold, then the source is permanently subject to RACT requirements until such time as operations covered by the RACT category are ceased.

Subsection (gg)(2) should be revised to read as follows:

(2) Applicability. The provisions of this subsection apply to the owner or operator of any offset lithographic or letterpress printing press ~~or presses with actual emissions from offset lithographic or letterpress printing and related cleaning of at least 6.8 kilograms per day (15 pounds per day) of VOC prior to the use of air pollution control equipment~~ **who purchases for the printing operation at least 855 gallons of cleaning solvents, fountain solution additives and solvent-based inks in aggregate per any rolling 12-month period.** Any owner or operator of an offset lithographic or a letterpress printing **press** ~~operation who is subject to this subsection~~ shall:

(A) Comply with the requirements of this subsection no later than January 1, 2010 or, for a source that commences operation after January 1, 2010, the date on which the source commences operation; and

(B) Remain subject to this subsection. ~~regardless of actual daily VOC emissions.~~

14. Comment: Alcohol is not the only additive used in fountain solution in most offset lithographic printing facilities. The majority of offset lithographic printers will use a combination of acid fountain solution concentrates, alcohol substitutes, non-piling concentrates and possibly alcohol. To better capture all the potential VOC-containing materials in the fountain solutions, the following recommendation replaces existing "alcohol or alcohol substitute" weight percentage requirements:…maintain the as-applied VOC content of the fountain solution at or below x.x% by weight. The weight percent proposed in this section would remain the same but be based on as-applied VOC content instead of "alcohol" or "alcohol substitute" weight percentages. [8]

Response: The compounds other than alcohols that are used in fountain solution typically have a lower volatility than alcohol, which is why alcohol is the focus for fountain solution restrictions. Restating the fountain solution restrictions of subsection (gg)(3) in terms of the restrictions on the VOC content rather than the concentration of

alcohol is acceptable for fountain solutions that contain alcohol since alcohol is typically 100% VOC, which would make the VOC content and alcohol content limitations equivalent. For fountain solutions with no alcohol, the limitation should be on the amount of alcohol substitute, since alcohol substitute will typically have a VOC content less than 100%. Subsection (gg)(3) should be revised, as follows:

(3) Fountain solutions.

(A) The owner or operator of a heatset web offset lithographic printing press with a fountain solution reservoir of at least one gallon in capacity shall:

(i) ~~Reduce the on-press alcohol content to 1.6% alcohol or less by weight,~~ **Limit the as-applied VOC content of the fountain solution to 1.6% by weight or less,**

(ii) ~~Use 3% alcohol or less by weight on-press in the fountain solution and refrigerate the fountain solution to below 60°F~~, **If the fountain solution is refrigerated to below 60°F, limit the as-applied VOC content of the fountain solution to 3% by weight or less,** or

(iii) ~~Use a 5% alcohol substitute or less by weight on-press and no alcohol in the fountain solution.~~ **Use fountain solution that contains no alcohol and limit the alcohol substitute content of the fountain solution to 5% by weight or less.**

(B) The owner of a sheet-fed offset lithographic printing press with a minimum sheet size of greater than 11x17 inches and a fountain solution reservoir greater than one gallon in capacity shall:

(i) ~~Reduce the on-press alcohol content to 5% alcohol or less by weight,~~ **Limit the as-applied VOC content of the fountain solution to 5% by weight or less,**

(ii) ~~Use 8.5% alcohol or less by weight on-press in the fountain solution and refrigerate the fountain solution to below 60°F,~~ **If the fountain solution is refrigerated to below 60°F, limit the as-applied VOC content of the fountain solution to 8.5% or less,** or

(iii) ~~Use 5% alcohol substitute or less by weight on-press and no alcohol in the fountain solution.~~ **Use fountain solution that contains no alcohol and limit the alcohol substitute content of the fountain solution to 5% by weight or less.**

(C) The owner of a coldset web offset lithographic printing press with a fountain solution reservoir of at least one gallon in capacity shall use ~~a 5% alcohol substitute or less by weight on-press and~~ **a fountain solution that**

contains no alcohol ~~in the fountain solution~~ **and that has an alcohol substitute content of 5% by weight or less**.

15. Comment: DEP should add a new subdivision (8) to subsection (gg) to include retention factors and capture efficiencies for materials used in offset lithographic printing. The CTG includes retention factors and capture efficiencies, and these have been included in a number of state rules based on the CTG. Recommended language for new subdivision (8) is as follows:

(8) Retention factors and capture efficiencies. For the purposes of determining VOC emissions from offset lithographic printing operations, the following retention factors and capture efficiencies shall be used:

(A) A portion of the VOC contained in inks and cleaning solution is retained in the printed web or in the shop towels used for cleaning. The following retention factors shall be used:

(i) A 20% VOC retention factor shall be used for heatset inks printed on absorptive substrates, meaning 80% of the VOC in the ink is emitted during the printing process and is available for capture and control by an add-on pollution control device.

(ii) A 95% VOC retention factor shall be used for sheet-fed and non-heatset web inks printed on absorptive substrates, meaning 5% of the VOC in the ink is emitted during the printing process.

(iii) A 50% VOC retention factor shall be used for cleaning solution VOC in shop towels for cleaning solutions with a VOC composite vapor pressure of no more than 10mmHg at 20 degrees Celsius (68 degrees Fahrenheit) if the contaminated shop towels are kept in closed containers, meaning 50% of the VOC used on the shop towels is emitted during the cleaning process.

(B) A portion of the VOC contained in inks, fountain solutions and automatic blanket washes on heatset presses is captured in the press dryer for control by add-on pollution control devices. The following capture efficiencies are to be used:

(i) 100% VOC carryover efficiency shall be used for inks. All the VOC in ink that is not retained is assumed to be volatilized in the press dryer. Capture efficiency testing for heatset dryers is not required if it is demonstrated that pressure in the dryer is negative relative to the surrounding press room and the airflow is into the dryer.

(ii) 70% VOC carryover efficiency shall be used for fountain solutions containing alcohol substitutes.

(iii) 40% VOC carryover efficiency shall be used for automatic blanket wash solutions with a VOC composite vapor pressure of no more than 10mmHg at 20ºC (68º F). [8]

Response: DEP should not add the retention factors and capture efficiencies to subsection (gg). Given that the applicability is written in terms of materials purchased, retention factors and capture efficiencies are only relevant to determining whether an operation exceeds the 25 tons of VOC potential emissions threshold of subdivision (4). DEP did not specify procedures for determining emissions from offset lithographic printing operations to provide the owner of any such operation the flexibility to calculate potential emissions in a manner that takes into account the characteristics of that operation. A person may use the default retention factors and capture efficiencies of the CTG, if appropriate to the operation.

RCSA section 22a-174-20(hh)(5)(C), Large appliance coatings

16. Comment: Subsection (hh)(5)(C) of the proposed large appliance coating rule allows a company to seek an alternative means of compliance if approved by the Commissioner. Such alternatives however, must also be approved by EPA. Therefore, we recommend that Connecticut's proposed large appliance coating rule be revised to require those seeking alternatives to comply with the more detailed requirements of Connecticut's existing RCSA section 22a- 174-20(cc), as is done in Connecticut's proposed metal furniture and paper, film and foil coating rules. [1]

Response: The proposed large appliance coating requirements differ from the proposed requirements for metal furniture and paper, film and foil coating in that the large appliance coating requirements are entirely new while the proposed metal furniture and paper, film and foil coating requirements are up-to-date versions of existing requirements. As noted in the comment, subsections (aa), (bb) and (cc) of RCSA section 22a-174-20 contain requirements of general applicability (*i.e.*, record keeping, compliance methods and alternative emissions reductions) to the source- or activity-specific requirements of subsections (m) through (s) and (v). DEP does not intend to have the requirements of subsections (aa), (bb) and (cc) apply to the proposed new requirements of RCSA section 22a-174-20, and, hence, DEP did not refer to subsection (cc) in the alternative compliance requirements for large appliance coating operations.

