located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: July 1, 2008.

Donald S. Welsh,

Regional Administrator, Region III.

[FR Doc. E8–16018 Filed 7–11–08; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 59

[EPA–HQ–OAR–2008–0411; FRL–8689–5]

RIN 2060–AP01

Consumer and Commercial Products: Control Techniques Guidelines in Lieu of Regulations for Miscellaneous Metal Products Coatings, Plastic Parts Coatings, Auto and Light-Duty Truck Assembly Coatings, Fiberglass Boat Manufacturing Materials, and Miscellaneous Industrial Adhesives

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule; proposed determination and availability of draft control techniques guidelines.

SUMMARY: Pursuant to section 183(e)(3)(C) of the Clean Air Act, EPA proposes to determine that control techniques guidelines will be substantially as effective as national regulations in reducing emissions of volatile organic compounds in ozone national ambient air quality standard nonattainment areas from the following five product categories: Miscellaneous metal products coatings, plastic parts coatings, auto and light-duty truck assembly coatings, fiberglass boat manufacturing materials, and miscellaneous industrial adhesives. Based on this determination, we may issue control techniques guidelines in lieu of national regulations covering these product categories. We have prepared draft control techniques guidelines for the control of volatile organic compound emissions from each of the product categories covered by this proposed determination. Once finalized, these control techniques guidelines will provide guidance to the States concerning EPA's recommendations for reasonably available control technology-level controls for these product categories. We further propose to take final action to list the five Group IV consumer and commercial product categories addressed in this notice pursuant to Clean Air Act section 183(e).

DATES: *Comments:* Written comments on this proposed action must be received by August 13, 2008, unless a public hearing is requested by July 24, 2008. If a hearing is requested on this proposed action, written comments must be received by August 28, 2008. We are also soliciting written comments on the draft control techniques guidelines (CTG), and those comments must be submitted within the comment period for this proposed determination.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing concerning this proposed determination by July 24, 2008, we will hold a public hearing on July 29, 2008. The substance of any such hearing will be limited solely to EPA's proposed determination under Clean Air Act (CAA) section 183(e)(3)(C) that the CTGs covering the five Group IV product categories will be substantially as effective as regulations in reducing volatile organic compound (VOC) emissions in ozone nonattainment areas. Accordingly, if a commenter has no objection to EPA's proposed determination under CAA section 183(e)(3)(C), but has comments on the substance of a draft CTG, the commenter should submit those comments in writing.

ADDRESSES: Submit your comments, identified by applicable docket ID number, by one of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the on-line instructions for submitting comments.
- *E-mail: a-and-r-docket@epa.gov.*
- *Fax:* (202) 566–1741.
- *Mail:* Comments concerning this proposed Determination should be sent to: Consumer and Commercial Products, Group IV—Determination to Issue Control Techniques Guidelines in Lieu of Regulations, Docket No. EPA–HQ–OAR–2008–0411.

Comments concerning any draft CTG should be sent to the applicable docket, as noted below: Consumer and Commercial Products—Miscellaneous Metal and Plastic Parts Coatings, Docket No. EPA–HQ–OAR–2008–0412; Consumer and Commercial Products—Auto and Light-Duty Truck Assembly Coatings, Docket No. EPA–HQ–OAR–2008–0413; Consumer and Commercial Products—Fiberglass Boat Manufacturing Materials, Docket No. EPA–HQ–OAR–2008–0415; or Consumer and Commercial Products—Miscellaneous Industrial Adhesives, Docket No. EPA–HQ–OAR–2008–0460, Environmental Protection Agency, EPA Docket Center, Mailcode 6102T, 1200 Pennsylvania Ave., NW, Washington, DC 20460. Comments concerning the draft revision of the Automobile Topcoat Protocol, which is referenced in the draft CTG for Auto and Light-Duty Truck Coatings, should be sent to Consumer and Commercial Products—Auto and Light-Duty Truck Assembly Coatings, Docket No. EPA–HQ–OAR–2008–0413. Please include a total of two copies.

- *Hand Delivery:* EPA Docket Center, Public Reading Room, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC 20460. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to the applicable docket. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov,* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Public Hearing. If a public hearing is held, it will be held at 10 a.m. on July 29, 2008 at Building C on the EPA campus in Research Triangle Park, NC,

or at an alternate site nearby. Persons interested in presenting oral testimony must contact Ms. Joan C. Rogers, U.S. EPA, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Natural Resources and Commerce Group (E143–03), Research Triangle Park, North Carolina 27711, *telephone number:* (919) 541–4487, *fax number:* (919) 541–3470, *e-mail address: rogers.joanc@epa.gov,* no later than July 24, 2008. Persons interested in attending the public hearing must also call Ms. Rogers to verify the time, date, and location of the hearing. If no one contacts Ms. Rogers by July 24, 2008 with a request to present oral testimony at the hearing, we will cancel the hearing.

Docket: All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at the EPA Docket Center, Public Reading Room, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For information concerning the CAA section 183(e) consumer and commercial products program, contact Mr. Bruce Moore, U.S. EPA, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Natural Resources and Commerce Group (E143–03), Research Triangle Park, North Carolina 27711, *telephone number:* (919) 541–5460, *fax number:* (919) 541–3470, *e-mail address: moore.bruce@epa.gov.* For further information on technical issues concerning this proposed determination and draft CTG for miscellaneous metal and plastic parts coatings, or for fiberglass boat manufacturing materials, contact: Ms. Kaye Whitfield, U.S. EPA, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Natural Resources and Commerce Group (E143–03), Research Triangle Park, North Carolina 27711, *telephone number:* (919) 541–2509, *fax number:* (919) 541–3470, *e-mail address: whitfield.kaye@epa.gov.* For further information on technical issues concerning this proposed determination and draft CTG for auto and light-duty truck assembly coatings or the draft revision of the Automobile Topcoat Protocol, contact: Mr. Dave Salman, U.S. EPA, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Coatings and Chemicals Group (E143–01), Research Triangle Park, North Carolina 27711, *telephone number:* (919) 541–0859, *fax number:* (919) 541–3470, *e-mail address: salman.dave@epa.gov.* For further information on technical issues concerning this proposed determination and draft CTG for miscellaneous industrial adhesives, contact: Ms. Martha Smith, U.S. EPA, Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Natural Resources and Commerce Group (E143–03), Research Triangle Park, North Carolina 27711, *telephone number:* (919) 541–2421, *fax number:* (919) 541–3470, *e-mail address: smith.martha@epa.gov.*

SUPPLEMENTARY INFORMATION:

Entities Potentially Affected by This Action. The entities potentially affected by this action include industrial facilities that use the respective consumer and commercial products covered in this action as follows:

Category	NAICS code [a]	Examples of affected entities
Miscellaneous metal and plastic parts coatings.	331, 332, 333, 334, 336, 482, 811	Facilities that manufacture and repair fabricated metal, machinery, computer and electronic equipment, transportation equipment, rail transportation equipment.
Auto and light-duty truck assembly coatings.	336111, 336112, 336211	Automobile and light-duty truck assembly plants, producers of automobile and light-duty truck bodies.
Fiberglass boat manufacturing materials.	336612	Boat building facilities.
Miscellaneous industrial adhesives	316, 321, 326, 331, 332, 333, 334, 336, 337, 339, 482, 811.	Facilities that manufacture and repair leather and allied products, wood products, plastic and rubber products, fabricated metal, machinery, computer and electronic equipment, transportation equipment, furniture and related products, rail transportation equipment, and facilities involved in miscellaneous manufacturing.
Federal Government	.....	Not Affected.
State, local and tribal government ..	.....	State, local and tribal regulatory agencies.

[a] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. To determine whether your facility would be affected by this action, you should examine the applicable industry description in sections II.A, III.A, IV.A, and V.A of this notice. If you have any questions regarding the applicability of this action to a particular entity, consult the appropriate EPA contact listed in the **FOR FURTHER INFORMATION CONTACT** section of this notice.

Preparation of Comments. Do not submit information containing CBI to EPA through *http://www.regulations.gov* or e-mail. Send or deliver information identified as CBI only to the following address: Mr. Roberto Morales, OAQPS Document Control Officer (C404–02), U.S. EPA, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711, *Attention:* Docket ID EPA–HQ–OAR–2008–0411, 0412, 0413, 0415, or 0460 (as applicable). Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD–ROM that you mail to EPA, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be

disclosed except in accordance with procedures set forth in 40 CFR part 2.

World Wide Web (WWW). In addition to being available in the docket, an electronic copy of this proposed action will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of this proposed action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg/*. The TTN provides information and technology exchange in various areas of air pollution control.

Organization of this Document. The information presented in this notice is organized as follows:

I. Background Information and Proposed Determination
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B. Statutory and Regulatory Background
C. Significance of CTG
D. General Considerations in Determining Whether a CTG Will Be Substantially as Effective as a Regulation
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II. Miscellaneous Metal and Plastic Parts Coatings
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I. National Technology Transfer and Advancement Act
J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

I. Background Information and Proposed Determination

A. The Ozone Problem

Ground-level ozone, a major component of smog, is formed in the atmosphere by reactions of VOC and oxides of nitrogen in the presence of sunlight. The formation of ground-level ozone is a complex process that is affected by many variables.

Exposure to ground-level ozone is associated with a wide variety of human health effects, as well as agricultural crop loss, and damage to forests and ecosystems. Controlled human exposure studies show that acute health effects are induced by short-term (1 to 2 hour) exposures (observed at concentrations as low as 0.12 parts per million (ppm)), generally while individuals are engaged in moderate or heavy exertion, and by prolonged (6 to 8 hour) exposures to ozone (observed at concentrations as low as 0.08 ppm and possibly lower), typically while individuals are engaged in moderate exertion. Transient effects from acute exposures include pulmonary inflammation, respiratory symptoms, effects on exercise performance, and increased airway responsiveness. Epidemiological studies have shown associations between ambient ozone levels and increased susceptibility to respiratory infection, increased hospital admissions and emergency room visits. Groups at increased risk of experiencing elevated exposures include active children, outdoor workers, and others who regularly engage in outdoor activities. Those most susceptible to the effects of ozone include those with preexisting respiratory disease, children, and older adults. The literature suggests the possibility that long-term exposures to ozone may cause chronic health effects (e.g., structural damage to lung tissue and accelerated decline in baseline lung function).

B. Statutory and Regulatory Background

Under section 183(e) of the CAA, EPA conducted a study of VOC emissions from the use of consumer and commercial products to assess their potential to contribute to levels of ozone that violate the national ambient air quality standards (NAAQS) for ozone, and to establish criteria for regulating VOC emissions from these products. Section 183(e) of the CAA directs EPA to list for regulation those categories of products that account for at least 80 percent of the VOC emissions, on a reactivity-adjusted basis, from consumer and commercial products in areas that violate the NAAQS for ozone (i.e., ozone nonattainment areas), and to divide the list of categories to be regulated into four groups. EPA published the initial list in the **Federal Register** on March 23, 1995 (60 FR 15264). In that notice, EPA stated that it may amend the list of products for regulation, and the groups of product categories, in order to achieve an effective regulatory program in accordance with the EPA's discretion under CAA section 183(e).

EPA has revised the list several times. See 70 FR 69759 (November 17, 2005); 64 FR 13422 (March 18, 1999). Most recently, in May 2006, EPA revised the list to add one product category, portable fuel containers, and to remove one product category, petroleum dry cleaning solvents. See 71 FR 28320 (May 16, 2006). As a result of these revisions, Group IV of the list comprises five product categories: Miscellaneous metal products coatings, plastic parts coatings, auto and light-duty truck assembly coatings, fiberglass boat manufacturing materials, and miscellaneous industrial adhesives.[1]

Any regulations issued under CAA section 183(e) must be based on ''best available controls'' (BAC). CAA section 183(e)(1)(A) defines BAC as ''the degree of emissions reduction that the Administrator determines, on the basis of technological and economic feasibility, health, environmental, and energy impacts, is achievable through the application of the most effective equipment, measures, processes, methods, systems or techniques, including chemical reformulation, product or feedstock substitution, repackaging, and directions for use, consumption, storage, or disposal.'' CAA section 183(e) also provides EPA with authority to use any system or systems of regulation that EPA determines is the most appropriate for the product category. Under these provisions, we have previously issued ''national'' regulations for autobody refinishing coatings, consumer products, architectural coatings,

[1] Pursuant to the court's order in *Sierra Club* v. *EPA*, 1:01–cv–01597–PLF (D.C. Cir., March 31, 2006), EPA must take final action on the product categories in Group IV by September 30, 2008.

portable fuel containers, and aerosol coatings.[2]

CAA section 183(e)(3)(C) further provides that we may issue a CTG in lieu of a national regulation for a product category where we determine that the CTG will be ''substantially as effective as regulations'' in reducing emissions of VOC in ozone nonattainment areas. The statute does not specify how we are to make this determination, but does provide a fundamental distinction between national regulations and CTG.

Specifically, for national regulations, CAA section 183(e) defines regulated entities as:

(i) * * * manufacturers, processors, wholesale distributors, or importers of consumer or commercial products for sale or distribution in interstate commerce in the United States; or (ii) manufacturers, processors, wholesale distributors, or importers that supply the entities listed under clause (i) with such products for sale or distribution in interstate commerce in the United States.

Thus, under CAA section 183(e), a regulation for consumer or commercial products is limited to measures applicable to manufacturers, processors, distributors, or importers of the solvents, materials, or products supplied to the consumer or industry. CAA section 183(e) does not authorize EPA to issue national regulations that would directly regulate end-users of these products. By contrast, CTG are guidance documents that recommend reasonably available control technology (RACT) measures that States can adopt and apply to the end-users of products. This dichotomy (i.e., that EPA cannot directly regulate end-users under CAA section 183(e), but can address end-users through a CTG) created by Congress is relevant to EPA's evaluation of the relative merits of a national regulation versus a CTG.

C. Significance of CTG

CAA section 172(c)(1) provides that State implementation plans (SIPs) for nonattainment areas must include ''reasonably available control measures'' (RACM), including RACT, for sources of emissions. Section 182(b)(2) provides that States must revise their ozone SIP to include RACT for each category of VOC sources covered by any CTG document issued after November 15, 1990, and prior to the date of attainment.

EPA defines RACT as ''the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility,'' 44 FR 53761 (September 17, 1979). In subsequent notices, EPA has addressed how States can meet the RACT requirements of the CAA. Significantly, RACT for a particular industry is determined on a case-by-case basis, considering issues of technological and economic feasibility.

EPA provides States with guidance concerning what types of controls could constitute RACT for a given source category through issuance of a CTG. The recommendations in the CTG are based on available data and information and may not apply to a particular situation based upon the circumstances. States can follow the CTG and adopt State regulations to implement the recommendations contained therein, or they can adopt alternative approaches. In either event, States must submit their RACT rules to EPA for review and approval as part of the SIP process. EPA will evaluate the rules and determine, through notice and comment rulemaking in the SIP process, whether they meet the RACT requirements of the CAA and EPA's regulations. To the extent a State adopts any of the recommendations in a CTG into its State RACT rules, interested parties can raise questions and objections about the substance of the guidance and the appropriateness of the application of the guidance to a particular situation during the development of the State rules and EPA's SIP approval process.

We encourage States in developing their RACT rules to consider carefully the facts and circumstances of the particular sources in their States because, as noted above, RACT is determined on a case-by-case basis, considering issues of technological and economic feasibility. For example, a State may decide not to require 90 percent control efficiency at facilities that are already well controlled, if the additional emission reductions would not be cost-effective. States may also want to consider reactivity-based approaches, as appropriate, in developing their RACT regulations.[3] Finally, if States consider requiring more stringent VOC content limits than those recommended in the draft CTG, States may also wish to consider averaging, as appropriate. In general, the RACT requirement is applied on a short-term basis up to 24 hours.[4] However, EPA guidance permits averaging times longer than 24 hours under certain conditions.[5] The EPA's ''Economic Incentive Policy'' [6] provides guidance on use of long-term averages with regard to RACT and generally provides for averaging times of no greater than 30 days. Thus, if the appropriate conditions are present, States may consider the use of averaging in conjunction with more stringent limits. Because of the nature of averaging, however, we would expect that any State RACT Rules that allow for averaging also include appropriate recordkeeping and reporting requirements.

By this action, we are making available four draft CTGs that cover the five product categories in Group IV of the CAA section 183(e) list (miscellaneous metal products coatings and plastic parts coatings are addressed in one draft CTG referred to as ''miscellaneous metal and plastic parts coatings''). These CTGs are guidance to the States and provide recommendations only. A State can develop its own strategy for what constitutes RACT for these five product categories, and EPA will review that strategy in the context of the SIP process and determine whether it meets the RACT requirements of the CAA and its implementing regulations.

Finally, CAA section 182(b)(2) provides that a CTG issued after 1990 specify the date by which a State must submit a SIP revision in response to the CTG. In the draft CTGs at issue here, EPA provides that States should submit their SIP revisions within one year of the date that the CTGs are finalized.

D. General Considerations in Determining Whether a CTG Will Be Substantially as Effective as a Regulation

CAA section 183(e)(3)(C) authorizes EPA to issue a CTG in lieu of a regulation for a category of consumer and commercial products if a CTG ''will be substantially as effective as regulations in reducing VOC emissions''

[2] See 63 FR 48792, 48819, and 48848 (September 11, 1998); 72 FR 8428 (February 26, 2007); and 73 FR 15604 (March 24, 2008).

[3] ''Interim Guidance on Control of Volatile Organic Compounds in Ozone State Implementation Plans,'' 70 FR 54046 (September 13, 2005).

[4] See, e.g., 52 FR at 45108, col. 2, ''Compliance Periods'' (November 24, 1987). ''VOC rules should describe explicitly the compliance timeframe associated with each emission limit (e.g., instantaneous or daily). However, where the rules are silent on compliance time, EPA will interpret it as instantaneous.''

[5] Memorandum from John O'Connor, Acting Director of the Office of Air Quality Planning and Standards, January 20, 1984, ''Averaging Times for Compliance with VOC Emission Limits–SIP Revision Policy.''

[6] ''Improving Air Quality with Economic Incentive Programs, January 2001,'' available at *http://www.epa.gov/region07/programs/artd/air/policy/search.htm.*

in ozone nonattainment areas. The statute does not specify how EPA is to make this determination.

On July 13, 1999 (64 FR 37773), EPA issued a final determination pursuant to CAA section 183(e)(3)(C), concluding that CTGs for wood furniture coatings, aerospace coatings, and shipbuilding and repair coatings were substantially as effective as national regulations in reducing emissions of VOC from these products in areas that violate the NAAQS for ozone. On October 5, 2006 (71 FR 58745), EPA issued a similar final determination for flexible packaging printing materials, lithographic printing materials, letterpress printing materials, industrial cleaning solvents, and flat wood paneling coatings. Most recently, on October 9, 2007 (72 FR 57215), EPA issued a similar final determination for paper, film, and foil coatings; metal furniture coatings; and large appliance coatings. Recognizing that the statute does not specify any criteria for making a determination under CAA section 183(e)(3)(C), EPA, in 1999, 2006, and 2007, considered several relevant factors, including: (1) The product's distribution and place of use; (2) the most effective entity to target to control emissions—in other words, whether it is more effective to achieve VOC reductions at the point of manufacture of the product or at the point of use of the product; (3) consistency with other VOC control strategies; and (4) estimates of likely VOC emission reductions in ozone nonattainment areas which would result from the regulation or CTG. EPA believes that these factors are useful for evaluating whether the rule or CTG approach would be best from the perspective of implementation and enforcement of an effective strategy to achieve the intended VOC emission reductions. EPA believes that in making these determinations, no single factor is dispositive. On the contrary, for each product category, we must weigh the factors and make our determination based on the unique set of facts and circumstances associated with that product category. For purposes of making this determination, we analyzed the components of the draft CTGs for the product categories at issue and compared the draft CTGs to the types of controls and emission strategies possible through a regulation. As we explained in 1999, it would be unreasonable for EPA, in effect, to have to complete both the full rulemaking and full CTG development processes before being able to make a determination under CAA section 183(e)(3)(C) validly. We believe that it is possible for the EPA to make a determination between what a rule might reasonably be expected to achieve versus what a CTG might reasonably be expected to achieve, without having to complete the entire rulemaking and CTG processes. To conclude otherwise would result in the unnecessary wasting of limited time and resources by the EPA and the stakeholders participating in the processes. Moreover, such an approach would be directly contrary to CAA section 183(e)(3)(C), which authorizes EPA to issue a CTG in lieu of a regulation if it determines that the CTG ''will be substantially as effective as'' a regulation in reducing VOC emissions in ozone nonattainment areas.

With regard to the five product categories at issue here, EPA notes that it does not have reliable quantitative data that would enable it to conduct a ton-by-ton comparison of the likely emission reductions associated with a national regulation versus a CTG. Although we conducted such a comparative analysis in 1999 for the product categories of wood furniture coatings, aerospace coatings and shipbuilding and repair coatings, (64 FR 37773, July 13, 1999), such analysis is not necessary for evaluating likely VOC emission reductions, particularly, where, as in our Group II action (71 FR 58745, October 5, 2006), our Group III action (72 FR 57215, October 9, 2007), and here, a CTG can achieve significant emission reductions from end-users of the consumer and/or commercial products at issue, which cannot be achieved through regulation under CAA section 183(e). In addition, for the reasons described below, a regulation governing the manufacturers and suppliers of these products would be unlikely to achieve the objective of reducing VOC emissions from these products in ozone nonattainment areas.

E. Proposed Determination

Based on the factors identified above and the facts and circumstances associated with each of the Group IV product categories, EPA proposes to determine that CTGs for miscellaneous metal products coatings, plastic parts coatings, auto and light-duty truck assembly coatings, fiberglass boat manufacturing materials, and miscellaneous industrial adhesives will be substantially as effective as national regulations in reducing VOC emissions from facilities located in ozone nonattainment areas.

