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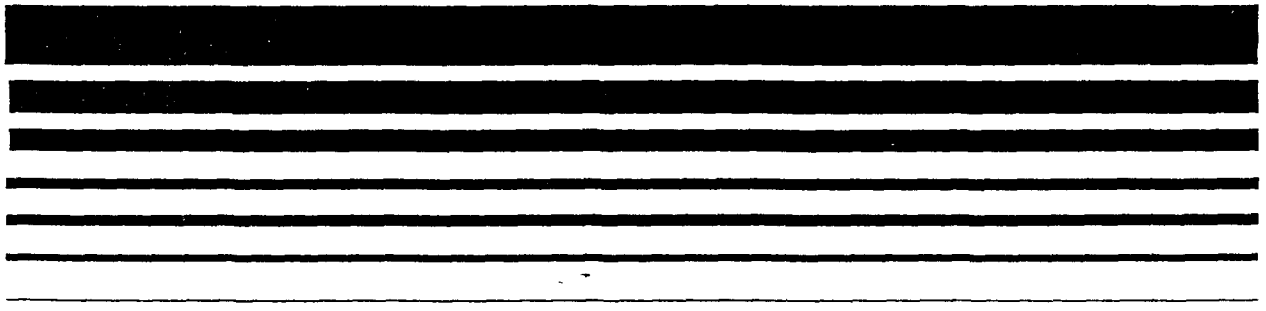
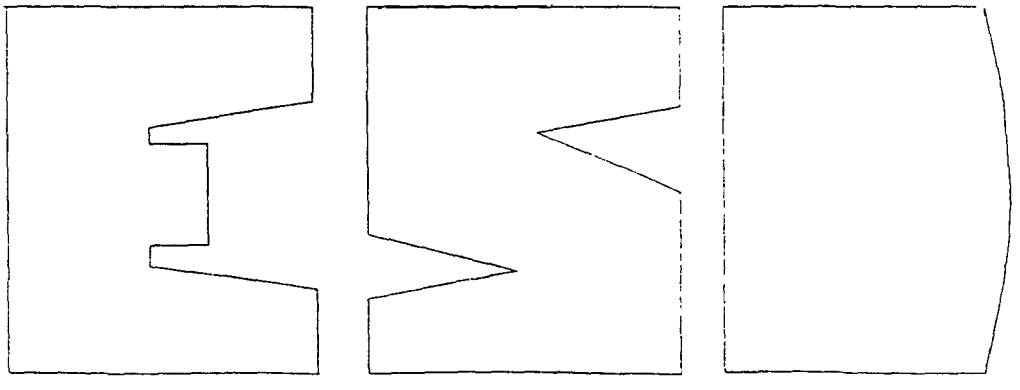
National Volatile Organic Compound Emission Standards for Consumer Products — Background for Promulgated Standards





RESPONSE TO COMMENTS ON SECTION 183(e) STUDY AND REPORT TO CONGRESS

Emission Standards Division

U.S. Environmental Protection Agency
Office of Air and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

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ACRONYM LIST

Act	Clean Air Act
BAC	best available control
CARB	California Air Resources Board
CASAC	Clean Air Scientific Advisory Committee of the Science Advisory Board
CCP	Composite Correction Plan
CSMA	Chemical Specialities Manufacturers Association
CTG	Control Technique Guidelines
EIA	Economic Impacts Analysis
EO	executive order
EPA	Environmental Protection Agency
HAP	Hazardous Air Pollutant
IR	Incremental Reactivity
MIR	Maximum Incremental Reactivity
MOIR	Maximum Ozone Incremental Reactivity
NAAQS	National Ambient Air Quality Standards
NAPCTAC	National Air Pollution Control Techniques Advisory Committee
NARSTO	North American Research Strategy for Tropospheric Ozone
NEPA	National Environmental Policy Act of 1969
NO	nitric oxide
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
OAQPS	Office of Air Quality Planning and Standards
OH	hydroxyl radicals
O_2	oxygen
O_3	ozone
ORD	Office of Research and Development
OTA	Office to Technology Assessment
OTAG	Ozone Transport Assessment Group
PAMS	photochemical assessment monitoring stations
ppbv	parts per billion, by volume
ppmC	parts per million as Carbon
$ppm^{-1}min^{-1}$	per part per million per minute
RACT	reasonably available control technology
Reg-Neg	Architectural Coatings Regulatory Negotiations (1992 to 1994)
Report	Section 183(e) report to Congress
RFA	Regulatory Flexibility Act
RIR	relative incremental reactivity
ROMNET	Regional Ozone Modeling for Northeast Transport
RVOC	Reportable VOC
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
tpy	tons per year
TSCA	Toxic Substances Control Act
UAM	Urban Airshed Model
UMRA	Unfunded Mandates Reform Act
VOC	volatile organic compounds

1.0 LIST OF COMMENTERS

A list of the commenters, their affiliations, and EPA docket number assigned to their correspondence is given in table 1-1. Comments on the section 183(e) *report* to Congress (Report) and the list and schedule of consumer product categories to be regulated were received in four different dockets: (1) the consumer and commercial product Report docket (A-94-65); (2) the architectural coatings rulemaking docket (A-92-18); (3) the consumer products rulemaking docket (A-95-40); and (4) the automobile refinish coatings rulemaking docket (A-95-18). Each docket number listed in the table and referenced in this document is preceded by a two or three letter code indicating the docket in which the item may be found: AIM signifies the architectural coatings docket, CCP signifies the docket for the consumer and commercial product Report, CP signifies the consumer products docket, and AR signifies the automobile refinish coatings docket. Some letters were submitted to more than one docket or were submitted multiple times to the same docket. Any duplicated letter is listed once with alternate docket numbers listed in parentheses underneath. Attachments are indented and designated by a lower case letter following the docket number. When more than 26 documents were attached, the additional documents are designated by duplicate lower case letters following the docket number i.e., aa, bb, etc. Some attachments included their own attachments, which are numbered following the letter.

Table 1-2 lists an additional 17 docket items containing comments on the Report that were received in the architectural coatings docket before publication of the proposed architectural

coatings rule. These items were reviewed but were not summarized in this document because they contained no issues that were not raised in subsequent letters listed in table 1-1.

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED

Docket number[a] Attachments	Commenter and affiliation
AIM-IV-D-02	N.B. Kisner President Triangle Coatings, Inc. San Leandro, California
AIM-IV-D-05	W.A. Rostine President Cast-O-Magic Springfield, Missouri
AIM-IV-D-08	Richard Hardy President XIM Products, Incorporated Westlake, Ohio
AIM-IV-D-16	James S. Jennison President Jennison Industries Burlington, Iowa
AIM-IV-D-26	Alaistair MacDonald Chief Executive Officer Specialty Coatings & Chemicals, Inc. North Hollywood, California
AIM-IV-D-28	K.R. Schultz Environmental Consultant DuPont Automotive Products Wilmington, Delaware
AIM-IV-D-30	James G. Stilling Vice-President and General Manager W.R. Meadows, Incorporated Elgin, Illinois
AIM-IV-D-32	G.A. Green Administrator Air Quality Division Oregon Department of Environmental Quality Portland, Oregon
AIM-IV-D-33	B.A. Kwetz Director Division of Air Quality Control Commonwealth of Massachusetts Executive Office of Environmental Affairs Department of Environmental Protection Boston, Massachusetts

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED (CONTINUED)

Docket number[a] Attachments	Commenter and affiliation
AIM-IV-D-49	E.D. Edwards Owner Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-49b	Howard Berman, Esq. Director of Regulatory Affairs Representing the Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-50	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-55	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-82	L.A. Spurlock, Ph.D, CAE Chemical Manufacturers Association Arlington, Virginia
AIM-IV-D-93	David Altena President Repcolite Paints, Inc. Holland, Michigan
AIM-IV-D-96	Arthur J. Fossa, P.E. Director Division of Air Resources New York State Department of Environmental Conservation Albany, New York
AIM-IV-D-115	L.R. Rogers Director Regulatory Compliance Anchor Paint Manufacturing Company Tulsa, Oklahoma
AIM-IV-D-117	Susan S.G. Wierman Executive Director Mid-Atlantic Regional Air Management Association Baltimore, Maryland
AIM-IV-D-155	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED (CONTINUED)

Docket number[a] Attachments	Commenter and affiliation
AIM-IV-D-161	Madelyn K. Harding Administrator, Product Compliance & Registrations Sherwin-Williams Company Cleveland, Ohio
AIM-IV-D-162	B.R. Appleman Executive Director M.J. Masciale President Steel Structures Painting Council (SSPC) Pittsburgh, Pennsylvania
AIM-IV-D-165	R. Hardy President XIM Products, Incorporated Westlake, Ohio
AIM-IV-D-166	J.J. Jennison President Jennison Industries Burlington, Iowa
AIM-IV-D-170	M.P. Stock Vice President TK Products Minnetonka, Minnesota
AIM-IV-D-175	M. Uglem Executive Vice President Hirchfields Paint Manufacturing, Incorporated Minneapolis, Minnesota
AIM-IV-D-177	E.D. Edwards Futurist Greenwood, Minnesota
AIM-IV-D-177a	Attached document entitled "Cause of Ozone and Peak Ozone Exceedance"
AIM-IV-D-178	N.B. Kisner President Triangle Coatings, Incorporated San Leandro, California
AIM-IV-D-185	N.S. Bryson Crowell & Moring, LLP for the Thompson-Minwax Company Washington, District of Columbia

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED (CONTINUED)

Docket number[a] Attachments	Commenter and affiliation
AIM-IV-D-189	R.J. Nelson Director Environmental Affairs J. Sell Senior Counsel National Paint and Coatings Association Washington, District of Columbia
AIM-IV-D-212	Dunn-Edwards Corp. Los Angeles, California
AIM-IV-D-212d	Attached article from Environmental Week entitled "Ozone Control Strategies Flawed, Says EPA Scientist"
AIM-IV-D-212k (AIM-IV-D-212p6h) (AIM-IV-D-212mm) (CCP-IV-D-06) (CP-IV-D-35h) (CP-IV-D-35k3)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-212p (CCP-IV-D-04) (CP-IV-D-35n)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-212p2 (CCP-I-D-13) (CP IV-D-35e)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-212p3 (CCP-I-D-14) (CP-IV-D-35f)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-212p4 (CCP-I-D-18) (CP-IV-D-35g)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-212p5 (CCP-IV-D-05) (CP-IV-D-35v)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-212p6 (CCP-I-D-18) (CCP-IV-D-02) (CP-IV-D-35t)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED (CONTINUED)

Docket number[a] Attachments	Commenter and affiliation
AIM-IV-D-212p6i (CP-IV-D-35j)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-D-212p6q (CP-IV-D-35s4)	Attached letter from C.C. Cowan Director The National Values Center, Incorporated Denton, Texas
AIM-IV-D-212p6r (CP-IV-D-35s5)	Attached document entitled, "Stepping Stones" - a section of the Values Center, Inc.
AIM-IV-D-214	Smiland and Khachigian Los Angeles, California
AIM-IV-D-214b (CP-IV-D-07b)	W.M. Smiland Smiland and Khachigian Los Angeles, California
AIM-IV-D-214c	C.G. Foster Smiland and Khachigian Los Angeles, California
AIM-IV-F-1c	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-IV-F-1d	H. Berman Wellborn Paints
AIM-IV-F-1k	D. Collier Courtauld Coatings
AIM-IV-F-1l	R. Wendoll for Ned Kisner Triangle Coatings
AIM-IV-F-1o	J. Sell National Paint and Coatings Association
CCP-I-D-17 (CCP-IV-D-03)	S.J.H. Manekshaw Director Environmental, Safety and Health Affairs Pennzoil Company Houston, Texas

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED (CONTINUED)

Docket number[a] Attachments	Commenter and affiliation
CCP-IV-D-01 (CP-IV-D-35k)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
CP-IV-D-01	J. Janeczek Jr., P.E. Capital Cities/ABC, Inc. New York, New York
CP-IV-D-02	R.D. Elliott Executive Director Southwest Air Pollution Control Authority Vancouver, Washington
CP-IV-D-04	G.F. Tappan Section Chief Regulatory Affairs Block Drug Company, Inc. Jersey City, New Jersey
CP-IV-D-06	A.W. Effinger, Esq. General Counsel American Pet Products Manufacturers Association, Inc. Greenwich, Connecticut
CP-IV-D-07	W.M. Smiland Smiland and Khachigian Los Angeles, California
CP-IV-D-07a	W.M. Smiland Smiland and Khachigian Los Angeles, California
CP-IV-D-10	W.K. Lim President Aerosol Services Company, Inc. City of Industry, California
CP-IV-D-11	B. Mathur Chief Bureau of Air State of Illinois Environmental Protection Agency Springfield, Illinois

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED (CONTINUED)

Docket number[a] Attachments	Commenter and affiliation
CP-IV-D-13	B.A. Kwetz Director Division of Air Quality Control Commonwealth of Massachusetts Department of Environmental Protection Boston, Massachusetts
CP-IV-D-33	R. Engel, President Chemical Specialties Manufacturers Association Washington, DC
CP-IV-D-34	L.A. Spurlock, Ph.D, CAE Chemical Manufacturers Association Arlington, Virginia
CP-IV-D-35	Dunn-Edwards Corporation Los Angeles, California
CP-IV-D-35k (CCP-IV-D-01)	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
CP-IV-D-35m	Attached document entitled, "Economic Analysis" by Dunn-Edwards Corp.
CP-IV-D-40	F.N. Romano Chairman of the Board Chief Executive Officer Key West Fragrance & Cosmetic Factory, Inc. Key West, Florida
CP-IV-D-42	I.S. Combe Chairman Combe Incorporated White Plains, New York
CP-IV-D-44	M.A. Dirzis Director Government Affairs Avon Products, Inc. New York, New York
CP-IV-D-45	E.O. Sullivan State of Maine Department of Environmental Protection Augusta, Maine

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED (CONTINUED)

Docket number[a] Attachments	Commenter and affiliation
CP-IV-D-46	T.J. Donegan, Jr. Vice President-Legal and General Counsel The Cosmetic, Toiletry, and Fragrance Association Washington, DC
CP-IV-D-48	R.N. Hiatt Chairman Maybelline, Inc. Memphis, Tennessee
CP-IV-D-49	G.T. Blair Haarmann & Reimer Corporation Springfield, New Jersey
CP-IV-D-50	S.I. Sadove President Clairol Stamford, Connecticut
CP-IV-D-51	E. Zeffren, Ph.D. President Helene Curtis, Inc. Chicago, Illinois
CP-IV-D-52	D.L. Stein Senior Specialist 3M Corporate Product Responsibility St. Paul, Minnesota
CP-IV-D-53	R.N. Sturm Director Professional & Regulatory Services The Procter & Gamble Company Cincinnati, Ohio
CP-IV-D-54	J.B. Hallagan Law Offices Daniel R. Thompson, P.C. Washington, DC
CP-IV-D-56	S.P. Risotto Director of Regulatory Affairs Halogenated Solvents Industry Alliance, Inc. Washington, DC
CP-IV-F-1a	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California

TABLE 1-1. LIST OF COMMENTERS ON THE SECTION 183(e) REPORT TO CONGRESS AND LIST AND SCHEDULE OF CONSUMER PRODUCT CATEGORIES TO BE REGULATED (CONTINUED)

Docket number[a] Attachments	Commenter and affiliation
CP-IV-F-1b	M. Thompson Chemical Specialties Manufacturers Association
CP-IV-F-1d	T. Wernick Gillette
CP-IV-F-1g	B. Mercer Prestone
CP-IV-F-1j	B. Sabo Apollo Industries
CP-IV-F-1k	G. Brown National Aerosol Association
AR-IV-F-1	H. Berman Vice President Jefferson Environment, Health, and Safety Group Denver, Colorado

[a] AIM = Docket A-92-18
CCP = Docket A-94-65
CP = Docket A-95-40
AR = Docket A-95-18

TABLE 1-2. LIST OF UNSUMMARIZED ITEMS RECEIVED BEFORE PUBLICATION OF THE PROPOSED ARCHITECTURAL COATINGS RULE[a]

Docket number[b]	Commenter and affiliation
AIM-II-D-146	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-149	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-152	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-155	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-160 and AIM-II-D-169	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-161	E.D. Edwards Owner Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-169 and AIM-II-D-160	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-177	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-184	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-186 and AIM-II-D-203	Dunn-Edwards Corporation Los Angeles, California

TABLE 1-2. LIST OF UNSUMMARIZED ITEMS RECEIVED BEFORE PUBLICATION OF THE PROPOSED ARCHITECTURAL COATINGS RULE[a] (CONTINUED)

Docket number[b]	Commenter and affiliation
AIM-II-D-231	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-235	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-255	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-256	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-258	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-291	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
AIM-II-D-20	W.M. Smiland Smiland Paint Company
AIM-II-D-203 and AIM-II-D-186	W.M. Smiland Smiland and Khachigian Los Angeles, California
AIM-II-D-332	C.G. Foster Smiland and Khachigian Los Angeles, California

[a]These items were reviewed for section 183(e) issues. These letters contained no new issues so they were not summarized and will not be referenced in the comment response document.