To address EPA's concern, DEP should add a requirement for the Administrator to approve alternative compliance methods to subsection (hh)(5)(C). While EPA recommends that the detailed requirements for alternative compliance requests should also be added to subsection (hh), DEP should not include those requirements in the final proposal since the "other information" provision of subclause (iii) allows for information equivalent to that specified in subsection (cc) to be obtained, as necessary. Subsection (hh)(5)(C) should be revised as follows:

(C) With the approval of the commissioner **and the Administrator**, use an alternative means to achieve a level of control equivalent to that required in subparagraph (A) or (B) of this subdivision. An owner or operator shall submit a request to the commissioner **and the Administrator** to use an alternative means of compliance, and such request shall include:

(i) A description of the method,

(ii) A demonstration of the level of emissions control achieved, and

(iii) Any other information requested by the commissioner **or the Administrator**.

RCSA section 22a-174-20(ii), Industrial solvent cleaning

17. Comment: The exemption for aerospace facilities in subsection (ii)(3)(A)(iv) appears to be included based on DEP's recognition of the multiple agency requirements that apply to aerospace facilities and the need to ensure that those requirements are not in conflict. DEP should categorically exempt all aerospace manufacturing and rework sources (major and minor) from subsection (ii), as all meet the same flight safety and governmental restrictions. In support of this exemption, the commenters note:

- Solvents such as methyl ethyl ketone, acetone and isopropyl alcohol are used in aerospace manufacturing and repair facilities as required in specifications of the Federal Aviation Administration or the Department of Defense. No alternatives that meet the VOC or vapor pressure limits are approved under the specifications.
- The Bay Area Air Quality Management District rules, which are referenced in the Industrial Cleaning Solvents CTG, support an exemption for all aerospace facilities, major and minor.

As an alternative to the categorical exemption for aerospace facilities, DEP should exempt aerospace facilities that use cleaning solvents "in accordance with 40 CFR 63, subpart GG" to exempt sources whether or not they are major and are subject to the Aerospace NESHAP. Another commenter recommends the following language to achieve the same result -- that the exemption of subclause (iv) applies to aerospace facilities regardless of facility size:

(iv) At any aerospace manufacturing and rework facility that is a major or minor source provided that cleaning solvent is used consistent with the requirements of and the exemption in 40 CFR 63, subpart GG. [2, 3, 6]

Response: The intended result of the language proposed in subsection (ii)(3)(A)(iv) is the exemption of every aerospace manufacturing and rework facility, regardless of whether the facility is a "major source" as defined in 40 CFR 63.2, from any obligation to comply with subsection (ii). The exemption, as proposed, is intended to be contingent on the aerospace facility using cleaning solvents as required in 40 CFR 63, subpart GG, since those requirements adequately limit VOC emissions from cleaning. The phrase "used in accordance with" means that an aerospace facility observes the housekeeping requirements, cleaning solvent composition or vapor pressure requirements and spray gun cleaning requirements set out in 40 CFR 63.744, inclusive of the exemptions. For those facilities that are not subject to 40 CFR 63 subpart GG, compliance with the record keeping and reporting obligations is not encompassed by the phrase "used in accordance with."

As DEP's intention is consistent with the result requested by commenters and yet was not understood as such, the proposed language is not clear and should be replaced. Considering the replacement text recommended in comment and the intended result, subclause (iv) should be written as follows:

(iv) ~~At an aerospace manufacturing and rework facility where cleaning solvent is used in accordance with 40 CFR 63~~, **At any aerospace manufacturing and rework**

facility, provided that cleaning solvent is used in accordance with the requirements of 40 CFR 63.744, inclusive of exemptions,

18. Comment: As an alternative to the categorical exemption for aerospace facilities requested in Comment 17, the exemption requested in RCSA section 22a-174-20(ii)(3)(A)(viii) should be broadened in two respects:

- The exemption provided in RCSA section 22a-174-20(ii)(3)(A)(viii) should be broadened to include not only the use of cleaning solvents as specified in standards or specifications *issued* by the United States Department of Defense but also specifications *approved* by the Department of Defense. [2, 3]
- The exemption provided in RCSA section 22a-174-20(ii)(3)(A)(viii) should be broadened to include not only specifications of the Department of Defense but also the Federal Aviation Administration and other agencies or customers that provide specifications for the manufacture and repair of flight critical parts. For example, the FAA often specifies the use of MEK, acetone and IPA to provide a necessary level of cleanliness, and no acceptable substitutes are available that meet the 0.42 lb/VOC/gal limit of the proposed regulation. Even if a suitable substitute were available, a lengthy demonstration of performance would need to be prepared for FAA approval, a process that would take time beyond the January 1, 2010 compliance date. [2, 3]

Language that would broaden the exemption in subclause (viii) in both respects might read as follows:

(viii) In cleaning, including surface preparation prior to coating, necessary to meet a standard or specification issued or approved by the United States Department of Defense, FAA, NASA, customer or other regulating entity. [2, 3]

Response: Although the categorical exemption for aerospace facilities as recommended in Comment 17 granted, DEP should revise subclause (viii) to address the concerns raised in comment since subclause (viii) is applicable to facilities other than aerospace manufacturing, and such other facilities may have similar concerns. DEP should revise subdivision (3)(A)(viii) as follows in the final recommended version of subsection (ii):

(viii) In cleaning, including surface preparation prior to coating, necessary to meet a standard or specification ~~of~~ **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 subclause shall maintain records of the standard or specification**,

19. Comment: DEP should add a new exemption to subsection (ii) to allow for the use of non-compliant solvent in amounts greater than the 55-gallon exemption. The exemption could take the following form:

(A) The use of a cleaning solvent that does not comply with subdivision (4)(A) of this subsection may be allowed upon approval by the Commissioner.

(B) Any request for approval under this subdivision shall be made in writing to the Commissioner and shall include, at a minimum, the following information:

(i) The scope of the activity,

(ii) An assessment of alternative materials and procedures,

(iii) Quantification of the amount of VOC that would be emitted as a result of such activity, and

(iv) The dates on which the activity will occur. [6]

Response: DEP should add the suggested exemption to subsection (ii). Although DEP is adding or broadening other exemptions in response to comment and narrowing the type of activities subject to subsection (ii), it is conceivable that an alternate approach to compliance may be necessary for a few, limited situations. The exemption should be added as new subclause (xiv) of subdivision (3), as follows:

(xiv) That exceeds the applicable limit of subdivision (4)(A) of this subsection, if approved by the commissioner and the Administrator. Any request for approval shall be made in writing to the commissioner and the Administrator and shall include a description of the cleaning solvent and its VOC content, an explanation of why the cleaning solvent is necessary, quantification of the amount of the VOC that will be emitted as a result of the use of the noncompliant cleaning solvent and the time period over which the noncompliant solvent will be used.