In each of the four sections below (miscellaneous metal products coatings and plastic parts coatings are addressed in a single CTG and are therefore addressed in the same section below), we provide a general description of the industry, identify the sources of VOC emissions associated with the industry, summarize the recommended control techniques in the draft CTG and describe the impacts of those techniques, and discuss the considerations supporting our proposed determination under CAA section 183(e)(3)(C) that a CTG will be substantially as effective as a regulation in reducing VOC emissions in ozone nonattainment areas from the product category at issue.

The specific subsections below are organized into two parts, each of which addresses two of the factors relevant to the CAA section 183(e)(1)(C) determination. The first part addresses whether it is more effective to target the point of manufacture of the product or the point of use for purposes of reducing VOC emissions and discusses whether our proposed approach is consistent with existing Federal, State and local VOC reduction strategies. The second part addresses the product's distribution and place of use and discusses the likely VOC emission reductions associated with a CTG, as compared to a regulation.

Finally, we propose to find that these five product categories are appropriate for inclusion on the CAA section 183(e) list in accordance with the factors and criteria that EPA used to develop the original list. See Consumer and Commercial Products: Schedule for Regulation, 60 FR 15264 (March 23, 1995).

F. Availability of Documents

We have prepared four draft CTG documents covering the five consumer and commercial product categories addressed in this action (miscellaneous metal products coatings and plastic parts coatings are addressed in a single CTG). Each of the draft CTGs addresses, among other things, RACT recommendations, cost impacts, and existing Federal, State and local VOC control strategies. In conjunction with the draft CTG for Auto and Light-Duty Truck Coating, we have also prepared a draft revision of the Automobile Topcoat Protocol (please see section III.B for a more detailed discussion). The draft CTG and the draft revision of the Automobile Topcoat Protocol are available for public comment and are contained in the respective dockets listed in the **ADDRESSES** section of this notice.

II. Miscellaneous Metal and Plastic Parts Coatings

A. Industry Characterization

1. Source Category Description

The miscellaneous metal products coatings category and the plastic parts coatings category refer to coatings that are applied to miscellaneous metal products and plastic parts. Miscellaneous metal products and plastic parts include, but are not limited to, metal and plastic components of the following types of products as well as the products themselves: Motor vehicle parts and accessories, bicycles and sporting goods, toys, recreational vehicles, extruded aluminum structural components, railroad cars, heavier vehicles,[7] medical equipment, lawn and garden equipment, business machines, laboratory and medical equipment, electronic equipment, steel drums, industrial machinery, metal pipes, and numerous other industrial and household products (hereinafter collectively referred to as the ''miscellaneous metal and plastic parts''). The draft CTG applies to manufacturers of miscellaneous metal and plastic parts that surface-coat the parts they produce. The draft CTG also applies to facilities that perform surface coating of miscellaneous metal and plastic parts on a contract basis.

Miscellaneous metal and plastic parts coatings do not include coatings that are a part of other product categories listed under section 183(e) of the CAA and/or addressed by other CTGs. These other categories that are not part of the miscellaneous metal and plastic parts coatings categories include shipbuilding and repair coatings; aerospace coatings; wood furniture coatings; metal furniture coatings; large appliance coatings; auto and light-duty truck assembly coatings; flatwood paneling coatings; and paper, film, and foil coatings. Can coatings, coil coatings, and magnet wire coatings were not listed under section 183(e) of the CAA, but were addressed by earlier CTGs, and are also not included in the miscellaneous metal and plastic parts coatings categories.

Sealers, deadeners, transit coatings and cavity waxes applied to new automobile or new light-duty truck bodies, or body parts for new automobiles or new light-duty trucks are included in the miscellaneous metal and plastic parts coatings categories and are addressed in the draft CTG for miscellaneous metal products and plastic parts coatings. In the draft CTG, however, we seek comments on whether the use of these coatings in the production of new automobiles and new light-duty trucks should be included in the miscellaneous metal and plastic parts coatings categories and addressed in the CTG for miscellaneous metal and plastic parts coatings, or in the auto and light-duty truck assembly coatings category and addressed in the CTG for auto and light-duty truck assembly coatings.

Miscellaneous metal and plastic parts coatings include several categories of primers, topcoats, and specialty coatings, typically defined by the coatings function. The types of coating technologies used in the miscellaneous metal and plastic parts surface coating industry include higher solids, waterborne, and powder coatings, as well as conventional solvent-borne coatings. The coatings provide a covering, finish, or functional or protective layer to the surface of miscellaneous metal and plastic parts. They also provide a decorative finish to these miscellaneous metal and plastic parts.

2. Processes, Sources of VOC Emissions, and Controls

The VOC emissions from miscellaneous metal and plastic parts surface coatings are a result of evaporation of the VOC contained in many of the coatings and cleaning materials[8] used in miscellaneous metal and plastic parts surface coating operations. The primary VOC emissions from miscellaneous metal and plastic parts coatings occur during coating application, flash-off, and coating curing/drying. Some VOC emissions also occur during mixing and thinning of the coatings. The VOC emissions from mixing and thinning operations occur from displacement of VOC-laden air in containers used to mix coatings before coating application. The displacement of VOC-laden air can occur during the filling of containers. It can also be caused by changes in temperature or barometric pressure, or by agitation during mixing.

The primary VOC emissions from the cleaning materials occur during cleaning operations, which include spray gun cleaning, paint line flushing, rework operations, and touchup cleaning at final assembly. VOC emissions from surface preparation (where miscellaneous metal and plastic parts are treated and/or cleaned prior to coating application), coating storage and handling, and waste/wastewater operations (i.e., handling waste/wastewater that may contain residues from both coatings and cleaning materials) are small.

As mentioned above, the majority of VOC emissions from miscellaneous metal and plastic parts coatings occur from evaporation of solvents in the coatings during coating application. The transfer efficiency (the percent of coating solids deposited on the metal and plastic parts) of a coating application method affects the amount of VOC emissions during coating application. The more efficient a coating application method is in transferring coatings to the metal and plastic parts, the lower the volume of coatings (and therefore solvents) needed per given amount of production, thus resulting in lower VOC emissions.

The coatings used in the miscellaneous metal and plastic parts surface coating industry may be in the form of a liquid or powder. Liquid coatings may be applied by means of spray or dip coating. Conventional air atomized spray application systems utilize higher atomizing air pressure and typically have transfer efficiencies ranging between 25 and 40 percent. Dip coating is the immersion of miscellaneous metal and plastic parts into a coating bath and is typically used on parts that do not require high quality appearance. The transfer efficiency of a dip coater is very high (approximately 90 percent); however, some VOC is emitted from the liquid coating bath due to its large exposed surface area.

Many spray-applied coatings on metal parts are electrostatically applied. Electrostatic spray application can be done with both liquid and powder coatings. In electrostatic coating, an electrical attraction between the paint, which is positively charged, and the grounded metal enhances the amount of coating deposited on the surface. For liquid coatings, this coating method is more efficient than conventional air atomized spray, with transfer efficiency typically ranging from 60 to 90 percent.

Other liquid coating application methods used in the miscellaneous

[7] Heavier vehicles includes all vehicles that meet the definition of the term ''other motor vehicles,'' as defined in the National Emission Standards for Surface Coating of Automobile and Light-Duty Trucks at 40 CFR 63.3176.

[8] In a previous notice, EPA stated that the cleaning operations associated with certain specified section 183(e) consumer and commercial product categories, including the miscellaneous metal products coatings category and the plastic parts coatings category, would not be covered by EPA's 2006 CTG for industrial cleaning solvents (71 FR 44522 and 44540, August 4, 2006). In the notice, EPA expressed its intention to address cleaning operations associated with these categories in the CTGs for these specified categories if we determine that a CTG is appropriate for the respective categories. Accordingly, the draft CTG for the miscellaneous metal products coatings category and the plastic parts coatings category addresses VOC emissions from cleaning operations associated with these two product categories.

metal and plastic parts surface coating industry include flow coating, roll coating, high volume/low pressure (HVLP) spray, electrocoating, autophoretic coating, and application by hand. These coating methods are described in more detail in the draft CTG.

Spray-applied coatings are typically applied in a spray booth to capture paint overspray, remove solvent vapors from the workplace, and to keep the coating operation from being contaminated by dirt from other operations. In spray coating operations, the majority of VOC emissions occur in the spray booth.

After coatings are applied, the coated miscellaneous metal and plastic parts and products are often baked or cured in heated drying ovens, but some are air dried, especially for some heat-sensitive plastic parts. For liquid spray and dip coating operations, the coated parts or products are typically first moved through a flash-off area after the coating application operation. The flash-off area allows solvents in the wet coating film to evaporate slowly, thus avoiding bubbling of the coating while it is curing in the oven. The amount of VOC emitted from the flash-off area depends on the type of coating used, the speed of the coating line (i.e., how quickly the part or product moves through the flash-off area), and the distance between the application area and bake oven.

After flash-off, the miscellaneous metal and plastic parts are usually cured or dried. For powder coatings on miscellaneous metal parts, the curing/drying step melts the powder and forms a continuous coating on the part or product. For liquid coatings, this step removes any remaining volatiles from the coating. The cured coatings provide the desired decorative and/or protective characteristics. The VOC emissions during the curing/drying process result from the evaporation of the remaining solvents in the dryer.

The VOC emissions from the coating process can be controlled and reduced through changes in coatings and application technology. Until the late 1970's, conventional solvent-borne coatings were used in the miscellaneous metal and plastic parts surface coating industry. Since then, the industry has steadily moved towards alternative coating formulations that eliminate or reduce the amount of solvent in the formulations, thus reducing VOC emissions per unit amount of coating solids used.

Currently the miscellaneous metal and plastic parts surface coating industry uses primarily higher solids solvent-borne coatings and waterborne coatings, as well as powder coatings on miscellaneous metal parts. Other alternative coatings include UV-cured coatings. These coatings are described in more detail in the CTG. When feasible, many coatings are applied by electrostatic spraying which, as mentioned above, has a higher transfer efficiency than the conventional air atomized spray. The combination of low-VOC coating type and electrostatic spraying is an effective measure for reducing VOC emissions. Not only are VOC emissions reduced by using coatings with low-VOC content, the use of an application method with a high transfer efficiency, such as electrostatic spraying, lowers the volume of coatings needed per given amount of production, thus further reducing the amount of VOC emitted during the coating application.

The most common approach to reduce emissions from miscellaneous metal and plastic parts coating operations is to use low-VOC content coatings, including powder coatings, higher solids solvent-borne coatings, and UV-cured coatings. More efficient coating application methods can also be used to reduce VOC emissions by reducing the amount of coating that is used in coating operations. Add-on controls may also be used to reduce VOC emissions from miscellaneous metal and plastic parts coatings and cleaning materials. In some cases, add-on controls are used where it is necessary or desirable to use high-VOC materials, but they are also used in combination with low-VOC coatings and/or more efficient coating application methods to achieve additional emission reductions.

As previously mentioned, the majority of VOC emissions from spray coating operations occur in the spray booth. The VOC concentration in spray booth exhaust is typically low because a large volume of exhaust air is used to dilute the VOC emissions for safety reasons. Although VOC emissions in spray booth exhaust can be controlled with add-on controls, because of the large volume of air that must be treated and the low concentration of VOC, it is generally not cost-effective to do so. On the other hand, the wide availability and lower cost of low-VOC content coatings makes them a more attractive option than add-on controls for reducing VOC emissions during coating application. For those situations where an add-on control device can be justified for production or specific coating requirements, thermal oxidation and carbon adsorption are most widely used. Please see the draft CTG for a detailed discussion of these and other available control devices.

To control VOC emissions from containers used to store or mix coatings containing VOC solvents, work practices (e.g., using closed storage containers) are used throughout the miscellaneous metal and plastic parts surface coating industry.

Work practices are also widely used throughout the miscellaneous metal and plastic parts surface coating industry as a means of reducing VOC emissions from cleaning operations. These measures include covering mixing tanks, storing solvents and solvent soaked rags and wipes in closed containers, and cleaning spray guns in an enclosed system. Another means of reducing VOC emissions from cleaning operations is the use of low-VOC content, low vapor pressure, or low boiling point cleaning materials. However, little information is available regarding the effectiveness of the use of these types of cleaning materials to reduce VOC emissions in the miscellaneous metal and plastic parts surface coating industry.

3. Existing Federal, State, and Local VOC Control Strategies

There are five previous EPA actions that affect miscellaneous metal and plastic parts surface coating operations. These actions are summarized below, but are described in more detail in the actual proposed CTG.

- CTG for Surface Coating of Miscellaneous Metal Parts and Products (1978).
- New Source Performance Standards for Surface Coating of Plastic Parts for Business Machines (1988).
- Alternative Control Techniques Document for Surface Coating of Automotive/Transportation and Business Machine Plastic Parts (1994).
- National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (2004).
- National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products (2004).

In 1978, EPA issued a CTG document entitled ''Control of Volatile Organic Emissions from Existing Stationary Sources Volume VI: Surface Coating of Miscellaneous Metal Parts and Products'' (EPA–450/2–78–015) (1978 CTG) that provided RACT recommendations for controlling VOC emissions from miscellaneous metal part surface coating operations. The 1978 CTG addressed VOC emissions from miscellaneous metal part coating lines, which include the coating application area, the flash-off area, and the curing/drying ovens. The 1978 CTG

did not cover can coating, coil coating, wire coating, auto and light duty truck coating, metal furniture coating, and large appliance coating, all of which were addressed by other CTGs. The 1978 CTG recommended RACT VOC content limits for five miscellaneous metal part surface coating categories. These categories included (1) coatings for air-dried or forced air-dried items, including parts too large or too heavy for practical size ovens and/or with sensitive heat requirements, for parts to which heat-sensitive materials are attached, and for equipment assembled prior to top coating for specific performance or quality standards; (2) clear coatings; (3) coatings for outdoor or harsh exposure or extreme performance characteristics; (4) powder coatings; and (5) all other coatings, including baked coatings, and the first coat applied on an untreated ferrous substrate. The recommended VOC content limits for these five categories were all expressed in the form of kg VOC per liter of coating, minus water and exempt compounds.[9] The 1978 CTG did not address VOC emissions from cleaning materials.

In 1988, EPA promulgated new source performance standards (NSPS) for the surface coating of plastic parts for business machines (40 CFR part 60 subpart TTT).[10] Business machines include typewriters, electronic computers, calculating and accounting machines, telephone and telegraph equipment, photocopy machines, and other office machines not elsewhere classified. The NSPS established VOC emission limits for spray booths in four categories of coating operations (Prime coating, Color coating, Texture coating, and Touch-up Coating). All of these limits were in units of kg VOC per liter of coating solids applied to the part, which accounts for the transfer efficiency of the coating application equipment. The NSPS did not address cleaning operations or materials.

In 1994, EPA published ''Alternative Control Techniques Document: Surface Coating of Automotive/Transportation and Business Machine Plastic Parts'' (EPA–453/R–94–017, February 1994) (1994 ACT). The 1994 ACT provides information on control techniques for VOC emissions from the surface coating of plastic parts for automotive/transportation and business machine/electronic products. It provides information on emissions, controls, control options, and costs that States can use in developing rules based on RACT, but presents only options in terms of coating reformulation control levels, and does not contain a recommendation on RACT. The 1994 ACT presented coating reformulation control levels for over 20 categories of coatings in terms of kg VOC per liter of coating, less water and exempt compounds. The 1994 ACT did not address VOC emissions from cleaning materials.

Because the 1988 NSPS limits are expressed in terms of coating solids deposited and the 1994 ACT recommended limits are expressed in terms of VOC per gallon of coating, less water and exempt solvents, these limits cannot be compared directly for surface coating of business machine plastic parts without making an assumption for the transfer efficiency of the application equipment. If we assume a transfer efficiency of 40 percent, then the 1988 NSPS limits for business machine coating are less stringent than the most stringent control level in the 1994 ACT for comparable categories of coatings.

In 2004, EPA promulgated the National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR part 63, subpart MMMM, which applies to metal part surface coating operations. In the same year, EPA also promulgated the National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products, 40 CFR part 63, subpart PPPP. These two NESHAP addressed organic hazardous air pollutants (HAP) emissions, from all activities at a facility that involve coatings, thinners, and cleaning materials used in metal part and plastic part surface coating operations. The two NESHAP regulate coating operations (including surface cleaning, coating application, and equipment cleaning); vessels used for storage and mixing of coatings, thinners, and cleaning materials; equipment, containers, pipes and pumps used for conveying coatings, thinners, and cleaning materials; and storage vessels, pumps and piping, and conveying equipment and containers used for waste materials.

The NESHAP for miscellaneous metal parts and products surface coating established organic HAP emission limitations for five categories of coatings (general use, high performance, magnet wire, rubber to metal bonding, and extreme performance fluoropolymer coatings). The NESHAP for plastic parts and products surface coating set organic HAP emission limitations for four categories of coatings (general use, automotive lamp, thermoplastic olefin substrates, and assembled on-road vehicles). In each NESHAP, coatings that do not meet one of the specialty category definitions are subject to the general use emission limitations. In demonstrating compliance with the HAP content limits for each category in both NESHAP, sources have to include the HAP emissions from cleaning in their emission calculations. Since these two NESHAP are both based on coating reformulation to lower the HAP content, it is not known how compliance has affected VOC emissions, if at all, since HAP could be replaced with non-HAP VOC in many coatings.

In addition to the EPA actions mentioned above, at least 37 States and several local jurisdictions have specific regulations that control VOC emissions from miscellaneous metal and plastic parts surface coating operations. These States and local jurisdictions require one or more of the following measures: limits on the VOC content of coatings, requirements to reduce VOC emissions from cleaning operations, and requirements to use high transfer efficiency application equipment or methods to apply coatings. The State actions addressing miscellaneous metal and plastic parts surface coating are described in detail in the actual draft CTG.

Almost all of the States that specifically address metal part coatings have adopted the categories and corresponding emission limits recommended in the 1978 CTG. However, 19 States have additional categories and limits, usually to address high performance architectural coatings, steel pail and drum coatings, or heavy duty truck coating.

In 1992, the California Air Resources Board (ARB) developed a RACT guidance document for metal part surface coating operations that included separate VOC content limits for baked and air dried coatings. The ARB guidance contains RACT limits for general coatings and 15 categories of specialty coatings. Coatings that do not meet the definition of one of the specialty categories are subject to the general coating limit. Compared to the 1978 CTG, which recommended separate limits for five categories, the 1992 ARB guidance has specific limits for more categories of specialty coatings that cannot meet the more stringent ''general use'' category limits. However, overall, the recommended VOC content limits in the 1992 ARB guidance are more stringent than the recommended limits in the 1978 CTG.

[9] The list of exempt compounds that are considered to be negligibly photochemically reactive in forming ozone can be found in the definition of VOC at 40 CFR 51.100(s).

[10] The 1988 NSPS applies to sources that commenced construction, reconstruction, or modification after January 8, 1988.

A total of 15 air pollution control Districts in California have established rules for metal part surface coating operations, but they do not all include the same categories and limits as the ARB RACT guidance. Among these Districts, the South Coast Air Quality Management District (SCAQMD) has adopted the most stringent VOC content limits for 21 categories of metal parts coatings in SCAQMD Rule 1107 (South Coast Rule 1107). All of these limits, except the limits for four categories of air dried coatings (general use one component coatings, extreme high gloss, and one and two component high performance architectural component coatings), have been in place since the rule's 1996 amendment or earlier. Since the 1996 amendment, SCAQMD has further tightened the limits for these four categories of air dried coatings through subsequent amendments to Rule 1107.

As an alternative to meeting VOC content limits, South Coast Rule 1107 requires that, if add-on controls are used, the control system must capture at least 90 percent of the VOC emissions. Rule 1107 further requires that the captured VOC emissions be reduced by at least 95 percent or the VOC concentration at the outlet of the air pollution control device be no more than 5 ppm VOC by volume calculated as carbon with no dilution, and that the control system achieves at least 90 percent capture. The add-on control requirements described above have been in place since the rule's 1996 amendment or earlier.

In addition to SCAQMD Rule 1107, SCAQMD has also issued SCAQMD Rule 1125 to regulate VOC emissions from steel pail and drum coating operations, whose coatings are included in the miscellaneous metal products coatings category listed under 183(e). SCAQMD Rule 1125 establishes limits for interior and exterior coatings used on new and reconditioned drums and pails. At least four other Districts have specific limits for these surface coating operations in either their metal part surface coating rules or rules for metal container coating operations.

For plastic part surface coating, 13 States have established rules to limit VOC emissions, and one State has issued a proposed rule. Seven of the State rules (Delaware, Illinois, Massachusetts, Michigan, New Hampshire, Tennessee, and Wisconsin) and the one proposed rule (Ohio) adopted the categories and control levels in the 1994 ACT for automotive and business machine plastic parts. The other six States (Arizona, California, Indiana, Maryland, Missouri, and New York) have not adopted the control levels provided in the 1994 ACT. Instead, they have adopted limits for only one or two categories of plastic parts coatings. In some cases, these limits apply to all plastic parts coatings and are not limited to only automotive or business machine plastic parts. These limits are generally not as stringent as the most stringent control level in the 1994 ACT for comparable coating categories.

Three California Air Quality Management Districts, including the SCAQMD, have rules containing emission limits for coating plastic parts. South Coast Rule 1145 (Plastic, Rubber, Leather, And Glass Coatings) has VOC content limits for 11 categories of coatings that can be applied to plastics. All of these limits, except the limits for four categories (general use one and two component coatings, electrical dissipating and shock free coatings, and optical coatings), have been in place since the rule's 1997 amendment or earlier. Since the 1997 amendment, SCAQMD has further tightened the limits for the four categories identified above through subsequent amendments to Rule 1145.

As an alternative to meeting VOC content limits, South Coast Rule 1145 requires that, if add-on controls are used the control system must capture at least 90 percent of the VOC emissions. Rule 1145 further requires that the captured VOC emissions be reduced by at least 95 percent or the VOC concentration at the outlet of the air pollution control device be no more than 5 ppm VOC by volume calculated as carbon with no dilution, and that the control system achieves at least 90 percent capture. The add-on control requirements described above have been in place since 1997 or earlier.