[b]AIM = Docket A-92-18

2.0 SUMMARY OF PUBLIC COMMENTS

A total of 85 letters and 12 public hearing comments were received on the section 183(e) study and report to Congress.

For purpose of orderly presentation, the comments have been categorized under the following topics:

- Consumer and Commercial Products Study
- Reactivity
- EPA's Regulatory Strategy
- Legal Issues

2.1 CONSUMER AND COMMERCIAL PRODUCTS STUDY

Section 183(e) of the Act mandates a new regulatory program for controlling VOC emissions. Through this provision, Congress required EPA to conduct a study of emissions of VOC into the ambient air from consumer and commercial products and to list for regulation, based on the study, certain categories of products that have the potential to contribute to ozone nonattainment.

The term "consumer and commercial products" is defined in section 183(e) of the Act to mean:

> ...any substance, product (including paints, coatings, and solvents), or article (including any containers or packaging) held by any person, the use, consumption, storage, disposal, destruction, or decomposition of which may result in the release of volatile organic compounds.

The statutory definition of consumer and commercial products thus includes a much broader array of products than those usually considered to be consumer products (e.g., personal care products, household cleaning products, or household pesticides) because it encompasses all VOC-emitting products used in the home, by businesses, by institutions, and in a wide range of industrial manufacturing operations.

The stated objectives of the consumer and commercial products study mandated in section 183(e) of the Act were: (1) to determine the potential of VOC emissions from consumer and commercial products to contribute to ozone levels which violate the ozone NAAQS; and (2) to establish criteria for regulating consumer and commercial products. In establishing criteria for regulating products, the Administrator was directed to consider the following five factors: (1) the uses, benefits, and commercial demand of products; (2) the health or safety functions served by such products; (3) whether products emit highly reactive VOC into the ambient air; (4) the relative cost-effectiveness of controls for products; and (5) the availability of alternative products which are of comparable costs, considering health, safety, and environmental impacts.

Upon completion of the study, section 183(e) required EPA to submit a report to Congress documenting the results of the study. The statutory provision further required EPA to list those categories of products that it determined, based on the study, account for at least 80 percent of the total VOC emissions, on a reactivity-adjusted basis, from consumer and commercial products in areas that violate the ozone NAAQS. In addition, section 183(e) required EPA to divide the list of products into four groups establishing priority for regulation. Every 2 years following publication of the list, EPA is required to regulate one group of categories until all four groups are regulated.

Regulatory criteria and ranking of product categories.

As directed in section 183(e)(2)(B) of the Act, EPA developed the following eight criteria for use in establishing the list of consumer and commercial product categories to be regulated:

(1) Utility,
(2) commercial demand,
(3) health and safety functions,
(4) emissions of highly reactive VOC,
(5) availability of alternatives,

(6) cost-effectiveness of controls,

(7) magnitude of annual VOC emissions, and

(8) regulatory efficiency and program considerations.

The first factor stipulated by section 183(e) is reflected in two criteria developed by EPA. Criterion 1 (utility) considers uses and benefits and Criterion 2 addresses commercial demand. The remaining four factors stipulated in section 183(e) are addressed individually by Criteria 3 through 6.

Criteria 7 and 8 (magnitude of emissions and regulatory efficiency) reflect additional considerations not specifically prescribed in the Act. The EPA has exercised its discretion to include these criteria, because EPA concluded that they are important in prioritizing product categories for regulation in a manner that best effectuates Congress's intent under Section 183(e). The EPA's interpretation of each of the five factors and the rationale and intent of each of the eight criteria are discussed in detail in the Report.

The EPA developed Criteria 1 through 7 to allow each product category to be ranked numerically. The numerical ranking process involved objective and subjective considerations. Criteria 2, 4, 6, and 7 are objective in nature and could be scored quantitatively based on annual sales, VOC emissions, and cost of control. Application of Criteria 1, 3, and 5 included some subjective considerations. Scoring of these criteria could be affected by the scorer's background, knowledge of the category, or other considerations. In order to ensure consistency and fairness, EPA convened the National Air Pollution Control Techniques Advisory Committee (NAPCTAC) to assist the Agency in application of these criteria. Because of the balance afforded by the diversity of the NAPCTAC membership, EPA concluded that it was an appropriate and convenient choice for the panel. The panel met in July 1994 in Durham, North Carolina, to assign preliminary scores for Criteria 1 through 7 to each of the product categories. Results of the preliminary scoring exercise are available in the docket (A-94-65; item I-B-2). The EPA used

NAPCTAC to provide expert advice on the question of product ranking, but excercised its own independent judgment to assign the final ranking of products for regulation.

Once the initial ranking of products based on exercise of Criteria 1 through 7 was completed, EPA applied Criterion 8, regulatory efficiency and program considerations, to prioritize the products in the schedule for regulation, and thereby identify which product categories comprised at least 80 percent of VOC emissions in nonattainment areas. As required by section 183(e) of the Act, EPA grouped the listed categories of consumer and commercial products into four groups for regulation in 2-year intervals. Although the statute does not require that the 80 percent be divided into four equal groups, EPA placed product categories into the four groups as equally as possible with the goal of achieving VOC emission reductions as early as possible, given available EPA resources. Thus, nearly two-thirds of the cumulative emissions from consumer and commercial products result from products in the first two groups of categories.

The EPA submitted the Report, including the required criteria for regulation, on March 23, 1995. A summary of the 6-volume report (EPA-453/R-94-066-a through f) was published at 60 FR 15264. In the same notice, the list of products and the schedule for regulation was published. The Act requires that the Group I rules be promulgated within 2 years of the publication date of the Report.

Regulations under section 183(e) of the Act. Regulations under section 183(e) of the Act must reflect EPA's consideration of best available controls (BAC) for the category of product. As defined in section 183(e)(1) of the Act, BAC is

> ...the degree of emission 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.

For any regulations under section 183(e) of the Act, the regulated entities are defined as follows:

> (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.

Section 183(e) grants the Agency discretion to issue control technique guidelines (CTGs) in lieu of regulations if the Agency determines that a CTG will be substantially as effective as a regulation in reducing emissions of VOC in ozone nonattainment areas. A CTG is a guidance document issued by the EPA. Whenever a CTG is published, section 182(b)(2) of the Act requires that States adopt (as part of their State implementation plans) reasonably available control technology (RACT) rules for stationary sources of VOC that are covered by a CTG. A CTG includes a presumptive norm for RACT that EPA believes satisfies the definition of RACT. By submitting a RACT rule that is consistent with a CTG, a State does not need to provide additional support to demonstrate that the rule meets the Act's RACT requirement.

Since publication of the list and schedule for regulation, the EPA has proposed regulations for three product categories pursuant to section 183(e): architectural coatings (61 FR 32729), automobile refinish coatings (61 FR 19005), and consumer products (61 FR 4531). In addition, EPA has proposed determinations that CTGs are substantially as effective as regulations for three product categories: wood furniture manufacturing coatings, aerospace coatings, and shipbuilding and ship repair coatings (62 FR 44672).

2.1.1 Ranking Process

2.1.1.1 Adequacy of the Section 183(e) Study and Report to Congress.

Comment: Six commenters in nine documents (AIM-IV-D-212, CP-IV-D-07a, CP-IV-D-35, CP-IV-F-1a, AIM-IV-D-214b/CP-IV-D-07b, AIM-IV-D-178, AIM-IV-F-1[1], AIM-IV-D-170, AIM-IV-F-1d) claimed that EPA failed to perform the study necessary to establish criteria for regulating categories of consumer and commercial products as mandated by section 183(e)(2)(A)(ii) of the Act. One commenter (CP-IV-F-1a) claimed that instead of developing the in-depth study requested by Congress, EPA conducted an inventory of mass emissions from particular products. The commenter contended that a "study" involves investigation, analysis, and comparison, whereas an inventory involves counting and identifying items.

One of the commenters (CP-IV-D-07a) stated that a complying study is an essential precondition to preparing the Consumer and Commercial Products list and schedule. Two commenters (CP-IV-D-07a, CP-IV-D-35) concluded that until EPA completes the required study, EPA is without authority to propose any regulations under section 183(e) of the Act.

One commenter (AIM-IV-D-214b/CP-IV-D-07b) contended that, under section 304, a district court could enter a mandatory injunction ordering EPA to perform its study and listing duties, and also a prohibitory injunction ordering EPA not to propose any rule until it performed those duties. The commenter cited various court decisions regarding the performance of mandatory and nondiscretionary duties in various contexts. The commenter also listed remedies available under section 304 of the Act for failure to perform a mandatory duty. In addition, the commenter cited decisions in which courts prohibited actions until the mandatory duties were performed.

One commenter in two letters (AIM-IV-D-212, AIM-IV-D-212p4/CP-IV-D-35g) contended that EPA failed to implement the clear mandate of section 183(e) of the Act. The commenter examined various parts of the business, the science,

and the psychology that affected human health and contended that the Report had not analyzed the health effects of regulation. The commenter insisted that EPA adopt a broader sense of the "health...function served by such...products" to include an understanding that certain regulations would result in the loss of jobs and that poverty, hunger, and stress would occur.

The commenter cited the articles "Risky Business" (Marshall [AIM-IV-D-212p4b/CPIV-D-35g4]), "Effects of Diminished Economic Opportunities on Social Stress: Heart Attacks, Strokes and Crime" (Merva and Fowles [AIM-IV-D-212p4a/CP-IV-D-35g3]), and "Human Mortality, Air Pollution and Unemployment in Southern California" (Haring and Vatarues [AIM-IV-D-212p4c]). The commenter used these articles to argue that unnecessary regulations create costs to business, thereby creating unemployment which has adverse health effects. The commenter also noted that one study also showed a strong correlation between adverse health effects and unemployment and also showed a strong correlation between adverse health effects and ozone concentrations. In addition to these articles, the commenter also attached other documents which they claimed support their contention that the Report ignores the effects of VOC regulations on the sociological/psychological health of the general population (loss of jobs due to VOC regulations). The commenter recommended that section 4.3.1 of the Report include a definition of "health" that considered both the physical and mental well-being of a person. According to the commenter, section 4.3.2 of the Report focuses on regulation, not health or safety analyses. The commenter requested that the Report be redone.

One commenter (AIM-IV-D-214c) maintained that EPA's failure to list statutory priorities for regulation based on the criteria established under sections 183(e)(2)(A)(ii) and (B) of the Act had stark consequences for disfavored industries or industry segments, such as the one to which local and regional manufacturers belong, which have been targeted for immediate regulation. The commenter contended that Congress intended that

EPA would list certain categories for regulation in "the most effective, least disruptive way."

One commenter (CCP-IV-D-03) supported EPA's findings stated in the Report which promote several options for reducing VOC emissions from consumer and commercial products. The commenter asserted that allowing flexibility in the methods used to reduce emissions will promote technological innovation and minimize control and implementation costs. The commenter agreed that emission reductions must be balanced with product efficacy, consumer acceptance, and economic impacts, and that reducing emissions from different categories of products may require different regulatory strategies. The commenter also urged EPA to consider safety and health effects issues when formulating regulations for consumer and commercial products. The commenter supported limiting the use of certain substitutes in products sold to the general public because of their toxicity and encouraged EPA to consider the toxicological data in determining safe substitutes in consumer and commercial products.

Three additional commenters (CP-IV-D-46, CP-IV-F-1b, CP-IV-F-1d) stated that EPA had fulfilled all necessary requirements of section 183(e) of the Act. One commenter (CP-IV-D-46) stated that based on the record established by EPA in the preamble to the consumer products rule and the extensive survey of consumer products in the Report, EPA acted entirely in accordance with the requirements of section 183(e) of the Act and within its authority as delegated by Congress through the 1990 Amendments to the Act. The commenter stated that EPA met the requirements to perform a study and write a report of the emissions of volatile organic compounds into the ambient air from consumer and commercial products. This report was to determine the potential of VOC emitted from consumer and commercial products to contribute to ozone levels which violate the ozone NAAQS and establish criteria for regulation under section 183(e)(2)(A) of the Act. The commenter asserted that EPA did this by undertaking the largest survey at the time of all

consumer product manufacturers that sell products in the United States, compiling the data, and reporting the results in the Report submitted in March 1995. The commenter stated that EPA met the requirement under section 183(e)(2)(ii) of the Act to establish criteria for regulating consumer and commercial products based on factors outlined in section 183(e)(2)(B) of the Act by convening the NAPCTAC to apply the suggested criteria for regulation. The commenter argued that 24 products chosen for inclusion in the proposed consumer products regulation are supported by the results of the NAPCTAC evaluation. The commenter stated that EPA's Report was good because it included: (1) a detailed section on why reactivity can be a relevant consideration (2) how products were scored for reactivity and (3) the NAPCTAC ranking sheets for each personal care product which included a reactivity ranking as required under the statute.

Response: The EPA believes that it has satisfied the requirements of section 183(e) of the Act as they relate to the Consumer and Commercial Products Study, the report to Congress, and the listing of consumer and commercial products for regulation. Therefore, EPA has authority to propose and promulgate regulations under section 183(e) of the Act.

Contrary to the commenters' assertions, EPA conducted a comprehensive 4-year study of consumer and commercial products. The study involved identification of all consumer and commercial products; development of VOC emission inventory; consideration of photochemical reactivity of these VOC emissions; study of the fate of products in wastewater and landfills; analysis of systems of regulation; development of criteria for ranking products for regulation; and listing of product categories responsible for 80% of the VOC emissions and development of schedule for regulation. The objectives of the study were to: (1) determine the potential of emissions from consumer and commercial products to contribute to the ozone nonattainment problem; and (2) establish criteria for regulating consumer and commercial products as stipulated by

the statute. One of the things EPA considered is that consumer and commercial products account for 28 percent of the anthropogenic VOC emissions and these emissions are largely uncontrolled nationwide. In light of this, EPA examined in the study the potential for emissions from these products to contribute to ozone nonattainment.

A major element of the study was a comprehensive accounting of VOC emissions from the full range of consumer and commercial products subject to section 183(e) of the Act. To develop this comprehensive emissions inventory, EPA used information from existing regulatory efforts, conducted literature searches to obtain emission information for certain products and conducted a survey of consumer product manufacturers. The survey of consumer product manufacturers obtained information on the total VOC content (and the individual VOC ingredients) of products.

Another key element of the study was an analysis of photochemical reactivity as it relates to VOC emissions from consumer and commercial products. This effort investigated the validity, uncertainties, and overall utility of available reactivity data and evaluated methodologies by which relative reactivity could be employed in implementation of section 183(e) of the Act.

In another part of the study, EPA investigated the fate of consumer and commercial product-related VOC in wastewater and in landfills. The purpose of this effort was to determine whether adjustments to VOC inventory data should be made to account for the portion of the VOC content of consumer products that enter landfills or wastewater and, due to physical or chemical mechanisms, do not enter the ambient air.

Also as part of the comprehensive study, EPA analyzed various systems of regulation, including product registration and labeling, self-monitoring and reporting, prohibitions, limitations, and economic incentives, that could be used to achieve reductions in VOC emissions and resultant ozone formation. Various measures such as reformulation, product

substitution, repackaging, and consumer education were investigated as possible methods of achieving VOC reductions. In addition, the study included an in-depth analysis of aerosol products and packaging systems.

One of the major objectives of the study was to establish criteria for regulating consumer and commercial products under section 183(e) of the Act. Pursuant to the statute, EPA developed eight criteria based closely upon five factors that Congress instructed EPA to take into consideration in section 183(e)(2)(B) of the Act. These criteria and the process of applying them are discussed in more detail in section 2.1.1.6. The five statutory factors for consideration by EPA in establishing criteria are:

1. Uses, benefits, and commercial demand;
2. health and safety functions;
3. products which emit highly reactive VOC;
4. cost-effectiveness of control; and
5. availability of alternatives.