20. Comment: The rule exempts janitorial cleaning, defined as "the cleaning of building or facility components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, restrooms, furnishings and exterior surfaces of office equipment." Janitorial cleaning excludes the cleaning of work areas where manufacturing or repair activity is performed. A very strict interpretation could indicate that the regulation applies to the cleaning of work stations, even at otherwise exempted sites, such as those subject to the Aerospace NESHAP.

To distinguish between and distribute separate cleaning formulations for flight critical parts and work stations will prove to be an onerous and impractical, if not impossible, record keeping and training effort. This problem could be solved by DEP categorically exempting aerospace manufacturing and rework sources from subsection (ii), or the language should be changed to exempt work station cleaning at aerospace manufacturing and rework sources if the use of solvents is otherwise permitted for cleaning parts. [3]

Response: The revision recommended in the response to Comment 17 addresses the concern raised, as the categorical exemption of aerospace manufacturing and rework facilities will eliminate the need for operators of such facilities to distinguish regulated and non-regulated activities.

21. Comment: Solvent cleaning is broadly defined with specific exemptions provided in subsection (ii)(3). Military facilities such as the Naval Submarine Base at Groton, Connecticut perform many functions in support of their primary mission, including maintenance of barracks, living spaces, equipment and vehicles; food preparation; operation of recreational facilities such as a gym, swimming pool, bowling alley, golf course and movie theater; and operation of a gas

station, medical and dental center and submarine school. As general solvent cleaning is performed within these various functions, and many of the products used are the same products otherwise regulated as consumer or institutional products under RCSA section 22a-174-40, further clarification of subsection (ii) is necessary. DEP should make specific changes to the proposal to address the multiple activities of some facilities, including the following:

- "Solvent cleaning" as defined under subsection (ii)(1)(F) should be revised to clarify what types of solvent cleaning operations are covered.
- Subsection (ii)(3) should include an exemption for solvent cleaners regulated under RCSA section 22a-174-40.
- Subsection (ii)(1)(C) should specify whether "liquid" cleaning solvent includes an aerosol cleaning solvent of a solvent laden (pre-moistened) towelette.
- Subsection (ii)(1)(D) should specify whether "janitorial cleaning" includes cleaning of furnishings and food service equipment.
- Subsection (ii)(1)(F) should state whether cleaning of personal protective equipment, such as respirators, would constitute "solvent cleaning." [5]

Response: DEP agrees that the activities intended to be regulated under subsection (ii) are not clearly identified and appreciates the comments to help us so do. The CTG that forms the basis of subsection (ii) is focused on industrial solvent cleaning, which is not differentiated from other forms of solvent cleaning in subsection (ii). Industrial solvent cleaning is the cleaning of parts, products or equipment incorporated into or used exclusively in the manufacture or construction of a finished product at a facility. The CTG identifies nine categories of industrial solvent cleaning, including spray gun cleaning (to which proposed subsection (jj) is devoted), spray booth cleaning, parts cleaning, manufacturing equipment cleaning, manufactured components cleaning, line cleaning, floor cleaning and tank cleaning. The activities that constitute industrial solvent cleaning do not include routine cleaning or maintenance of an establishment, activities which are defined as "janitorial," and the definitions in subsection (ii)(1) should be revised to make the distinction of the industrial and general cleaning clearer and to address the specific circumstances raised in the comment (*i.e.*, the bulleted list). The defined term "solvent cleaning" should be replaced with "industrial solvent cleaning," and the definitions should be ordered alphabetically. Subsection (ii) should be labeled "industrial solvent cleaning" rather than "general solvent cleaning" to distinguish the subsection's purpose from janitorial or general cleaning.

As the CTG is focused on manufacturing situations, facilities such as schools, universities, military bases and hospitals, would typically not be subject to the subsection unless a portion of the facility was devoted to manufacturing. For example, a technical school may operate a manufacturing shop, and the shop would need to be cleaned in accordance with subsection (ii) absent an exemption. The rest of the school, including classrooms, locker rooms, offices and library, would not be subject to subsection (ii).

The exemptions should lead to a result that cleaning and cleaners used in an industrial application should only be subject to a single regulation. To a large extent, this result is achieved by the proposed exemptions. However, the comment identifies an important oversight in that no exemption is provided for cleaning with cleaners regulated by RCSA section 22a-174-40, and such an exemption should be added to subsection (ii)(3). In addition, cleaning that is subject to any other subsection of RCSA section 22a-174-20 should also be exempt from subsection (ii). In adding a single subclause to address

cleaning otherwise regulated in RCSA section 22a-174-20, proposed subdivisions (3)(A)(vi) and (3)(A)(vii) should be deleted and the subclauses re-numbered, as appropriate.

Accordingly, the final version of subsection (ii) should be revised as indicated below.

(ii) ~~General~~ Industrial solvent cleaning.

(1) Definitions. For the purpose of this subsection:

(A) "Air pollution control equipment efficiency" means the ratio of VOC emissions recovered or destroyed by the air pollution control equipment to the total VOC emissions that are introduced into the air pollution control equipment, expressed as a percentage;

(B) "Capture efficiency" means the ratio of VOC emissions delivered to the air pollution control equipment to the total VOC emissions resulting from ~~the~~ **industrial** solvent cleaning ~~activities~~, expressed as a percentage;

(C) "Cleaning solvent" means any VOC-containing liquid**, including a liquid impregnated wipe or towelette, used in cleaning** ~~used to perform solvent cleaning~~;

(D) "~~Solvent~~ **Industrial solvent** cleaning" means the use of cleaning solvent to remove uncured adhesives, uncured inks, uncured coatings or contaminants such as dirt, soil ~~and~~ **or** grease from parts, products, tools, machinery, equipment or work areas**, where such parts, products, tools, machinery, equipment and work areas are incorporated into or used exclusively in manufacturing a product**. **"Industrial solvent cleaning" includes spray booth cleaning, cleaning of manufactured components, parts cleaning, cleaning of production equipment for maintenance or to prohibit cross-contamination, and cleaning of tanks, mixing pots, process vessels and lines. "Industrial solvent cleaning" does not include the cleaning of personal protection equipment, such as respirators.**

(E) "Janitorial cleaning" means ~~the~~ **general and maintenance** cleaning of building or facility components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, restrooms, furnishings**, kitchens** and exterior surfaces of office equipment. "Janitorial cleaning" includes graffiti removal. "Janitorial cleaning" excludes the cleaning of **parts, products or equipment, where such parts, products or equipment are incorporated into or used exclusively in manufacturing a product. "Janitorial cleaning" excludes the cleaning of** work areas**, such as laboratory benches,** where manufacturing or repair activity is performed;

(F) "Overall control efficiency" means the product of the capture efficiency and the air pollution control equipment efficiency;

****

(3) Exemptions and exceptions.

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

(i) In janitorial cleaning,

(ii) At an aerospace manufacturing and rework operation or a wood furniture coating operation in accordance with an order or a permit issued pursuant to sections 22a-174-32(e) and 22a-174-20(cc) of the Regulations of Connecticut State Agencies,

(iii) To perform general solvent cleaning in accordance with an order issued pursuant to section 22a-174-20(ee) of the Regulations of the Connecticut State Agencies,

(iv) At an aerospace manufacturing and rework facility where cleaning solvent is used in accordance with 40 CFR 63,

(v) As surface preparation or cleanup solvent in accordance with section 22a-174-44 of the Regulations of Connecticut State Agencies,

~~(vi) To clean spray application equipment in compliance with subsection (jj) of this section,~~

~~(vii) To perform metal cleaning in compliance with subsection (*l*) of this section,~~

(vi) **Where the cleaning solvent is regulated pursuant to section 22a-174-40 of the Regulations of Connecticut State Agencies,**

(vii) **To perform industrial solvent cleaning where such cleaning or cleaning solvent is subject to one of the following subsections of this section: (*l*) through (y), (ff) through (hh), or (jj),**

…….