Several States (California, Arizona, Massachusetts, and New Hampshire) that limit the VOC content of the coatings used for miscellaneous metal and plastic parts coating have requirements to use specific types of high-efficiency coating application methods to further reduce VOC emissions. For example, in addition to limiting the VOC contents in the coatings, SCAQMD Rule 1107 requires the use of one of the following types of application equipment: Electrostatic application; flow coating; dip coating; roll coating; hand application; HVLP spray; or an alternative method that is demonstrated to be capable of achieving a transfer efficiency equal to or better than HVLP spray. Alternative methods must be approved by the District based on actual transfer efficiency measurements in a side-by-side comparison of the alternative method and an HVLP spray gun. Rules that regulate emissions from miscellaneous metal and plastic parts surface coating from at least nine other Districts are similar to SCAQMD Rule 1107 in that they also require that sources use methods that achieve high transfer efficiency.

California and at least 11 other States have requirements to reduce VOC emissions from cleaning materials used in metal and plastic parts surface coating operations. At least 12 Districts in California regulate the VOC content of cleaning materials used in these surface coating operations. These regulations are aimed at reducing VOC emissions from cleaning materials by combining work practice and equipment standards with limits on the VOC content, boiling point, or composite vapor pressure of the solvent being used. Some District rules allow the use of add-on controls as an alternative to the VOC content/boiling point/vapor pressure limits for cleaning materials. As mentioned above, several Districts have established work practice and equipment standards to minimize VOC solvent emissions. These standards include, for example, using closed containers for storing solvent and solvent containing wipes and rags, using enclosed and automated spray gun washing equipment, and prohibiting atomized spraying of solvent during spray gun cleaning. However, the cleaning material VOC content/boiling point/vapor pressure limits, overall control efficiency requirements, and work practices vary by District.

Among the other States, besides California, with cleaning material requirements, only Massachusetts limits the VOC content of solvents used for surface preparation, and none limit the VOC content, boiling point, or vapor pressure of solvents used for spray gun cleaning. Instead, they have established equipment standards and work practices, such as using enclosed spray gun washers and storing solvents and solvent containing rags and wipes in closed containers. For metal part surface coating operations, seven States require that VOC from equipment cleaning be considered in determining compliance with the emission limit for each coating category, unless the solvent is directed into containers that prevent evaporation into the atmosphere.

B. Recommended Control Techniques

The draft CTG recommends certain control techniques for reducing VOC emissions from miscellaneous metal and plastic parts surface coatings and associated cleaning materials. As explained in the draft CTG, we are

recommending these control options for miscellaneous metal and plastic parts surface coating operations that emit 6.8 kg VOC per day (VOC/day) (15 lb VOC/day or 3 tons per year (tpy)) or more before consideration of control. For purposes of determining whether a facility meets the 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) threshold, aggregate emissions from all miscellaneous metal and plastic parts surface coating operations and related cleaning activities at a given facility are included.

The draft CTG would not apply to facilities that emit below the threshold level because of the very small VOC emission reductions that would be achieved. The recommended threshold level is equivalent to the evaporation of approximately two gallons of solvent per day. Such a level is considered to be an incidental level of solvent usage that could be expected even in facilities that use very low-VOC content coatings, such as powder or UV-cure coatings. Furthermore, based on the 2002 National Emission Inventory (NEI) data and the 2004 ozone nonattainment designations, facilities emitting below the recommended threshold level collectively emit less than four percent of the total reported VOC emissions from miscellaneous metal and plastic parts surface coating facilities in ozone nonattainment areas. For these reasons, the draft CTG does not specify control for these low emitting facilities. This recommended threshold is also consistent with our recommendations in many previous CTGs.

In addition, with respect to heavier vehicle [11] bodies and body parts coatings, which are included in the Miscellaneous Metal Products and Plastic Parts coatings categories and are therefore covered by this draft CTG, we recommend certain flexibility in applying this draft CTG. Specifically, we recommend that States consider structuring their RACT rules to provide heavier vehicle coating facilities with the option of meeting the requirements for automobile and light-duty truck coating category in lieu of the requirements for the miscellaneous metal products coatings category or the plastic parts coatings category. Please see section III.B of this notice for a discussion of our reasons for this recommendation.

1. Coatings

The draft CTG provides flexibility by recommending three options for controlling VOC emissions from miscellaneous metal and plastic parts coatings: (1) VOC content limits for each coating category based on the use of low-VOC content coatings (expressed as kg VOC per liter (kg VOC/l) coating, less water and exempt compounds) and specified application methods to achieve good coating transfer efficiency; (2) emission rate limits (expressed as kg VOC/l of coating solids) based on the use of a combination of low-VOC coatings, specified application methods, and add-on controls; or (3) an overall control efficiency of 90 percent for facilities that choose to use add-on controls instead of low-VOC content coatings and specified application methods. The first two options are expected to achieve equivalent VOC emission reductions. The third option provides facilities the flexibility to use a high efficiency add-on control in lieu of low-VOC coatings and specified application methods, especially when the use of high VOC coatings is necessary or desirable. The third option is expected to achieve an emission reduction at least as great as the first two options.

For Option 1, we are recommending the VOC content limits and application method, as well as the exemptions, in the following regulations:

- South Coast AQMD's Rule 1107 (March 6, 1996) for Coating of Metal Parts and Products.
- South Coast AQMD's Rule 1125 (as amended January 13, 1995) for Metal Container, Closure, and Coil Coating.
- South Coast AQMD's Rule 1145 (February 14, 1997) for Plastic, Rubber, Leather, and Glass Coatings.
- Michigan Rule 336.1632 (as amended April 28, 1993) for Emission of Volatile Organic Compounds From Existing Automobile, Truck, and Business Machine Plastic Part Coating Lines.

The limits in SCAQMD Rule 1125 and Michigan Rule 336.1632 have been in place since the amendments noted above for these rules. As mentioned above, SCAQMD has changed the limits for several categories in SCAQMD Rules 1107 and 1145 in subsequent amendments to these two rules. These new limits, however, have not been in place very long. We do not have information regarding the cost of implementing these new limits. We could not conclude that these limits are technologically and economically feasible and, therefore, reflect RACT for all affected facilities in ozone nonattainment areas nationwide. We are, therefore, not recommending the limits in SCAQMD Rules 1107 and 1145 promulgated subsequent to the amendments to these rules noted above.

The recommended limits in SCAQMD rules described above are more stringent than the limits provided in other existing Federal, State, and local actions limiting VOC emissions from these coating categories. Because of the large size of the SCAQMD and the number of regulated sources, the facilities subject to these three SCAQMD rules are considered to be representative of the type of sources located in other parts of the country. The recommended limits have been or were in effect a long time (i.e., since 1997 or earlier). Therefore, we believe that these limits are technically and economically feasible for sources in other parts of the country and, therefore, have included them as our recommendations in the draft CTG.

The Michigan rule is based on the control levels provided in the 1994 ACT, which is more stringent than the 1988 NSPS for comparable coating categories for business machines. Michigan has a substantial number of sources subject to Rule 336.1632, and these sources' compliance with Michigan Rule 336.1632 shows that the VOC content limits in Michigan Rule 336.1632 are technically and economically feasible. The limits in the Michigan rule have been in effect since 1993. Therefore, we recommend in the draft CTG the VOC content limits contained in Michigan Rule 336.1632.

Specifically, for miscellaneous metal parts surface coatings, Option 1 in the draft CTG includes the VOC content limits in SCAQMD Rule 1107 (Coating of Metal Parts and Products, March 6, 1996), which sets separate limits for baked coatings and air-dried coatings for 21 categories of coatings used on metal parts. Option 1 also includes four limits for drum, pail and lid coating in SCAQMD Rule 1125 (Metal Container, Closure, and Coil Coating Operations, as amended January 13, 1995).

For surface coating of plastic parts that are not part of automotive/transportation equipment or business machines, the draft CTG includes the VOC content limits in SCAQMD Rule 1145 (Plastic, Rubber, Leather, and Glass coatings) (February 14, 1997) for 11 categories of plastic parts coatings. These limits became effective January 1, 1998. As mentioned above, all but four of these limits are still in place.

For surface coatings for automotive plastic parts and business machine plastic parts, Option 1 includes the VOC content limits in Michigan Rule 336.1632 (Emission of Volatile Organic Compounds from Existing Automobile, Truck, and Business Machine Plastic Part Coating Lines).

[11] As previously mentioned, heavier vehicles refers to all vehicles that meet the definition of the term ''other motor vehicles,'' as defined in the NESHAP for Surface Coating of Automobiles and Light-Duty Trucks at 40 CFR 63.3176.

As in the SCAQMD rule 1107, for metal parts coatings, we recommend in the draft CTG that only the recommended work practices, but not the recommended VOC limits and application methods, apply to the following types of coatings and coating operations: Stencil coatings; safety-indicating coatings; magnetic data storage disk coatings; solid-film lubricants; electric-insulating and thermal-conducting coatings; coating application using hand-held aerosol cans; plastic extruded onto metal parts to form a coating. We also recommend that the recommended application methods not apply to touch-up coatings, repair coatings, and textured finishes, but we recommend that the recommended VOC limits and work practices apply to these coatings and coating operations.

As in SCAQMD Rule 1145, we recommend in the draft CTG that the recommended application methods and work practices, but not the recommended VOC limits, apply to the following types of coatings and coating operations that are not for automotive/transportation equipment or business machines: Touch-up and repair coatings; stencil coatings applied on clear or transparent substrates; clear or translucent coatings; coatings applied at a paint manufacturing facility while conducting performance tests on the coatings; any individual coating category used in volumes less than 50 gallons in any one year, if substitute compliant coatings are not available, provided that the total usage of all such coatings does not exceed 200 gallons per year, per facility; reflective coating applied to highway cones; mask coatings that are less than 0.5 millimeter thick (dried) and the area coated is less than 25 square inches; or coatings that are less than 0.5 millimeter thick (dried) and/or the area coated is more than 25 square inches; EMI/RFI shielding coatings; heparin-benzalkonium chloride (HBAC)-containing coatings applied to medical devices, provided that the total usage of all such coatings does not exceed 100 gallons per year, per facility; aerosol coating products; and airbrush operations using five gallons or less per year. We also recommend that the recommended application methods not apply to airbrush operations using 5 gallons or less per year of coating, but we recommend that the VOC limits and work practices apply to these operations.

For automotive/transportation and business machine plastic part coating, we also recommend in the draft CTG that the recommended application methods and work practices, but not the recommended VOC limits, apply to the following types of coatings and operations: Texture coatings; vacuum metalizing coatings; gloss reducers; texture topcoats; adhesion primers; electrostatic preparation coatings; resist coatings; and stencil coatings. Further details of these recommendations, including tables of coating categories and limits, can be found in the draft CTG.

The VOC emission rate limits in Option 2 (VOC per volume solids) were converted from the VOC content limits in Option 1 using an assumed VOC density of 7.36 lb/gallon (883 g/liter).

The draft CTG also recommends the use of the following application methods to achieve good coating transfer efficiency when using low-VOC coatings under the first or second option: Electrostatic spray, HVLP spray, flow coat, roller coat, dip coat including electrodeposition, brush coat, or other coating application methods that are capable of achieving a transfer efficiency equivalent or better than that achieved by HVLP spraying. The draft CTG recommends the use of these application methods in conjunction with the use of low-VOC content coatings.

Furthermore, the draft CTG recommends the following work practices for use with all three of the control options: (1) Store all VOC-containing coatings, thinners, and coating-related waste materials in closed containers; (2) ensure that mixing and storage containers used for VOC-containing coatings, thinners, and coating-related waste materials are kept closed at all times except when depositing or removing these materials; (3) minimize spills of VOC-containing coatings, thinners, and coating-related waste materials; and (4) convey coatings, thinners and coating-related waste materials from one location to another in closed containers or pipes.

2. Cleaning Materials

The draft CTG recommends work practices to reduce VOC emissions from cleaning materials. We recommend that, at a minimum, the work practices include the following: (1) Store all VOC-containing cleaning materials and used shop towels in closed containers; (2) ensure that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials; (3) minimize spills of VOC-containing cleaning materials; (4) convey cleaning materials from one location to another in closed containers or pipes; and (5) minimize VOC emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that application equipment cleaning is performed without atomizing the cleaning solvent outside of an enclosure and all spent solvent is captured in closed containers.

C. Impacts of Recommended Control Techniques

Based on the 2002 NEI database, we estimate that there are 3,925 miscellaneous metal and plastic parts surface coating facilities in the United States (U.S.). Using the April 2004 ozone nonattainment designations, we estimated that 2,539 of these facilities are in ozone nonattainment areas. Based on the 2002 NEI VOC emissions data, 1,296 of the 2,539 facilities in ozone nonattainment areas emitted VOC at or above the recommended 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) applicability threshold. These 1,296 facilities, in aggregate, emit an estimated 20,098 Mg/yr (22,108 tpy) of VOC, or an average of about 15.5 Mg/yr (17.0 tpy) of VOC per facility.

We have estimated the total annual control costs to be approximately $13.5 million based on the use of low-VOC coatings, and emission reductions will be about 35 percent. Since these recommended measures are expected to result in a VOC emissions reduction of 7,034 Mg/yr (7,738 tpy), the cost-effectiveness is estimated to be $1,919/Mg ($1,745/ton). The impacts are further discussed in the draft CTG document.

We have concluded that the work practice recommendations in the draft CTG will result in a net cost savings. These work practices reduce the amount of cleaning materials used by decreasing the amount that evaporates and is therefore wasted. Similarly, the adoption of more efficient spray guns, as recommended in the CTG, will reduce coating consumption and will also result in net cost savings compared to conventional spray guns. However, because we cannot determine the extent to which these practices have already been adopted, we cannot quantify these savings. Therefore, these cost savings are not reflected in the above cost impacts.

D. Considerations in Determining Whether a CTG Will Be Substantially as Effective as a Regulation

In determining whether to issue a national rule or a CTG for the product categories of miscellaneous metal product and plastic parts surface coatings under CAA section 183(e)(3)(C), we analyzed the four factors identified above in section I.D in

light of the specific facts and circumstances associated with these product categories. Based on that analysis, we propose to determine that a CTG will be substantially as effective as a rule in achieving VOC emission reductions in ozone nonattainment areas from miscellaneous metal product and plastic parts surface coating and associated cleaning materials.

This section is divided into two parts. In the first part, we discuss our belief that the most effective means of achieving VOC emission reductions in these two CAA section 183(e) product categories is through controls at the point of use of the product (i.e., through controls on the use of coating and cleaning materials at miscellaneous metal and plastic parts surface coating facilities), and these controls can be accomplished only through a CTG. We further explain that the recommended approaches in the draft CTG are consistent with existing effective EPA, State, and local VOC control strategies. In the second part, we discuss how the distribution and place of use of the products in these two product categories also support the use of a CTG. We also discuss the likely VOC emission reductions associated with a CTG, as compared to a regulation. We further explain that there are control approaches for these categories that result in significant VOC emission reductions and that such reductions could only be obtained by controlling the use of the products through a CTG. Such reductions could not be obtained through a regulation under CAA section 183(e) because the controls affect the end-user, which is not a regulated entity under CAA section 183(e)(1)(C). For these reasons, which are described more fully below, we believe that a CTG will achieve greater VOC emission reductions than a rule for these categories.

1. The Most Effective Entity to Target for VOC Reductions and Consistency With Existing Federal, State, and Local VOC Strategies

To evaluate the most effective entity to target for VOC reductions, it is important first to identify the primary sources of VOC emissions. There are two main sources of VOC emissions from miscellaneous metal and plastic parts surface coating: (1) Evaporation of VOC from coatings; and (2) evaporation of VOC from cleaning materials. We address each of these sources of VOC emissions, in turn, below, as we discuss the CTG versus regulation approach.

a. *Coatings.* A national rule could contain limits for the as-sold VOC content of coatings that are marketed as miscellaneous metal and plastic parts coatings. However, the effect of such national rule setting low-VOC content limits for miscellaneous metal and plastic parts surface coatings could be easily subverted because it could not guarantee that only those low-VOC content coating materials would be used for miscellaneous metal and plastic parts surface coating. Many coatings used in miscellaneous metal and plastic parts surface coating operations are not specifically marketed by the supplier as coatings for specific products. Therefore, these facilities could purchase and use high-VOC specialty coatings materials for routine coating operations, and this practice would effectively nullify the reformulation actions of the manufacturers and suppliers of low-VOC coatings, resulting in no net change in VOC emissions in ozone nonattainment areas.

By contrast, a CTG can affect the end-users of the coating materials and, therefore, can implement the control measures that are more likely to achieve the objective of reducing VOC emissions from these product categories in ozone nonattainment areas. As previously discussed, the draft CTG recommends three options for reducing VOC emissions from miscellaneous metal and plastic parts surface coatings: (1) VOC content limits that can be achieved through the use of low-VOC content coatings and specific application methods; (2) equivalent emission limits based on the use of a combination of low-VOC coatings, specific application methods, and add-on controls; and (3) an overall 90 percent control efficiency should a facility choose to use add-on controls in conjunction with high-VOC content coatings. In addition, we recommend in the draft CTG that certain work practices be implemented in conjunction with any of the three control options described above to further reduce VOC emissions from coatings as well as controlling VOC emissions from cleaning materials. These recommended work practices have been shown to effectively reduce VOC beyond the level achievable using either low-VOC materials and specific application methods or add-on controls. Given the significant reductions achievable through the use of these recommended control measures, the most effective entity to address VOC emissions from miscellaneous metal and plastic parts surface coatings is the facility using the coatings.

These control measures are consistent with existing EPA, State, and local VOC control strategies applicable to miscellaneous metal and plastic parts surface coating. As mentioned above, previous EPA actions and existing State and local regulations (in particular, the regulations in the majority of the California air Districts and in Michigan) that address miscellaneous metal and plastic parts surface coating similarly call for VOC emission reduction through the use of low-VOC content materials, or the use of control devices in conjunction with high-VOC content coating materials. Some State and local VOC control strategies also include work practices and specific application methods.

We cannot, however, issue a national rule directly requiring miscellaneous metal and plastic parts surface coating facilities to use low-VOC content coatings, control devices or specific application methods, or to implement work practices to reduce VOC emissions because, pursuant to CAA section 183(e)(1)(C) and (e)(3)(B), the regulated entities subject to a national rule would be the coating manufacturers and suppliers, not the miscellaneous metal and plastic parts surface coating facilities. By contrast, a CTG can reach the end-users of the miscellaneous metal and plastic parts coatings and, therefore, can implement the control recommendations for end-users that are identified above as more likely to achieve the objective of reducing VOC emissions from these product categories in ozone nonattainment areas. Accordingly, we are including these recommended control measures in the draft CTG that applies to miscellaneous metal and plastic parts surface coatings facilities as the end-users of the coating materials.

b. *Cleaning Materials.* There are two primary means to control VOC emissions associated with the cleaning materials used in the miscellaneous metal and plastic parts surface coating process: (1) Limiting the VOC content, boiling point, or VOC vapor pressure of the cleaning materials, and (2) implementing work practices governing the use of the cleaning materials. A national rule requiring that manufacturers of cleaning materials for miscellaneous metal and plastic parts surface coating operations provide low-VOC content or low vapor pressure (high boiling point) cleaning materials would suffer from the same deficiencies noted above with regard to the coatings. Specifically, nothing in a national rule that regulates manufacturers and suppliers of cleaning materials specified for use in miscellaneous metal and plastic parts surface coating operations would preclude the miscellaneous metal and plastic parts surface coating industry from purchasing bulk solvents or other multipurpose cleaning

materials from other vendors. The general availability of bulk solvents or multipurpose cleaning materials from vendors that would not be subject to such regulation would directly undermine the effectiveness of such a national regulation.

The more effective approach for reducing VOC emissions from cleaning materials used by miscellaneous metal and plastic parts surface coaters is to control the use of cleaning materials through work practices. The draft CTG recommends that miscellaneous metal and plastic parts surface coating facilities implement work practices to reduce VOC emissions from cleaning materials during surface coating operations. Examples of effective work practices are: Keeping solvents and used shop towels in closed containers; using enclosed spray gun cleaners and preventing the atomized spraying of cleaning solvent outside of an enclosure; minimizing spills of VOC-containing cleaning materials; cleaning up spills immediately; and conveying any VOC-containing cleaning materials in closed containers or pipes. These work practices have proven to be effective in reducing VOC emissions.

Given the significant VOC reductions achievable through the implementation of work practices, we conclude that the most effective entity to address VOC emissions from cleaning materials used in miscellaneous metal and plastic parts surface coating operations is the facility using the cleaning materials during surface coating operations. This recommendation is consistent with measures required by State and local jurisdictions for reducing VOC emissions from cleaning materials used in miscellaneous metal and plastic parts surface coating operations.

We cannot, however, issue a rule requiring such work practices for miscellaneous metal and plastic parts surface coating facilities because, pursuant to CAA section 183(e)(1)(C) and (e)(3)(B), the regulated entities subject to a national rule would be the cleaning materials manufacturers and suppliers and not the miscellaneous metal and plastic parts surface coating facilities. By contrast, a CTG can address these coating facilities. Accordingly, we are including in the draft CTG these work practices that apply to miscellaneous metal and plastic parts surface coating facilities as the end-users of the cleaning materials.

Based on the nature of the miscellaneous metal and plastic parts surface coating process, the sources of significant VOC emissions from this process, and the available strategies for reducing such emissions, the most effective means of achieving VOC emission reductions from these product categories is through controls at the point of use of the products, (*i.e.,* through controls on miscellaneous metal and plastic parts surface coaters). This strategy can be accomplished only through a CTG. The recommended approaches described in the draft CTG are also consistent with effective existing EPA, State, and local VOC control strategies for miscellaneous metal and plastic parts surface coating operations. These two factors alone demonstrate that a CTG will be substantially as effective as a national regulation under CAA section 183(e) in addressing VOC emissions from miscellaneous metal and plastic parts surface coatings and associated cleaning materials in ozone nonattainment areas.