Utilizing the discretion allocated to the Agency in section 183(e) of the Act, EPA established eight criteria based upon its consideration of the statutory factors:

1. Product utility;
2. commercial demand;
3. health and safety functions;
4. emissions of highly reactive VOC;
5. availability of alternatives;
6. cost-effectiveness of controls;
7. magnitude of annual VOC emissions; and
8. regulatory efficiency and program considerations.

In March 1995, following completion of the 4-year comprehensive study, EPA published and submitted to Congress a report entitled "Study of Volatile Organic Compound Emissions from Consumer and Commercial Products - Report to Congress" (EPA-453/R-94-066-A) and published five supporting documents as follows:

1. "Comprehensive Emissions Inventory" (EPA-453/R-94-066-B);
2. "Fate of Consumer Product VOC in Landfills" (EPA-453/R-94-066-C);

3. "Fate of Consumer Product VOC in Wastewater" (EPA-453/R-94-066-D);
4. "Economic Incentives to Reduce VOC Emissions from Consumer and Commercial Products" (EPA-453/R-94-066-E); and
5. "Aerosol Products and Packaging Systems" (EPA-453/R-94-066-F).

On March 23, 1995, EPA published a notice in the Federal Register [60 FR 15264] entitled "Consumer and Commercial Products: Schedule for Regulation." This notice contained a list of consumer and commercial products identified for possible regulation and a schedule for promulgation of such regulations. In accordance with section 183(e)(3)(A) of the Act, EPA listed those categories of consumer and commercial products, based on the study, which account for at least 80 percent of the VOC emissions, on a reactivity-adjusted basis, from consumer and commercial products in ozone nonattainment areas. The EPA divided the list into four groups, by priority, based on application of the eight criteria established in the study. In accordance with the statute, EPA scheduled a group to be regulated every 2 years beginning in March 1997.

Having conducted the comprehensive 4-year study, established criteria for regulating products, submitted the required report to Congress, and published the consumer and commercial product category list and schedule for regulation, EPA believes it has satisfied the preconditions to regulation under section 183(e) of the Act. With regard to the commenter's claims that EPA has failed to complete the study and listing, EPA notes that a U.S. District Court has recently rejected the commenter's claim that the Agency failed to comply with a mandatory duty for lack of jurisdiction under section 304 of the Act and the U.S. Court of Appeals for the Ninth Circuit has recently upheld that decision. See Dunn-Edwards v. EPA, 1997 U.S. App.LEXIS 22891 (8/5/97). In addition, EPA notes that a number of courts have held that the contents of reports to Congress, and the adequacy of those contents, are not subject to judicial review. See, e.g., NRDC v. Hodel, 865 F.2d288 (D.C. Cir. 1988).

Concerning the allegation that EPA failed to analyze the health effects of regulations as required by section 183(e), EPA believes that the commenter misconstrued the section 183(e)(2)(B)(ii) directive to consider health and safety functions. The EPA considers the reference to health and safety function in section 183 (e)(2)(B)(ii) to provide direction to the Agency to take into consideration the health benefits of products, such as asthmatic inhalers, when listing consumer and commercial products for regulation. This provision does not instruct the EPA to look at secondary health effects such as those suggested by the commenter. Nevertheless, EPA does in fact take into account factors such as economic impacts and potential for closures and unemployment in consideration of the economic impact associated with a rulemaking.

In establishing the ranking criteria, EPA did consider the health and safety function in the application of Criterion 3. Criterion 3 was designed to lower the priority for regulation of products that contribute to the protection of health or safety. A product with no health or safety function was assigned a maximum score, under this criterion (higher priority for regulation). A product marketed primarily for its health or safety functions received a minimum score (lower priority for regulation). A product whose health or safety functions are secondary was assigned a mid-range score. By this process, EPA recognized the health and safety benefits derived from the use of consumer and commercial products and sought to ensure that these benefits were not unduly or unnecessarily compromised.

With respect to the articles and other documents submitted by the commenter, EPA disagrees that these items raise issues for consideration at the time of the Study. The EPA examines the economic impacts of regulations at the time of rulemaking because it is only at that point that it is possible to evaluate such impacts. In this case, the commenter presupposed that there are significant adverse employment impacts of any rule and indicated that there are secondary impacts associated with unemployment

that are not accounted for by EPA's analysis. The EPA does not agree that it is possible to anticipate the economic impacts and benefits of any rules issued under section 183 (e) of the Act in advance of development of the rules. The EPA has considered the economic impact of the proposed standards for the automobile refinish coatings rule, the consumer products rule, and the architectural coatings rule in the rulemakings on these standards rather than in the study.

Finally, EPA agrees that allowing flexibility in the methods used to reduce emissions will promote technological innovation and minimize control and implementation costs. The EPA also agrees that its approach balances emission reductions with product efficacy, consumer acceptance, and economic impacts and recognizes that reducing emissions from different categories of products may require different regulatory strategies. The EPA also agrees that health and safety effects should be considered when issuing regulations for consumer and commercial products. In consideration of substitutes for products, EPA would of course consider whether or not the reformulated product presented other concerns, such as emissions of hazardous air pollutants (HAPs) or other health hazards. The EPA's consideration of health effects would be in the decision on whether or not there are acceptable substitutes.

Comment: One commenter claimed that EPA did not conduct the proper required peer review of the section 183(e) study and the report to Congress because the Agency wrongly concluded that peer review was unnecessary.

Response: The EPA believes that the degree of peer review conducted for the section 183(e) study and report to Congress was within the discretion of EPA. The EPA's January 1993 Peer Review Policy states that: "(A)gency managers within Headquarters, Regions, laboratories and field components determine and are accountable for the decision whether to employ peer review in particular instances and, if so, its character, scope, and timing. These decisions are made in conformance with program

goals and priorities, resource constraints, and statutory or court-ordered deadlines."

Although EPA conducted no formal peer review process for the report to Congress, there was extensive peer involvement at various stages of the section 183(e) study. For example, the basis for chapter 3, Photochemical Reactivity, was a scientific paper entitled, "Scientific Basis of the VOC Reactivity Issues Raised by Section 183(e) of The Clean Air Act Amendments of 1990."[1] (A-94-65, item IV-J-8) This paper was reviewed by members of the National Academy of Sciences prior to publication of the report to Congress. In addition, in October of 1996, this approach was published as a technical paper in the Journal of Air and Waste Management Association. As a published paper, it was subjected to the same peer review policy as all other papers submitted to this journal. The fact that, after meeting the peer review requirements of the journal, it was published without changes confirms its technical merit. In addition, in September 1992 as part of the architectural coatings regulatory negotiation process, EPA convened a meeting of photochemical reactivity and modeling experts to obtain their input on the state of the science of reactivity and the suitability of reactivity to regulatory programs.

Other elements of the study and Report were developed with a high degree of peer involvement by representatives of various sectors of the consumer and commercial products industry. Elements of the study that involved input from industry or were reviewed by industry prior to publication of the report to Congress included: draft and revised documents entitled, "Criteria for Regulation of Consumer and Commercial Products under Section 183(e) of the Clean Air Act"; the consumer products survey questionnaire and results; and the report on aerosol products and packaging systems (A-94-65, item I-A-6).[2,3] Industry groups and regulatory agencies who provided input on various topics included the Chemical Specialties Manufacturers Association; the Cosmetic, Toiletry, and Fragrance Association;

the Soap and Detergent Association; the National Paint and Coatings Association; the Automotive Chemical Manufacturers Council; the Adhesive and Sealant Council; California Air Resources Board; New Jersey Department of Environmental Protection; New York Department of Environmental Conservation; and Wisconsin Department of Natural Resources.

With regard to the listing and scheduling of categories for regulation, NAPCTAC, as well as members of the public, were consulted and were provided an opportunity to participate in the criteria ranking process in an open public meeting.

The EPA believes that peer involvement in the most controversial and technical element of the study (reactivity), the high degree of industry and State regulatory agency involvement, and participation of the public and the NAPCTAC in the ranking process all work together to satisfy the goal of involving experts in the field, obtaining input from outside of the Agency and ensuring policy decisions rest on sound, credible science and data.

2.1.1.2 Addition of Two Criteria (Emission Magnitude, and Regulatory Efficiency and Program Considerations).

Comment: Two commenters in seven documents (AIM-IV-D-55, AIM-IV-D-214b/CP-IV-D-07b, AIM-IV-D-214c, CP-IV-D-35, CP-IV-F-1a, AIM-IV-D-212p6/CP-IV-D-35t, AR-IV-F-1) stated that the U.S. Environmental Protection Agency (EPA or Agency) did not have the authority to add the "emission magnitude" and the "regulatory efficiency and program considerations" criteria to the five factors listed in section 183(e)(2)(B) of the Clean Air Act (Act). The commenters claim that any Agency action relying on these factors is illegal and invalid.

One commenter in two letters (AIM-IV-D-214c, AIM-IV-D-214b/CP-IV-D-07b) cited the following three court cases to support its position: (1) Motor Vehicle Manufacturers Assn. v. State Farm Mutual, 463 U.S. 29, 43 (1983); (2) Hazardous Waste Treatment Council v. U.S.E.P.A., 861 F.2d 270, 274-277 (D.C. Cir. 1988); and (3) Leatherman v. Tarrant County Narcotics

Unit, 113 S. Ct. 1160, 1163 (1993). The commenter stated that these cases demonstrate that: (1) Agency action was invalid where the Agency relied on factors which Congress did not intend it to consider; (2) decisions based on a criterion not authorized by the Act are not in accordance with law; and (3) where Congress enumerates specific factors for consideration, it is beyond an agency's authorized discretion to consider additional factors not specifically enumerated.

Another commenter in two letters (AIM-IV-D-212, CP-IV-D-35) supported this position by stating that the Act's use of the term "shall" meant that EPA had no discretion to alter, ignore, or add to these factors.

According to one commenter (AIM-IV-D-212, AIM-IV-D-212p6/CP-IV-D-35t), EPA unfairly altered the ranking process by using the magnitude of volatile organic compound (VOC) emissions as an additional factor. The commenter alleged that use of emissions magnitude effectively substituted a volume factor for the relative reactivity determination of each VOC as required by Congress.

One commenter (AIM-IV-D-214c) stated that the regulatory efficiency and program considerations criterion severely prejudices the ranking process against those products that have current State and/or Federal regulations, such as architectural coatings.

One of the commenters (CP-IV-F-1a) asserted that the efficiency factor was subjective and could be abused by EPA because there is no standard definition of "efficiency."

Response: The EPA agrees that the Act requires EPA to establish criteria for regulating consumer and commercial products, taking into consideration certain listed factors. The statute does not require, however, that EPA establish criteria that precisely mirror the factors listed in section 183(e)(2)(B) of the Act, nor does it require that EPA consider the list of factors to be exclusive. Section 183(e)(2)(B) of the Act only requires that the criteria reflect consideration of the listed

factors. Accordingly, the statute provides EPA discretion to identify the relevant and necessary criteria for regulation. The EPA fulfilled its duty to establish criteria and to consider each of the five listed factors in developing its criteria. The statutory factors and the criteria established by EPA are discussed in more detail in sections 2.1.1.1 and 2.1.1.6.

The EPA exercised its discretion by establishing two criteria that did not specifically mirror the five listed factors, but which EPA believed were important for the purposes of establishing priorities for regulation, as instructed by Congress, and in keeping with the objectives reflected by Congress in the factors listed for EPA consideration in devising criteria. Because Congress gave EPA discretion to devise appropriate criteria, taking into consideration certain factors enumerated in section 183(e)(2)(B) of the Act, EPA believes that the commenter's reference to the decisions in Motor Vehicle Manufacturers Assn., Hazardous Waste Treatment Council, and Leatherman are inapposite. Those decisions are distinguishable because the courts addressed instances in which entities relied on factors not permitted by the applicable statutes. In this instance, EPA's establishment of criteria was explicitly directed by statute and the scope of EPA's authority to do so was not limited to the factors or in other ways analogous to the cases cited by the commenter.

Criterion 7, Magnitude of Annual VOC Emissions, provided for ranking of products based on their annual mass emissions of VOC expressed in tons. As required by section 183(e) of the Act, these mass emission estimates were adjusted on the basis of relative reactivity. The procedure for this adjustment is explained in detail in chapter 3 of the report to Congress. Following the adjustment for relative reactivity, products with higher annual reactivity-adjusted emissions received higher scores, indicating a higher priority for regulation. The criteria and scoring process are discussed in detail in section 2.1.1.6 of this document and in chapter 4 of the report

to Congress. Thus, EPA considered both volume and reactivity; it did not substitute a volume basis for reactivity adjustment. The EPA believes that it is preferable to regulate products taking into consideration how much VOC they emit relative to other products. The Agency's position of focusing on larger emission sources is reasonable because the larger sources generally provide a greater opportunity for emission reductions.

Criterion 8, Regulatory Efficiency and Program Considerations, was established solely to assure that EPA continues to use resources in the most effective manner to meet the mandate of section 183(e) of the Act. It is reasonable for EPA to consider whether a given consumer and commercial product category has already been the subject of State or Federal regulatory programs. Such categories typically would have been fairly well-characterized, alternatives of control would have been explored, and cost and economic impacts of regulation would have been investigated. The EPA believes it is also reasonable to consider the existence of this information in prioritizing product categories for regulation because EPA must regulate the first group of products in a relatively short period of time (i.e., 2 years after the listing of products for regulation). Giving these well-characterized categories higher priority allows EPA more time to evaluate potential rules for categories that may be less well understood at this time.

The architectural coatings industry was not adversely affected by EPA's application of Criterion 8, Regulatory Efficiency and Program Considerations. Comparison of the tabular results of the product category ranking exercise (before application of Criterion 8) and the resulting March 1995 schedule for regulations (following application of Criterion 8) shows that in only two cases were categories listed for regulation that fell outside the categories accounting for at least 80 percent of the emissions based on numerical score alone. These categories were: (1) shipbuilding and repair coatings; and (2) a collection of 24 household consumer products which were currently regulated by

California and several other States. Therefore, contrary to the commenter's suggestion, the ranking of architectural coatings in the top 80 percent was not a result of EPA's use of Criterion 8.

The EPA intends to exercise discretion in adjusting the product category rankings, as necessary, to achieve an effective and practical regulatory program. As a result, EPA may amend the list and schedule for regulations as regulatory development proceeds or as new information becomes available. For example, while developing regulations for aerosol spray paints (listed for regulation in 1997), EPA added acetone to the list of compounds considered negligibly reactive and exempt from EPA's definition of VOC. Acetone is a solvent used in the formulation of many aerosol paint products. Consequently, EPA's analysis of best available controls (BAC) conducted during the regulatory development process for aerosol spray paints was no longer accurate, and would have to be revisited. The EPA has determined that additional time is required to consider the aerosol spray paint category, and intends to exercise its discretion to amend the schedule for regulations to move aerosol spray paints from Group 1.

With regard to the commenter's assertion that Criterion 8 is subjective and that there is no standard definition of "efficiency," EPA believes that the existence of data, rules, and studies on consumer and commercial products was a valid basis for evaluating Criterion 8 and listing categories for regulation. As explained in section 2.1.1.6, most of the criteria have elements of subjectivity, and EPA believes this criterion is no less valid than the other criteria. Therefore, EPA believes there is no need for a definition for "efficiency."

Comment: Two commenters (AIM-IV-D-214c, AIM-IV-D-212p6/CP-IV-D-35t) referred to EPA's acknowledgment in the Report that products used in larger quantities may be given "undue emphasis" to support the commenters' contention that EPA's allegedly wrongful consideration of emission magnitude grossly skewed subsequent regulatory decisions.

Response: The phrase "undue emphasis" is not used with regard to emissions magnitude. It is used at the top of page 4-4 of the Report in the discussion of Criterion 2 - Commercial Demand. In explaining why total volume or weight sold was not selected as an indicator of commercial demand, the Report states: "Other indicators of commercial demand that were considered include the total volume or weight sold, the number of units sold, and price per unit. A measure of total volume or weight sold may indicate the relative importance of the product to consumers, as does the total annual sales. However, products that are used in larger quantities may be given undue emphasis." The phrase "undue emphasis" in this case refers to the fact that although evaluating commercial demand based solely on total volume or weight sold may have been used to indicate the relative importance of the product to consumers, that approach could also have biased the ranking toward products that take up large volumes or are very heavy. For example, commercial demand for underarm deodorant and hair spray may be equal but because underarm deodorant has a different density than hair spray, using the total volume or weight sold may not provide an equivalent indication of commercial demand.