(xii) Associated with pharmaceutical manufacturing, ~~and~~

(xiii) That exceeds the applicable limit of subdivision (4)(A) of this subsection where the quantity used does not exceed 55 gallons per any twelve-month rolling aggregate. Any person claiming exemption pursuant to this ~~subparagraph~~

subclause shall record and maintain monthly records sufficient to demonstrate compliance with this exemption, **or**

. . . . . .

In addition, the term "solvent cleaning" as proposed in subsection (ii) shall be replaced with "industrial solvent cleaning" in each instance it appears.

22. Comment: Subsection (ii)(4) should include a conversion table or formula for comparison of MSDS vapor pressure units and reference temperatures to the regulatory limit and a formula for calculating as-applied vapor pressure for solvent-water mixtures. [5]

Response: DEP should not add a conversion table or formula as recommended in the comment. Information about the vapor pressure of any particular product is typically available in a MSDS or directly from the manufacturer. Should the units of measurement require conversion, there are a number of conversion tables and calculators available on the internet.

23. Comment: Subsection (ii)(5)(E) requires cleaning to be conducted to "minimize associated VOC emissions." This mandate is ambiguous and should instead identify specific practices necessary to minimize emissions. [5]

Response: The commenter is correct that subsection (ii)(5)(E) is ambiguous, and DEP should delete that phrase in the final version of the proposal, as follows:

(5) Work practices. Each owner or operator shall use the following work practices:

(A) New and used cleaning solvent, including those mixed on the premises, shall be stored in a nonabsorbent, non-leaking container. Such a container shall be kept closed at all times except when the container is being filled, emptied or is otherwise actively in use;

(B) Spills and leaks of cleaning solvent shall be minimized. Any leaked or spilled cleaning solvent shall be absorbed and removed immediately;

(C) Absorbent applicators, such as cloth and paper, which are moistened with cleaning solvent, shall be stored in a closed, nonabsorbent, non-leaking container for disposal or recycling; **and**

(D) Cleaning solvent shall be conveyed from one location to another in a closed container or pipe**.** ~~; and~~

~~(E) Cleaning shall be performed to minimize associated VOC emissions.~~

The same ambiguous phrase should also be deleted in proposed subsections (p)(6)(E), (q)(6)(E), (ff)(3)(E), (gg)(6)(E), (hh)(6)(E) and (jj)(5)(E).

24. Comment: DEP should add an exemption for digital printing operations and presses in subsection (ii)(3). EPA did not consider emerging industry sectors in developing the CTG. Indeed, EPA collected data for the CTG in 1994 and only considered nine specific industry sectors. An exemption would be consistent with a recent action by California's Bay Area Air Quality Management District, which revised the District's graphic arts rule to exempt digital printing operations and presses from all VOC control requirements, including those associated with cleaning solvents. [7, 8]

Response: For the reasons stated in the comment, DEP should add an exemption to subsection (ii)(3) to exclude digital printing operations from the VOC control requirements of subsection (ii)(4) and the recordkeeping requirements of subsection (ii)(6). Owners of digital printing operations should meet the work practices of subsection (ii)(5).

The new exemption should be added as subparagraph (B) of subsection (ii)(3), as follows:

(B) The requirements of subdivisions (4) and (6) of this subsection shall not apply to the use of cleaning solvent in a digital printing operation, where digital printing means a method of printing in which an electronic output device transfers variable data, in the form of an image, from a computer to a substrate.

25. Comment: The "once in always in" language of RCSA section 22a-174-20(ii)(2)(B) does not encourage pollution prevention to reduce the use of VOC-containing products. There is no similar requirement in the CTG, and the provision should be deleted. [7]

Response: DEP agrees that the application of a "once in, always in" policy for RACT sources does not encourage pollution prevention. However, EPA applies the once in, always in policy to RACT sources as it has historically done for major sources of air toxics under CAA section 112. In essence, if a source was subject to RACT because its potential emissions exceeded a RACT threshold, but actual emissions did not, then the source could by permit or other enforceable mechanism prohibit its emissions from exceeding the actual emissions threshold in lieu of meeting RACT. However, if the source's actual emissions ever exceed the RACT applicability threshold, then the source is permanently subject to RACT until such time as the source ceases operations covered by the RACT category.

26. Comment: DEP should include all the exemptions in BAAQMD rule 8-4-116, or at least the following three categories: stripping of cured inks, coatings and adhesives; research and development laboratories; and performance or quality testing of coatings, inks or adhesives. [7]

Response: DEP should not add the exemptions recommended in the comment. The exemptions proposed in subdivisions (3)(A)(ix) and (x) already provide for a full exemption from subsection (ii) for industrial solvent cleaning associated with research and development and quality control or laboratory testing. The exemption specific to stripping of cured inks, coatings and adhesives does not, absent any other information, seem warranted given the range of exemptions included in subsection (ii)(3), including

those for printing operations otherwise regulated in RCSA section 22a-174-20 and for surface preparation conducted pursuant to RCSA section 22a-174-44.

27. Comment: The 50 gram VOC per liter limitation on solvents used for industrial cleaning activities should not be applied to all industrial sectors. EPA recognized that certain industries have unusual needs and allowed that states might tailor their rules to these specific scenarios. EPA also did not use accurate data in developing the CTG. Although EPA only identified 21 facilities in Connecticut that would be subject to the CTG, there are over 230 screen printing facilities operating in Connecticut that will be subject to the solvent cleaning requirements. Most of these operations are small businesses with 15 or fewer employees.

The screen printing industry has unique needs that are not compatible with the 50 gram VOC per liter limitation. The screen printing industry uses solvents for two specific cleaning activities: screen reclamation and on-press cleaning. Screen reclamation is the process of removing the stencil from the mesh so that a new stencil can be applied. Solvents used for on-press cleaning must be able to clean the mesh openings during a production run. The ability to quickly wipe off the screen during production with minimal waste is both an economic necessity as well as an environmental issue. Recognizing these needs, other states including Ohio, Wisconsin, Indiana and Illinois have set out individual VOC content limits for cleaning of ink application equipment, rather than regulating them under general solvent cleaning requirements. [7, 8]

A limit of 4.2 pounds of VOC per gallon should be added to the regulation for the cleaning of ink application equipment for screen printing operations. In addition, DEP should retain the alternative compliance method of using the composite vapor pressure of 25 mmHg for screen printing operations. [7, 8]

Response: DEP should add a VOC content limit specific to solvent cleaning at screen printing operations. A number of states with similar rules regulating industrial solvent cleaning specify cleaning solvent standards for screen printing operations; in all cases the VOC content limits are higher than the 0.42 pound of VOC per gallon (50 g/L) that would apply to screen printing operations under proposed subsection (ii).[1] The final version of subsection (ii) should be revised by adding new subparagraph (C) to subdivision (3), as follows:

(C) The limitations of subdivision (4)(A) of this subsection shall not apply to cleaning solvent used to clean screen printing equipment, if the cleaning solvent used has an as-applied VOC content that does not exceed 500 grams per liter (4.2 pounds per gallon).