2. The Product's Distribution and Place of Use and Likely VOC Emission Reductions Associated With a CTG Versus a Regulation

The factors described in the above section, taken by themselves, weigh heavily in favor of the CTG approach. The other two factors relevant to the CAA section 183(e)(3)(C) determination only further confirm that a CTG will be substantially as effective as a national regulation for miscellaneous metal and plastic parts surface coatings and associated cleaning materials.

First, miscellaneous metal and plastic parts surface coatings and associated cleaning materials are used at commercial facilities in specific, identifiable locations. Specifically, these materials are used in commercial manufacturing facilities that apply surface coating to miscellaneous metal and plastic parts, as described in section III.A. This stands in contrast to other consumer products, such as architectural coatings, that are widely distributed and used by innumerable small users (*e.g.* , individual consumers in the general public). Because the VOC emissions are occurring at commercial manufacturing facilities, implementation and enforcement of controls concerning the use of these products are feasible. Therefore the nature of the products' place of use further counsels in favor of the CTG approach.

Second, a CTG will achieve greater emission reduction than a national rule for VOC emissions from miscellaneous metal and plastic parts surface coatings and associated cleaning materials. For the reasons described above, we believe that a national rule limiting the VOC content in coatings and cleaning materials used in miscellaneous metal and plastic parts surface coating operations would result in little VOC emissions reduction. By contrast, a CTG can achieve significant VOC emissions reduction because it can provide for the highly effective emission control strategies described above that are applicable to the end-users of the coatings and cleaning materials at miscellaneous metal and plastic parts surface coating facilities. As described above, our recommendations in the draft CTG include the use of control devices, specific application methods, and work practices. The significant VOC reductions associated with these measures could not be obtained through a national regulation, because they are achieved through the implementation of measures by the end-user. In addition, as previously explained, strategies that arguably could be implemented through rulemaking, such as limiting the VOC content in coatings and cleaning materials, are far more effective if implemented directly at the point of use of the product through a CTG. For the reasons stated above, it is more effective to control the VOC emissions from coatings and cleaning materials used for miscellaneous metal and plastic parts surface coating through a CTG than through a national regulation.

Furthermore, the number of miscellaneous metal and plastic parts surface coating facilities affected by our recommendations in this draft CTG, as compared to the total number of such facilities in ozone nonattainment areas, does not affect our conclusion that the CTG would be substantially more effective than a rule in controlling VOC emissions for these product categories. We recommend the control measures described in the draft CTG for miscellaneous metal and plastic parts surface coating facilities that emit 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) or more VOC. Based on the April 2004 ozone nonattainment designations, we estimate that 1,296 of the 2,539 miscellaneous metal and plastic parts surface coating facilities located in ozone nonattainment areas emit 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) or more and are therefore addressed by our recommendations in the draft CTG. We estimate that 1,243 miscellaneous metal and plastic parts surface coating facilities would not be covered by the recommendations in the draft CTG. However, according to the 2002 NEI database, these 1,243 facilities collectively emitted about 670 Mg/yr (740 tpy) of VOC, which is less than four percent of the total reported VOC (an average of about 0.5 Mg/yr (0.5 tpy) per facility) in ozone nonattainment areas. The fact that the CTG addresses

more than 96 percent of the VOC emissions from miscellaneous metal and plastic parts surface coating facilities in ozone nonattainment areas further supports our conclusion that a CTG is more likely to achieve the intended VOC emission reduction goal for these product categories than a national rule.

Upon considering the above factors in light of the facts and circumstances associated with these product categories, we propose to determine that a CTG for miscellaneous metal and plastic parts surface coating facilities will be substantially as effective as a national regulation.

III. Auto and Light-Duty Truck Assembly Coatings

A. Industry Characterization

1. Source Category Description

This category of consumer and commercial products includes the coatings that are applied to new automobile or new light-duty truck bodies, or body parts for new automobiles or new light-duty trucks.[12] These bodies or body parts may be made of metal or plastic. The large majority of these coatings are specifically formulated, marketed and sold for this end use and are applied at automobile or light-duty truck assembly plants. However, this CAA section 183(e) category also includes coatings applied at facilities that perform these coating operations on a contractual basis. This category does not include coatings used at plastic or composites molding facilities as described in the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (40 CFR part 63, subpart IIII). Automobile and light-duty truck coatings enhance a vehicle's durability and appearance. Some of the coating system characteristics that automobile and light-duty truck manufacturers test for include adhesion, water resistance, humidity resistance, salt spray resistance, color, gloss, acid etch resistance, and stone chip resistance. The primary coatings used are electrodeposition primer (EDP), primer-surfacer (including anti-chip coatings), topcoat (basecoat and clearcoat) and final repair.

Sealers, deadeners, transit coatings and cavity waxes used in the production of new automobiles and new light-duty trucks are included in the miscellaneous metal and plastic parts coatings categories and are addressed in the draft CTG for miscellaneous metal products and plastic parts coatings. Adhesives, glass bonding primers and glass bonding adhesives used in the production of new automobiles and new light-duty trucks are included in the miscellaneous industrial adhesives product category and are addressed in the draft CTG for miscellaneous industrial adhesives. In the draft CTG, however, we seek comments on whether the use of these materials in the production of new automobiles and new light-duty trucks should instead be included in the auto and light-duty truck assembly coatings category and addressed in the CTG for auto and light-duty truck assembly coatings. In addition, in the draft CTG, we seek comments, including supporting VOC content information, on appropriate control recommendations specifically for the use of these materials in the production of new automobiles and new light-duty trucks if EPA were to include such use of these materials in the auto and light-duty truck assembly coatings category and address them in the CTG for automobile and light-duty truck assembly coatings.

2. Processes, Sources of VOC Emissions, and Controls

The VOC emissions from automobile and light-duty truck surface coating operations are primarily a result of evaporation of the VOC contained in the coatings and cleaning materials used in these operations.[13] The primary VOC emissions from automobile and light-duty truck surface coatings occur during coating application/flash-off and curing/drying of the coatings. The remaining emissions are mainly from mixing and/or thinning. The VOC emissions from mixing and thinning of coatings occur from displacement of VOC-laden air in containers used to mix coatings containing solvents (thinners) prior to coating application. The displacement of VOC-laden air can also occur during filling of containers and can be caused by changes in temperature, changes in barometric pressure, or agitation during mixing.

The VOC emissions from coating application occur when solvent evaporates from the coating as it is being applied to the vehicle part or body. The transfer efficiency (the percent of coating solids applied to the automobile or light-duty truck body or body part) of a coating application method affects the amount of VOC emitted during coating application. A coating application method that is more efficient in transferring coatings to the substrate will reduce the volume of coatings (and therefore solvents) needed per given amount of production; thus reducing VOC emissions.

Before coatings are applied, the body of an automobile or light-duty truck is assembled, anticorrosion operations are performed, and any plastic parts to be finished with the body are installed. A series of coatings are applied to protect the metal surface from corrosion and assure good adhesion of subsequent coatings. First, an EDP coating is applied to the body using a method in which a negatively charged automobile or light-duty truck body is immersed in a positively charged bath of waterborne EDP. The coating particles (resin and pigment) migrate toward the body and are deposited onto the body surface, creating a strong bond between the coating and the body to provide a durable coating. Once the coating application deposition is completed, the body is rinsed in a succession of individual spray and/or immersion rinse stations and then dried with an automatic air blow-off. Following the rinsing stage (including the automatic air blow-off), the deposited coating is cured in an electrodeposition curing oven.

After curing, the body is further water-proofed by sealing spot-welded joints of the body. After sealing, the body proceeds to the anti-chip booth where anti-chip coatings are applied to protect the vulnerable areas of the body. Next, a primer-surfacer coating is applied. The purpose of the primer-surfacer coating is to provide ''filling'' or hide minor imperfections in the body, provide additional protection to the vehicle body, and bolster the appearance of the topcoats. Primer-surfacer coatings are applied by spray application in a water-wash spray booth. Following application of the primer-surfacer, the body is baked to cure the film, minimize dirt pickup, and reduce processing time.

The next step of the coating process is the spray application of the topcoat, which usually consists of a basecoat (color) and a clearcoat. The purpose of the clearcoat is to add luster and durability to the vehicle finish and protect the total coating system against solvents, chemical agents, water,

[12] Please see 40 CFR 63.3176 (the NESHAP for Surface Coating of Automobiles and Light-Duty Trucks) for the definitions of ''automobiles'' and ''light-duty trucks.''

[13] In a previous notice, EPA stated that the cleaning operations associated with certain specified 183(e) consumer and commercial product categories, including automobile and light duty-truck assembly coatings, would not be covered by EPA's 2006 CTG for industrial cleaning solvents (71 FR 44522 and 44540, August 4, 2006) * * *. In the notice, EPA expressed its intention to address cleaning operations associated with these categories in the CTGs for these specified categories if the EPA determines that a CTG is appropriate for a respective category * * *. Accordingly, the draft CTG for auto and light-duty truck assembly coatings category addresses VOC emissions from cleaning operations associated with this product category.

weather, and other environmental effects.

After the topcoat (i.e., a basecoat and a clearcoat) is applied, the automobile or light-duty truck body or body parts proceed to a flash-off area, where a certain level of solvent evaporation occurs. This step is designed to prevent bubble formation during curing in the bake oven. After flash-off, the automobile and light-duty truck bodies or body parts are then dried/cured in bake ovens.

The amount of VOC emissions from the flash-off area depends on the type of coating used, how quickly the component or product moves through the flash-off area, and the distance between the application area and the bake oven. For liquid spray applications, it is estimated that 65–80 percent of the volatiles are emitted during the application and flash-off operations, and the remaining 20–35 percent from the curing/drying operation.

After curing of the topcoat, the vehicle proceeds to final assembly. If necessary, the fully assembled vehicle proceeds to final repair, where coatings are applied and other operations are performed to correct damage or imperfections in the coating. The coatings applied during final repair are cured at a lower temperature than that used for curing primer-surfacer and topcoat. The lower cure temperature is necessary to protect heat-sensitive components on completely assembled motor vehicles.

Until the 1970's, the majority of coatings used in the automobile and light-duty truck manufacturing industry were conventional solvent-borne coatings, with high VOC content. Due to a combination of regulation at the State and Federal level, technology development and competitive factors, the industry has steadily moved to lower VOC content coatings. These alternative coatings include powder coatings, waterborne coatings, and higher solids coatings. The utilization of these alternative coatings in conjunction with efficient spray application equipment, such as electrostatic spray, is the primary method that is currently being used at auto and light-duty truck surface coating operations to reduce VOC emissions from the coatings. In addition, many facilities control the exhaust from their bake ovens. Some facilities have also employed partial spray booth controls by venting spray booth emissions, principally from automated spray zones, through an add-on control device such as an oxidizer or hybrid (concentrator followed by an oxidizer) control system.

Powder anti-chip and primer-surfacer coatings are used at some automobile and light-duty truck assembly plants. Powder coating produces minimal amounts of VOC emissions. Powder coating is applied via powder delivery systems, which in most cases is an electrostatic spray. Because powder coatings are applied as dried particles, no VOC are released during the application operation. Depending on the powder formulation, some volatile emissions may occur when the powder is heated during the curing step. In any event, any volatile emissions from the heating of powder coatings would generally be much less than the volatile emissions from the heating of liquid coatings during the curing operations. Powder coating applications are best suited for long production runs of consistently sized parts without color changes.

Waterborne coatings produce minimal VOC emissions primarily because a large portion of the VOC solvent carrier is replaced with water. Waterborne EDPs are used at almost every automobile and light-duty truck assembly plant. Waterborne primer-surfacer and waterborne basecoat are used at some automobile and light-duty truck assembly plants. Waterborne primer-surfacer and waterborne basecoat are applied by a combination of manual and automatic, and electrodeposition and non-electrodeposition spray techniques.

Higher solids coatings contain more solids than ''conventional'' (pre-1980) coatings. These coatings reduce VOC emissions because they contain less VOC solvent per unit volume of solids than conventional solvent-borne coatings. Thus, a lesser amount of VOC emissions are released during coating preparation, application, and curing to deliver a given amount of coating solids. Higher solids primer-surfacer and basecoat are used at some automobile and light-duty truck assembly plants. Higher solids clearcoat is used at every automobile and light-duty truck assembly plant. Higher solids primer-surfacer and basecoat are applied by a combination of manual and automatic, and electrodeposition and non-electrodeposition spray techniques.

As previously mentioned, another source of VOC emissions from automobile and light-duty truck surface coating operations is cleaning materials. The VOC are emitted when solvents evaporate from the cleaning materials during use. Cleaning materials are used for several purposes, including the cleaning of spray guns, transfer lines (e.g., tubing or piping), tanks, and the interior of spray booths, and cleaning other unwanted materials from equipment related to coating operations. These cleaning materials are typically mixtures of organic solvents.

Work practices are widely used throughout the automobile and light-duty truck manufacturing industry to reduce VOC emissions from cleaning operations. These measures include covering mixing tanks, storing solvents and solvent soaked rags and wipes in closed containers, and cleaning spray guns in an enclosed system. Low-VOC content or low vapor pressure cleaning materials are used for certain cleaning activities. However, there is insufficient information available to correlate VOC content or vapor pressure to specific cleaning steps.

3. Existing Federal, State, and Local VOC Control Strategies

Three previous EPA actions addressed automobile and light-duty truck surface coating operations.

- CTG for Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks (1977).
- New Source Performance Standard for Automobile and Light-Duty Truck Surface Coating Operations, 40 CFR part 60, subpart MM (1980).
- National Emission Standards for Hazardous Air Pollutants for Surface Coating of Automobile and Light-Duty Trucks, 40 CFR 63, subpart IIII (2004).

In 1977, EPA issued a CTG document entitled ''Control of Volatile Organic Emissions from Existing Stationary Sources Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks'' (EPA–450/2–77–008). The 1977 CTG and subsequent implementation guidance provided RACT recommendations for controlling VOC emissions from automobile and light-duty trucks surface coating operations. These recommendations are summarized in Table 1.

TABLE 1.—1977 CTG RECOMMENDED VOC EMISSION LIMITS FOR AUTOMOBILE AND LIGHT-DUTY TRUCK SURFACE COATING

EDP operation	0.14 kg VOC/liter (1.2 lbs/gal) of coating, excluding water and exempt compounds, or 0.17 kg VOC/liter (1.4 lb VOC/gallon) of coating solids deposited.
Primer-surfacer (guide coat) operation	1.8 kg VOC/liter (15.1 lb VOC/gallon) of coating solids deposited.
Topcoat operation	1.8 kg VOC/liter (15.1 lb VOC/gallon) of coating solids deposited.
Final repair operation	0.58 kg VOC/liter (4.8 lbs/gal) of coating, excluding water and exempt compounds.

In 1980, EPA promulgated an NSPS for surface coating of automobile and light-duty trucks (40 CFR part 60 subpart MM). Due to the differences in emission limit formats, the NSPS and the 1977 CTG limits cannot be compared. The NSPS established the emission limits calculated on a monthly basis for each primecoat operation, guidecoat (primer-surfacer) operation, and topcoat operation located in an automobile or light-duty truck assembly plant constructed, reconstructed, or modified after October 5, 1979 (Table 2). The NSPS does not apply to plastic body component coating operations or to all-plastic automobile or light-duty truck bodies coated on separate coating lines. The VOC emission limit for EDP primecoat operations depends on the solids turnover ratio (R_t). The solids turnover ratio is the ratio of total volume of coating solids added to the EDP system in a calendar month to the total volumetric design capacity of the EDP system.

TABLE 2.—1980 NSPS VOC EMISSION LIMITS FOR AUTOMOBILE AND LIGHT-DUTY TRUCK SURFACE COATING

Primecoat Operations (Non-EDP)	0.17 kg VOC/liter (1.42 lb/gal) coating solids applied.		
Primecoat Operations (EDP)	When R_t = ≥0.16:	When 0.040 ≤R_t <0.160:	When R_t <0.040:
	0.17 kg VOC/liter (1.42 lb/gal) coating solids applied.	0.17 × $350^{0.160 - Rt}$kg VOC/liter ($0.17 \times 350^{0.160-Rt} \times 8.34$ lb/gal) coating solids applied.	No VOC emission limit.
Guidecoat Operations (including the guide coat application, flash-off area, and oven).	1.40 kg VOC/liter (11.7 lb/gal) coating solids applied.		
Topcoat Operations (including topcoat application, flash-off area, and oven).	1.47 kg VOC/liter (12.3 lb/gal) coating solids applied.		

In 2004, EPA promulgated the National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Automobile and Light-Duty Trucks, 40 CFR, part 63, subpart IIII. The areas covered by the NESHAP include all the equipment used to apply coating to new automobile or light-duty truck bodies or body parts and to dry or cure the coatings after application; all storage containers and mixing vessels in which vehicle body coatings, thinners, and cleaning materials are stored and mixed; all manual and automated equipment and containers used for conveying vehicle body coatings, thinners, and cleaning materials; and all storage containers and all manual and automated equipment and containers used to convey waste materials generated by an automobile and light-duty truck surface coating operation.

The 2004 NESHAP for automobile and light-duty truck surface coating established organic HAP emission limitations calculated on a monthly basis for existing sources. More stringent limits apply to new sources, which are sources that commence construction after December 24, 2002. The limits for automobile and light-duty truck surface coating for existing and new sources are summarized in Table 3 below.

TABLE 3.—2004 NESHAP HAP EMISSION LIMITS FOR AUTOMOBILE AND LIGHT-DUTY TRUCK SURFACE COATING

Combined primer-surfacer, topcoat, final repair, glass bonding primer, and glass bonding adhesive operation plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations added to the affected source.	0.060 kg organic HAP/liter of coating solids deposited (0.50 lb/gal) for new or reconstructed affected sources. 0.132 kg organic HAP/liter of coating solids deposited (1.10 lb/gal) for existing affected sources.
Combined EDP, primer-surfacer, topcoat, final repair, glass bonding primer, and glass bonding adhesive operation plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations added to the affected source.	0.036 kg organic HAP/liter of coating solids deposited (0.30 lb/gal) for new or reconstructed affected sources. 0.072 kg organic HAP/liter of coating solids deposited (0.60 lb/gal) for existing affected sources.

The 2004 NESHAP requires that facilities develop and implement a plan to minimize HAP emissions from cleaning operations for automobile and light-duty truck surface coating. The NESHAP also requires that facilities

utilize work practices to minimize organic HAP emissions from the storage, mixing, and conveying of coatings, thinners, cleaning materials, and from handling waste materials generated by the coating operation.

In addition to the EPA actions mentioned above, 14 States and California's Bay Area District, where the only automobile and light-duty trucks manufacturing facility in California is located, have regulations that control VOC emissions from surface coating operations. These State RACT rules have VOC emission limits equivalent to the 1977 CTG recommended limits or the NSPS limits.

B. Recommended Control Techniques

The proposed CTG recommends: VOC emission limits for coating operations; work practices for storage and handling of coatings, thinners, and coating waste materials; and work practices for the handling and use of cleaning materials. The recommended VOC limits are based on 2006 and 2007 data from currently operating automobile and light-duty truck surface coating operations, and the work practices recommendations mirror those found in the NESHAP.

During the development of the 2004 NESHAP, EPA identified 65 automobile and light-duty truck assembly facilities operating in 1999. For the development of this CTG, The Alliance of Automobile Manufacturers, an industry trade association representing the majority of these facilities, provided information from member companies and submitted this information to EPA. Non-member companies also provided information to EPA. Information was provided for 56 facilities. The information included VOC emission rates for EDP, primer-surfacer, and topcoat operations on a daily and monthly average for the calendar years 2006 and 2007. Most facilities also provided data showing maximum and minimum daily values, as well.

1. Applicability

The draft CTG recommends certain control techniques for reducing VOC emissions from automobile and light-duty truck surface coatings and cleaning materials. We are recommending that these control options apply to surface coating facilities that emit 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) or more before consideration of control.

We do not recommend these control approaches for facilities that emit below this level because of the very small VOC emission reductions that can be achieved. The recommended threshold level is equivalent to the evaporation of approximately two gallons of solvent per day. Such a level is considered to be an incidental level of solvent usage that could be expected even in facilities that use very low-VOC content coatings. This recommended threshold is also consistent with our recommendations in many previous CTGs.

Although we do not believe that our recommendations are appropriate for auto and light-duty truck facilities that emit less than the applicability threshold recommended above, we believe that all auto and light-duty truck facilities emit at or above that level of VOC.

The draft CTG also recommends that States consider structuring their RACT rules to provide facilities that coat bodies and/or body parts of heavy vehicles [14] with the option of meeting either the State requirements for automobile and light-duty truck coating category or the requirements for miscellaneous metal products coatings category or the plastic parts coatings category. As mentioned in section II.B of this notice, heavy vehicle coatings are included in the Miscellaneous Metal Products and Plastic Parts Coatings categories under section 183(e) and are therefore covered in the draft CTG for Miscellaneous Metal and Plastic Parts Coatings. We note, however, that some automobile and light-duty truck surface coating facilities also coat heavy vehicle bodies or body parts for heavier vehicles. The heavy vehicle bodies or body parts for heavier vehicles may be coated using the same equipment and materials that are used to coat automobile and light-duty truck bodies or body parts for automobiles and light-duty trucks. The permit requirements for the heavier vehicle portion of these combined use paint shops are often structured in the same way as permit requirements for automobile and light-duty truck paint shops. Also, some facilities that coat only heavier vehicle bodies or body parts for heavier vehicles have paint shops that are designed and operated in the same manner as paint shops that are used to coat automobile and light-duty truck bodies and body parts for automobiles and light-duty trucks. The permit requirements for these heavier vehicle paint shops are often structured in the same way as permit requirements for automobile and light-duty truck paint shops. In light of the above, providing heavier vehicle coating facilities with the option of meeting the State RACT requirements for the automobile and light-duty truck coating category in lieu of the requirements for Miscellaneous Metal Products or Plastic Parts categories will provide for the most consistency with existing permit requirements and simplify compliance demonstration requirements for these facilities. Furthermore, in light of the stringency of our recommended control measures in the draft Auto and Light-Duty Truck CTG, we believe that facilities that choose this alternative will achieve at least equivalent, if not greater, control of VOC emissions. For the reasons stated above, we recommend that States RACT rules provide heavier vehicle coating facilities the option of meeting either the State requirements for miscellaneous metals and plastic parts coatings or the requirements for auto and light-duty truck coatings.