This issue of biasing the ranking toward products that take up large volumes or are very heavy was discussed at the July 1994 National Air Pollution Control Techniques Advisory Committee (NAPCTAC) meeting (see section 2.1.1.6). Based on input from members of the public and the Committee, EPA revised Criterion 2 to mitigate any bias this might have introduced. Criterion 2 was redefined to be annual dollar sales divided by tons VOC emitted. This approach tends to minimize any bias for or against high sales volume products such as coatings. The EPA believes that this modification in response to the NAPCTAC committee comments addressed the commenter's concerns.

2.1.1.3 Subgroups Addressed by the Study and Ranking Process.

Comment: One commenter in two letters (AIM-IV-D-212, CP-IV-D-35) contended that EPA misinterpreted the regulatory approach of section 183(e)by regulating on an industry-by-industry basis rather than on a product-by-product basis. The commenter stated that section 183(e) of the Act clearly made reference to regulation of products rather than of industries and asserted that EPA was trying to rewrite the law. Two commenters (AIM-IV-D-212, AIM-IV-D-214b/CP-IV-D-07b) stated that EPA improperly listed all categories of architectural coatings in the first phase of regulations in Group I as though they were one omnibus category. The commenters argued that EPA should have listed products on a category-by-category basis and that the list should have separated out each type of architectural coating for separate listing.

The commenters cited EPA's section 183(e) study and report to Congress which identified 46 categories of architectural coatings and asserted that the Report failed to provide any information about the VOC emissions from any one of the 46 architectural coating categories identified in the report to Congress.

Response: In studying and listing product categories, EPA selected categories based upon reasonable distinctions. Architectural coatings have been defined by States and EPA regulators as coatings applied to stationary structures in the "field." Since architectural coatings are used for similar purposes, i.e., to coat stationary substrates outside of a manufacturing or shop application, EPA placed them in one group for purposes of determining regulatory priority. The EPA recognizes there is a continuum of possibilities for grouping architectural coating products into product categories. However, creation of architectural coating categories is intertwined with the specifics of the regulatory option chosen. For example, one approach pursued by EPA during regulatory development would have

eliminated the need for category distinctions since the requirements would have focused on a company average VOC content for all "field applied" coatings manufactured by each company. Conversely, more categories may be created as lower VOC content levels are contemplated for a given category. During regulatory development, decisions to subdivide a given category into more specific subcategories is often a direct consequence of the VOC content levels under consideration. Separating out a specific "niche" product from a broader classification creates more opportunities for emission reductions and avoids application of emission limits that could not be achieved or would create an unreasonable cost impact on the niche market. For example, in the process of developing the proposed architectural coating rule, EPA established over 50 categories with varying VOC content requirements. This is significantly more categories than have appeared in previous State rules affecting architectural coatings and could not have been predicted prior to completion of EPA's regulatory development efforts. Therefore, performance requirements and other specific characteristics of individual coating categories were taken into account during regulatory development, even though EPA chose to consider all of these types of products together for purposes of listing and prioritizing the products for regulation.

The EPA disagrees with the commenter's differentiation between "product" and "industry" with regard to listing consumer and commercial products for regulation. When a product (or product category) is regulated under section 183(e) of the Act, the regulated entity is the manufacturer, importer, processor, or wholesale distributor of the product. Consequently, the listing of a product or product category for regulation ultimately affects the industry associated with that product or product category.

With regard to the commenter's assertion that EPA improperly listed all categories of architectural coatings in Group I as one "omnibus" category, EPA was within the discretion accorded to it

by section 183(e)(3)(A) of the Act to list for regulation "those categories of consumer or commercial products that the Administrator determines, based on the study, account for at least 80 percent of the VOC emissions" in areas that violate the ozone national ambient air quality standards (NAAQS). The EPA believes that section 183(e) explicitly accords the Agency broad discretion to determine the best form of controls to achieve the necessary VOC reductions and that it is reasonable to regulate all similar products together as a single category of product for purposes of regulation.

The commenter remarked that EPA presented 46 categories of architectural products in the report to Congress, but failed to present emission estimates for each of the 46 categories. Section 5.4 of the Report contains brief descriptions of each category of products in order to help the reader understand the range of VOC-emitting products used in the various categories. Accordingly, there is a one-page description of architectural coatings presented on page 5-31 of the Report, that includes a list of 46 types of architectural coatings. The page on architectural coatings was merely descriptive, and was not meant to imply that each product should be inventoried and ranked separately.

For household consumer products, EPA selected 61 relatively broad categories to include in the listing and prioritization exercise. Similar to the architectural coatings rule, further refinement of these categories was also possible, but EPA grouped household consumer product categories according to similar uses. For example, EPA grouped all general purpose cleaners in one category and all hair sprays in another.

Since EPA imposed consistent considerations in selecting the category of products as well as categories of household consumer products for listing and ranking purposes, no bias against particular architectural coating products was introduced into the process that would have caused specific architectural coating products to be regulated without cause.

Comment: One commenter (AIM-IV-D-212) stated that California considered architectural and industrial maintenance coatings separately from consumer and commercial products. The commenter pointed out that California published its data and table of product categories approximately 4 months before EPA completed its Report in March of 1995. Based on this and other information, the commenter concluded that the report is based substantially on biased and predetermined conclusions on the part of EPA.

Response: The Act's definition of consumer and commercial products is much broader than California's definition. Section 183(e)(1)(B) of the Act specifically defines a "consumer or commercial product" as "any substance, product (including paints, coatings, and solvents), or article (including any container or packaging) held by any person, the use, consumption, storage, disposal, destruction, or decomposition of which may result in the release of volatile organic compounds." Since the statutory definition of consumer and commercial products specifically includes paints and coatings, EPA considers architectural and industrial maintenance coatings to be within the scope of authority of section 183(e) of the Act.

2.1.1.4 *Consideration of the Impacts of Regulatory Alternatives*

Comment: Two commenters in three documents (AIM-IV-D-214b/CP-IV-D-07b, CP-IV-F-1a, CP-IV-D-07) asserted that an analysis of the economic and environmental effects of each alternative method of regulation (exemption, substitution, etc.) for each category was needed in order to rank and list categories for regulation.

One of the commenters (CP-IV-D-07) asserted that the decision to regulate a category should include consideration of any environmental impacts associated with exempting categories as well as the economic costs of regulating the category with different methods and regulating the category in each of the four possible phases for regulation.

One commenter (AIM-IV-D-214c) claimed that EPA's study of VOC from consumer and commercial products did not identify the availability of alternatives to such products which were of "comparable costs" as required by section 183(e)(2)(B)(v) of the Act. The commenter referred to EPA's statements in the Report that it did not have information on the cost of alternative products and promised that it would do so in developing regulations. The commenter stated that if EPA had considered economic costs in developing regulatory criteria, as mandated, it would have been in a position to decide which forms of regulation were appropriate, how much time to give manufacturers to meet any reformulation limits, and whether substitution limits were warranted at all. The commenter referred to less stringent measures authorized by Congress such as: labeling regulations containing directions for use or other disclosures; economic incentives, such as marketable permits; and control technique guidelines for State regulation in nonattainment areas.

One commenter (AIM-IV-D-55) stated that establishment of the four-part list of categories for regulation must be based on a comparative analysis of both the environmental and economic impacts of each VOC. The commenter asserted that EPA could not regulate any category until it completed this comparative analysis and determined the merits of other possible regulatory options.

Response: Factors relating to economic and environmental impacts are included under section 183(e)(2)(B) of the Act for the establishment of criteria to be used in prioritizing categories of consumer and commercial products for regulation. Here, EPA is required to consider two factors: (1) those consumer and commercial products which are subject to the most cost-effective controls (section 183(e)(2)(B)(iv)); and (2) the availability of alternatives (if any) to such consumer and commercial products which are of comparable costs, considering health, safety, and environmental impacts (section 183(e)(2)(B)(v)).

The EPA disagrees with the commenters' interpretation that this language mandates an in-depth analysis of impacts of all regulatory alternatives for every product category at the time of listing. The section 183(e) list and schedule for regulations is a prioritization exercise to be completed upon submission of the Report. It would have been impossible for EPA to conduct the in-depth analysis suggested by the commenters for every category of consumer and commercial products in the 3 years Congress provided for the study in addition to completing the other studies and determinations necessary to complete the Report (see section 2.1.1.1 for a more detailed discussion of the study). The EPA therefore believes that Congress could not have intended the Agency to perform the actions advocated by the commenters prior to the listing and scheduling of products for regulation.

To fulfill the requirements of section 183(e)(2)(B) of the Act, EPA developed a practical approach based on using available information. The EPA established Criterion 5, Availability of Alternatives and Criterion 6, Cost-Effectiveness of Controls, to provide consideration of these two factors. Criterion 5 provides a higher score, meaning a higher priority for regulation, to product categories for which alternatives were available at a comparable cost, with acceptance by consumers (as indicated by market share), and with comparable efficacy, health effects, and environmental impacts. Criterion 5 provided a lower score, meaning a lower priority for regulation, to product categories for which no alternatives were available, or for which alternatives were available but not at a comparable cost. Criterion 6 is discussed in section 2.1.1.5. The EPA believes this was a reasonable approach for purposes of scoring the categories for regulatory priority.

As mentioned above, the EPA believes that a more comprehensive analysis of alternatives and impacts is more consistent with and appropriate for data collection and analysis for the BAC determination required at the time of regulation development, not at the time of listing. For the BAC

determination, EPA would prefer to use the most current information possible, rather than relying on information developed at the time of the study. The EPA does not believe it is reasonable to do such a resource-intensive analysis twice (i.e., for listing and for regulation), especially in light of the fact, as discussed below, that the list and schedule are not final rulemaking actions. Accordingly, EPA has and will continue to evaluate the effects of alternative methods of regulation when each category is regulated. In addition, it should be noted that EPA will also consider "economic feasibility" and "environmental impacts" at the time of regulation as required under section 183(e)(1)(A) of the Act.

Furthermore, in the Federal Register notice of the schedule for regulation [60 FR 15264, March 23, 1995], EPA noted that the list and schedule may be amended if further information becomes available [60 FR 15264, 15265, 15268]. Thus, as individual products and categories are further assessed and if relevant information becomes available, EPA will consider changing the prioritization for regulation under section 183(e) of the Act or even removing a category from the listing if appropriate. For example, as explained in section 2.1.1.1, EPA initially listed aerosol spray paint in the first group for regulation. Following an initial regulatory assessment, EPA intends to move the aerosol spray paints category from Group I.

Comment: One commenter (AIM-IV-D-212) asserted that EPA failed to demonstrate economic and technological feasibility of BAC for each of the consumer and commercial product categories. As a result, the commenter concluded that it was difficult to compare the technological feasibility among consumer and commercial products.

Response: As mentioned previously, the consumer and commercial product list and schedule required by section 183(e)(3)(A) of the Act is a prioritization exercise, not an analysis of the technology that should be selected as the basis for the standards themselves. Determination of BAC is not

required at the time of listing. The only reference to BAC in section 183(e) of the Act relates exclusively to the regulations established under the section. Section 183(e)(3)(A) of the Act states: "The regulations shall require best available controls as defined in this section." Therefore, EPA concludes that a BAC analysis is not required at the time of listing categories for regulation. The EPA has and will continue to determine BAC when each category is regulated.

2.1.1.5 Consideration of Cost-Effectiveness

Comment: One commenter in two letters (AIM-IV-D-214b/CP-IV-D-07b, CP-IV-D-07a) stated that EPA's consideration of cost-effectiveness was inadequate for establishing regulatory priorities. The commenter (AIM-IV-D-214b/CP-IV-D-07b) asserted that EPA failed to perform the clear non-discretionary duty to list categories based upon cost-effectiveness.

The commenter (AIM-IV-D-214c) claimed that EPA failed to consider those products which were subject to the most cost-effective controls in establishing criteria for regulating consumer and commercial products as mandated under section 183(e)(2)(B)(iv) of the Act. The commenter considered this factor particularly crucial as a preparatory step to subsequent rulemaking under section 183(e)(1)(A) and (3)(A) of the Act. The commenter referred to a previous court ruling in Corrosion Proof Fittings v. EPA, 947 F.2d 1201 (5th Cir. 1991), for the proposition that EPA is required by statute to regulate to the extent necessary to protect the public using the least burdensome measures. The commenter also referred to the National Environmental Policy Act (NEPA) which the commenter contends requires EPA to study, develop, and describe appropriate alternatives to recommended courses of action in any proposal to the fullest extent possible. Moreover, the commenter questioned EPA's statement in the Report that it would evaluate information on cost-effectiveness in developing specific regulations because

"cost-effectiveness data are unavailable" for certain categories at the time of listing.

Two commenters (AIM-IV-D-55, AIM-IV-D-214c) questioned EPA's assertion that "insufficient data exists" to conduct a comparative study of the costs and cost-effectiveness of regulating products under section 183(e) of the Act. One commenter (AIM-IV-D-55) stated that cost-effectiveness data were available for architectural coatings based on a formal study done in Southern California by an economic consultant who found and disclosed the economic impacts of VOC regulation for architectural coatings.

Response: In-depth discussion of the consideration of the impacts of regulatory alternatives is presented in section 2.1.1.4. In establishing the criteria to prioritize consumer and commercial products for regulation, section 183(e)(B)(iv) of the Act requires EPA to consider "[t]hose consumer and commercial products which are subject to the most cost-effective controls." The EPA established Criterion 6, Cost-Effectiveness of Controls, to implement consideration of this factor. For this criterion, EPA used two methods to evaluate cost-effectiveness of control measures which varied depending on the availability of cost-effectiveness data. First, for products with a known cost-effectiveness value, EPA assigned a higher relative priority for regulation to products for which controls are very cost-effective. Second, for products for which cost-effectiveness data were unavailable, EPA developed a matrix based on scores determined by application of Criterion 5, Availability of Alternatives, and Criterion 7, Magnitude of Annual VOC Emissions, in order to evaluate cost-effectiveness. The highest score, which corresponded to the highest priority for regulation, was assigned to a product with high emissions and for which reformulation was available at a comparable cost to the current formulation. The lowest score, which corresponded to the lowest priority for regulation, was assigned to a product with low emissions and for which no

alternative was available at any cost. This matrix is presented and discussed more fully in section 4.6 of the Report. For architectural coatings the cost-effectiveness estimate of $260 per ton of VOC emissions reduction developed for the architectural coatings rule was used to apply Criterion 6 to architectural coatings. The EPA believes that it has considered cost effectiveness as contemplated by section 183(e) of the Act. As stated by the commenter, some study of the cost-effectiveness of VOC regulation for architectural coatings has been done in California. However, some of the data is not applicable for extrapolation to a national level because of the assumptions used in generating the data. Some of the proposed and promulgated VOC content limits in California are significantly lower than limits considered by EPA. These lower limits have significantly greater costs and impacts than any limits considered by EPA. Thus, EPA does not believe this data is applicable.

The March 23, 1995, notice did not represent a final agency action on the listing determination. The notice announced that the EPA would take comment on the listing in connection with its rulemakings on emission standards for the categories on the initial list, and that final agency action on the listing for each product category would occur upon publication of a final regulation for that category. At the time of each rulemaking, EPA will conduct an in-depth analysis of costs and emissions reduction. Contrary to the commenter's assertion, EPA did conduct an economic impacts analysis (EIA) to determine the cost effectiveness of the controls required by the proposed architectural coatings rule. The proposed architectural coating VOC rule has an estimated cost of $260 per ton of VOC emissions reduction. Based on information contained in the associated EIAs, the proposed automobile refinish VOC rule has an estimated cost of $136 per ton of VOC emissions reduction, and the proposed consumer products VOC rule has an estimated cost of $289 per ton of VOC emissions reduction. These EIAs were placed in the dockets for the respective proposed rules, and the

cost-effectiveness of each proposed rule is discussed in the rule's preamble which was published in the Federal Register. See the dockets for the architectural coatings rule, the automobile refinish rule, and the consumer products rule (A-92-18, A-95-18, and A-95-40, respectively).

The EPA believes that the commenters are mistaken as to several legal conclusions they seek to assert. First, EPA disagrees that the report to Congress required separate cost effectiveness analyses under section 183(e), section 309 of the Act, and Executive Order (EO) 12866. As discussed more fully in section 2.3.2.7 of this document, EPA need only comply with the language of section 183(e) of the Act at the time of the report to Congress, and the Agency believes that it has performed an appropriate analysis under this section.