DEP should also add a definition of "screen printing" to subsection (ii)(1) in the appropriate location alphabetically, as follows:

"Screen printing" means a method of creating an image by pressing ink through a screen or fabric to which a stencil has been applied. The stencil openings determine the form and dimensions of the image; and

[1] The commenter also recommends that DEP maintain a 25 mmHg vapor pressure limit for screen printing, but no such vapor pressure limit is in the proposed rule.

28. Comment: The applicability of subdivision (2) should be written in terms of the actual use of materials or purchase of materials over a 12-month rolling average, rather than the actual daily emissions. Possible substitutes for the proposed applicability threshold are 3 tons of VOC per rolling 12-month period or 855 gallons of cleaning solvents per rolling 12-month period. [8]

Response: DEP should revise the applicability for subsection (ii) to use a longer averaging period and to base the applicability on the purchase of solvent rather than actual emissions from industrial solvent cleaning. Both of these changes will make applicability determinations easier. In addition, the longer averaging period imposes the requirements on sources with emissions that consistently exceed a level where the cost of control is appropriate. See the discussion in response to Comment 13 for additional justification for the recommended change to the applicability.

(2) Applicability. Except as provided in subdivision (3) of this subsection, the provisions of this subsection apply to an owner or operator of any premises ~~with actual emissions from solvent cleaning of at least 6.8 kilograms per day (15 pounds per day) of VOC prior to the use of air pollution control equipment~~ **who purchases for use at the premises at least 855 gallons of cleaning solvents in aggregate per rolling 12-month period**. Any owner or operator of such a premises shall:

(A) Comply with the requirements of this subsection no later than January 1, 2010 or, for a source commencing operation after January 1, 2010, the date on which the sources commences operation; and

(B) Remain subject to this subsection ~~regardless of actual daily VOC emissions from solvent cleaning~~.

RCSA section 22a-174-20(jj), Spray application equipment cleaning

29. Comment: DEP should include a categorical exemption for all aerospace and rework facilities, regardless of size, or update RCSA section 22a-174-20(jj) to be consistent with the allowable gun cleaning methods in the Aerospace CTG and the Aerospace NESHAP. [2, 3, 6]

- The Aerospace CTG and Aerospace NESHAP recognize the following gun cleaning methods as acceptable: 1) cleaning in an enclosed system; 2) non-atomized cleaning forcing solvent through the gun into a container with the atomizing cap in place but using no atomized air; 3) disassembled gun cleaning/soaking by hand in a container; and 4) atomized cleaning forcing solvent through the gun into a container fitted with a device to capture the emissions. [2, 3]
- Coatings used in the aerospace industry are highly regulated by customers and are designed to withstand extreme conditions. Aerospace coating manufacturers often provide instructions on clean up of a particular coating from applicator equipment. These instructions typically require the applicator to be cleared with the same solvent as contained in the coating, in order to keep the applicator functioning properly. Solvents that meet the proposed VOC content limit of 0.42 lb/gal may not effectively clean spray guns used to apply aerospace coatings. [2, 3]
- The proposed rule includes the use of an enclosed gun cleaner as an alternative to meeting the solvent VOC limit. Some of UTC's smaller sites use a low vapor pressure VOC solvent (~4 mm Hg) to clean their spray guns by disassembly and soaking in a container that is closed when not in use. In addition such extended soaking may be

required for some of our more viscous materials. Emissions are minimal, and this approach to cleaning is acceptable under the Aerospace NESHAP. [2, 3]

Response: The exemption proposed in subsection (jj)(3)(iii) is intended to exempt all aerospace manufacturing and rework facilities, whether or not the facility is subject to the aerospace NESHAP, from subsection (jj), if spray application equipment cleaning is conducted as provided in the NESHAP and using cleaning solvents approved in the NESHAP (40 CFR 63 subpart GG), inclusive of the exemptions in the NESHAP. Given the number of comments submitted, the proposed language of subclause (iii) is not understood to provide this exemption and should be replaced with the following language:

(iii) ~~Performed at an aerospace manufacturing and rework facility and in accordance with 40 CFR 63.744,~~ **At any aerospace manufacturing and rework facility, provided that cleaning solvent is used in accordance with the requirements of 40 CFR 63.744, inclusive of exemptions,**

In response to the comment that subsection (jj) should include the cleaning methods offered in the aerospace NESHAP, the hearing officer notes that the four methods provided in proposed subsection (jj)(4)(A) through (D) are based on the four methods provided in 40 CFR 63.744(c)(1) through (4).

30. Comment: DEP should add a new exemption to subsection (jj) to allow for the use of non-compliant solvent in amounts greater than the 55-gallon exemption. The exemption could take the following form:

(A) The use of a cleaning solvent that does not comply with subdivision (4)(A) of this subsection may be allowed upon approval by the Commissioner.

(B) Any request for approval under this subdivision shall be made in writing to the Commissioner and shall include, at a minimum, the following information:

(i) The scope of the activity,

(ii) An assessment of alternative materials and procedures,

(iii) Quantification of the amount of VOC that would be emitted as a result of such activity, and

(iv) The dates on which the activity will occur. [6]

Response: DEP should expand the proposed exemptions of subsection (jj) to take into account those limited situations in which an owner of an activity that is not otherwise exempt requires the use of a non-compliant solvent and using a cleaning method other than an enclosed gun cleaner. Two new exemptions should be added to subsection (jj) in accordance with this comment. First, the commenter refers to a "55-gallon exemption," which was not included in the proposed exemptions in subsection (jj), but which is included in proposed subsection (ii) and in several similar regulations including RCSA

sections 22a-174-44 and 22a-174-20(s). Such an exemption should be added as new subparagraph (C) of subdivision (3), as follows:

(C) Using cleaning solvent that exceeds the VOC content limitation of subparagraph (B), (C) or (D) of subdivision (4) of this subsection where the quantity of cleaning solvent used does not exceed 55 gallons in aggregate per any 12-month rolling period. Any person claiming exemption pursuant to this subparagraph shall record and maintain monthly records sufficient to demonstrate compliance with this exemption.

In addition, as the commenter recommends, DEP should add the ability for an owner to apply for an exemption for situations not otherwise anticipated by the exemptions included in subdivision (3) by adding new subparagraph (D), as follows:

(D) The cleaning solvent VOC content limitations of subparagraph (B), (C) or (D) of subdivision (4) of this subsection shall not apply, upon request to and approval by the commissioner. Any request for approval shall be made in writing to the commissioner and shall include a description of the noncompliant solvent and its VOC content, an explanation of why the noncompliant solvent is necessary, the aggregate amount in gallons or pounds of noncompliant solvent use anticipated in a 12-month period and the frequency of use of the noncompliant solvent.