[14] Heavy vehicles include all vehicles that are not automobiles or light-duty trucks, as those terms are defined at 40 CFR 63.3176 (the NESHAP for Surface Coating of Automobiles and Light-Duty Trucks).

2. Coatings

The VOC emission limits recommended in the draft CTG are based on the data supplied by the Alliance of Automobile Manufacturers member companies and other manufacturers in 2008. These recommendations are more stringent than existing State RACT rules which are based on the 1977 CTG or the NSPS limits.

In conjunction with our recommended VOC emission limits for primer-surfacer and topcoat, we recommend in the draft CTG that facilities follow the procedures and calculations in a draft revised ''Automobile Topcoat Protocol'' for determining the daily VOC emission rates of automobile and light-duty truck primer-surfacer and topcoat operations. In 1988, EPA published a document titled ''Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations'' (EPA–450/3–88–018). This document is commonly referred to as the Automobile Topcoat Protocol. The Automobile Topcoat Protocol provides procedures and calculations for determining the daily VOC emission rate of an automobile and light-duty truck topcoat operation. The 1988 protocol has been adopted into many State regulations and permits, and is also referenced in the National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Automobile and Light-Duty Trucks, 40 CFR, part 63, subpart IIII. Most automobile and light-duty truck facilities use the 1988 protocol for both their topcoat and primer-surfacer operation.

In conjunction with the draft CTG we have prepared a draft revision of the Automobile Topcoat Protocol. The draft

revised protocol includes new sections on accounting for control of spray booth emissions and instructions for applying the protocol to primer-surfacer operations. As mentioned above, we recommend in the draft CTG that facilities refer to the procedures and calculations in the draft revised protocol for determining the daily VOC emission rate of automobile and light-duty truck primer-surfacer and topcoat operations. We plan to issue the final revised protocol concurrently with the final CTG. After the final revised protocol has been issued, we plan to amend the NESHAP for Automobile and Light-Duty Trucks (40 CFR part 63, subpart IIII) to replace the references to the 1988 protocol with references to the revised protocol.

The draft CTG recommends the following VOC emission limits to reduce VOC emissions from the coatings during the coating operations:

- EDP operations (including application area, spray/rinse stations, and curing oven): 0.084 kg VOC/liter of deposited solids (0.7 lb VOC/gal deposited solids) on a monthly average basis.
- Primer-surfacer operations (including application area, flash-off area, and oven): 1.44 kg of VOC/liter of deposited solids (12.0 lbs VOC/gal deposited solids) on a daily average basis as determined by following the procedures in the draft revised Automobile Topcoat Protocol.
- Topcoat operations (including application area, flash-off area, and oven): 1.44 kg VOC/liter of deposited solids (12.0 lb VOC/gal deposited solids) on a daily average basis as determined by following the procedures in the draft revised Automobile Topcoat Protocol.
- Final repair: 0.58 kg VOC/liter of coating (4.8 lb VOC/gallon of coating) less water and less exempt solvents.

The categories reflect the current processes that are used at automobile and light-duty truck surface coating facilities. In addition to the individual limits described above for primer-surfacer and topcoat operations, the draft CTG recommends that State RACT rules provide sources with the option of a single emission limit for combined primer-surfacer and topcoat operations because in many facilities these processes are becoming indistinguishable from each other. The recommended alternative limit for combined primer-surfacer and topcoat applications is as follows:

- Combination of primer-surfacer and topcoat operations: 1.44 kg VOC/liter of deposited solids (12.0 lb VOC/gal deposited solids) on a daily average basis as determined by following the procedures in the draft revised Automobile Topcoat Protocol.

All of the recommended emission limits described above reflect the combined use of low-VOC content coatings, effective application equipment, and control devices. Additionally, the CTG recommends work practices to reduce emissions from coating operations, such as covering open containers.

3. Cleaning Materials and Operations

The draft CTG recommends work practices to reduce VOC emissions from cleaning materials used in automobile and light-duty truck surface coating operations. The draft CTG recommends that, at a minimum, these work practices include the following: (1) Store all VOC-containing cleaning materials and used shop towels in closed containers; (2) ensure that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials; (3) minimize spills of VOC-containing cleaning materials; (4) convey cleaning materials from one location to another in closed containers or pipes; and (5) minimize VOC emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that application equipment cleaning is performed without atomizing the cleaning solvent outside of an enclosure and that all spent solvent is captured in closed containers.

The draft CTG also recommends that facilities develop and implement plans to minimize VOC emissions from cleaning operations and from purging of equipment associated with all coating operations for which the draft CTG recommends an emission limit. The draft CTG recommends that the plans specify the practices and procedures for minimizing VOC emissions from the following operations: Vehicle body wiping, coating line purging, flushing of coating systems, cleaning of spray booth grates, cleaning of spray booth walls, cleaning of spray booth equipment, and cleaning external spray booth areas. The recommended plan in the draft CTG is an enhancement of the plan required in the NESHAP, and not an entirely new plan. Most elements of the NESHAP plan, which is designed to reduce organic HAP emissions, are also effective in reducing VOC emissions and are therefore included in our work practice plan recommendation in the draft CTG.

C. Impacts of Recommended Control Techniques

Auto and light-duty truck coating facilities have reduced the VOC emissions from their coating operations to comply with the NSPS, NESHAP, and State rules. The recommended VOC emission rates described above reflect the control measures that are currently being implemented by these facilities, which surpass requirements in the NSPS and State rules based on the 1977 CTG. Consequently, there is no additional cost to implement the draft CTG recommendations. For the same reason, we do not anticipate additional VOC emission reduction.

The draft CTG also recommends work practices for reducing VOC emissions from both coatings and cleaning materials. We believe that our work practice recommendations in the draft CTG will result in a net cost savings. Implementing work practices reduces the amount of coatings and cleaning materials used by decreasing evaporation.

D. Considerations in Determining Whether a CTG will be Substantially as Effective as a Regulation

In determining whether to issue a national rule or a CTG for the product category of automobile and light-duty truck surface coatings under CAA section 183(e)(3)(C), we analyzed the four factors identified above in section I.D in light of the specific facts and circumstances associated with this product category. Based on that analysis, we propose to determine that a CTG will be substantially as effective as a rule in achieving VOC emission reductions in ozone nonattainment areas from automobile and light-duty truck surface coatings and associated cleaning materials.

This section is divided into two parts. In the first part, we discuss our belief that the most effective means of achieving VOC emission reductions in this category is through controls at the point of use of the product, (i.e., through controls on the use of coatings and cleaning materials at automobile and light-duty truck surface coating facilities), and this control can be accomplished only through a CTG. We further explain that the recommended approaches in the draft CTG are consistent with existing effective EPA, State, and local VOC control strategies. In the second part, we discuss how the distribution and place of use of the products in this category also support the use of a CTG. We also discuss the likely VOC emission reductions associated with a CTG, as compared to

a regulation. We further explain that there are control approaches for this category that result in significant VOC emission reductions and that such reductions could only be obtained by controlling the use of the products through a CTG. Such reductions could not be obtained through a regulation under CAA section 183(e) because the controls affect the end-user, which is not a regulated entity under CAA section 183(e)(1)(C). For these reasons, which are described more fully below, we believe that a CTG will achieve greater VOC emission reductions than a rule for this category and therefore satisfy the criterion in section 183(e)(3)(C) of being substantially as effective as regulations in reducing VOC emissions in ozone nonattainment areas.

1. The Most Effective Entity to Target for VOC Reductions and Consistency With Existing Federal, State, and Local VOC Strategies

To evaluate the most effective entity to target for VOC reductions, it is important first to identify the primary sources of VOC emissions and the strategies used to reduce these VOC emissions. There are two main sources of VOC emissions from automobile and light-duty truck surface coatings and associated cleaning materials: (1) Evaporation of VOC from coating application, drying, and curing; and (2) evaporation of VOC from cleaning of spray booths and application equipment. We address each of these sources of VOC emissions, in turn, below, as we discuss the CTG versus regulation approach.

a. *Coatings.* As previously mentioned, VOC emissions from the coatings can be effectively controlled through the use of a combination of measures, including low-VOC content coatings, effective application equipment, add-on controls, and work practices. Pursuant to CAA section 183(e)(1)(C) and (e)(3)(B), the regulated entities subject to a national rule would be the coating manufacturers and suppliers, not the automobile and light-duty truck surface coating facilities. The VOC content of automobile and light-duty truck coatings is within the control of the coating manufacturers and suppliers. A national rule regulating coating manufacturers and suppliers, therefore, could contain limits for the as-sold VOC content of automobile and light-duty truck coatings. However, the coating application equipment, add-on controls and work practices used at automobile and light-duty truck surface coating facilities are not within the control of the coating manufacturers and suppliers. A national rule regulating coating manufacturers and suppliers, therefore, could not require or otherwise ensure that automobile and light-duty truck coating facilities use improved application methods, add-on controls, or work practices to reduce VOC emissions.

A CTG, on the other hand, affects the end-users of the coating materials and, therefore, can implement all of the control measures identified above. The draft CTG recommends emission limits for automobile and light-duty truck surface coating operations based on the combined effects of the use of low-VOC content coatings, improved transfer efficiency and add-on controls. The recommended emission limits reflect the same levels of coating VOC content that would be required by a national rule should we decide to issue a rule, plus additional VOC reductions through the use of efficient coating application and add-on controls. The draft CTG also recommends certain work practices to further reduce VOC emissions from the coatings used in automobile and light-duty truck surface coating operations. Given the significant reductions achievable through the use of these recommended control measures, the most effective entity to address VOC emissions from automobile and light-duty truck surface coatings is the facility using the coatings.

These control measures are consistent with existing EPA, State, and local emission control strategies applicable to automobile and light-duty truck surface coating. Previous EPA actions and existing State and local regulations that address automobile and light-duty truck surface coating similarly considered the combined effect of the use of low-VOC content coatings, improved transfer efficiency, add-on controls, and work practices. Accordingly, we are including these recommended control measures in the draft CTG that applies to automobile and light-duty truck surface coating facilities as the end-users of the coating materials.

b. *Cleaning Materials.* There are two primary means to control VOC emissions associated with the cleaning materials used in the automobile and light-duty truck surface coating process: (1) Limiting the VOC content or VOC vapor pressure of the cleaning materials, and (2) implementing work practices governing the use of the cleaning materials. A national rule could require that manufacturers of cleaning materials for automobile and light-duty truck surface coating operations provide low-VOC content or low vapor pressure cleaning materials. However, the effect of such a national rule could be easily subverted because it could not guarantee that only those low-VOC content or low vapor pressure cleaning materials would be used for cleaning associated with automobile and light-duty truck surface coating. Many cleaning materials used in automobile and light-duty truck surface coating operations are not specifically marketed by the supplier as cleaning materials specific for use at automobile and light-duty truck surface coating operations. Nothing in a national rule that specifically regulates manufacturers and suppliers of cleaning materials specified for use in automobile and light-duty truck surface coating operations would preclude the automobile and light-duty truck surface coating industry from purchasing bulk solvents or other multipurpose cleaning materials from other vendors. The general availability of bulk solvents or multipurpose cleaning materials from vendors that would not be subject to such regulation would directly undermine the effectiveness of such a national regulation.

The more effective approach for reducing VOC emissions from cleaning materials used by automobile and light-duty truck surface coaters is to control the use of cleaning materials through work practices. The draft CTG recommends work practices to reduce VOC emissions from cleaning materials used in automobile and light-duty truck surface coating operations. The draft CTG recommends that, at a minimum, these work practices include the following: (1) Store all VOC-containing cleaning materials and used shop towels in closed containers; (2) ensure that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials; (3) minimize spills of VOC-containing cleaning materials; (4) convey cleaning materials from one location to another in closed containers or pipes; and (5) minimize VOC emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that application equipment cleaning is performed without atomizing the cleaning solvent outside of an enclosure and that all spent solvent is captured in closed containers. The draft CTG also recommends that facilities develop and implement plans to minimize VOC emissions from cleaning operations and from purging of equipment associated with all coating operations for which the draft CTG recommends an emission limit.

Given the significant VOC reductions achievable through the implementation of work practices, we conclude that the most effective entity to address VOC

emissions from cleaning materials used in automobile and light-duty truck surface coating operations is the facility using the cleaning materials during surface coating operations. This recommendation is consistent with measures required by Federal, State and local jurisdictions for reducing VOC emissions from cleaning materials used in automobile and light-duty truck surface coating operations and Federal rules for HAP cleaning.

We cannot, however, issue a rule requiring such work practices for automobile and light-duty truck surface coating facilities because, pursuant to CAA section 183(e)(1)(C) and (e)(3)(B), the regulated entities subject to a national rule would be the cleaning materials manufacturers and suppliers and not the automobile and light-duty truck surface coating facilities. Accordingly, we are including these work practices in the draft CTG that applies to automobile and light-duty truck surface coating facilities as the end-users of the cleaning materials.

Based on the sources of VOC emissions from the automobile and light-duty truck surface coating operations and the available strategies for reducing such emissions, the most effective means of achieving VOC emission reductions from this product category is through controls at the point of use of the products (i.e., through controls on automobile and light-duty truck surface coating facilities). This strategy can be accomplished only through a CTG. The recommended approaches described in the draft CTG are also consistent with effective existing EPA, State, and local VOC control strategies for automobile and light-duty truck surface coating operations. These two factors alone demonstrate that a CTG will be substantially as effective as a national regulation.

2. The Product's Distribution and Place of Use and Likely VOC Emission Reductions Associated With a CTG Versus a Regulation

The factors described in the above section, taken by themselves, weigh heavily in favor of the CTG approach. The other two factors relevant to the CAA section 183(e)(3)(C) determination only further confirm that a CTG will be substantially as effective as a national regulation for automobile and light-duty truck surface coatings and associated cleaning materials.

First, automobile and light-duty truck surface coatings and associated cleaning materials are used at commercial facilities in specific, identifiable locations. Specifically, these materials are used in commercial facilities that apply surface coating to automobiles and light-duty trucks as described in section III.A. This stands in contrast to other consumer products, such as architectural coatings, that are widely distributed and used by innumerable small users (*e.g.*, individual consumers in the general public). Because the VOC emissions are occurring at commercial manufacturing facilities, implementation and enforcement of controls concerning the use of these products are feasible. Therefore the nature of the products' place of use further counsels in favor of the CTG approach.

Second, a CTG will achieve greater emission reduction than a national rule for each source of VOC emissions from automobile and light-duty truck surface coatings and associated cleaning materials. A CTG will achieve greater VOC emission reduction because it can provide for the highly effective emission control strategies described above that are applicable to the end-users of the coatings and cleaning materials at automobile and light-duty truck surface coating facilities. Specifically, the draft CTG recommends emission limits for automobile and light-duty truck surface coating operations based on the combined effects of the use of low-VOC content coatings, improved transfer efficiency, and add-on control devices. It also recommends work practices that would further reduce VOC emissions from coating operations as well as reducing VOC emissions from cleaning materials associated with the coating operations. These significant VOC reductions could not be obtained through a national regulation, because they require the implementation of measures by the end-user. For the reasons stated above, it is more effective to control VOC emissions from coatings and cleaning materials used for automobile and light-duty truck surface coating through a CTG than through a national regulation.

The number of automobile and light-duty truck surface coating facilities affected by our recommendations in this draft CTG further supports our proposed determination pursuant to section 183(e)(3)(C) that a CTG would be substantially as effective as a rule in controlling VOC emissions for this product category. We recommend the control measures described in the draft CTG for automobile and light-duty truck surface coating facilities that emit 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) or more VOC. Based on the April 2004 ozone nonattainment designations, we estimate that all of the automobile and light-duty truck surface coating facilities located in ozone nonattainment areas emit 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) or more. Therefore, we expect that our recommendations in the draft CTG would apply to all automobile and light-duty truck surface coating facilities in ozone nonattainment areas.

Upon considering the above factors in light of the facts and circumstances associated with this product category, we propose to determine that a CTG will be substantially as effective as a national regulation for reducing VOC emissions from automobile and light-duty truck surface coatings and associated cleaning materials in ozone nonattainment areas.

IV. Fiberglass Boat Manufacturing Materials

A. Industry Characterization

1. Source Category Description

This category of consumer and commercial products includes the materials used to manufacture fiberglass boats. Fiberglass is also known as fiber reinforced plastic (FRP). These materials are used to build all types and sizes of boats ranging from small kayaks, canoes, and rowboats, up to large yachts over 100 feet in length. The types of boats manufactured include both powerboats and sailboats, and most are for recreation. However, these materials are also used to build boats for commercial, government, and military uses.

2. Processes, Sources of VOC Emissions, and Controls

The VOC emissions from fiberglass boat manufacturing are a result of evaporation of the VOC contained in the laminating resins, gel coatings, and cleaning materials [15] used to manufacture fiberglass boats. These VOC are primarily styrene and methyl methacrylate (MMA) added to resin and gel coats as diluents and cross linking agents. Boats made from FRP are typically manufactured in a process known as open molding. Separate molds are used for the boat hull, deck, and miscellaneous small FRP parts such as fuel tanks, seats, storage lockers, and hatches. The parts are built on or inside the molds using glass roving, cloth, or

[15] As noted above, in a previous notice, EPA stated that the cleaning operations associated with certain specified section 183(e) consumer and commercial product categories, including fiberglass boat manufacturing, would not be covered by EPA's 2006 CTG for industrial cleaning solvents (71 FR 44522 and 44540, August 4, 2006). In the notice, EPA expressed its intention to address cleaning operations associated with these categories in the CTGs for these specified categories if the EPA determines that a CTG is appropriate for the respective categories. Accordingly, the draft CTG for the fiberglass boat manufacturing category addresses the VOC emissions from cleaning operations associated with this product category.

mat that is saturated with a thermosetting liquid resin such as unsaturated polyester or vinylester resin. The liquid resin is mixed with a catalyst before it is applied to the glass, which causes a cross-linking reaction between the resin molecules. The catalyzed resin hardens to form a rigid shape consisting of the plastic resin reinforced with glass fibers.

a. *Processes.* The FRP boat manufacturing process generally follows the following production steps:

(1) Before each use, the molds are cleaned and polished and then treated with a mold release agent that prevents the part from sticking to the mold.

(2) The open mold is first spray-coated with a pigmented polyester resin known as a gel coat. The gel coat will become the outer surface of the finished part. The gel coat is mixed with a catalyst as it is applied with a spray gun so that it will harden. The gel coat is applied to a thickness of about 18 mils (0.018 inches).

(3) After the gel coat has hardened, the inside of the gel coat is coated with a thin ''skin'' coat of polyester resin and short glass fibers and then rolled with a metal or plastic roller to compact the fibers and remove air bubbles. The skin coat fibers are randomly oriented and form a layer about 90 mils (0.09 inches) thick that is intended to prevent distortion of the gel coat (known as ''print through'') from the subsequent layers of fiberglass and resin.

(4) After the skin coat has hardened, additional glass reinforcement in the form of chopped fibers and woven fiberglass cloth is applied to the inside of the mold and saturated with catalyzed polyester resin. The resin is usually applied with either mechanical spray or flow coating equipment, or by hand using a bucket and brush or paint-type roller.

(5) The saturated fabric is then rolled with a metal or plastic roller to compact the fibers and remove air bubbles.

(6) More layers of woven glass or glass mat and resin are applied until the part is the desired thickness; the part is then allowed to harden while still in the mold. The final thickness of the part, for example, may be about 0.25 inches for the hull of a small motorboat, up to one or two inches thick for the hull of a large yacht.

(7) After the resin has cured, the part is removed from the mold and the edges are trimmed to the final dimensions.

(8) The different FRP parts of the boat are assembled using more fiberglass and resin, adhesives, or mechanical fasteners.

(9) Flotation foam is typically injected into closed cavities in the hulls of smaller boats to make the boat unsinkable and capable of floating if swamped.

(10) After the assembly of the hull is complete, the electrical and mechanical systems and the engine are installed along with carpeting, seat cushions, and other furnishings and the boat is prepared for shipment.

(11) Some manufacturers paint the topsides of their boats to obtain a superior finish or paint the bottoms to prevent marine growth.

(12) Larger boats generally also require extensive interior woodwork and cabin furnishings to be installed.

Resins and gel coats are also used to produce the prototypes and molds (or ''tools'') that are used in manufacturing fiberglass boats. These ''tooling'' resins and gel coats are different from production materials and are specially formulated for greater strength, hardness, and dimensional stability compared to production materials.

b. *Sources of VOC Emissions.* The primary VOC emissions from fiberglass boat manufacturing are styrene and MMA released during resin and gel coat application and curing, as well as emissions from evaporation of the VOC contained in the materials used during cleaning activities, such as spray gun cleaning and cleaning of other equipment. VOC emissions from cleaning and polishing molds, resin and gel coat storage and handling, and waste storage and handling are small. There are no wastewater streams associated with fiberglass boat manufacturing that may produce VOC emissions.

As mentioned above, although small, some VOC emissions occur during the handling and storage of resin and gel coat. These VOC emissions occur from displacement of VOC-laden air in containers used to store and mix materials before application. The displacement of VOC-laden air can occur during the filling of containers. It can also be caused by changes in temperature or barometric pressure, or by agitation during mixing.

The majority of VOC emissions occur during resin and gel coat application. The resins contain styrene, which acts as a solvent and a cross-linking agent. Gel coats contain both styrene and MMA; MMA also acts as a solvent and cross-linking agent. A fraction of each compound evaporates during resin and gel coat application and curing. Not all of the styrene and MMA evaporate because a majority of these compounds are bound in the cross-linking reaction between polymer molecules in the hardened resin or gel coat and become part of the finished product.