Second, the commenters cite Corrosion Proof Fittings v. EPA, 947 F.2d 1201 (5th Cir. 1991), for the proposition that the Agency may only regulate to the extent necessary and using the least burdensome means. The Agency notes that the case in question dealt not with the Clean Air Act, but with the Toxic Substances Control Act (TSCA), and that the case turned upon an express statutory provision of TSCA that does not appear in the Clean Air Act. See ID., 947 F.2d at 1215. Reference to this precedent is thus inappropriate. Section 183(e) of the Act explicitly requires EPA to issue regulations based upon "best available controls" as that term is defined in the statute. The definition of best available controls empowers EPA to exercise discretion to determine what method and degree of emission control is appropriate, without reference either explicit or implicit to choosing the means that is "least burdensome." In fact, EPA believes that it has properly considered and mitigated the burdens imposed by the regulations, but disagrees with the commenters' allegation that it must choose the alternative that a commenter considers least burdensome.

Third, the Agency notes that, contrary to the assertion of some of the commenters, NEPA does not apply to regulatory actions of EPA under the Act. See 15 U.S.C. section 793(c)(1).

2.1.1.6. Category Scoring Process and Public Meeting

Comment: One commenter (AIM-IV-D-212) asserted that the NAPCTAC meeting and its findings were groundless and without merit and could not be the foundation for EPA's VOC study for the following reasons: (1) EPA had no authority to add the two factors to the ranking process; (2) the two additional factors were not fair and equitable towards the paint and coatings industry; (3) NAPCTAC had no expertise to assist EPA in the ranking, as shown by EPA's own treatment of the group; and (4) EPA acted in a biased fashion because it ignored reactivity.

One commenter (AIM-IV-D-212p6/CP-IV-D-35t) claimed that at a public hearing before the NAPCTAC on July 18-19, 1994, one EPA official responded to charges that EPA failed to consider reactivity as required by section 183(e) of the Act, by claiming that there was no appropriate scientific reactivity basis upon which to determine reactivity at the present time. The commenter stated that the EPA official did not intend to conduct reactivity tests on solvent-borne products because he summarily concluded that they were all reactive, and that highly reactive VOC constituted a substantial portion of VOC contained in paint products. The commenter stated further that in contrast to the EPA official's statements, solvent-borne VOC are less reactive than waterborne VOC, and on this basis, the EPA official prejudged the issue without providing due scientific deference and supporting analysis.

Response: The EPA's response to the comment concerning the addition of two factors not listed in the Act is presented in section 2.1.1.2. The EPA's response to the comment concerning how addition of the two factors affected the paint and coatings industry is presented in section 2.1.1.7. The EPA's response to the comments concerning reactivity is presented in section 2.2.1.

Contrary to the commenter's assertion, EPA believes that NAPCTAC had sufficient expertise to assist in the ranking, and that the findings of the committee were valid and had merit. The committee, as a standing advisory group, provides independent views based upon the specialized knowledge and skills of its members. The Committee advises the Director, Office of Air Quality Planning and Standards (OAQPS), on the latest available technology and economic feasibility of alternative methods to prevent and control air contamination to be published in air quality control techniques guideline documents. It also advises on air pollution control techniques and testing and monitoring methodology for categories of sources subject to the provisions of sections 111, 112, and 183 of the Act. In addition, the Committee, through a subcommittee, periodically reviews Air Quality Planning and Standards program accomplishment plans and the associated contracts and grants awarded to carry out these plans.

The committee consists of the Director of OAQPS, or his designee, as Chairperson and 11 members appointed by the EPA Deputy Administrator. Members serve overlapping terms of from 1 to 4 years. Members are selected from the chemical, engineering, biomedical, and socioeconomic disciplines resident in universities, State and local governments, research institutions, and industry. Members are also selected for their technical expertise and/or interest in the development of air pollution control techniques. Because these members are experienced environmental professionals, EPA believes NAPCTAC had sufficient expertise to assist in ranking the categories of consumer and commercial products.

To obtain balanced and unbiased input in the evaluation of some relatively subjective criteria, EPA determined that an independent panel should be involved in the ranking process. The EPA considered NAPCTAC a logical choice for an independent and technically qualified panel because of the balance afforded by the diversity and expertise of such a group. Accordingly, the

Committee was convened on July 18-19, 1994, in Durham, North Carolina, for the purpose of assigning scores for Criteria 1 through 7 to each of the consumer and commercial product categories. The scoring process was conducted in an open public forum. A discussion of the criteria is presented later in this section.

Finally, EPA notes that nothing in section 183(e) of the Act obligated EPA to utilize NAPCTAC or any other group to assist the Agency in its application of the criteria in the listing process. The EPA instituted this procedure to insure a fuller evaluation of the criteria by qualified experts aided by public input in the ranking procedure. The EPA utilized this procedure in accordance with the discretion granted to the Agency in ranking the products for regulation and used the conclusions of NAPCTAC only as a guideline for the ultimate decision to rank products in a particular fashion.

Comment: One commenter (AIM-IV-D-212) asserted that a conflict of interest existed because the same EPA official who chaired the architectural coatings regulatory negotiation process also chaired the July 1994 NAPCTAC meeting. The commenter (AIM-IV-D-212p6/CP-IV-D-35t) demanded that the rankings be reviewed, and that hearings be conducted by a non-biased official so that additional public input could be used to develop more accurate and complete information pertaining to regulated products.

Response: As discussed above, the NAPCTAC charter establishes that the Director of OAQPS, or his designee, serves as Chairperson of the Committee. It is, therefore, always the case that the Chairperson of the Committee is responsible for the regulations discussed at each NAPCTAC meeting. In addition, Mr. Bruce Jordan, the NAPCTAC Chairperson at the July 1994 hearing, served solely as a facilitator for the meeting and did not participate in the scoring of any product category, including architectural and industrial maintenance coatings. For this

reason, EPA believes that Mr. Jordan's chairing of the meeting did not constitute a conflict of interest.

Comment: A commenter (AIM-IV-D-212) asserted that members of the architectural coatings industry were not properly notified of EPA's regulatory intent, and were not provided with an opportunity to participate in the July 1994 public NAPCTAC meeting.

Response: The EPA disagrees that members of the industry had inadequate notice of the NAPCTAC meeting, or an inadequate opportunity to submit information to NAPCTAC. As explained above, EPA convened NAPCTAC for the purpose of having an independent panel assign scores to Criteria 1 through 7 for each consumer and commercial product category. The meeting provided the public, including industry representatives, an opportunity to make statements regarding the products being scored and to provide clarifying information to the panel. The EPA published an announcement of the NAPCTAC meeting in the Federal Register on July 5, 1994 [59 FR 34436] (docket A-94-65, item IV-F-2). In addition to the time and place for the meeting, the notice included a summary of the purpose of the meeting, a tentative agenda, a statement that the meeting would be open to the public, an explanation of the purpose and composition of the Committee, and how members of the public could arrange to make presentations at the meeting.

Throughout the meeting, and before scoring of each category by the panel, the audience, including members of the architectural coatings industry, was given an opportunity to ask questions of EPA and the NAPCTAC panel and to provide information on the categories being scored. Furthermore, several industry representatives, including the commenter, were on the agenda and made formal presentations. These presentations were placed in Docket A-94-65 as part of the meeting minutes (item I-B-1).

Comment: One commenter (AIM-IV-D-212) asserted that NAPCTAC was not independent because EPA prejudged the application of

certain criteria and refused to allow the panel to make changes to these scores, thereby lessening the role of the panel.

Response: As explained above, EPA convened NAPCTAC to assist EPA in assigning criteria scores to each product category because the Committee is an independent panel of environmental experts. The overall scoring process involved assigning a value from 1 to 5 for Criteria 1 through 7 for each of 105 consumer and commercial product categories. These criteria are: Criterion 1, Product Utility; Criterion 2, Commercial Demand (as indicated by annual dollar sales in 1990); Criterion 3, Health or Safety Functions; Criterion 4, Emissions of Highly-Reactive Compounds; Criterion 5, Availability of Alternatives; Criterion 6, Cost-Effectiveness of Controls; and Criterion 7, Magnitude of Annual VOC Emissions. Criterion 8, Regulatory Efficiency and Program Considerations, was applied by EPA subsequent to the NAPCTAC meeting, and is discussed further in section 2.1.1.2.

The primary objective of the NAPCTAC meeting was for the panel to assign a score to each criterion for each of the 105 product categories. Three of the seven scored criteria (Criteria 2, 4, and 7) were objective criteria that could be evaluated quantitatively, and four of the criteria were subjective criteria requiring judgement. Preliminary scores for the three objective criteria had been entered by EPA prior to the NAPCTAC meeting. The EPA conducted research to develop the quantitative information, and used that information to assign tentative scores for the three objective criteria. These tentative scores could have been revised by the NAPCTAC panelists if they so desired.

The four subjective criteria (Criteria 1, 3, 5, and 6) were scored by the NAPCTAC panel. The EPA prepared a score sheet for each category which provided information to help the panel understand the products in the category and the subjective criteria being scored. Nevertheless, EPA made no recommendations to the panel on what scores to assign to any particular category

and made no changes to the individual scores assigned by the panel.

The score sheets also displayed the scores previously entered by EPA for the objective criteria and presented the data that were the basis for the assigned scores. This provided an opportunity for the NAPCTAC panel and members of the public attending the open meeting to review and comment on the preassigned scores for Criteria 2, 4, and 7.

The scoring process was conducted as follows for each of the 105 categories of products. First, EPA presented the information entered on the score sheet to the NAPCTAC panel and to the audience. The audience was allowed time to offer comments or provide clarification. The panel was then given an opportunity to discuss the category being scored. Each NAPCTAC panelist then assigned a score for each of the four subjective criteria, and was free to make corrections to preassigned scores. The EPA collected the score sheets and averaged the panelists' scores for each criterion. A composite score was compiled for the category by adding the average scores for all seven criteria. This process was repeated for each category.

In response to this comment, EPA has again reviewed all of the original score sheets used by the panelists. There was no indication on any score sheet that EPA had ignored a recommendation from any panelist regarding scores of either objective (EPA-scored) or subjective (panel-scored) criteria. In fact, in two product categories - Other Metal Product Coatings (later referred to as "Miscellaneous Metal Products Coatings") and Auto and Light Truck Assembly Coatings - EPA used scores that several panelists had entered in place of the preassigned scores for Criterion 4, Emissions of Highly Reactive Compounds. This demonstrates that EPA did not refuse to change the preassigned scores as the commenter asserts.

Comment: One commenter (AIM-IV-D-212) asserted that NAPCTAC was not provided with all of the information that it needed to make valid rankings.

Response: As discussed above, score sheets were prepared for each product category being scored. To the extent possible, EPA provided information on the score sheets to facilitate the committee in making informed decisions. In cases where EPA had little or no data on specific criteria, EPA relied on the expertise of the panel as well as input from members of the public attending the meeting.

Prior to the July 1994 meeting, EPA mailed NAPCTAC members packages of information containing background on section 183(e) of the Act, documents discussing the criteria, and advance copies of product category score sheets. Two teleconferences were conducted in order to brief NAPCTAC on section 183(e) of the Act and to prepare them for the July meeting. The EPA thus believes that NAPCTAC had the necessary information to perform the scoring exercise.

Comment: The commenter (AIM IV-D-212) further stated that the committee was hindered in making valid decisions because it was unclear to NAPCTAC whether the inventories excluded or included compounds not classified as "reportable VOC" (RVOC). The commenter further stated that the committee ranked the products without considering the RVOC factor because they had no knowledge that such a factor existed.

One commenter (CP-IV-D-35) stated that EPA considered volatility of VOC instead of reactivity, which was not consistent with the requirements of the Act.

Response: The EPA employed a volatility cutoff for purposes of collecting information in the consumer product survey as discussed in section 5.3 of the report to Congress. The term "RVOC" was used exclusively in the household consumer products survey. Respondents to the survey were instructed to report those VOC's which had a vapor pressure of greater than 0.1 millimeter of mercury at 20 degrees Celsius (^{o} C). This cutoff was selected because existing State consumer product regulations, as well as State surveys, employed this threshold. As a result, EPA had emissions information in two forms. For all

categories except household consumer products, the VOC emissions inventory included all VOC; the VOC inventory data for the 61 household consumer product categories included only the RVOC. The EPA agrees that no distinction was made on the score sheets provided to the panel regarding this fact. To make a more direct comparison with other categories, all VOC emissions should have been included in the household consumer product VOC inventory, not just the RVOC. This oversight, therefore, potentially affects the scores for the 61 household consumer product categories with respect to Criterion 7, Magnitude of Annual VOC Emissions.

However, EPA believes that this did not affect the outcome of the scoring exercise. After the commenter raised this issue, EPA investigated to determine whether the scores for the 61 household consumer product categories would have been significantly affected if all VOC emissions, not just RVOC, had been counted in the inventory. To do this, EPA adjusted the total VOC emission estimates to account for the missing VOC content. Although detailed information concerning the magnitude of RVOC found in consumer products as compared to total VOC content is not available, EPA believes the portion of missing VOC content to be no more than 10 percent. The EPA chose to evaluate the impact of this oversight by using the very conservative estimate that adding missing VOC back into the inventory could potentially double the magnitude of annual emissions for each of the 61 household consumer product categories scored. Based upon this analysis, EPA determined that the outcome of the ranking exercise would not have been significantly different. The result of this exercise is discussed more fully in section 2.1.2.1.

The EPA disagrees that volatility was substituted for consideration of photochemical reactivity in the ranking process. The EPA's consideration of highly reactive compounds is discussed previously in this section.

Comment: One commenter in two letters (AIM-IV-D-212, CP-IV-D-35v/AIM-IV-D-212p5) stated that the Committee did not

have adequate knowledge of the complete VOC inventory because the presence of VOC in the ambient air due to emissions from these products and thus availability for ozone formation of VOC from consumer and commercial products was not substantiated by ambient monitoring.

Response: The EPA believes that the VOC inventory information provided to the NAPCTAC panel was adequate for purposes of ranking categories for regulation. As explained in section 2.1.2, because of the difficulty in tracking the fate of individual compounds and their atmospheric transformations, and in obtaining precise measurements of trace compounds involved in ozone chemistry, EPA relies on the conservative assumption that all VOC emitted by consumer and commercial products are available in the atmosphere to react to form ozone.

Comment: Two commenters in three letters (AIM-IV-D-212p6/CP-IV-D-35t, CP-IV-D-07, CP-IV-D-35) stated that EPA exhibited prejudice in the listing of categories for regulation. One commenter (AIM-IV-D-212p6/CP-IV-D-35t) stated that the rankings set forth by EPA were inaccurate, not based on factual data, and possibly biased against certain industries and products because of preconceptions and prejudgments by EPA officials. The commenter (CP-IV-D-35) stated that a number of consumer products were given high scores and yet did not appear on EPA's list of products for regulation. The commenter cited fragrances as an example. Another commenter (CP-IV-D-07) asserted that numerous product categories with very high VOC emissions escaped listing altogether which the commenter asserted was highly prejudicial to all those categories which have been listed.

Response: The ranking to which the commenter is referring is the preliminary ranking that was based on Criterion 1 through 7 only. The scoring process and the input provided by NAPCTAC is discussed in detail earlier in this section. The result of the preliminary ranking is available in Docket A-94-65, item I-B-2.

Subsequent to the preliminary ranking by NAPCTAC, EPA applied Criterion 8, Regulatory Efficiency and Program Considerations, to identify which product categories should be listed in the schedule for regulation (see section 2.1.1.2). Application of Criterion 8 did cause some categories in the preliminary ranking to be displaced by other categories. For example, the 24 categories of household consumer products, many of which were not among the preliminary set of categories accounting for at least 80 percent of emissions in the preliminary ranking were listed as a group. As a result, personal fragrances, which was among those categories which accounted for at least 80 percent of emissions in the preliminary ranking table, were displaced in the final prioritized list. The listing of the 24 categories of consumer products in Group I is discussed in a Federal Register notice [60 FR 15264] which was published on March 23, 1995 and is also discussed in the preamble to the proposed household consumer products VOC rule [61 FR 14531] published on April 2, 1996. The EPA notes that it was within the Agency's discretion under section 183(e) of the Act to determine which products to regulate in which phase of regulations, taking into consideration the criteria developed for making such determinations.