31. Comment: "Medical device manufacturing" should be added to RCSA section 22a-174-20(jj)(3)(A), which lists those operations and industries exempt from the requirements of subsection (jj). Medical device manufacturing involves a complex manufacturing process and must meet stringent requirements of the U.S. Food and Drug Administration. Any change to an established process requires expensive and time consuming validations and/or toxicity testing, which would be a competitive disadvantage for Connecticut industry. [4]

Response: For the reasons stated in the comment, DEP should add an exemption to subsection (jj) for medical device manufacturing. The exemption should be added as new subclause (vi) in subsection (jj)(3)(A), as follows:

(vi) Associated with medical device manufacturing; and

In addition, a definition of "medical device" should be added to subsection (jj)(1), in the appropriate location alphabetically, as follows:

"Medical device" means an instrument, apparatus, implement, machine, gadget, appliance, implant, *in vitro* reagent or other similar or related article, including any component, part or accessory, which meets one of the following conditions:

(i) Recognized in the official National Formulary or the United States Pharmacopeia or any supplement thereto,

(ii) Intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment or prevention of disease, in persons or animals, or

(iii) Intended to affect the structure or function of the body of a person or animal, and which does not achieve its primary intended purposes through chemical action within or on such body and which is not dependent upon being metabolized for the achievement of its primary intended purposes;

32. Comment: DEP proposes to implement several options for spray application equipment cleaning. Three of the five options require the use of a "cleaning solvent with an applied VOC content that does not exceed 50 grams per liter." In two of the options, (subdivisions (4)(B) and (D)), the low-VOC cleaning solvent is used in a relatively closed system to minimize emissions. DEP should remove the requirement to use a "cleaning solvent with an applied VOC content that does not exceed 50 grams per limit" from subdivisions (4)(B) and (4)(D) for the following reasons:

- The reduction in emissions achieved by using a low-VOC solvent compared with any other solvent is minimal in a closed system.
- A low-VOC cleaning solvent may not be able to clean the spray application equipment adequately in a reasonable time, adding financial burden to the regulated community.
- If a new solvent that meets the VOC limit needs to be used during cleaning, the introduction of the solvent to an established, validated manufacturing process will require extensive quality testing, a substantial financial burden. [4]

Response: DEP should not remove the VOC content standard from subdivision (4) as the lack of a standard would degrade the potential air quality benefits of the revision. Although the commenter describes several of the acceptable cleaning methods as "relatively closed," those methods are not in an enclosed gun cleaner and may, with a high VOC content solvent, result in significant emissions. EPA found, in developing the 1994 Alternative Control Techniques that preceded the 2006 CTG for industrial cleaning solvents, that spray gun cleaning accounts for 50% of the total emissions from cleaning operations. While DEP is not requiring the use of enclosed gun cleaners, an enclosed gun cleaner is the recommended approach and may be used with solvent of any VOC content.

DEP has not left owners and operators who require the use of a VOC content solvent to clean coatings or adhesives from spray guns with no recourse. An owner or operator who does require the use of a high VOC content cleaning solvent may do so in association with an enclosed gun cleaner. Furthermore, the expansion of the exemptions as discussed in the response to Comments 29, 30 and 31 also takes into account the needs of certain industries that require the use of a high VOC content solvent, either occasionally or routinely.

V. Revisions Recommended by the Hearing Officer

In addition to revisions to the proposal recommended based on the comment and response in Section IV of this report, the Hearing Officer recommends the following minor revisions:

(1) Throughout the proposal, DEP uses January 1, 2010 as the initial compliance date. Given the passage of time since the proposal was developed, DEP should replace January 1, 2010 with January 1, 2011 to allow regulated source owners additional compliance time after the proposal is effective and to allow DEP sufficient time for staff training and regulated community outreach.

(2) In each of the revised or new subsections proposed in response to a CTG, namely subsections (p), (q) and (ff) through (jj), DEP proposed to use the terms "air pollution control equipment efficiency," "capture efficiency" and "overall control efficiency." The term "air pollution control equipment efficiency" and the use of the term "air pollution control equipment" in the definition of "capture device" make the meaning of the terms difficult to ascertain. DEP's intent would be better expressed by eliminating the term "air pollution control equipment efficiency," adding the term "control device efficiency" and revising the definitions of "capture efficiency" and "overall control efficiency" to eliminate the phrase "air pollution control equipment." This series of revisions should be made in subsections (p)(1), (q)(1), (ff)(1), (gg)(1), (hh)(1), (ii)(1) and (jj)(1). Specifically, the changes to the definitions in each of the referenced subsections should be as follows:[2]

> ~~"Air pollution control equipment efficiency" means the ratio of VOC emissions recovered or destroyed by air pollution control equipment to the total VOC emissions that are introduced into the air pollution control equipment, expressed as a percentage;~~
>
> "Capture efficiency" means the ratio of VOC emissions delivered to the ~~air pollution control equipment~~ **control device** to the total VOC emissions resulting from [*insert name of regulated activity*] and related cleaning, expressed as a percentage;
>
> **"Control device efficiency" means the ratio of VOC emissions recovered or destroyed by the control device to the total VOC emissions that are introduced into the device, expressed as a percentage;**
>
> "Overall control efficiency" means the product of the capture efficiency and the ~~air pollution control equipment~~ **control device** efficiency;

As a result of the recommended changes to the definitions, the following changes should be made to each of the referenced subsections, as follows:

- Proposed subsection (p)(5)(B):
  (B) Notwithstanding subdivisions (1)(B), (1)(C) and (2) through (6) of subsection (bb) of this section, install, operate and maintain according to the manufacturer's recommendations ~~an emissions control system~~ **air pollution control equipment** that reduces uncontrolled VOC emissions to the atmosphere from a coating unit by an overall control efficiency of at least 90%; or

- Proposed subsection (q)(5)(B):
  (B) Notwithstanding subdivisions (1)(B), (1)(C) and (2) through (6) of subsection (bb) of this section, install, operate and maintain according to the manufacturer's recommendations ~~an emissions control system~~ **air pollution control equipment**

[2] Note that the specific subparagraph designation for each of the terms is not indicated since it varies from subsection to subsection.

that reduces uncontrolled VOC emissions to the atmosphere from a coating line by an overall control efficiency of at least 90%; or

- Proposed subsection (ff)(4)(B):
  (B) Install, operate and maintain in accordance with the manufacturer's recommendations, ~~an emissions control system, consisting of~~ a capture and a control device~~, which meets~~ **that produce** the overall control efficiency identified in Table 20(ff)-1, according to the date of installation of the press being controlled and the installation date of the air pollution control ~~device~~ **equipment.**

- Proposed subsection (ff)(5)(B):
  (iv) Documentation of ~~air pollution control equipment efficiency or~~ **control device efficiency and** capture efficiency, if applicable, and

  (v) Date and type of maintenance performed on air pollution control ~~or capture~~ equipment, if applicable.

- Proposed subsection (gg)(4):
  (4). . . . .shall operate ~~a control device~~ **air pollution control equipment** to:

    (A) Achieve a 90% **overall** control efficiency if the ~~control device~~ **air pollution control equipment** is installed prior to January 1, 2011;

    (B) Achieve a 95% **overall** control efficiency if the ~~control device~~ **air pollution control equipment** is installed on or after January 1, 2011; or

    (C) Reduce the control device outlet concentration to 20 parts per million as hexane on a dry basis if the inlet VOC concentration is so low that ~~90% or 95%~~ **the overall control** efficiency **specified in subparagraph (A) or (B) of this subdivision cannot** ~~may not~~ be achieved.

- Proposed subsection (gg)(7)(B):
  (iv) Documentation of ~~air pollution control equipment efficiency or~~ **control device efficiency and** capture efficiency, if applicable, and

  (v) Date and type of maintenance performed on air pollution control ~~or capture~~ equipment, if applicable.

- Proposed subsection (hh)(5)(B):
  (B) Install, operate and maintain in accordance with the manufacturer's recommendations, ~~an emissions control system, consisting of~~ a capture and **a** control device~~, which meets~~ **that produce**. . .