The fraction of VOC that is emitted from resin and gel coat materials is dependent on several factors, including the initial VOC content of the material, the application method, and the thickness of the part or layer that is curing. VOC emission rates are usually expressed in terms of lb VOC emitted per ton of material applied (lb/ton). VOC evaporation from gel coats is higher than from resins because gel coats are applied in thinner coats, which increases evaporation. When material is applied in thicker layers, the overlying material impedes evaporation from the underlying material, so a higher fraction is bound up during the cross linking reactions before it has a chance to evaporate.

Higher VOC materials also tend to emit a higher fraction of the VOC than lower VOC materials. Therefore, lowering the VOC content of the resin or gel coat has a two-fold effect: First, it decreases the amount of VOC that could be emitted, and second, a smaller fraction of the VOC that is present is emitted to the atmosphere.

The type of application equipment used also affects the fraction of VOC that is emitted. Spray application equipment that atomizes the resin as it is applied creates droplets with a high surface-to-volume ratio, which increases the amount of VOC that evaporates during application. Non-atomizing application methods minimize the surface area during application and reduce VOC emission rates. These non-atomizing methods include resin flow coaters, which create consolidated streams of resin (like a shower head) instead of atomized droplets, and pressure fed resin rollers that apply resin directly onto the part. Non-atomized application is not currently feasible for gel coat application and gel coat is currently spray-applied in almost all cases. The only exception is gel coat that may be applied with a brush or roller to the interior areas of finished boats where the cosmetic appearance is not as critical as on the exterior.

Resin and gel coat application equipment requires solvent cleaning to remove uncured resin or gel coat when not in use. If the equipment is not flushed and cleaned after each use, the resin or gel coat will catalyze inside and on the exterior of the application equipment within a few minutes.

c. *Controls.* Reducing VOC emissions from fiberglass boat manufacturing materials is achieved primarily by reducing the VOC content of the materials (resin and gel coat) and by switching to non-atomizing resin application methods. Industry and EPA-sponsored testing has experimentally

measured the amount of VOC that is emitted, and equations have been developed to predict the VOC emission rates (lb VOC/ton of material applied) for different materials and application methods.[16]

The different resins and gel coats can be reformulated to achieve varying levels of lowered VOC contents, depending on their use in boat manufacturing. Because reducing the VOC content reduces emissions by two interacting mechanisms (reducing the amount of VOC available to be emitted and by reducing the fraction of VOC that is emitted), VOC emission reduction is not linearly related to VOC content. For example, reformulating a laminating resin from 40 percent VOC, by weight, to 35 percent VOC, achieves a 28 percent VOC emission reduction if the resin is spray-applied.

Changing resin application methods can also reduce VOC emissions. For example, switching from spray application to nonatomizing application of a resin with 35 percent styrene achieves a 41 percent emission reduction. If both styrene content and application method are changed to reduce emissions, the reductions can be greater than changing just resin styrene content or application method alone. For example, changing from a spray-applied resin with 40 percent styrene, to one with 35 percent styrene that is applied with nonatomizing technology can achieve a 58 percent emission reduction.

Currently nonatomizing technology is feasible for applying production and tooling resins only. Gel coats must still be applied with atomizing spray guns, so VOC reductions from gel coat can only be achieved through use of low-VOC gel coats. The control methods for reducing VOC emissions from resin and gel coat application are described in more detail in the draft CTG.

Another method to reduce VOC emissions is the use of closed molding. Closed molding is the name given to fabrication techniques in which reinforced plastic parts are produced between the halves of a two-part mold or between a mold and a flexible membrane, such as a bag. There are four types of closed molding methods that are being used in fiberglass boat manufacturing: Vacuum bagging, vacuum-assisted resin transfer molding, resin transfer molding, and compression molding with sheet molding compound. Closed molding processes as they are currently practiced cannot reduce emissions during gel coat or skin coat application because these steps must still use conventional open molding techniques. However, closed molding can be used to reduce VOC emissions from the subsequent laminating steps after the gel coat and skin coat layers have been applied. Closed molding is generally applicable to making a large number of small parts, such as hatches and locker doors, or small numbers of high performance boat hulls and decks, but it is not feasible to replace open molding at all types of boat manufacturers. However, one major fiberglass boat manufacturer has developed a patented closed molding process that has replaced open molding for the hulls of many of its smaller (17 to 22 feet long) powerboats.

The majority of VOC emissions from open molding with resin and gel coat occur in an open shop environment, although some gel coat spraying for smaller parts may be done in a spray booth. The volume of air exhausted from the open shop or from spray booths is typically high, and the VOC concentration is typically low. Therefore, it is generally not cost-effective to use add-on controls to reduce VOC emissions from fiberglass boat manufacturing. Because of the wide availability and lower cost (compared to add-on controls) of low-VOC content materials and alternative application equipment/methods, these materials and application equipment/methods are used instead to reduce VOC emissions from fiberglass boat manufacturing facilities. In addition, work practices (e.g., using closed mixing containers) are used throughout the fiberglass boat manufacturing industry to reduce VOC emissions from containers used to mix manufacturing materials containing VOC. These work practices are described in the draft CTG.

To control VOC emissions from cleaning materials, water-based emulsifiers with low-VOC contents, as well as organic solvents (e.g., dibasic esters) with low vapor pressures, are used.

3. Existing Federal, State, and Local VOC Control Strategies

There are two previous EPA actions that address fiberglass boat manufacturing.

- Assessment of VOC Emissions from Fiberglass Boat Manufacturing (1990).
- National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing (2001).

In 1990, we completed an ''Assessment of VOC Emissions from Fiberglass Boat Manufacturing'' (EPA/600/S2–90/019). This document characterized the fiberglass boat manufacturing industry and its processes, assessed the extent of VOC emissions from this industry, and evaluated various control options. The assessment described open molding and discussed types of closed molding in use at the time. The assessment determined that acetone (no longer considered a VOC) and styrene were the two VOCs primarily emitted from the industry, and the major sources of emissions were resin and gel coat application, and evaporation of solvents during cleanup.

The 1990 document discussed process changes and add-on controls to reduce emissions. Specifically, the 1990 document recommended substituting the high-VOC resins and gel coats that were commonly used at that time with low-VOC resins and gel coats and vapor suppressed resins. The document discussed add-on controls but considered such controls not economically feasible for use in boat manufacturing due to high exhaust flow rates and low VOC concentrations. The document also recommended using water-based emulsifiers and low vapor pressure dibasic ester compounds for equipment cleaning.

The second action was the 2001 NESHAP for boat manufacturing (40 CFR Part 63, subpart VVVV). The 2001 NESHAP applies to fiberglass boat manufacturers using the processes and materials listed below:

- All open molding operations, including pigmented gel coat, clear gel coat, production resin, tooling resin, and tooling gel coat;
- All closed molding resin operations;
- All resin and gel coat application equipment cleaning; and
- All resin and gel coat mixing operations.

The 2001 NESHAP regulates the total HAP content in the materials used in each regulated operation. Specifically, the 2001 NESHAP sets a HAP content limit for each regulated open molding resin and gel coat operation. For each regulated open molding resin operation, the NESHAP established separate HAP content limits for atomized and nonatomized resin application methods. For closed molding operations, no limits apply to the resin application operation if it meets the specific definition of closed molding provided in the NESHAP. If a molding operation does not meet the definition of closed molding that is provided in the

[16] This testing was done in conjunction with the development of the NESHAP for boat manufacturing (40 CFR 63, subpart VVVV) and the NESHAP for reinforced plastic composite manufacturing (40 CFR 63, subpart WWWW). The equations that were developed were incorporated into both of these final NESHAP.

NESHAP, then it must comply with the applicable emission limits for open molding. The emission limitations in the 2001 NESHAP are described in more detail in the actual CTG document.

A manufacturer can demonstrate compliance with the 2001 NESHAP by either (1) demonstrating compliance with the individual HAP content limit for each type of open molding operation, (2) averaging emissions among resin and gel coat operations using equations provided in the NESHAP that would estimate the emissions from each operation, or (3) using an add-on control device. Even though add-on controls are not used for fiberglass boat manufacturing, this last option was included in case feasible control technology became available. Compliance with each HAP content limit in the first option can be demonstrated by using only compliant materials within a regulated operation, or demonstrating compliance based on the weighted-average HAP content for all materials used within an operation.

In addition to the resin and gel coating open molding operations which, as described above, are subject to HAP content limits, other operations are subject to either work practice requirements or HAP content limits in the 2001 NESHAP. These operations include resin and gel coat mixing operations in containers, and routine resin and gel coat application equipment cleaning operations.

Very few State and local regulations exist that apply to VOC emissions from the fiberglass boat manufacturing industry. The existing State and local regulations apply to all fiberglass manufacturing operations, and do not distinguish fiberglass boat manufacturing from the manufacturing of other products made from fiberglass. The SCAQMD has the most comprehensive regulation, but it is not as stringent as the 2001 NESHAP. Since styrene and MMA are the primary VOC from resin and gel coat and are also HAP, the HAP limits in the NESHAP and the VOC limits in State and local rules can be compared directly. Specifically, SCAQMD Rule 1162 (Polyester Resin Operations) contains VOC content limits for specific types of resins, gel coats, and cleaning solvents. Furthermore, SCAQMD Rule 1162 requires that all resins be applied with nonatomizing techniques, such as resin rollers, flow coaters, or hand layup. SCAQMD Rule 1162 also requires that gel coat be applied with high efficiency spray equipment, such as HVLP, air assisted airless, or electrostatic spray. The San Diego, Santa Barbara, and Bay Area Districts also have rules covering these operations, but tend to be less stringent than SCAQMD Rule 1162. State rules for Maryland and the Chicago area of Illinois also limit the VOC content of resins and gel coats, but these are also less stringent than the 2001 NESHAP. These State and local rules are summarized in more detail in the draft CTG.

B. Recommended Control Techniques

The draft CTG recommends certain control techniques for reducing VOC emissions from fiberglass boat manufacturing materials. As explained in the draft CTG, we are recommending these control options for the fiberglass boat manufacturing facilities that emit 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) or more.

We do not recommend these control approaches for facilities that emit below this level because of the very small VOC emission reductions that can be achieved. The recommended threshold level is equivalent to the evaporation of approximately two gallons of styrene per day, or the spray application of about 150 lbs of resin. Such a level is considered to be an incidental level of material usage that could be expected even in facilities that perform only boat repair and maintenance, where only small amounts of material are used each day, rather than manufacturing. Furthermore, based on the 2002 NEI data and the 2004 ozone nonattainment designations, facilities emitting below the recommended threshold level collectively emit less than four percent of the total reported VOC emissions from fiberglass boat manufacturing facilities in ozone nonattainment areas. For these reasons, we did not extend our recommendations in the draft CTG to these low emitting facilities. This recommended threshold is also consistent with our recommendations in many previous CTGs.

For purposes of determining whether a facility meets the 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) threshold, aggregate emissions from all fiberglass boat manufacturing and related cleaning activities at a given facility are included.

1. Resin and Gel Coat

Based on a review of the 2001 NESHAP, and the current State and local requirements discussed above, we are recommending VOC content limits and alternative VOC emission rate limits for resin and gel coats used in open molding operations. The VOC content limits are paired with specific methods (either atomized or non-atomized) for resin application.

The CTG provides flexibility by recommending the same options for meeting the VOC limits as provided in the 2001 NESHAP for meeting the HAP emission limits. To meet the recommended open molding resin and gel coat limits, the CTG recommends three options: (1) Achieving the individual VOC content limit through the use of low-VOC materials, either by using only low-VOC materials within a covered operation (listed in the CTG), or by averaging the VOC contents for all materials used within an operation on a weight-adjusted basis; (2) meeting numerical emission rate limits, which would enable a facility to average emissions among different operations using equations to estimate emission rates from each operation based on the material and application method; or (3) using add-on controls to achieve a numerical VOC emission rate that is determined for each facility based on the mix of application methods and materials used at that facility.

Our recommended VOC content limits under Option 1 are as follows:

For this material—	And this application method—	The recommended maximum weighted average VOC content (weight percent) is
Production resin	Atomized (spray)	28
Production resin	Nonatomized (nonspray)	35
Pigmented gel coat	Any method	33
Clear gel coat	Any method	48
Tooling resin	Atomized (spray)	30
Tooling resin	Nonatomized (nonspray)	39
Tooling gel coat	Any method	40

As mentioned above, a facility may show that a relevant content limit is met by averaging the VOC contents for all materials used within an operation on a weight-adjusted basis. To facilitate this option, the draft CTG provides an equation for determining the weighted average VOC content for a particular open molding resin or gel coat material.

The emission reductions that are achieved using the emissions averaging option (Option 2) and the add-on control option (Option 3) are equivalent to the emission reductions that are achieved meeting the VOC content limits (Option 1). Options 2 and 3 use emission factor equations to convert the VOC content limits in Option 1 into equivalent emission rates that a facility would otherwise achieve by using the low VOC materials for specific application methods and operations.

A facility could use emission averaging (Option 2) or add-on controls (Option 3) for all open molding operations or only for some of the operations. Operations that a facility decides not to include in Options 2 or 3 would need to use Option 1. For filled resins (i.e., resins to which fillers are added to acheive certain physical propderties), the CTG includes an adjustment factor that would allow filled resins to use any of the three options recommended above.

2. Mixing Drums and Cleaning Materials

To control VOC emissions from mixing drums, the draft CTG recommends that resin and gel coat mixing drums have covers with no visible gaps, and that these covers be kept in place at all times except when depositing or removing materials, or inserting or removing mixing equipment. This is the same practice required by the 2001 NESHAP, and is the most stringent control option that is technically and economically feasible. We do not recommend the use of covers for smaller containers because they are typically only used for small hand application operations that require an open container.

The draft CTG also recommends that materials used for routine resin and gel coat application equipment cleaning must contain no more than 5.0 percent VOC by weight, or must have a composite vapor pressure no greater than 0.50 mm Hg at 68 degrees F. These limits for cleaning materials are based on the properties of water-based emulsifiers and dibasic esters that are used as alternatives to conventional cleaning solvents, and are the basis for the equipment cleaning requirements in the 2001 NESHAP. Therefore, the same cleaning materials used to comply with the 2001 NESHAP will meet the recommendations in this CTG.

As mentioned above, both the work practice and the cleaning material VOC limit recommendations in the draft CTG are based on the 2001 NESHAP, which are more stringent than the requirements in other State and local actions. Based on the implementation of these measures by all major source fiberglass boat manufacturers, we believe that these control measures are technically and economically feasible for reducing VOC emissions from these cleaning materials and have therefore included them as our recommendations in the draft CTG.

C. Impacts of Recommended Control Techniques

Based on the 2002 NEI database, we estimate that there are 223 fiberglass boat manufacturing facilities in the U.S. Using the April 2004 ozone nonattainment designations, 91 of these facilities are in ozone nonattainment areas. Based on the 2002 NEI VOC emissions data, we estimated that 67 of the 91 facilities in ozone nonattainment areas emitted VOC at or above the recommended 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) VOC emissions applicability threshold. These 67 facilities, in aggregate, emit about 1,452 Megagrams per year (Mg/yr) (1,601 tons per year (tpy)) of VOC per year, or an average of about 22 Mg/yr (24 tpy) of VOC per facility.

The draft CTG recommends the use of low-VOC content resin and gel coats for each type of open molding operation, based on the 2001 NESHAP. This recommendation also includes the use of covers to further reduce VOC emissions from mixing drums and the use of low-VOC and low-vapor pressure cleaning materials. Those facilities that are major sources of HAP are already complying with the 2001 NESHAP and have already adopted these control measures. Therefore, we do not anticipate additional VOC emission reductions from these major source facilities. Because the 2001 NESHAP does not apply to area sources (i.e., sources that are not major sources of HAP), we assume that area source fiberglass boat manufacturing facilities are not currently implementing the measures provided in the 2001 NESHAP and recommended in the draft CTG. We estimate that 23 area source fiberglass boat manufacturing facilities are located in ozone nonattainment areas and meet the applicability threshold recommended in the draft CTG, and that these facilities emit, in aggregate, 104 Mg/yr (115 tpy) of VOC.

For implementing the 2001 NESHAP, the EPA estimated a cost of $3,600 per ton of HAP reduced, in 2001 dollars, or about $4,200 in 2007 dollars. Nearly all of the HAP that are reduced by the NESHAP are styrene and MMA, and styrene and MMA also account for nearly all of the VOC emitted from the processes addressed by the recommendations in the draft CTG. Therefore, we expect that the cost to reduce HAP and VOC are nearly equal.

However, we expect that the cost of reducing VOC through the measures recommended in the draft CTG would be substantially lower than the cost of reducing HAP through the 2001 NESHAP for several reasons. First, the NESHAP is now fully implemented at major sources of HAP, and resin, gel coat, and cleaning materials that are compliant with the 2001 NESHAP are readily available to all sizes of facilities. Second, the industry has experienced a shift to non-atomized resin application methods that are required to comply with the 2001 NESHAP. This shift has occurred at all sizes of facilities because of the productivity and economic benefits of using non-atomizing methods over conventional atomizing methods. Therefore, with respect to those facilities that are not subject to the 2001 NESHAP, we expect that most, if not all, are already using the materials and methods recommended by the draft CTG. We therefore expect that these facilities would incur little, if any, increased costs if required by a State RACT rule to implement the approaches recommended in the draft CTG. We estimate that the total cost for the 23 facilities to implement the recommended measures in the draft CTG would be substantially less than $168,000 in 2007 dollars. The impacts are further discussed in the draft CTG document.

D. Considerations in Determining Whether a CTG Will Be Substantially as Effective as a Regulation

In determining whether to issue a national rule or a CTG for the product category of fiberglass boat manufacturing materials under CAA section 183(e)(3)(C), we analyzed the four factors identified above in section I.D in light of the specific facts and circumstances associated with this product category. Based on that analysis, we propose to determine that a CTG will be substantially as effective as a rule in achieving VOC emission reductions in ozone nonattainment areas from fiberglass boat manufacturing materials.

This section is divided into two parts. In the first part, we discuss our belief

that the most effective means of achieving VOC emission reductions in this category is through controls at the point of use of the product, (i.e., through controls on the use of resin, gel coat, and cleaning materials at fiberglass boat manufacturing facilities), and this control can be accomplished only through a CTG. We further explain that the recommended approaches in the draft CTG are consistent with existing effective EPA, State, and local VOC control strategies. In the second part, we discuss how the distribution and place of use of the products in this category also support the use of a CTG. We also discuss the likely VOC emission reductions associated with a CTG, as compared to a regulation. We further explain that there are control approaches for this category that result in significant VOC emission reductions and that such reductions could only be obtained by controlling the use of the products through a CTG. Such reductions could not be obtained through a regulation under CAA section 183(e) because the controls affect the end-user, which is not a regulated entity under CAA section 183(e)(1)(C). For these reasons, which are described more fully below, we believe that a CTG will achieve greater VOC emission reductions than a rule for this category.

1. The Most Effective Entity to Target for VOC Reductions and Consistency With Existing Federal, State, and Local VOC Strategies

To evaluate the most effective entity to target for VOC reductions, it is important first to identify the primary sources of VOC emissions. There are two main sources of VOC emissions from fiberglass boat manufacturing: (1) evaporation of VOC from resins and gel coats; and (2) evaporation of VOC from cleaning materials. We address each of these sources of VOC emissions, in turn, below, as we discuss the CTG versus regulation approach.

a. *Resin and Gel Coat Materials.* A national rule could contain limits for the as-sold VOC content of resin and gel coat materials that are marketed for use in fiberglass boat manufacturing. However, the effect of such a rule could be easily subverted because it could not guarantee that fiberglass boat manufacturers would use only low-VOC fiberglass boat manufacturing materials. There is a broad diversity of resin and gel coat materials used in boat manufacturing. Many resin and gel coat materials used in fiberglass boat manufacturing are also used to manufacture other fiberglass products and are not specifically marketed by the supplier as materials for fiberglass boat manufacturing. Therefore, fiberglass boat manufacturing facilities could purchase and use high-VOC resins and gel coats not specified for use in fiberglass boat manufacturing. This practice would effectively nullify the reformulation actions of the manufacturers and suppliers of fiberglass boat manufacturing materials, resulting in no net change in VOC emissions in ozone nonattainment areas.

By contrast, a CTG can affect the end-users of the coating materials in the fiberglass boat manufacturing industry and, therefore, can implement the control measures that are more likely to achieve the objective of reducing VOC emissions from this product category in ozone nonattainment areas. As previously discussed, the draft CTG recommends VOC content limits for fiberglass boat manufacturing operations that can be achieved through the use of either low-VOC content resins and gel coats or add-on controls. In addition, the recommendations in the draft CTG include the use of covers on mixing drums to further reduce VOC emissions from resin and gel coat materials. These practices have been shown to effectively reduce VOC emissions beyond the levels achievable using low-VOC materials. These work practices would also reduce emissions beyond the levels achievable using an add-on control device since the emissions points that are affected by the work practices, such as mixing drums, would not be located in the enclosure that is vented to the control device. Given the significant reductions achievable through the use of these recommended control measures, the most effective entity to address VOC emissions from fiberglass boat manufacturing is the facility using the VOC-containing materials.