2.1.1.7 Ranking of Architectural Coatings

Comment: One commenter in two letters (AIM-IV-D-212, AIM-IV-D-212p6/CP-IV-D-35t) stated that Mr. Bruce Jordan's demeanor, attitude, and public statements gave some members of the paint industry the impression that the industry must resign itself to be regulated. The commenter implied that EPA was determined to regulate the paint industry not on the basis of science, but on EPA's prejudgment. The commenter contended that "Administrator Jordan was in a position to adopt procedures and factors so as to ensure that the architectural coatings industry would be ranked within the first group for regulation." The commenter concluded that the findings of the section 183(e) study

were based substantially on biased and highly predetermined conclusions on the part of EPA.

The commenter (AIM-IV-D-212) asserted that EPA utilized old and unreliable information upon which to base its assumptions. The commenter noted that in July 1992 when regulatory negotiation started, the architectural coatings industry had not completed its inventory, the section 183(e) study had not been completed, a listing had not been made, and the statutory requirement of commencing regulation 2 years after submission of the report to Congress had not occurred. The commenter asserted that EPA "jumped the gun" in its haste to regulate architectural coatings based on biased assumptions from the 1989 Office of Technology Assessment (OTA) report.[4] The commenter claimed the OTA report was inaccurate, incomplete, and lacking in merit and credibility.

One commenter (AIM-IV-D-212p6/CP-IV-D-35t) asserted that the ranking of architectural coating products should not have occurred until after all objective studies were conducted. The fact that the architectural coatings regulatory negotiation proceedings began before this point was allegedly demonstrable evidence that EPA prejudged regulation of the architectural coating industry before completion of all studies.

Response: The EPA did not prejudge the architectural coatings category for regulation. The architectural coatings category received a high priority for regulation through the application of the criteria developed in accordance with section 183(e). (See section 2.1.1.6). The architectural coatings category received the highest score for Criterion 5, Availability of Alternatives; Criterion 6, Cost-Effectiveness of Controls; and Criterion 7, Magnitude of Annual VOC Emissions. The EPA did not use Criterion 8, Regulatory Efficiency and Program Considerations, to adjust the ranking of architectural coatings.

Prior to the ranking of architectural coating products, EPA had initiated the regulatory negotiation process based on the expectation that this relatively large source of VOC emissions

EPA-453/R-98-008b

NATIONAL VOLATILE ORGANIC COMPOUND EMISSION STANDARDS FOR CONSUMER PRODUCTS -- BACKGROUND FOR PROMULGATED STANDARDS

Emission Standards Division

U.S. Environmental Protection Agency
Office of Air and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

August 1998

DISCLAIMER

This report has been reviewed by the Emission Standards Division of the Office of Air Quality Planning and Standards, EPA, and approved for publication. Mention of trade names or commercial products is not intended to constitute endorsement or recommendation for use. Copies of this report are available from National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161.

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1.0 LIST OF COMMENTERS

A list of the commenters, their affiliations, and Environmental Protection Agency (EPA) docket number assigned to their correspondence is given in table 1-1.

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS

Docket number[a]	Commenter and affiliation
IV-D-01	J. Janeczek Jr., P.E. Capital Cities/ABC, Inc. New York, New York
IV-D-02	R.D. Elliott Executive Director Southwest Air Pollution Control Authority Vancouver, Washington
IV-D-03	S.R. Cornes Regulatory Compliance Specialist The Solaris Group San Ramon, California
IV-D-04	G.F. Tappan Section Chief Regulatory Affairs Block Drug Company, Inc. Jersey City, New Jersey
IV-D-05	H. Hironaka Vice President F-Matic of America American Fork, Utah
IV-D-06	A.W. Effinger, Esq. General Counsel American Pet Products Manufacturers Association, Inc. Greenwich, Connecticut
IV-D-07	W.M. Smiland Law Offices of Smiland & Khachigian Los Angeles, California
IV-D-08	S.C. Steinback Manager of State Legislative Affairs International Sanitary Supply Association, Inc. Lincolnwood, Illinois
IV-D-09	B.F. Mannix President Buckland Mill Associates Gainesville, Virginia

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS (CONTINUED)

Docket number[a]	Commenter and affiliation
IV-D-10	W.K. Lim President Aerosol Services Company, Inc. City of Industry, California
IV-D-11	B. Mathur Chief Bureau of Air State of Illinois Environmental Protection Agency Springfield, Illinois
IV-D-12	S.E. Dudley Vice President Director of Environmental Analysis, Economists, Incorporated Washington, DC
IV-D-13	B.A. Kwetz Director Division of Air Quality Control Commonwealth of Massachusetts Department of Environmental Protection Boston, Massachusetts
IV-D-14	R. Sedlak Technical Director The Soap and Detergent Association New York, New York
IV-D-15	D.I. Greehaus National Automobile Dealers Association McLean, Virginia
IV-D-16	R.G. Sliwinski, Chief Stationary Source Inventory and Planning Section Division of Air Resources New York State Department of Environmental Conservation Albany, New York
IV-D-17	W.F. Holman, Association Director Laundry & Cleaning Products Procter & Gamble Company Cincinnati, Ohio

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS (CONTINUED)

Docket number[a]	Commenter and affiliation
IV-D-18	D. Stringham, Director Regulatory and State Government Affairs Safety-Kleen Elgin, Illinois
IV-D-19	D. Raymond Division Director of Regulatory Affairs Sherwin-Williams Diversified Brands, Inc. Solon, Ohio
IV-D-20	Chlorobenzene Producers Association Washington, DC
IV-D-21	E.J. Moyer Director of Regulatory Affairs Reckitt & Colman, Inc. Montvale, New Jersey
IV-D-22	K.W. Chilton, Ph.D. Director Center for the Study of American Business Washington University in St. Louis St. Louis, Missouri
IV-D-23	G.A. Green Division Administrator Air Quality Department of Environmental Quality State of Oregon Portland, Oregon
IV-D-24	D.F. Theiler, Director Bureau of Air Management Department of Natural Resources State of Wisconsin Madison, Wisconsin
IV-D-25	P.M. Meehan Director of Product Safety Environment and Regulatory Compliance The Clorox Company Pleasanton, California

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS (CONTINUED)

Docket number[a]	Commenter and affiliation
IV-D-26	L.L. Calhoun Environmental and Health Regulatory Affairs and T.A. Threet Legal Department The Dow Chemical Company Midland, Michigan
IV-D-27	R.H. Roos Vice President & General Counsel Sally Beauty Company, Inc. Denton, Texas
IV-D-28	J.M. Spagnoli Agriculture Division Bayer Corporation Kansas City, Missouri
IV-D-29	D. Pearson Executive Director Texas Natural Resource Conservation Commission Austin, Texas
IV-D-30	L.A. Braem Director Environmental Law Schering-Plough HealthCare Products Liberty Corner, New Jersey
IV-D-31	W.D. Anderson Managing Director Resilient Floor Covering Institute Rockville, Maryland
IV-D-32	J. Gledhill The EOP Group Washington, DC
IV-D-33	R. Engel, President Chemical Specialties Manufacturers Association Washington, DC
IV-D-34	L.A. Spurlock, Ph., CAE Chemical Manufacturers Association Arlington, Virginia

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS (CONTINUED)

Docket number[a]	Commenter and affiliation
IV-D-35	R.E. Mitchell Chairman of the Board Dunn-Edwards Corporation Los Angeles, California
IV-D-36	D.K. Johnson Principal Facility Environmental Control Engineer Environmental Quality Office Ford Motor Company Dearborn, Michigan
IV-D-37	J. A. Word Associate Counsel Conair Corporation Stamford, Connecticut
IV-D-38	D.M. Adams Vice President-Quality Assurance Regulatory Affairs and Consumer Affairs American Home Food Products, Inc. Madison, New Jersey
IV-D-39	R.M. Horton Regulatory & Sales Support Manager Dragon Corporation Roanoke, Virginia
IV-D-40	F.N. Romano Chairman of the Board Chief Executive Officer Key West Fragrance & Cosmetic Factory, Inc. Key West, Florida
IV-D-41	W.C. Balek Director of Legislative Affairs International Sanitary Supply Association, Inc. Lincolnwood, Illinois
IV-D-42	I.S. Combe Chairman Combe Incorporated White Plains, New York

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS (CONTINUED)

Docket number[a]	Commenter and affiliation
IV-D-43	B. Costino Vice President Marianna Manufacturing & Distribution Center Omaha, Nebraska
IV-D-44	M.A. Dirzis Director Government Affairs Avon Products, Inc. New York, New York
IV-D-45	E.O. Sullivan State of Maine Department of Environmental Protection Augusta, Maine
IV-D-46	T.J. Donegan, Jr. Vice President-Legal and General Counsel The Cosmetic, Toiletry, and Fragrance Association Washington, DC
IV-D-47	P.T. Haluza Director Government Relations & Public Affairs and L. Hansen, Executive Secretary Automotive Chemical Manufacturers Council Washington, DC
IV-D-48	R.N. Hiatt Chairman Maybelline, Inc. Memphis, Tennessee
IV-D-49	G.T. Blair Haarmann & Reimer Corporation Springfield, New Jersey
IV-D-50	S.I. Sadove President Clairol Stamford, Connecticut

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS (CONTINUED)

Docket number[a]	Commenter and affiliation
IV-D-51	E. Zeffren, Ph.D. President Helene Curtis, Inc. Chicago, Illinois
IV-D-52	D.L. Stein Senior Specialist 3M Corporate Product Responsibility St. Paul, Minnesota
IV-D-53	R.N. Sturm Director Professional & Regulatory Services The Procter & Gamble Company Cincinnati, Ohio
IV-D-54	J.B. Hallagan Law Offices Daniel R. Thompson, P.C. Washington, DC
IV-D-55	F.H. Brewer Director of Government Relations SC Johnson Wax Racine, Wisconsin
IV-D-56	S.P. Risotto Director of Regulatory Affairs Halogenated Solvents Industry Alliance, Inc. Washington, DC
IV-D-57	T. Formby Manager Business and Regulatory Development Clean Air Action Corporation Tulsa, Oklahoma
IV-D-58	R. Miller Vice President, Technology CELLULOSE FOOD CASING, RAYON, CELLOPHANE, AND CELLULOSE ETHER Industries, Inc. Warminster, Pennsylvania

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS (CONTINUED)

Docket number[a]	Commenter and affiliation
IV-D-59	E.S. Piszynski Vice President Laboratory Services Hydrosol Incorporated Bridgeview, Illinois
IV-D-60	J.D. Dunlap, III Chairman Air Resources Board California Environmental Protection Agency Sacramento, California
IV-D-61	M.H. Michael Vice President Associate General Counsel and Assistant Secretary Avon Products, Inc. New York, NY
IV-D-62	R.A. Valentinetti Division Director Department of Environmental Conservation State of Vermont Waterbury, VT
IV-D-63	E.J. Moyer Director of Regulatory Affairs Reckitt & Colman, Inc. Montvale, NJ
IV-D-64	E.J. Moyer Director of Regulatory Affairs Reckitt & Colman, Inc. Montvale, NJ
IV-D-65	J.D. Sullivan General Counsel Cosmair, Inc. New York, NY
IV-D-66	A.O. Armstrong Chief Executive Officer Merle Norman Cosmetics Los Angeles, CA

TABLE 1-1. LIST OF COMMENTERS ON PROPOSED NATIONAL EMISSION STANDARDS FOR CONSUMER PRODUCTS (CONTINUED)

Docket number[a]	Commenter and affiliation
IV-D-67	M. Sweet Deputy General Counsel Unilever New York, NY
IV-F-1(a)	B. Mitchell Dunn-Edwards Corporation
IV-F-1(b)	M. Thompson Chemical Specialties Manufacturers Association
IV-F-1©	L. Allred S.C. Johnson Wax
IV-F-1(d)	T. Wernick Gillette
IV-F-1(e)	J. Zajac Sherwin-Williams
IV-F-1(f)	D. Stein 3M
IV-F-1(g)	B. Mercer Prestone
IV-F-1(h)	A. Effinger American Pet Products Manufacturers Association
IV-F-1(I)	S. Steinbeck International Sanitary Supply Association
IV-F-1(j)	B. Sabo Apollo Industries
IV-F-1(k)	G. Brown National Aerosol Association
IV-F-1(l)	C. Wills Mary Kay Company
IV-F-1(m)	C. Beckley Cosmetic, Toiletry and Fragrance Association

a The docket number for Consumer Products Rule is A-95-40.

2.0 SUMMARY OF PUBLIC COMMENTS

The EPA received a total of 67 letters and 13 public hearing comments on the proposed rule. This document contains summaries and responses to comments mainly concerning the provisions of the proposed consumer products rule. However, at the time of proposal of the rule, EPA specifically requested comment on certain topics concerning section 183(e) in general. Therefore, those comments and responses are discussed in this document as well. In order to avoid duplication, most comments that pertain to EPA's study, Report to Congress, and schedule for regulations under section 183(e) are discussed in a separate comment response document, Response to Comments on Section 183(e) Study and Report to Congress (EPA-453/R-98-007) also referred to as the 183-BID.

2.1 LEGISLATIVE AUTHORITY

2.1.1 Application of the Section 183(e)(2)(B) Factors

Comment: The EPA requested comments on whether the Agency should use the five factors specified in section 183(e)(2)(B) during regulatory development for specific categories of consumer and commercial products, or only to set priorities for regulating these categories under section 183(e). One commenter (IV-D-13) stated that the Agency should consider the five factors throughout policy and regulation development because such considerations will provide more effective regulations. A second commenter (IV-D-33) endorsed what EPA did. They stated that EPA considered the five factors and the regulatory criteria developed under section 183(e) in regulating these consumer

products. As a result, the commenter asserted that EPA chose the best available controls for these 24 categories of products.

Response: Pursuant to section 183(e)(2)(A), EPA established eight criteria based on the five factors set forth in section 183(e)(2)(B) and other considerations to develop the list and schedule for regulation of consumer and commercial products under section 183(e). The EPA's interpretation of each of the five factors and the rationale and intent of each of the eight criteria are discussed in detail in the section 183(e) report to Congress. The eight criteria and the process of applying them are discussed in more detail in section 2.1.1.6 of the 183-BID. The EPA interpreted the statute to require that the five factors be used solely for establishing criteria for prioritizing product categories for regulation and that best available controls (BAC) for the category of product be used for development of regulations under section 183(e) of the Act.

The EPA requested comments on alternative interpretations of the statute and how the five factors could be used in the regulatory process. Only two responses were received. One responder supported EPA's interpretation of the statute. The other responder made a general comment that the five factors should be considered throughout the regulatory process but did not provide feedback on how to take the five factors into account in a practical way during development of the regulations. As a result, EPA continues to believe that its interpretation of the statute is the most reasonable way to develop regulations for consumer and commercial products and will continue to base these regulations solely on what it determines to be BAC. When determining BAC, the Act requires EPA to consider technological and economic feasibility, and health, environmental, and energy impacts. This BAC authority allows EPA the flexibility to consider any potentially adverse

impact that is relevant including impacts related to any of the five statutory factors.

2.1.2 National Rule vs. Control Techniques Guidelines

Comment: A number of commenters (IV-D-01, IV-D-02, IV-D-04 to 06, IV-D-08, IV-D-10, IV-D-11, IV-D-13, IV-D-14 to 17, IV-D-19, IV-D-21, IV-D-23, IV-D-24, IV-D-28, IV-D-29, IV-D-33, IV-D-40, IV-D-42, IV-D-44 to 46, IV-D-48 to 56, IV-D-58 to 60, IV-D-65 to 67, IV-F-1(d), IV-F-1(j), IV-F-1(k), IV-F-1(l)) stated that they supported EPA's proposed national consumer products rule.

Several commenters (IV-D-05, IV-D-29, IV-D-42, IV-D-46, IV-D-48 to 51, IV-D-53, IV-D-56, IV-F-1(b)) stated their support for the national rule because it will ensure substantial reduction in volatile organic compounds (VOC) emissions from consumer products. One commenter (IV-F-1(b)) approved of the proposed rule because it allows significant reduction in VOC content and emissions without banning any product category or product form.

Response: The EPA believes that nationwide controls are an effective and efficient approach for regulating this industry. The EPA believes that a national rule for consumer products is the best method to obtain effective and enforceable reductions in VOC emissions from this category of product because content control will ensure reductions of VOC emissions. Efficiency is gained because States will not need to devote resources to develop individual State regulations. Similarly, companies that market consumer products across State lines will not have to comply with potentially different requirements from many States, thereby increasing efficiency for the regulated industries.