- Proposed subsection (hh)(7)(B):
  (iv) Documentation of ~~air pollution control equipment efficiency or~~ **control device efficiency and** capture efficiency, if applicable, and

  (v) Date and type of maintenance performed on air pollution control ~~or capture~~ equipment, if applicable.

- Proposed subsection (ii)(4)(B):
  (B) Install, operate and maintain in accordance with the manufacturer's recommendations, ~~an emissions control system~~ **air pollution control equipment** that reduces uncontrolled VOC emissions to the atmosphere from any solvent cleaning by an overall control efficiency of at least 85%.

- Proposed subsection (ii)(6)(B):
  (vi) Documentation of ~~air pollution control equipment efficiency or~~ **control device efficiency and** capture efficiency, if applicable, and

  (vii) Date and type of maintenance performed on air pollution control ~~or capture~~ equipment, if applicable.

- Proposed subsection (jj)(4)(E):
  (E) Installing, operating and maintaining ~~an emissions control system~~ **air pollution control equipment** that reduces . . . .

- Proposed subsection (jj)(6)(B):
  (vii) Documentation of ~~air pollution control equipment efficiency or~~ **control device efficiency and** capture efficiency, if applicable, and

  (viii) Date and type of maintenance performed on air pollution control ~~or capture~~ equipment, if applicable.

(3) The exemption in subsection (ii)(3)(xi) for medical device manufacturing is inaccurately described as "medical device operations." The exemption should instead be stated as "medical device manufacturing" and a definition of "medical device" should be added to subsection (ii)(1). The definition should be identical to that in subsection (jj)(1) as set out in the response to Comment 31.

(4) Because the use of materials purchased offers several benefits over actual emissions as the mechanism for determining applicability, DEP should replace the 15 pound per day actual emissions threshold proposed for subsections (ff) and (hh) with 855 gallons of VOC-containing materials purchased in aggregate per 12-month rolling period. Although commenters only recommended this change for subsections (gg) and (ii), the same reasoning justifies that approach for subsections (ff) and (hh).

The proposed applicability of subsection (ff) should be replaced with the following language:

> **(2) <u>Applicability</u>. The provisions of this subsection apply to the owner or operator of any flexible package printing press who purchases for the printing operation at least 855 gallons of coatings, adhesives, cleaning solvents and solvent-based inks in aggregate per any rolling 12-month period. Any owner or operator of a flexible package printing press shall:**
>
> **(A) Comply with the requirements of this subsection no later than January 1, 2011 or, for a source commencing operation after January 1, 2011, the date on which the source commences operation; and**

(B) Remain subject to this subsection.

The proposed applicability of subsection (hh) should be replaced with the following language:

(2) Applicability. Except as provided in subdivision (3) of this subsection, the provisions of this subsection apply to an owner or operator of any large appliance coating unit who purchases for the coating operation at least 855 gallons of coatings and cleaning solvents in aggregate per any rolling 12-month period. Any such owner or operator shall:

(A) Comply with the requirements of this subsection no later than January 1, 2011 or, for a source commencing operation after January 1, 2011, the date on which the source commences construction; and

(B) Remain subject to this subsection.

(5) The term "non-absorbent container" should be eliminated from the defined terms in RCSA section 22a-174-20(q)(1) because it is assigned an ordinary meaning and, therefore, does not require definition.

(6) The VOC content limit in subsection (q)(5)(A)(i) is proposed as 0.40 kilograms of VOC per kilogram of coating solids applied and is incorrect. The correct limit is 0.35 kilograms of VOC per kilogram of coating solids applied, which is the same limit proposed in subsection (q)(4) as a standard of general applicability. The requirements of subsection (q)(5) apply to larger sources and are not intended to be less protective than the requirements of subsection (q)(4). Subsection (q)(5)(i) should be revised, as follows:

(i) For all coatings except pressure sensitive tape and label coatings, use only coatings that result in VOC emissions no greater than ~~0.40~~ **0.35** kilograms of VOC per kilogram of coating solids applied,

(7) The definition of "HVLP spray" is not consistent with the part of speech or use of the term in subsections (p) and (hh), and so the defined term and definition should be revised as follows in subsections (p)(1), (p)(4), (hh)(1) and (hh)(4):

"HVLP spray **application**" means **to apply a coating using** a high-volume, low-pressure spray ~~coating~~ application system that is designed to operate at air pressures between 0.1 and 10 pounds per square inch gauge, measured dynamically at the center of the air cap and the air horns;

(8) An exception should be added to subsection (p)(3) as new subparagraph (C) to state that a person using air pollution control equipment to comply is not required to use one of the specified application techniques:

(C) The requirements of subdivision (4) shall not apply to a person using air pollution control equipment to comply with subdivision (5) of this subsection.

(9) A definition of "as-applied" should be added to subsection (q)(1) since the term is used in the subsection. The definition should be identical to that of subsection (p)(1).

(10) The kilogram equivalent to 15 pounds, which is 6.8 kilograms, should be added to the applicability language of subsection (q)(2).

(11) The statement in subsection (q)(5)(A), which allows owners of paper, film and foil coating operations to comply by using only coatings that meet the VOC content limits or by using coatings that per a daily coating line average meet the VOC content limits, is not clear. Subsection (q)(5)(A) should be replaced, as follows:

~~(A) Use only coatings that result in VOC emissions no greater than the applicable emission limit of subparagraph (A)(i) or (A)(ii) of this subdivision, calculated either per coating or per coating line, as provided in subparagraph (A)(iii) of this subdivision, as follows:~~

~~(i) For all coatings except pressure sensitive tape and label coatings, use only coatings that result in VOC emissions no greater than 0.35 kilograms of VOC per kilogram of coating solids applied,~~

~~(ii) Use only pressure sensitive tape and label coatings that result in VOC emissions no greater than 0.20 kilograms of VOC per kilogram of coating solids applied, and~~

~~(iii) The VOC emissions limits of subparagraphs (A)(i) and (A)(ii) of this subdivision may be met either if every coating applied individually meets the applicable emission limit or if the daily weighted average of the VOC content of every coating used on a single coating line meets the applicable emission limit;~~

(A) Use only coatings that individually meet the applicable VOC emission limit of subparagraph (A)(i) or (A)(ii) of this subdivision or use only coatings so that the daily weighted average of the VOC content of all coatings used on a single coating line meets the VOC emission limit of subparagraph (A)(i) of this subdivision:

(i) For all coatings except pressure sensitive tape and label coatings, use only coatings that result in VOC emissions no greater than 0.35 kilograms of VOC per kilogram of coating solids applied, or

(ii) For pressure sensitive tape and label coatings, use only coatings that result in VOC emissions no greater than 0.20 kilograms of VOC per kilogram of coating solids applied;

(12) Subsection (ff)(4) includes similar language to that discussed in recommendation (11) and should also be revised as follows:

. . . use one of the following methods to control VOC emissions from such **a** press:

(A) Use only **individual** inks, coatings and adhesives with an as-applied VOC content that does not exceed 0.8 kg VOC/kg of solids (0.8 lb VOC/lb of solids) or 0.16 kg VOC/kg of materials (0.16 lb VOC/lb of materials). ~~The VOC content limits may be met by averaging the VOC content of materials used on a single printing line in a single day; or~~

(B) Use only inks, coatings and adhesives so that the daily weighted average of the VOC content of the inks, coatings and adhesives used in a single printing line does not exceed 0.8 kg VOC/kg of solids (0.8 lb VOC/lb of solids) or 0.16 kg VOC/kg of materials (0.16 lb VOC/lb of materials); or

(C) Install, operate and maintain in accordance with the manufacturer's recommendations, a capture and a control device that produce the overall control efficiency identified in Table 20(ff)-1, according to the date of installation of the press being controlled and the installation date of the air pollution control equipment.