The recommended control measures are consistent with existing EPA, State, and local VOC control strategies applicable to fiberglass boat manufacturing. As mentioned above, previous EPA actions and existing State and local regulations (in particular, the regulations in the majority of the California air Districts that address fiberglass boat manufacturing) similarly call for VOC emission reduction through the use of low-VOC content materials. Some also include work practices and specific application methods. We cannot, however, issue a national rule directly requiring fiberglass boat manufacturing facilities to use low-VOC content materials or specific application methods or to implement work practices to reduce VOC emissions because, pursuant to CAA section 183(e)(1)(C) and (e)(3)(A), the regulated entities subject to a national rule would be the material manufacturers and suppliers, not the fiberglass boat manufacturing facilities. By contrast, a CTG can reach the end-users of fiberglass boat manufacturing materials and, therefore, can implement the control recommendations for these users that are identified above as more likely to achieve the intended VOC emission reduction goal. Accordingly, we are including these control measures in the draft CTG that applies to fiberglass boat manufacturing facilities as the end-users of the resin and gel coat materials.

b. *Application Equipment Cleaning Materials.* The most common method to control VOC emissions associated with the application equipment cleaning materials used in the fiberglass boat manufacturing process is to limit the VOC content or VOC vapor pressure of the cleaning materials. A national rule requiring that manufacturers of cleaning materials for fiberglass boat manufacturing operations to provide low-VOC content or low vapor pressure (*i.e.*, replacing VOC that have a high vapor pressure with low vapor pressure VOC) cleaning materials would suffer from the same deficiencies noted above with regard to the resin and gel coat materials. Specifically, nothing in a national rule that specifically regulates manufacturers and suppliers of cleaning materials specified for use in fiberglass boat manufacturing operations would preclude the fiberglass boat manufacturing industry from purchasing bulk solvents or other multipurpose cleaning materials from other vendors. The general availability of bulk solvents or multipurpose cleaning materials from vendors that would not be subject to such regulation would directly undermine the effectiveness of such a national regulation.

The more effective approach for reducing VOC emissions from application equipment cleaning materials is to control the types of cleaning materials. The draft CTG recommends that fiberglass boat manufacturing facilities use low-VOC or low vapor pressure cleaning materials. Given the significant VOC reductions achievable through the use of low-VOC or low vapor pressure cleaning materials, we conclude that the most effective entity to address VOC emissions from cleaning materials used in fiberglass boat manufacturing operations is the facility using the cleaning materials. This recommendation is consistent with measures required by State and local jurisdictions for reducing VOC emissions from cleaning materials used

in fiberglass boat manufacturing operations.

We cannot, however, issue a rule requiring the use of low-VOC application equipment cleaning materials for fiberglass boat manufacturing facilities because, pursuant to CAA section 183(e)(1)(C) and (e)(3)(A), the regulated entities subject to a national rule would be the cleaning materials manufacturers and suppliers and not the fiberglass boat manufacturing facilities. Accordingly, we are including the recommendation to use low-VOC cleaning materials in the draft CTG that applies to fiberglass boat manufacturing facilities as the end-users of the cleaning materials.

Based on the nature of the fiberglass boat manufacturing process, the sources of significant VOC emissions from this process, and the available strategies for reducing such emissions, the most effective means of achieving VOC emission reductions from this product category is through controls at the point of use of the products, (*i.e.*, through controls on fiberglass boat manufacturing facilities), and such controls can be implemented only through a CTG. The recommended controls described in the draft CTG are also consistent with effective existing EPA, State, and local VOC control strategies for fiberglass boat manufacturing operations. These two factors alone demonstrate that a CTG will be substantially as effective as a national regulation under CAA section 183(e) in addressing VOC emissions from this product category in ozone nonattainment areas.

2. The Product's Distribution and Place of Use and Likely VOC Emission Reductions Associated With a CTG Versus a Regulation

The factors described in the above section, taken by themselves, weigh heavily in favor of the CTG approach. The other two factors relevant to the CAA section 183(e)(3)(C) determination only further confirm that a CTG will be substantially as effective as a national regulation for fiberglass boat manufacturing.

First, fiberglass boat manufacturing resins and gel coats and associated cleaning materials are used at commercial facilities in specific, identifiable locations. Specifically, these materials are used in commercial facilities that build fiberglass boats as described in section III.A. This stands in contrast to other consumer products, such as architectural coatings, that are widely distributed and used by innumerable small users (*e.g.*, individual consumers in the general public). Because the VOC emissions are occurring at commercial manufacturing facilities, implementation and enforcement of controls concerning the use of these products are feasible. Therefore the nature of the products' place of use further counsels in favor of the CTG approach.

Second, a CTG will achieve greater emission reduction than a national rule for each source of VOC emissions from fiberglass boat manufacturing and associated cleaning materials. For the reasons described above, we believe that a national rule limiting the VOC content in the resin, gel coat and cleaning materials used in fiberglass boat manufacturing operations would result in little VOC emissions reduction. By contrast, a CTG can achieve significant VOC emissions reduction because it can provide for the highly effective emission control strategies described above that are applicable to the end-users of the resin, gel coat, and cleaning materials at fiberglass boat manufacturing facilities. Specifically, the draft CTG can provide for the use of low-VOC materials, specific application methods, and work practices. The significant VOC reductions associated with these measures could not be obtained through a national regulation, because they are achieved through the implementation of measures by the end-user. In addition, as previously explained, strategies that arguably could be implemented through rulemaking, such as limiting the VOC contents of the resin, gel coat, and cleaning materials used in fiberglass boat manufacturing, are far more effective if implemented directly at the point of use of these materials. For the reasons stated above, it is more effective to control the VOC contents of the resin, gel coat, and cleaning materials used for fiberglass boat manufacturing through a CTG than through a national regulation.

Furthermore, the number of fiberglass boat manufacturing facilities affected by our recommendations in this draft CTG, as compared to the total number of such facilities in ozone nonattainment areas, does not affect our conclusion that the CTG would be substantially more effective than a rule in controlling VOC emissions for this product category. We recommend the control measures described in the draft CTG for fiberglass boat manufacturing facilities that emit 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) or more VOC. Based on the April 2004 ozone nonattainment designations, we estimate that 67 of the 91 fiberglass boat manufacturing facilities located in ozone nonattainment areas emit 6.8 kg VOC/day (15 lb VOC/day or 3 tpy) or more and are therefore addressed by our recommendations in the draft CTG. There are 24 fiberglass boat manufacturing facilities that would not be covered by the recommendations in the draft CTG. According to the 2002 NEI database, these 24 facilities collectively emitted less than 12.7 Mg/yr (14 tpy) of VOC, which is less than one percent of the total reported VOC (1,465 Mg/yr (1,615 tpy)) in ozone nonattainment areas. The fact that the CTG addresses more than 99 percent of the VOC emissions from fiberglass boat manufacturing facilities in ozone nonattainment areas further supports our conclusion that a CTG is more likely to achieve the intended VOC emission reduction goal for this product category than a national rule.

Upon considering the above factors in light of the facts and circumstances associated with this product category, we propose to determine that a CTG for fiberglass boat manufacturing facilities will be substantially as effective as a national regulation.

V. Miscellaneous Industrial Adhesives

A. Industry Characterization

1. Source Category Description

The miscellaneous industrial adhesives product category includes adhesives (including adhesive primers used in conjunction with certain types of adhesives) used at a wide variety of industrial manufacturing and repair facilities that operate adhesives application processes.

The miscellaneous industrial adhesives product category does not include adhesives that are addressed by CTGs already issued for categories listed under CAA Section 183(e) or by earlier CTGs. These include the CTGs issued under Section 183(e) for aerospace coatings; metal furniture coatings; large appliance coatings; flat wood paneling coatings; paper, film, and foil coatings; offset lithographic printing and letterpress printing; and flexible package printing. Coil coating, fabric coating, and rubber tire manufacturing were not listed under CAA Section 183(e); however, they were the subject of earlier CTGs which address adhesives used in those processes. In addition, the miscellaneous industrial adhesives category does not include adhesives and adhesive primers that are subject to the National Volatile Organic Compound Emission Standards for Consumer Products, 40 CFR part 59, subpart C.

Adhesives, glass bonding primers, and glass bonding adhesives applied to new automobile or new light-duty truck bodies, or body parts for new automobiles or new light-duty trucks are included in the miscellaneous industrial adhesives product category and are

addressed in the draft CTG for miscellaneous industrial adhesives. In the draft CTG, however, we seek comments on whether the use of these materials in the production of new automobiles and new light-duty trucks should be included in the miscellaneous industrial adhesives product category and addressed in the CTG for miscellaneous industrial adhesives, or in the auto and light-duty truck assembly coatings category.

Adhesives are used for joining surfaces in assembly and construction of a large variety of products. Adhesives allow for faster assembly speeds, less labor input, and more ability for joining dissimilar materials than other fastening methods. The largest use of adhesives is for manufacture of pressure sensitive tapes and labels. Other large industrial users are automobile manufacturing, packaging laminating, and shoe construction. Although there are a wide variety of adhesives formulated from a multitude of synthetic and natural raw materials, all adhesives can be generally classified as solution/waterborne, solvent-borne, solventless or solid (e.g., hot melt adhesives), pressure sensitive, or reactive (e.g., epoxy adhesives and ultraviolet-curable adhesives). Adhesives can also be generally classified according to whether they are structural or nonstructural. Structural adhesives are commonly used in industrial assembly processes and are designed to maintain product structural integrity.

2. Processes, Sources of VOC Emissions, and Controls

The VOC emissions from miscellaneous industrial adhesives are a result of evaporation of the solvents contained in many of the primers, adhesives and cleaning materials [17] during adhesive application and drying processes, as well as during surface preparation and cleaning processes associated with adhesives application. The primary VOC emissions from miscellaneous industrial adhesives occur during application, flash-off, and drying. In many cases, the emissions from application and flash-off are removed from these areas with localized ventilation systems. A lesser amount of emissions occur as the adhesive dries. Essentially all of the remaining VOC in the organic solvent contained in the adhesives is emitted during the drying process.

Some VOC emissions also occur during mixing of the adhesives. The VOC emissions from mixing operations occur from displacement of VOC-laden air in containers used to mix adhesives before application. The displacement of VOC-laden air can occur during the filling of containers. It can also be caused by changes in temperature or barometric pressure, or by agitation during mixing.

The primary VOC emissions from the cleaning materials occur during cleaning operations, which include application equipment cleaning and line flushing. VOC emissions from surface preparation (where products and materials are primed and/or cleaned prior to adhesive application), adhesive storage and handling, and waste/wastewater operations (i.e., handling waste/wastewater that may contain residues from both adhesives and cleaning materials) are small.

As mentioned above, the majority of VOC emissions from miscellaneous industrial adhesives occur from evaporation of solvents in the adhesives during application. The transfer efficiency (the percent of adhesive solids deposited on the material or product) of an adhesive application method affects the amount of VOC emissions during adhesive application. The more efficient an adhesive application method is in transferring adhesives to the material or product, the lower the volume of adhesives (and therefore solvents) needed per given amount of production. High transfer efficiency results in lower VOC emissions.

Miscellaneous industrial adhesives may be in the form of a liquid or aerosol product. Liquid adhesives may be applied by means of spray or dip coating. Conventional air atomized spray application systems utilize higher atomizing air pressure and typically have transfer efficiencies ranging between 25 and 40 percent. Dip coating is the immersion of a substrate into a coating bath. The transfer efficiency of a dip coater is very high (approximately 90 percent); however, some VOC is emitted from the liquid coating bath due to its large exposed surface area.

Many spray applied adhesives are electrostatically applied. In electrostatic application, an electrical attraction between the adhesive, which is positively charged, and the grounded substrate enhances the amount of adhesive deposited on the surface. For liquid adhesives, this application method is more efficient than conventional air atomized spray, with transfer efficiency typically ranging from 60 to 90 percent.

Spray applied adhesives are typically applied in a spray booth to capture adhesive overspray, to remove solvent vapors from the workplace, and to keep the application operation from being contaminated by dirt from other operations. In spray application operations, the majority of VOC emissions occur in the spray booth.

Other liquid adhesive application methods used in adhesive application operations include flow coating, roll coating, HVLP spray, electrocoating, autophoretic coating, and application by hand. These application methods are described in more detail in the draft CTG.

After application, the adhesives may be baked or cured in heated drying ovens to speed drying, but many are air dried, especially for some heat-sensitive substrates. The amount of VOC emitted depends on the type of adhesive used, the speed of the application line (i.e., how quickly the substrate moves through the flash-off area), and the distance between the application area and bake oven (if used).

The VOC emissions from the adhesive application process can be reduced through changes in adhesive formulations and application technology. Add-on controls may also be used to reduce VOC emissions from miscellaneous industrial adhesives and cleaning materials. In some cases, add-on controls are used where it is necessary or desirable to use high-VOC materials, but they are also used in combination with low-VOC adhesives and/or more efficient application methods to achieve additional emission reductions.

The trend in control technology for solvent-borne adhesives is not to control emissions from the adhesives, but rather to replace them with low VOC adhesives, some of which can perform as well as solvent-borne adhesives. Since the late 1970s, adhesive formulations that eliminate or reduce the amount of solvent in the formulations have been increasing, thus reducing VOC emissions per unit amount of adhesive used.

Various types of low solvent adhesive include waterborne, hot-melt, solventless two-component, and radiation-cured adhesives. Hot-melt adhesives are the most widely used of these alternative processes.

[17] In a previous notice, EPA stated that the cleaning operations associated with certain specified section 183(e) consumer and commercial product categories, including the miscellaneous industrial adhesives category, would not be covered by EPA's 2006 CTG for industrial cleaning solvents (71 FR 44522 and 44540, August 4, 2006). In the notice, EPA expressed its intention to address cleaning operations associated with these categories in the CTGs for these specified categories if the Agency determines that a CTG is appropriate for the respective categories. Accordingly, the draft CTG for the miscellaneous industrial adhesives addresses VOC emissions from cleaning operations associated with this product category.

The combination of low-VOC adhesive type and an application method with high transfer efficiency, is also an effective measure for reducing VOC emissions. Not only are VOC emissions reduced by using adhesives with low VOC content, the use of an application method with high transfer efficiency, such as electrostatic spraying, lowers the volume of adhesives needed per given amount of production, thus further reducing the amount of VOC emitted during the adhesive application process.

As mentioned above, the majority of VOC emissions from spray application operations occur in the spray booth. The VOC concentration in spray booth exhaust is typically low because a large volume of exhaust air is used to dilute the VOC emissions for safety reasons. Although VOC emissions in spray booth exhaust can be controlled with add-on controls, it is generally not cost effective to do so, due to the large volume of air that must be treated and the low concentration of VOC. On the other hand, the wide availability and lower cost of low-VOC content adhesives makes them a more attractive option. For those situations where an add-on control device can be justified for production or specific adhesive requirements, thermal oxidation and carbon adsorption are most widely used. The draft CTG contains a detailed discussion of these and other available control devices.

To control VOC emissions from containers used to store or mix adhesives containing VOC solvents, work practices (e.g., using closed storage containers) are implemented at facilities that apply miscellaneous industrial adhesives. Work practices are also widely used at these facilities as a means of reducing VOC emissions from cleaning operations. These measures include covering mixing tanks, storing solvents and solvent soaked rags and wipes in closed containers, and cleaning spray guns in an enclosed system. Another means of reducing VOC emissions from cleaning operations is the use of low-VOC content, low vapor pressure, or low boiling point cleaning materials. However, little information is available regarding the effectiveness of the use of these types of cleaning materials at miscellaneous industrial adhesive application processes.

3. Existing Federal, State, and Local VOC Control Strategies

There are no previous EPA actions that address miscellaneous industrial adhesive application operations. However, many California air pollution control districts have adhesives regulations in place, and some States are currently developing regulations.

In 1998, the California ARB issued a guidance document that includes ARB's determination of RACT and best available retrofit control technology (BARCT) for Adhesives and Sealants. The 1998 ARB document presented RACT and BARCT for controlling VOC emissions from the commercial and industrial application of adhesives and sealants. The ARB RACT determination prescribes VOC emission limits for various industrial adhesives and sealants and was developed based on eight existing California air pollution control district rules for adhesives and sealants that were in effect in 1998. Those eight districts included Bay Area (BAAQMD), El Dorado County (EDCAPCD), Placer County (PCAPCD), Sacramento Metropolitan (SMAQMD), South Coast (SCAQMD), Ventura County (VCAPCD), Yolo-Solano (YSAQMD), and San Diego County (SDCAPCD).

The ARB based the majority of its RACT determination on limits already in effect in SCAQMD, BAAQMD, and VCAPCD, and concluded that the VOC limits for adhesives and sealants presented in its RACT determination were achievable and cost-effective. Furthermore, the ARB stated in its RACT determination that most of the adhesive and sealant products being sold in 1998 were already compliant with the VOC limits that were determined to be RACT.

Since the development of the ARB RACT determination, five additional California air pollution control districts have adopted rules based on the ARB RACT standards.

In 2007, the Ozone Transport Commission (OTC) issued a Model Rule for Adhesives and Sealants. The model rule was based almost entirely on the 1998 California ARB RACT determination. The model rule is designed for adoption by member states with compliance dates by 2009. To date, only Maryland has adopted an adhesives rule based on the OTC model rule. Maine and New Jersey are either currently considering adopting or are in the process of adopting the model rule.

Some states regulate VOC emissions from adhesives as part of their regulations for specific surface coating operations.

As discussed above, a total of 13 air pollution control districts in California have established rules for adhesives. The various district adhesives rules do not all contain the same categories and limits as the ARB RACT guidance. Where the categories are the same or similar among these District rules, the SCAQMD rule (i.e., Rule 1168) generally has the most stringent VOC content limits. If add-on controls are used, SCAQMD Rule 1168 requires that the system control at least 80 percent of the VOC emissions. Several California air Districts require the use of specific types of high-efficiency adhesive application methods to further reduce VOC emissions. For example, in addition to limiting the VOC contents in the adhesives, SCAQMD Rule 1168 requires the use of one of the following types of application equipment: Electrostatic application; flow coating; dip coating; roll coating; hand application; high-volume, low-pressure (HVLP) spray; or an alternative method that is demonstrated to be capable of achieving a transfer efficiency equal to or better than 65 percent. At least seven other California District rules that regulate emissions from adhesives similarly require that sources use specified application methods that achieve high transfer efficiency.

At least eight California Districts and Maryland regulate cleaning materials used in adhesive application processes. These regulations require a combination of work practice, equipment standards, and limits on the VOC content, boiling point, or composite vapor pressure of the solvent. Some California District rules allow the use of add-on controls as an alternative to the VOC content/boiling point/vapor pressure limits for cleaning materials. The work practice and equipment standards that have been adopted by California Districts include, for example, using closed containers for storing solvent and solvent containing wipes and rags, using enclosed and automated spray gun washing equipment, and prohibiting atomized spraying of solvent during spray gun cleaning. However, the cleaning material VOC content/boiling point/vapor pressure limits, overall control efficiency requirements, and work practices vary among the District rules.

B. Recommended Control Techniques

The draft CTG recommends certain control techniques for reducing VOC emissions from miscellaneous industrial adhesives and associated cleaning materials. As explained in the draft CTG, we are recommending these control options for facilities with miscellaneous industrial adhesive application processes that emit 6.8 kg VOC/day (15 lb VOC/day) or more before consideration of control. For purposes of determining whether a facility meets the 6.8-kg/day (15-lb/day) threshold, aggregate emissions from all miscellaneous industrial adhesive application operations and related

cleaning activities at a given facility are included.

The draft CTG would not apply to facilities that emit below the threshold level because of the very small VOC emission reductions that would be achieved. The recommended threshold level is equivalent to the evaporation of approximately 2 gallons of solvent per day. Such a level is considered to be an incidental level of solvent usage that could be expected even in facilities that use very low-VOC content adhesives. Furthermore, based on the 2002 NEI data and the 2004 ozone nonattainment designations, facilities emitting below the recommended threshold level collectively emit less than 6 percent of the total reported VOC emissions from facilities with miscellaneous adhesive application operations in ozone nonattainment areas. For these reasons, the draft CTG does not specify control for these low emitting facilities. This recommended threshold is also consistent with our recommendations in many previous CTGs.

1. Adhesives

The draft CTG provides facilities flexibility by recommending various options for controlling VOC emissions. The draft CTG recommends specific VOC emission limits based on application processes (i.e., the types of adhesives and substrates). The draft CTG offers two options for achieving the recommended emission limits: (1) Through the use of low-VOC content adhesives and specified application methods with good adhesive transfer efficiency; or (2) through the use of a combination of low-VOC adhesives, specified application methods, and add-on controls. As an alternative to the emission limits, the draft CTG recommends an overall control efficiency of 85 percent. This alternative provides facilities the operational flexibility to use high efficiency add-on controls instead of low-VOC content adhesives and specified application methods, especially when the use of high VOC adhesives is necessary or desirable for product efficacy. We expect the 85 percent control efficiency recommendation to result in VOC emission reduction that is equivalent to or exceed the reduction from our recommended emission limits. Both the emission limits and the control efficiency recommendations in the draft CTG reflect what we have concluded to be reasonably achievable VOC control measures for miscellaneous industrial adhesives based on our review of Maryland's adhesives rule, the OTC model rule, and the various California air district rules.

The following VOC emission limits are recommended in the draft CTG for general and specialty adhesive application processes and for adhesive primer application processes:

	VOC emission limit	
	(g/l)	(lb/gal)
General Adhesive Application Processes:		
Fiberglass	200	1.7
Flexible vinyl	250	2.1
Metal	30	0.3
Porous Material (Except Wood)	120	1.0
Rubber	250	2.1
Wood	30	0.3
Other Substrates	250	2.1
Specialty Adhesive Application Processes:		
Ceramic Tile Installation	130	1.1
Contact Adhesive	250	2.1
Cove Base Installation	150	1.3
Floor Covering Installation (Indoor)	150	1.3
Floor Covering Installation (Outdoor)	250	2.1
Floor Covering Installation (Perimeter Bonded Sheet Vinyl)	660	5.5
Metal to Urethane/Rubber Molding or Casting	850	7.1
Multipurpose Construction	200	1.7
Plastic Solvent Welding (ABS)	400	3.3
Plastic Solvent Welding (Except ABS)	500	4.2
Sheet Rubber Lining Installation	850	7.1
Single-Ply Roof Membrane Installation/Repair (Except EPDM)	250	2.1
Structural Glazing	100	0.8
Thin Metal Laminating	780	6.5
Tire Retreading	100	0.8
Waterproof Resorcinol Glue	170	1.4
Adhesive Primer Application Processes:		
Automotive Glass Adhesive Primer	700	5.8
Plastic Adhesive Primer	250	2.1
Plastic Solvent Welding Adhesive Primer	650	5.4
Single-Ply Roof Membrane Adhesive Primer	250	2.1
Other Adhesive Primer	250	2.1

The recommended VOC emission limits are expressed as mass of VOC per volume of adhesive or adhesive primer, excluding water and exempt compounds.[18] For general application processes where an adhesive is used to bond dissimilar substrates together, then the applicable substrate category with the highest VOC emission limit is recommended as the limit for such application. For example, in an application process where an adhesive is used to bond flexible vinyl to metal, the recommended VOC emission limit is 250 g/l (2.1 lb/gal).