Furthermore, in contrast to traditional point source categories for which emissions principally occur at a few set locations, consumer product emissions occur wherever the products are used. Transportability of consumer and commercial products tends to decrease rule effectiveness due

to the likelihood of noncompliant products being bought in attainment areas and used in nonattainment areas. In addition, since the end-users include homeowners and other widely varied consumers, effective enforcement would be limited.

The EPA recognizes that in some cases control techniques guidelines (CTG) may effectively reduce emissions of VOC in nonattainment areas without imposing control costs on attainment areas. However, for small volume consumer products that are widely used, such as those covered by this rule, EPA believes CTGs may not be as effective at reducing VOC emissions because of difficulties in enforcement. In addition, industry has advised EPA that the cost of having different product lines for attainment versus nonattainment areas, as would potentially occur if the Agency chose to implement CTGs rather than rules, could be cost prohibitive because of the duplicative effort of product labeling, storage, and distribution management. Therefore, EPA expects that using CTGs would be less cost-effective than a national rule. Also, during the development of the proposed rule, industry representatives expressed concern that differences in State and local requirements for consumer products, as would occur under a CTG, could disrupt the national distribution network for consumer products. Based on these and other considerations, EPA has decided to promulgate the consumer products rule as a national rule rather than as a CTG.

2.1.3 Regulation of a Subset of Consumer Products

Comment: The EPA requested comment on setting emission limits for a subset of the 24 consumer product categories that were most cost-effective for regulation. One State commenter (IV-D-13) supported selecting the categories which provided the biggest emissions reductions for the least cost. The commenter contended that this was the most cost-effective way of implementing the consumer products rule. The commenter pointed to the Massachusetts rule which reflects this choice

through regulating only 10 categories. The commenter encouraged EPA to consider similar cost/benefit analyses at the national level. Another responder (IV-D-33) supported EPA regulating all 24 categories. The commenter pointed out that several states already regulate these products, requiring the consumer products industry to expend considerable resources to meet these state standards. The commenter expressed concern that any product not regulated nationally could be subjected to differing state regulations that could further reduce the cost effectiveness of controls.

Response: The EPA has concluded that the most reasonable approach is to promulgate rules for all 24 of the listed consumer product categories. Based on public comments, there are no adverse impacts of promulgating BAC for these products. While controls for some products may be more cost-effective than for others, EPA has concluded that a strategy of regulating a subset of these categories based on cost effectiveness would be counter-productive. The potential efficiency from a cost-effectiveness approach would be more than offset by the extra costs to the industry of inconsistent regulations across the States.

Representatives of the consumer products industry have expressed concern that differences in State and local requirements for consumer products could disrupt the national distribution network for consumer products. They have, therefore, urged EPA to issue rules for consumer products to encourage consistency across the country. Many States with ozone pollution problems are also supportive of an EPA rulemaking that will assist them in their efforts toward achievement of ozone attainment. At least 13 States have included anticipated reductions from the Federal consumer products rule as part of their State implementation plans to reduce VOC emissions. Without a comprehensive Federal rule, these States may also promulgate local consumer product rules. Thus, excluding any product from regulation would promote a

patchwork of regulations for that product that will further increase cost of compliance to manufacturers.

In addition, all 24 of these product categories are regulated somewhere. Eight States (California, Connecticut, Massachusetts, New Jersey, New York, Oregon, Rhode Island, and Texas) are currently enforcing VOC standards for various categories of consumer products. Therefore, resources are already being invested in the development of compliant products. A consistent Federal regulation will ensure the maximum environmental benefit for this investment. The absence of a Federal regulation will not save these product development costs and could result in even greater compliance costs for limited or no additional environmental gain.

2.2 PROPOSED STANDARDS

2.2.1 Applicability

Comment: Three commenters (IV-D-26, IV-D-33, IV-D-34) supported EPA's proposal to exempt organic compounds with little or no volatility from consideration in setting VOC content standards for consumer products.

Response: The EPA believes that for this rule regulating low vapor pressure VOC will result in insignificant VOC reductions and in significant increases in the recordkeeping and reporting costs of complying with the rule. The EPA has exempted organic compounds of little or no volatility from consideration in setting VOC content limits in the final consumer products rule. The basis for such an exemption is primarily the lack of an established test method for VOC content in consumer products. This contrasts with paints, for example, for which an accepted test method - Reference Method 24 - exists and is used to compare VOC contents of products and to determine compliance. Furthermore, every existing State consumer products rule incorporates an exemption for low vapor pressure VOC. Because of the lack of a test method, and to be consistent with established State rules, the EPA used the same approach as the States when comparing products,

determining best available controls, and setting VOC limits in the consumer products rule.

Comment: One commenter (IV-D-26) also requested that EPA exempt low vapor pressure compounds from the entire rule. The commenter requested that EPA exempt low vapor pressure compounds from § 59.204 which deals with innovative products as well.

Response: The EPA's intent was to exempt low vapor pressure compounds from the entire rule and the Agency has revised the final rule to indicate this exemption.

Comment: One commenter (IV-D-20) requested that EPA add an exemption for air fresheners that contain at least 98 percent paradichlorobenzene (PDCB). The commenter asserted that this would be consistent with the exemption for insecticides containing at least 98-percent PDCB. The commenter argued that the two products, insecticides and air fresheners, have similar product characteristics and that all States that have adopted consumer product VOC limitations have exempted both air fresheners and insecticides containing more than 98 percent PDCB.

Response: As the commenter mentioned, the proposed rule already included an exemption for some PDCB insecticides. These PDCB insecticides (e.g., "moth balls") and air fresheners (e.g., "toilet deodorant blocks") consist of nearly 100 percent PDCB formed into spheres and other shapes and, therefore, cannot be reformulated to lower VOC content. Consequently, in order to avoid banning such products, the EPA has added an exemption for air fresheners containing at least 98 percent PDCB to the final rule as the commenter suggested. This exemption is also consistent with the States that have adopted consumer product VOC limitations. Thus, EPA considers exemption of PDCB air fresheners to be BAC.

Comment: Two commenters (IV-D-25, IV-D-33) suggested that the proposed regulations exclude products manufactured

for use in the U.S. territories, such as Puerto Rico, Guam, etc.

Response: It is EPA's intent that the rule will apply not only in the 50 States, but in all the U.S. territories as well. The definition of "State" in section 302(b) of the Clean Air Act (Act) includes U.S. territories. When developing regulations, EPA strives to be consistent with other Federal regulations. Since new source performance standards that are already promulgated under 40 CFR 60 do not exclude U.S. territories from their regulations, EPA did not intend to exclude them from the consumer products standards. To make this clear, a definition of "United States" has been included in the final rule.

Comment: Two commenters (IV-D-13, IV-D-24) indicated that EPA should add additional product categories to the rule. One commenter (IV-D-24) suggested that EPA add a personal fragrance products category along with the California Air Resources Board (CARB) specified VOC limits to the final rule. Another commenter (IV-D-13) stated that EPA should include a definition and VOC limit for "insect repellant."

Response: The EPA did not select personal fragrances and insect repellants as product categories for regulation based on application of the criteria established by the Agency pursuant to section 183(e). These products did not rank within the top 80 percent of VOC emitting consumer and commercial products in ozone nonattainment areas. Therefore, EPA has not added personal fragrance and insect repellant categories to the final rule.

Comment: One commenter (IV-D-31) expressed concern that flooring seam sealers used for the installation of sheet vinyl flooring would be covered under the household adhesives category of the consumer products rule. The commenter further stated that the bonding qualities required for sheet vinyl installation make seam sealers with a low VOC content technically infeasible at this time. In addition, the

commenter noted that they are unaware of any commercially viable seam sealer products that are water-based or high solid products. The commenter argued that exempting flooring seam sealers would have no discernible adverse impact on EPA's objective of reducing VOC emissions from consumer products because the total amount of seam sealers used annually is not more than 10,000 gallons. The commenter asserted that banning seam sealers would eliminate a product that performs a crucial and unique function during the installation of sheet vinyl flooring. The commenter requested that seam sealers used to join and/or fill the seam between two adjoining pieces of sheet vinyl flooring either be exempt from the rule or subject to a separate VOC content limit of 90 percent.

Response: The commenter's interpretation of the rule is correct. Flooring seam sealers are an adhesive and would fall under the household adhesives category. Seam sealers consist of an emulsion of the wear layer of sheet flooring dissolved in solvent that fuses the adjoining edges of the flooring and, therefore, must be formulated with a solvent that is compatible with the sheet flooring. A high solvent content allows these products to effectively fuse the adjoining edges, which would not be possible with reduced VOC content. Furthermore, non-VOC solvents (e.g., acetone) may not be compatible with the sheet flooring, thereby making product reformulation impossible. The EPA's intent is not to ban or eliminate any crucial products and the Agency believes the VOC emissions reduction obtained from flooring seam sealers would be minimal. Thus, EPA considers exemption of flooring seam sealers to be BAC because there is no available control measure. As a result, EPA has added an exemption for flooring seam sealers to the final rule. This action is consistent with exemptions for other specialty products used nationally in small total annual volumes.

Comment: One commenter (IV-D-18) requested that EPA include an exemption for certain cleaning products, such as

engine degreasers, that are recycled and reused. The commenter stated that the applicability section of the proposed rule does not exempt VOC-containing products that are used in automotive parts cleaning operations where the used solvents are collected and recycled for reuse. The commenter stated that it believes that EPA did not intend to regulate products that are recycled after their use. The commenter suggested that the following statement be incorporated into the exclusions in § 59.201(d): "Any product that is not used up during its intended application and will be subsequently collected for recycling or other appropriate management method."

Response: Automotive parts cleaners that use bulk solvents, such as dip tanks, are not covered under the engine degreaser category of the consumer products rule. Automotive parts washers and the solvents used in them were among the 105 product categories that the EPA evaluated and scored based on the section 183(e) criteria. Because of their low score, parts washers and the solvents used in them did not rank high enough to warrant regulation under section 183(e). Therefore, the commenter's suggested exclusion is not necessary and has not been added to the rule.

Comment: One commenter (IV-D-54) supported the exemption for fragrances as stated in the proposed rule:

> "Fragrances incorporated into a consumer product up to a combined level of 2 weight-percent shall not be included in the weight-percent volatile organic compound calculation."

Response: The EPA has retained in the final rule the exemption for fragrance materials up to a combined level of 2 weight-percent from inclusion in the VOC content calculation.

Comment: One commenter (IV-D-55) recommended the addition of a specific exemption in § 59.201(d) for nonaerosol fabric moth protection products as follows:

"(9) The requirements of § 59.203(a) shall not apply to non-aerosol moth proofing products that are principally for the protection of fabric from damage by moths and other fabric pests in adult, juvenile, or larval forms."

The commenter (IV-D-55) stated that this exemption is necessary so that consumers may have access to non-aerosol moth proofing products that do not use PDCB or naphthalene as the active ingredient.

Response: The EPA determined that the PDCB and naphthalene products could not be reformulated and still be an effective moth repellent. As a result, EPA added an exemption for these products. Because the nonaerosol fabric moth proofing products are expected to function the same as PDCB or naphthalene moth protection, EPA determined that an exemption granted for these products would be consistent with the exemptions granted for the PDCB and naphthalene products.

Comment: One commenter (IV-D-52) requested that EPA eliminate conflicts that arise when a product is used by both household consumers and industrial plants. The commenter requested establishing one 75 percent VOC limit that applies to all uses of aerosol adhesives including industrial, institutional, and household uses. If EPA is concerned about its authority to impose a 75 percent limit on industrial use, the commenter requested that EPA expand the 75 percent VOC limit to cover institutional as well as household uses (i.e., every use except those uses in which aerosol adhesives are incorporated into a product as part of manufacturing or processing). The commenter stated that regulations that vary depending on the end use place retail clerks in the untenable position of monitoring which products can be sold to household consumers and which can be sold to industrial and institutional users. The commenter stated that in one case a retailer returned products to the manufacturer and refused to sell them because of the confusing requirements.

Response: The EPA would like to clarify that industrial products are not regulated by the consumer products rule. Thus, the commenter's concern will not arise. Examples of industrial adhesives not subject to the rule include, but are not limited to, adhesives used in screen printing, platen adhesives in fabric printing and dyeing, and adhesives used in the manufacture of wood products, packaging, shoes, automobiles, tires, etc.

Comment: One commenter (IV-D-30) requested that EPA clarify that only antiperspirants and deodorants for the human axilla (the underarm) are regulated and that footcare antiperspirants and deodorants are not regulated under the consumer products rule. The commenter also requested that in table 2 of the proposed rule the adjective "underarm" be used as a descriptor for antiperspirants and deodorants.

Response: The EPA has added the word "underarm" as an adjective to table 2 of the final rule. This description will clarify any confusion with antiperspirants and deodorants used for other areas of the body. Other antiperspirants and deodorants such as footcare products and feminine hygiene products are significantly different than the underarm products. These other antiperspirants and deodorants were among the 105 product categories evaluated under the section 183(e) criteria, but did not rank high enough to be listed for regulation and, therefore, are not covered under the consumer products rule.

Comment: One commenter (IV-D-60) recommended that EPA consider amending its proposed regulation to limit the sell-through period for noncomplying products to 18 months. The commenter stated that limiting the sell-through period for noncomplying products results in greater emissions reductions because it discourages stockpiling of noncomplying products for sale after the effective date of a standard. The commenter believes that the 18-month period is more than adequate for the normal movement of inventory.

Response: The final rule retains the unlimited sell-through period and requires that products manufactured on or after the compliance date do not exceed the VOC limits in the rule. Given the current "just in time" inventory practices, EPA believes that companies will not stockpile enough products to warrant amending the rule to state a specific sell-through period. The EPA also believes that most companies lack sufficient storage space and will not invest in extra warehouse space just to stockpile noncomplying products.

Comment: One commenter (IV-D-34) requested that EPA clarify that the vapor pressure for hydrocarbon ingredients that are typically sold as blends will be determined in accordance with standard industry practice and will not be required on a speciated basis. The commenter stated that with few exceptions, the hydrocarbon solvents used in consumer products are complex mixtures of many different compounds, supplied on a specification basis. The commenter noted that suppliers provide their customers with information about the vapor pressure of the product being supplied (i.e., the hydrocarbon blend) and not the individual constituents of the blend. The commenter stated that it would be costly and difficult to conduct the analysis that would be necessary to identify the concentration of each component in each blend and to supply vapor pressure data for each such component.

Response: The EPA will not require producers to provide information about the vapor pressure of each component of a complex mixture. The EPA believes that the most important information is the vapor pressure of the hydrocarbon blend not the vapor pressure of each component. As a result, EPA has added language to § 59.203(j) which now reads:

> "For hydrocarbon solvents that are complex mixtures of many different compounds and that are supplied on a specification basis for use in a consumer product, the vapor pressure of the hydrocarbon blend may be used to demonstrate compliance with the VOC content limits of this section. Identification of the concentration and

vapor pressure for each such component in the blend is not required for compliance with this subpart."

Comment: One commenter (IV-D-34) requested that EPA clarify that there is not a specific test method for measuring vapor pressure. The commenter suggested that the final rule state explicitly that there is no required test method that regulated entities must use for measuring vapor pressure and that a consumer product manufacturer may use the vapor pressure information provided by the chemical producer as long as the producer uses a method that is generally accepted by the scientific community. The commenter also suggested that the final rule state that if in the future EPA wishes to use a specified method to measure vapor pressure for compliance determinations (or otherwise), it will first provide notice to the affected industries and provide an opportunity for public comment.

Response: Since a specific EPA test method has not been established for measuring vapor pressure, consumer product manufacturers may use the vapor pressure information provided by the chemical supplier as long as the supplier uses a method that is generally accepted by the scientific community. The final rule has been revised to reflect this change.

2.2.2 Definitions

Comment: Two commenters (IV-D-14, IV-D-26) requested clarifying changes to several definitions: aerosol cooking spray, carburetor and choke cleaner, double-phase aerosol air freshener, general purpose cleaner, household adhesive, nail polish remover, pump spray, and wax.

Response: The EPA has incorporated these changes where it determined that the changes were necessary to clarify the definitions. The EPA has revised the following definitions to clarify their meaning in the final rule:

Aerosol cooking spray means any aerosol product designed either to reduce sticking on cooking and baking surfaces or to be directly applied on food for the purpose of reducing sticking on cooking and baking surfaces, or both.