(13) The definition of "flexographic print station" in subsection (ff)(1)(E) is not accurate and should be revised, as follows:

(E) "Flexographic print station" means a work station on which a flexographic printing operation is conducted. A flexographic print station includes a flexographic printing plate~~, which is an~~ **and an** image **carrier** made of rubber or other elastomeric material. The image to be printed is raised above the printing plate;

(14) The applicability of subsection (ff) should be amended to exempt a flexible package printing operation subject to subsection (ff) from the obligation to comply with subsection (v), as follows:

(2) Applicability.

(A) The provisions of this subsection apply to the owner or operator of any flexible package printing press who purchases for the printing operation at least 855 gallons of coatings, adhesives, cleaning solvents and solvent-based inks in aggregate per any rolling 12-month period. Any owner or operator of a flexible package printing press shall:

(i) Comply with the requirements of this subsection no later than January 1, 2011 or, for a source commencing operation after January 1, 2011, the date on which the source commences operation, and

(ii) Remain subject to this subsection; **and**

(B) Any flexible package printing press operated pursuant to this subsection shall not be subject to subsection (v) of this section.

(15) Subsection (hh) should include an additional exception specifying that the owner or operator of a large appliance coating operation complying via add-on controls is not required to use the specified application methods of subdivision (4). The exception should be added to subdivision (3), as follows:

(3) Exemptions and exceptions.

(A) The requirements of subdivision (5) of this subsection shall not apply to the following:

~~(A)~~ **(i)** Stencil coating,

~~(B)~~ **(ii)** Safety-indicating coating,

~~(C)~~ **(iii)** Solid-film lubricant,

~~(D)~~ **(iv)** Electric-insulating and thermal-conducting coating,

~~(E)~~ **(v)** Touch-up and repair coating, or

~~(F)~~ **(vi)** Coating applied with a hand-held aerosol can.

(B) The requirements of subdivision (4) shall not apply to a person using air pollution control equipment, as specified in subdivision (5)(B), to comply with the requirements of this subsection.

VI. Conclusion

Based upon the comments submitted by interested parties and addressed in this Hearing Report, I recommend the final proposal, included as Attachment 3 to this report, be submitted by the Commissioner for approval by the Attorney General and the Legislative Regulations Review Committee. Based upon the same considerations, I also recommend that upon promulgation portions of this proposal be submitted to EPA as a revision to the State Implementation Plan.

/s/ Merrily A. Gere October 22, 2009
Merrily A. Gere Date
Hearing Officer

ATTACHMENT 1
Federal Standards Analysis Pursuant to Section 22a-6(h) of the General Statutes

Pursuant to the provisions of section 22a-6(h) of the Connecticut General Statutes (CGS), the Commissioner of the Department of Environmental Protection (the Department) is authorized to adopt regulations pertaining to activities for which the federal government has adopted standards or procedures. At the time of public notice, the Commissioner must distinguish clearly all provisions of a proposed regulation that differ from federal standards or procedures.

In accordance with the requirements of CGS section 22a-6(h), in the matter of the proposed amendment of sections 22a-174-20, 22a-174-32 and 22a-174-33(f) of the Regulations of Connecticut State Agencies (RCSA), the Department has performed a comparison of the proposed amendment with federal provisions, which is set out below.

Regarding the revision of subsections (p) and (q) and adoption of subsections (ff), (gg), (hh) and (ii) in RCSA section 22a-174-20: There are no comparable federal standards specifying a reasonably available control technology (RACT) level of control, although Clean Air Act section 182(b) requires states to establish a RACT level of control for certain categories of sources. EPA does issue control technique guidelines (CTGs) that recommend work practices, application methods, reformulation and/or control equipment operation that EPA considers a RACT level of control for a source category or activity, but the adoption of enforceable requirements that meet at least that recommended level of control is left to each state with a nonattainment area for an ozone national ambient air quality standard. In general, the proposed requirements for offset lithographic and letterpress printing, industrial cleaning solvents, flexible package printing, metal furniture coating, large appliance coating and paper, film and foil coating are consistent with the recommendations of the CTGs and provide at least a RACT level of control.

The deletion of the reactivity-based architectural coating requirements of subsections (g), (h) and (i) of RCSA section 22a-174-20 aligns RCSA section 22a-174-20 with the adoption in July 2007 of more comprehensive requirements to limit emissions from paints in RCSA section 22a-174-41. There are federal standards for architectural coatings but those standards, in 40 CFR 59 Subpart D, regulate fewer coating categories than those in RCSA section 22a-174-41 and otherwise differ, as follows:

- Subpart D applies to nationwide architectural coating manufacturers, importers and distributors while RCSA section 22a-174-41 applies to any person "who sells, supplies, offers for sale or manufactures for sale in the State of Connecticut on or after May 1, 2008 any architectural coating for use in the State of Connecticut and to any person who applies or solicits the application of any architectural coating within the State of Connecticut on or after May 1, 2008.
- The definitions for the regulated coating categories differ in some respects between the two rules.

- For the categories that are regulated under both rules, all of the limits in RCSA section 22a-174-41 are at least as stringent and many of the limits in RCSA section 22a-174-41 are more stringent than the federal limits.
- All of the VOC limits in Subpart D have an effective date of December 10, 1998, whereas the VOC limits in RCSA section 22a-174-41 are effective on May 1, 2008 for most regulated product categories.

Regarding the addition of subsection (jj) to RCSA section 22a-174-20: New subsection (jj) regulates the cleaning of spray application equipment at any facility where spray application equipment is used. There are no general federal requirements regulating the cleaning of spray application equipment. EPA does specify spray application equipment cleaning requirements for certain source categories in 40 CFR 63, national emissions standards for hazardous air pollutants, and aerospace manufacturing facilities that are subject to such requirements in 40 CFR 63 are exempt from the general spray application cleaning requirements proposed in subsection (jj).

RCSA section 22a-174-32 defines a RACT level of control for volatile organic compound emissions from certain activities not regulated in RCSA section 22a-174-20. The revision to the applicability requirements of RCSA section 22a-174-32(b)(3) takes into account the establishment of RACT levels of control for several source categories in subsections (ff) through (ii) of RCSA section 22a-174-20. As the CTGs generally recommend that only one set of RACT level controls apply to a given source category, the revision is consistent with the approach recommended in federal guidelines, although no analogous federal standards or procedures exist.

RCSA section 22a-174-33(f) establishes the timing requirements for the submission of Title V permit applications. Subdivisions (1) through (5) include the timing requirements in general, for submission of applications concerning new sources, modifications and renewals. Subdivision (6) includes specific application submission timing requirements for Acid Rain sources, namely those required of Acid Rain program sources in 40 CFR 72.30. The amendment eliminates the reference to the federal application submission requirements for Acid Rain program sources, as those requirements apply independently.

December 9, 2008
Date

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Merrily A. Gere
Bureau of Air Management

ATTACHMENT 2
Text of the Proposal

ATTACHMENT 3

Final Recommended Text, Including Recommendations of the Hearing Officer