Our recommended limits are based on the limits in the OTC model rule. As previously mentioned, the emission limits in the OTC rule were California ARB RACT standards, which were

[18] The list of exempt compounds that are considered to be negligibly photochemically reactive in forming ozone can be found in the definition of VOC at 40 CFR 51.100(s).

based on numerous California District rules and adopted by other California District rules. Furthermore, the OTC model rule is intended for adoption by States. In light of the above, we consider the limits in the OTC model rule to be representative of what sources in nonattainment areas nationwide can achieve technically and economically and have therefore adopted these VOC limits as our recommendations in the draft CTG.

As in Maryland's adhesive rule and the OTC model rule, we recommend in the draft CTG that the following types of specialty adhesive application processes be exempt from VOC content limits: Adhesives or adhesive primers being tested or evaluated in any research and development, quality assurance, or analytical laboratory; adhesives or adhesive primers used in the assembly, repair, or manufacture of aerospace or undersea-based weapon systems; adhesives or adhesive primers used in medical equipment manufacturing operations; and cyanoacrylate adhesive application processes.

As mentioned above, we recommend the use of low-VOC adhesives in conjunction with application methods that achieve good adhesive transfer efficiency. Specifically, we recommend the following application methods: Electrostatic spray, HVLP spray, flow coat, roller coat, dip coat including electrodeposition, brush coat, or other adhesive application methods that are capable of achieving a transfer efficiency equivalent or better than that achieved by HVLP spraying.

A further explanation of the emission limits and control efficiency recommendations described above can be found in the draft CTG.

In addition to the recommended control measures described above, the draft CTG recommends the following work practices to further reduce VOC emissions from miscellaneous industrial adhesives: (1) Store all VOC-containing adhesives, adhesive primers, and adhesive-related waste materials in closed containers; (2) ensure that mixing and storage containers used for VOC-containing adhesives, adhesive primers, and adhesive-related waste materials are kept closed at all times except when depositing or removing these materials; (3) minimize spills of VOC-containing adhesives, adhesive primers, and adhesive-related waste materials; and (4) convey adhesives, adhesive primers, and adhesive-related waste materials from one location to another in closed containers or pipes.

2. Cleaning Materials

The draft CTG recommends work practices to reduce VOC emissions from cleaning materials. We recommend that, at a minimum, all of the work practices be included: (1) Store all VOC-containing cleaning materials and used shop towels in closed containers; (2) ensure that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials; (3) minimize spills of VOC-containing cleaning materials; (4) convey cleaning materials from one location to another in closed containers or pipes; and (5) minimize VOC emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that application equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

C. Impacts of Recommended Control Techniques

Based on the 2002 NEI database, we estimate that there are 1,048 facilities in the U.S. that operate miscellaneous adhesive application processes. Using the April 2004 ozone nonattainment designations, we estimated that 720 of these facilities are in ozone nonattainment areas. Based on the 2002 NEI VOC emissions data, 180 of the 720 facilities in ozone nonattainment areas emitted VOC at or above the recommended 6.8-kg/day (15-lb/day) applicability threshold. These 180 facilities, in aggregate, emit an estimated 4,428 Mg/yr (4,881 tpy) of VOC, or an average of about 24.6 Mg/yr (27.1 tpy) of VOC per facility. As previously mentioned, the emissions from these facilities represent less than 6 percent of the total reported VOC emissions from facilities that operate miscellaneous adhesives application operations in ozone nonattainment areas.

As mentioned above, the draft CTG recommends the emission limits in the OTC model rule. The OTC limits were based on California ARB RACT standards, which were based on eight California Districts' adhesives rules and have been adopted by other California Districts and Maryland. Accordingly, for purposes of estimating the cost effectiveness of our recommendations in the draft CTG, we assume that facilities in California and Maryland are already meeting the recommended emission limits. For facilities in nonattainment areas outside of California and Maryland, we have estimated the total annual control costs of using low-VOC adhesives to be approximately $603,997, and emission reductions will be about 64 percent. These recommended measures are expected to result in a VOC emissions reduction of 2,070 Mg/yr (2,281 tpy), and the cost-effectiveness is estimated to be $292/Mg ($265/ton). The impacts are further discussed in the draft CTG document.

We have concluded that the work practice recommendations in the draft CTG will result in a net cost savings. These work practices reduce the amount of cleaning materials used by decreasing the amount that evaporates and is therefore wasted. Similarly, the adoption of more effective application methods, such as electrostatic spray and other methods recommended in the draft CTG, will reduce adhesive consumption and result in net cost savings compared to conventional spray guns. However, because we cannot determine the extent to which these practices have already been adopted, we cannot quantify these savings. Therefore, these cost savings are not reflected in the above cost impacts.

D. Considerations in Determining Whether a CTG Will Be Substantially as Effective as a Regulation

In determining whether to issue a national rule or a CTG for the miscellaneous industrial adhesive product category under CAA section 183(e)(3)(C), we analyzed the four factors identified above in Section I.D in light of the specific facts and circumstances associated with this product category. Based on that analysis, we propose to determine that a CTG will be substantially as effective as a rule in achieving VOC emission reductions in ozone nonattainment areas from miscellaneous industrial adhesive application operations and associated cleaning materials.

This section is divided into two parts. In the first part, we discuss our conclusion that the most effective means of achieving VOC emission reductions in this CAA section 183(e) product category is through controls at the point of use of the products, (i.e., through controls on the use of adhesive and cleaning materials at miscellaneous industrial adhesive application operations), and these controls can be accomplished only through a CTG. We further explain that the recommended approaches in the draft CTG are consistent with existing effective EPA, State, and local VOC control strategies. In the second part, we discuss how the distribution and place of use of the product in this product category also supports the use of a CTG. We also discuss the likely VOC emission reductions associated with a CTG, as

compared to a regulation. We further explain that there are control approaches for this category that result in significant VOC emission reductions and that such reductions could only be obtained by controlling the use of the products through a CTG. Such reductions could not be obtained through a regulation under CAA section 183(e) because the controls affect the end-user, which is not a regulated entity under CAA section 183(e)(1)(C). For these reasons, which are described more fully below, we believe that a CTG will achieve greater VOC emission reductions than a rule for these categories.

1. The Most Effective Entity To Target for VOC Reductions and Consistency With Existing Federal, State, and Local VOC Strategies

To evaluate the most effective entity to target for VOC reductions, it is important first to identify the primary sources of VOC emissions. There are two main sources of VOC emissions from miscellaneous industrial adhesive application operations: (1) Evaporation of VOC from adhesives; and (2) evaporation of VOC from cleaning materials. We address each of these sources of VOC emissions, in turn, below, as we discuss the CTG versus regulation approach.

a. Adhesives

A national rule would contain limits for the as-sold VOC content of adhesives that are marketed as miscellaneous industrial adhesives. However, the effect of such national rule setting low VOC content limits for miscellaneous industrial adhesives could be easily subverted because a section 183(e) rule could not require that a facility use only those low-VOC content adhesive materials that are specifically marketed for miscellaneous industrial adhesive application operations. Many adhesives used in miscellaneous industrial adhesive application operations are not specifically marketed by the supplier as adhesives for specific products. Therefore, these facilities could purchase and use high-VOC specialty adhesives materials for routine application operations, and this practice would effectively nullify the reformulation actions of the manufacturers and suppliers of low-VOC adhesives, resulting in no net change in VOC emissions in ozone nonattainment areas.

By contrast, a CTG can affect the end users of the adhesive materials and, therefore, can implement the control measures that are more likely to achieve the objective of reducing VOC emissions from this product category in ozone nonattainment areas. Our recommended control options in the draft CTG include, among other things, the use of application methods with high adhesives transfer efficiency and add-on controls. In addition, we recommend that certain work practices be implemented to further reduce VOC emissions from adhesives as well as controlling VOC emissions from cleaning materials. Given the significant reductions achievable through the use of these recommended control measures, the most effective entity to address VOC emissions from miscellaneous industrial adhesives is the facility using the adhesives.

These control measures are consistent with existing State and local VOC control strategies applicable to miscellaneous industrial adhesives. Existing State and local regulations (in particular, the regulations in Maryland and the majority of the California air Districts) that address miscellaneous industrial adhesive application operations similarly call for VOC emission reduction through the use of low-VOC content materials, or the use of control devices in conjunction with high-VOC content adhesive materials. Some State and local VOC control strategies also include work practices and specific application methods.

We cannot, however, issue a national rule directly requiring miscellaneous industrial adhesive application facilities to use low-VOC content adhesives, control devices, specific application methods, or work practices because, pursuant to CAA section 183(e)(1)(C) and (e)(3)(B), the regulated entities subject to a national rule would be the adhesive manufacturers and suppliers, not the miscellaneous industrial adhesive application facilities. By contrast, a CTG can reach the end users of the miscellaneous industrial adhesives and, therefore, can implement the control recommendations for end users that are identified above as more likely to achieve the objective of reducing VOC emissions from these product categories in ozone nonattainment areas. Accordingly, we are including these recommended control measures in the draft CTG that applies to miscellaneous industrial adhesive application facilities as the end users of the adhesives materials.

b. Cleaning Materials

There are two primary means to control VOC emissions associated with the cleaning materials used in the miscellaneous industrial adhesive application process: (1) Limiting the VOC content, boiling point, or VOC vapor pressure of the cleaning materials, and (2) implementing work practices governing the use of the cleaning materials. A national rule requiring that manufacturers of cleaning materials for miscellaneous industrial adhesive application operations provide low-VOC content or low vapor pressure (high boiling point) cleaning materials would suffer from the same deficiencies noted above with regard to the adhesives. Specifically, nothing in a national rule that specifically regulates manufacturers and suppliers of cleaning materials specified for use in adhesive application operations would preclude facilities from purchasing bulk solvents or other multipurpose cleaning materials from other vendors. The general availability of bulk solvents or multipurpose cleaning materials from vendors that would not be subject to such regulation would directly undermine the effectiveness of such a national regulation.

The more effective approach for reducing VOC emissions from cleaning materials used by miscellaneous industrial adhesive application facilities is to control the use of cleaning materials through work practices. The draft CTG recommends that miscellaneous industrial adhesive application facilities implement work practices to reduce VOC emissions from cleaning materials during application operations. Examples of effective work practices are: Keeping solvents and used shop towels in closed containers; using enclosed spray gun cleaners and preventing the atomized spraying of cleaning solvent; minimizing spills of VOC-containing cleaning materials; cleaning up spills immediately; and conveying any VOC-containing cleaning materials in closed containers or pipes. These work practices have proven to be effective in reducing VOC emissions.

Given the significant VOC reductions achievable through the implementation of work practices, we conclude that the most effective entity to address VOC emission from cleaning materials used in miscellaneous industrial adhesive application operations is the facility using the cleaning materials during these operations. This recommendation is consistent with measures required by State and local jurisdictions for reducing VOC emissions from cleaning materials used in miscellaneous industrial adhesives application operations.

We cannot, however, issue a rule requiring such work practices for miscellaneous industrial adhesive application facilities because, pursuant to CAA section 183(e)(1)(C) and (e)(3)(B), the regulated entities subject to

a national rule would be the cleaning materials manufacturers and suppliers and not the miscellaneous industrial adhesive application facilities. By contrast, a CTG can address these application facilities. Accordingly, we are including in the draft CTG these work practices that apply to miscellaneous industrial adhesive application facilities as the end users of the cleaning materials.

Based on the nature of the miscellaneous industrial adhesive application process, the sources of significant VOC emissions from this process, and the available strategies for reducing such emissions, the most effective means of achieving VOC emission reductions from this product category is through control at the point of use of the product, (*i.e.*, through controls on miscellaneous industrial adhesive application facilities). This strategy can be accomplished only through a CTG. The recommended approaches described in the draft CTG are also consistent with effective existing State and local VOC control strategies for other 183(e) product categories. These two factors alone demonstrate that a CTG will be substantially as effective as a national regulation under CAA section 183(e) in addressing VOC emissions from miscellaneous industrial adhesives and associated cleaning materials in ozone nonattainment areas.

2. The Product's Distribution and Place of Use and Likely VOC Emission Reductions Associated With a CTG Versus a Regulation

The factors described in the above section, taken by themselves, weigh heavily in favor of the CTG approach. The other two factors relevant to the CAA section 183(e)(3)(C) determination only further confirm that a CTG will be substantially as effective as a national regulation for miscellaneous industrial adhesives and associated cleaning materials.

First, miscellaneous industrial adhesives and associated cleaning materials are used at manufacturing facilities in specific, identifiable locations. Specifically, these materials are used in industrial manufacturing facilities that apply adhesives to various materials, as described in section V.A. This stands in contrast to other consumer products, such as architectural coatings, which are widely distributed and used by innumerable small users (*e.g.*, individual consumers in the general public). Because the VOC emissions are occurring at industrial manufacturing facilities, implementation and enforcement of controls concerning the use of these products are feasible. Therefore the nature of the products' place of use further counsels in favor of the CTG approach.

Second, a CTG will achieve greater emission reduction than a national rule for VOC emissions from miscellaneous industrial adhesives and associated cleaning materials. For the reasons described above, we believe that a national rule limiting the VOC content in adhesives and cleaning materials used in miscellaneous industrial adhesive application operations would result in little VOC emissions reduction. By contrast, a CTG can achieve significant VOC emissions reduction because it can provide for the highly effective emission control strategies that are applicable to the end-users of the adhesives and cleaning materials at miscellaneous industrial adhesive application facilities. As described above, our recommendations in the draft CTG include the use of control devices, specific application methods, and work practices. The significant VOC reductions associated with these measures could not be obtained through a national regulation, because they are achieved through the implementation of measures by the end-user. In addition, and as previously explained, strategies that arguably could be implemented through rulemaking, such as limiting the VOC content in adhesives and cleaning materials, are far more effective if implemented directly through a CTG at the point of product use. For the reasons stated above, it is more effective to control the VOC emissions from adhesives and cleaning materials used for miscellaneous industrial adhesive application through a CTG than through a national regulation.

Furthermore, the number of miscellaneous industrial adhesives application facilities affected by our recommendations in this draft CTG, as compared to the total number of such facilities in ozone nonattainment areas, does not affect our conclusion that the CTG would be substantially more effective than a rule in controlling VOC emissions for these product categories. We recommend the control measures described in the draft CTG for miscellaneous industrial adhesive application facilities that emit 6.8 kg/day (15 lb/day) or more VOC. Based on the April 2004 ozone nonattainment designations, we estimate that 180 of the 720 miscellaneous industrial adhesive application facilities located in ozone nonattainment areas emit 6.8 kg/day (15 lb/day) or more and are therefore addressed by our recommendations in the draft CTG. We estimate that 540 miscellaneous industrial application facilities would not be covered by the recommendations in the draft CTG. However, according to the 2002 NEI database, these 540 facilities collectively emitted about 239 Mg/yr (264 tpy) of VOC, which is less than 6 percent of the total reported VOC (an average of about 0.44 Mg/yr (0.49 tpy) per facility) in ozone nonattainment areas. The fact that the CTG addresses more than 94 percent of the VOC emissions from miscellaneous industrial adhesive application facilities in ozone nonattainment areas further supports our conclusion that a CTG is more likely to achieve the intended VOC emission reduction goal for these product categories than a national rule.

Upon considering the above factors in light of the facts and circumstances associated with this product category, we propose to determine that a CTG for miscellaneous industrial adhesive application facilities will be substantially as effective as a national regulation.

VI. Statutory and Executive Order (EO) Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under EO 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action,'' since it is deemed to raise novel legal or policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under EO 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*). Burden is defined at 5 CFR 1320.3(b). This action does not contain any information collection requirements.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this rule on small entities, small

entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule I certify that this action will not have a significant economic impact on a substantial number of small entities. This proposed action will not impose any requirements on small entities. We are proposing to take final action to list the five Group IV consumer and commercial product categories addressed in this notice for purposes of CAA section 183(e) of the CAA. This listing action alone does not impose any regulatory requirements. We are also proposing to determine that, for the five product categories at issue, a CTG will be substantially as effective as a national regulation in achieving VOC emission reductions in ozone nonattainment areas. This proposed determination means EPA has concluded that it is appropriate to issue guidance in the form of CTGs that provide recommendations to States concerning potential methods to achieve needed VOC emission reductions from these product categories. In addition to this proposed determination, we are also taking comment on the draft CTGs for these five product categories. When finalized, these CTGs will be guidance documents. EPA does not directly regulate any small entities through the issuance of a CTG. Instead, EPA issues CTGs to provide States with guidance on developing appropriate regulations to obtain VOC emission reductions from the affected sources within certain nonattainment areas. EPA's issuance of a CTG does trigger an obligation on the part of certain States to issue State regulations, but States are not obligated to issue regulations identical to the EPA's CTG. States may follow the guidance in the CTG or deviate from it, and the ultimate determination of whether a State regulation meets the RACT requirements of the CAA would be determined through notice and comment rulemaking in the EPA's action on each State's State Implementation Plan. Thus, States retain discretion in determining to what degree to follow the CTGs.

We continue to be interested in the potential impacts of this proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Pub. L. 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and to adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

This rule contains no Federal mandates (under the regulatory provisions of Title II of the UMRA) for State, local, or tribal governments or the private sector because the rule imposes no enforceable duty on any State, local or tribal governments or the private sector. (**Note:** The term ''enforceable duty'' does not include duties and conditions in voluntary Federal contracts for goods and services.) Thus, this rule is not subject to the requirements of sections 202 and 205 of the UMRA. In addition, EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments because they contain no regulatory requirements that apply to such governments or impose obligations upon them. Therefore, this action is not subject to the requirements of section 203 of UMRA.

E. Executive Order 13132: Federalism

Executive Order (EO) 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the EO to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in EO 13132. The CAA establishes the relationship between the Federal Government and the States, and this action does not impact that relationship. Thus, EO 13132 does not apply to this rule. In the spirit of EO 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

Executive Order (EO) 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by Tribal officials in the development of regulatory policies that have Tribal implications.'' This proposed rule does not have Tribal implications, as specified in EO 13175. This listing action and proposed determination do not have a substantial direct effect on one or more Indian Tribes, in that it imposes no regulatory burden on tribes. Furthermore, it does not affect the relationship or distribution of power and responsibilities between the Federal government and Indian Tribes. The CAA and the Tribal Authority Rule (TAR) establish the relationship of the Federal government and Tribes in

implementing the Clean Air Act. Thus, Executive Order 13175 does not apply to this rule.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the EO has the potential to influence the regulation. This action is not subject to EO 13045 because it does not establish an envioronmental standards intended to mitigate health or safety risks.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This rule is not a ''significant energy action'' as defined in Executive Order 13211, ''Action Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355 (May 22, 2001)) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. These actions impose no regulatory requirements and are therefore not likely to have any adverse energy effects.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104–113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in their regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices, etc.) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, with explanations when the Agency does not use available and applicable voluntary consensus standards.

This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629 (February 16, 1994)) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment.

The purpose of section 183(e) is to obtain VOC emission reductions to assist in the attainment of the ozone NAAQS. The health and environmental risks associated with ozone were considered in the establishment of the ozone NAAQS. The level is designed to be protective of the public with an adequate margin of safety. EPA's listing of the products and its determination that CTGs are substantially as effective as regulations are actions intended to help States achieve the NAAQS in the most appropriate fashion. Accordingly, these actions would help increase the level of environmental protection to populations in affected ozone nonattainment areas without having any disproportionately high and adverse human health or environmental effects on any populations, including any minority or low-income populations.

List of Subjects in 40 CFR Part 59

Air pollution control, Consumer and commercial products, Confidential business information, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: July 3, 2008.

Stephen L. Johnson,

Administrator.

For the reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is proposed to be amended as follows:

PART 59—[AMENDED]

1. The authority citation for part 59 continues to read as follows:

Authority: 42 U.S.C. 7414 and 7511b(e).

Subpart A—General

2. Section 59.1 is revised to read as follows:

§ 59.1 Final Determinations Under Section 183(e)(3)(C) of the Clean Air Act.

This section identifies the consumer and commercial product categories for which EPA has determined that control techniques guidelines will be substantially as effective as regulations in reducing volatile organic compound emissions in ozone nonattainment areas:

(a) Wood furniture coatings;

(b) Aerospace coatings;

(c) Shipbuilding and repair coatings;

(d) Lithographic printing materials;

(e) Letterpress printing materials;

(f) Flexible packaging printing materials;

(g) Flat wood paneling coatings;

(h) Industrial cleaning solvents;

(i) Paper, film, and foil coatings;

(j) Metal furniture coatings;

(k) Large appliance coatings;

(l) Miscellaneous metal products coatings;

(m) Plastic parts coatings;

(n) Auto and light-duty truck assembly coatings;

(o) Fiberglass boat manufacturing materials; and

(p) Miscellaneous industrial adhesives.

[FR Doc. E8–15722 Filed 7–11–08; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 271

[FRL–8691–3]

Minnesota: Final Authorization of State Hazardous Waste Management Program Revision

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Minnesota has applied to EPA for final authorization of the changes to its hazardous waste program under the Resource Conservation and Recovery Act (RCRA). Minnesota has submitted these changes so that it may implement the EPA-approved Joint Powers Agreement (JPA) with Hennepin County, Minnesota. EPA has reviewed Minnesota's application and has preliminarily determined that these changes satisfy all requirements needed to qualify for final authorization, and is proposing to authorize the State's changes through this proposed final action.

DATES: Written comments must be received on or before August 13, 2008.

Effective Dates and Duration: This approval will become effective when the final **Federal Register** notice is published. This approval will expire automatically if the JPA between the State of Minnesota and Hennepin