Carburetor and choke cleaner means a product designed to remove dirt and other contaminants from a carburetor or choke. "Carburetor and choke cleaner" does not include products designed to be introduced directly into the fuel lines or fuel storage tank prior to introduction into the carburetor, or solvent use regulated under 40 CFR part 63, subpart C (Halogenated solvent NESHAP)

General purpose cleaner means a product designed for general all-purpose cleaning, in contrast to cleaning products designed to clean specific substrates in certain situations. "General purpose cleaner" includes products designed for general floor cleaning, kitchen or counter top cleaning, and cleaners designed to be used on a variety of hard surfaces.

Household adhesive means any household product that is used to bond one surface to another by attachment. "Household adhesive" does not include products used on humans or animals, adhesive tape, contact paper, wallpaper, shelf liners, or any other product with an adhesive incorporated onto or in an inert substrate.

Nail polish remover means a product designed to remove nail polish or coatings from fingernails or toenails.

Pump spray means a packaging system in which the product ingredients are expelled only while a pumping action is applied to a button, trigger, or other actuator. Pump spray product ingredients are not under pressure.

Wax means an organic mixture or compound with low melting point and high molecular weight, which is solid at room temperature. Waxes are generally similar in composition to fats and oils except that they contain no glycerides. "Wax" includes, but is not limited to, substances such as carnauba wax, lanolin, and beeswax derived from the secretions of plants and animals; substances of a mineral origin such as ozocerite, montan, and paraffin; and synthetic substances such as chlorinated naphthalenes and ethylenic polymers.

Comment: One commenter (IV-D-26) requested that EPA modify the definition of "aerosol product" to read as follows:

> Aerosol product means a consumer product characterized by a pressurized spray system that dispenses product ingredients in aerosol form by means of a propellant (i.e., a liquefied or compressed gas that is used in whole or in part, such as a cosolvent, to expel a liquid or any other material from the same self-pressurized container or from a separate container) or mechanically induced force. "Aerosol product" does not include pump sprays.

The commenter stated that the definition of "aerosol product" in the proposed rule is too broad because it has no size limit, is not restricted to consumer products, and does not say that the product must be dispensed in aerosol form rather than as a liquid or gas. The commenter suggested that a rail car full of refrigerant, the "utility nitrogen" system at a chemical manufacturing plant, and a drum pump could all be classified as aerosol products under the proposed definition.

Response: The EPA has added the commenter's suggested language "in aerosol form" to the definition of aerosol product. These clarifying changes exclude products dispensed by liquid or gas which are not intended to be covered by the final rule. The EPA has determined that the word "consumer" is not needed in the definition since the definition is describing a type of consumer product within the consumer products rule.

Comment: One commenter (IV-D-28) recommended that the definition of "agricultural use" specifically mention uses such as public gardens, parks, lawns, and grounds intended for aesthetic purposes or climatic modifications.

Response: Pesticides used in areas such as public gardens, parks, lawns, and grounds are included in the "institutional use" definition covered by this rule. Therefore, EPA has not revised the definition of agricultural use.

Comment: One commenter (IV-D-13) stated that the definition of "air freshener" needs clarification. The commenter asserted that institutional and industrial

disinfectants, if they are expressly represented for use as air fresheners, should not be excluded from the definition of "air freshener." The commenter asserted that the definition creates an exclusion that will result in higher VOC emissions.

Response: Generally, the consumer products rule does not apply to disinfectants. The EPA determined that the "disinfectants" product category did not rank high enough based on application of the section 183(e) criteria to be listed for regulation. However, EPA believes that household spray disinfectants that are expressly represented for use as air fresheners should be covered by the rule, because they could be used as air fresheners. Accordingly, the definition of "air freshener" in the proposed rule allows for applicability of the rule to these products. The EPA did not intend for the rule to apply to spray disinfectants used only in institutional and industrial applications. The EPA has concluded that institutional and industrial facilities may require stronger air fresheners than products designed for household use; therefore, EPA did not revise the definition as suggested by the commenter.

Comment: One commenter (IV-D-18) recommended that EPA delete that portion of the definition for "engine degreaser and carburetor and choke cleaner" that provides that any solvent used for these purposes and that is subject to 40 CFR part 60, subpart JJ (NSPS for cold cleaning machine operations) is not subject to this consumer and commercial products rule. The commenter noted that since the Agency has not yet promulgated this subpart JJ, this part of the definition should be deleted. The commenter also recommended that an exclusion for cold cleaning operations that are subject to reasonably available control technology (RACT) operations be included in the engine degreaser and carburetor and choke cleaner definitions.

Another commenter (IV-D-26) suggested that EPA clarify the definition of "engine degreaser" by either eliminating or

modifying the phrase "other mechanical parts." The commenter stated that "other mechanical parts" is too broad because it could include carburetors and chokes, it is not limited to automotive parts or engine parts, and it could include large industrial degreasing machines.

Response: The EPA removed the reference to 40 CFR part 60, subpart JJ. The Agency has not included an exclusion for cold cleaning operations that are subject to RACT operations into the final rule, because EPA does not intend for this rule to apply to large degreasing systems. The EPA believes that the term "other mechanical parts" is necessary because these products are routinely used to clean other mechanical parts, not just engines.

Comment: One commenter (IV-D-28) requested that EPA clarify the definition of "consumer" and "consumer product" either to include or exclude products purchased by a person for commercial application. As examples, the commenter suggested products that a professional lawn care company or a professional pest control applicator might purchase for their use in a commercial context. Another commenter (IV-D-26) requested that EPA remove a perceived inconsistency in the definition of "consumer product" by discarding the first sentence and rearranging the second sentence as follows:

> Consumer product means, for the purposes of this subpart, any product listed in tables 1 or 2 of § 59.203.

The commenter stated that the first clause of the proposed definition was inconsistent with the second clause, thereby creating confusion by the apparent inclusion of products used in an institutional context and any product whose destruction could result in releases of VOC emissions.

Response: The EPA intends products that are designed for use for commercial or institutional purposes be covered by this rule. If a product is used by a professional lawn care company for use on a private or institutional lawn that

product is covered by this rule. The rule does not, however, include products that are incorporated into or used exclusively in the manufacture or construction of goods or commodities.

The EPA believes the definition of consumer product is appropriate. The inclusion of institutional products is necessary to cover all of the products regulated under this rule.

Comment: Three commenters (IV-D-26, IV-D-28, IV-D-55) requested clarification of the definition of "crawling bug insecticide" and one commenter (IV-D-26) requested clarification of the definition of "flea and tick insecticide." One commenter (IV-D-28) asked EPA if the definition of "crawling bug insecticide" applied only to products for use on household crawling arthropods, rather than those in nonhousehold contexts.

One commenter (IV-D-26) suggested that EPA clarify the definition of "crawling bug insecticide," "flea and tick insecticide," and "flying bug insecticide," by inserting "domesticated" in front of animals so that the definition will exclude products "designed to be applied directly to humans or domesticated animals." The commenter asserted that insects are "animals" so that excluding products designed to be used on animals would also exclude products designed to be used on crawling insects. Another commenter (IV-D-55) recommended that the definition be amended by the addition of the following parenthetical statement "(but not house dust mites)" because the control of house dust mites requires technology that is significantly different from the ant and roach sprays that are the core products of the crawling bug insecticide category. This commenter stated that the recommended modification will not impact emissions reductions anticipated under the regulation because there are virtually no crawling bug insecticide products being marketed today making claims against house dust mites.

Response: The definition of "crawling bug insecticide" has been changed in the final rule to reflect the clarifications suggested by the commenters. The EPA has deleted the word "household" before "crawling arthropods" so that the definition cannot be misinterpreted to mean that products used in other areas beside the household are exempted from the standard. The EPA also changed the definition to clarify that house dust mites are not included as one of the insects for which crawling bug insecticides are designed. The EPA determined that the clarification in the definitions of "crawling bug insecticide," "flea and tick insecticide," and "flying bug insecticide," to explain that the insecticides are not for use on "domesticated" animals is not necessary. The EPA believes that the common usage of the word "animals" does not include insects or arthropods and therefore does not need to clarify that insecticides are not for use on "domesticated" animals.

Comment: One commenter (IV-D-26) suggested that EPA clarify the definition of "distributor." The proposed definition excluded manufacturers which may be inappropriate as some manufacturers act as their own distributors. If EPA categorically excludes manufacturers from being considered as distributors, these "dual role" situations may not be appropriately addressed. Two commenters (IV-D-10, IV-D-52) recommended that EPA revise the definition of "manufacturer" to exclude distributors. The commenters stated that they have hundreds of independent distributors that are not retailers who would be unable to comply with code-dating requirements, test methods, or recordkeeping and reporting requirements. They do not have access to the manufacturer's information on product formulations or VOC contents. One commenter (IV-D-52) stated that it would be impractical for the manufacturer to provide this information to its independent distributors and could compromise the confidentiality of the manufacturer's

business information. The commenter recommended the following definition:

> Manufacturer means any person who imports, manufactures, assembles, produces, packages, repackages, or relabels a consumer product.

Response: The EPA considered these concerns and concluded that it would be more appropriate to revise the rule to clarify that the regulated entity is the manufacturer and the distributor if the distributor's name is on the label. The EPA did not revise the definition of distributor or manufacturer as suggested by the commenters. The EPA intends the definitions in the final rule to indicate that a manufacturer can be a distributor, that a distributor is not necessarily a manufacturer, and that either can be the regulated entity.

Independent distributors may not be required to comply with the code-dating, test methods, or recordkeeping and reporting requirements if they are not considered the regulated entity. According to the definition stated in the rule the regulated entity is the manufacturer, distributor or importer whose label is on the product. The regulated entity is the certified official with the responsibility of meeting the recordkeeping and reporting, test methods, and code-dating requirements. This official is required to have the records or designate someone to maintain records and provide them to the administrator upon request.

Comment: One commenter (IV-D-55) requested that EPA remove the word "moths" from the definition of "flying bug insecticide" in § 59.202 because these products are formulated principally against flies, mosquitoes, and gnats. This commenter suggested that the elimination of "moth" would have no impact on VOC emissions reductions generated under this regulation because all aerosol flying bug insecticides, including any which may make claims against adult flying moths, will continue to be regulated.

Response: The EPA changed the definition of "flying bug insecticide" to exclude moths, since most flying bug insecticides are for use on flies, mosquitoes and gnats exclusively.

Comment: One commenter (IV-D-25) suggested that EPA expand the definition of "insecticide fogger" to explain that foggers can kill a variety of pests. The commenter suggested that a clarification was necessary to explain that fogger products are subject to the VOC limits for "foggers" as opposed to the "other insecticide" categories in the regulation. The commenter suggested EPA expand the definition to read: "foggers may target a variety of pests, including, but not limited to, fleas and ticks; crawling insects; lawn and garden pests; and/or flying insects."

Response: The EPA clarified the definition of "insecticide fogger" to explain that fogger products are subject to the VOC limits for "foggers" and not "other insecticide" category. The final definition includes the above clarification sentence suggested by the commenter.

Comment: One commenter (IV-D-26) suggested that EPA clarify the definitions of "household product" and "household use." The commenter stated that if a professional electrician brings an expensive, sophisticated testing device into a home and uses it once, then takes it elsewhere the device should not be classified as a household product or in household use. The commenter requested EPA to clarify that these definitions only apply to products used by the people who live in the home, for personal or household (non-commercial) purposes.

Response: The EPA intended the definition of household product and household use to include products used not only by private individuals but also by commercial applicators in a home or its immediate environment. Since the rule specifies VOC limits for defined categories of household products, the situation described by the commenter cannot arise.

Comment: One commenter (IV-D-28) requested that EPA clarify the definition of "insecticide." The proposed definition excluded products for structural pest control. The structural pest control definition includes any application of pesticides that require a license under Federal law. Products that require a license under Federal law are classified as "restricted use." The commenter inquired whether products that are for structural pest control that are not restricted use are included in the insecticide definition.

Response: The "structural pest control" definition was removed from the final rule because EPA believes that the information in the "structural pest control" definition is redundant with the definition of "restricted materials." Removal of the "structural pest control" definition will help eliminate the confusion the commenter encountered with the "insecticide" definition. If the materials are classified as "restricted use" pesticides by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (FIFRA, 7 U.S.C. 136-136y), then they are not included in the definition of insecticides under this rule. As a result, the restricted materials would not be regulated by the consumer products rule.

Comment: One commenter (IV-D-28) requested that EPA clarify if products used on commercial lawns or recreational areas are included in the definition of "lawn and garden insecticide." Also, the commenter stated that it is unclear if the intent of the definition of lawn and garden insecticide was to cover only products applied by homeowners or products applied to home lawns, including those applied by lawn care companies.

Response: The EPA does not intend the definition of "Lawn and Garden Insecticide" to include products used on commercial lawns or recreational areas. Any consumer products that are used for "agricultural use" or used in an industrial process to produce a product or used for nonhousehold uses are

not covered by this rule. All products applied by the homeowner or a professional lawn care company to a household lawn are included in the "lawn and garden insecticide" definition.

Comment: One commenter (IV-D-28) recommended that the Agency clarify the definition of "structural pest control" to describe more clearly the scope of the definition. The commenter recommended that if the intent of the definition is to include all professional structural pest control, then it should be revised to state: "...applications of pesticides by commercial pest control operators or certified applicators."

Response: The EPA decided to remove the "structural pest control" definition because it believes that the information in the "structural pest control" definition is redundant with the definition of "restricted materials" definition. The "restricted materials" definition applies to pesticides that are for restricted use under section 3(d) of FIFRA (FIFRA, 7 U.S.C. 136-136y). The FIFRA regulations state that restricted use materials can only be applied by certified applicators. As a result, EPA has determined that the "structural pest control" definition is unnecessary and has removed it from the final rule.

Comment: Two commenters (IV-D-26, IV-D-28) recommended that EPA clarify the definitions of "institutional product" and "institutional use." The commenters asserted that the definition of uses listed under "institutional product" are much broader than those specific sites listed under "institutional use." The commenters suggested that an institutional product should be one intended for institutional uses.

Response: The EPA has added the list of "establishments" from the "institutional product" definition to the "institutional use" definition to be consistent.

Comment: One commenter (IV-D-26) suggested that EPA eliminate the definition of "institutional product" from the

rule and define "institutional product" in the "general provisions" for part 59 or revise the last sentence of the definition to read as follows:

> Institutional product does not include household products and products that are incorporated into or used exclusively in the manufacture or construction of the goods or commodities that are produced by the establishment.

The commenter argued that any product used at a chemical manufacturing complex would be an "institutional product" which is probably inappropriate because materials used in manufacturing processes are generally called "industrial."

Response: The EPA has clarified that the definition of "institutional product" does not include those products that are used exclusively in the manufacture of the goods or commodities that are produced by the establishment. For example, products such as glass cleaners or floor waxes which are used at a plywood manufacturing facility would be subject to the rule, whereas adhesives used to manufacture the plywood are not covered by this rule.

Comment: Several commenters (IV-D-14, IV-D-17, IV-D-25, IV-D-33, IV-D-55) requested that EPA add a definition for "laundry prewash" to § 59.202. The commenters suggested the following language for the definition:

> Laundry Prewash means a product that is designed for application to a fabric prior to laundering and that supplements and contributes to the effectiveness of laundry detergents and/or provides specialized performance.

Response: The EPA included laundry prewash as a category of consumer product to be regulated but inadvertently left out a definition. The EPA has included the definition of "laundry prewash" recommended by the commenter in § 59.202. The EPA considered the definition recommended by the commenter and found it to be reasonable and consistent with existing State rules.

Comment: One commenter (IV-D-28) requested that EPA clarify the definition of "nonagricultural pesticide" to exclude those substances or mixtures of substances subject to FIFRA designed for agricultural use.

Response: The EPA believes that nonagricultural pesticides should not include any substances that EPA does not consider to be a pesticide under the FIFRA (FIFRA, 7 U.S.C. 136-136y). The exclusion was added to the nonagricultural pesticide definition.

Comment: One commenter (IV-D-26) suggested that EPA use the following definition of "product category:

> Product category means the applicable category which best describes the product as listed in tables 1 or 2 of this subpart.

The commenter stated that the product name may not always appear on the principal display panel in exactly the same words that EPA uses in this rule. Therefore, the commenter argued that including the product category listed on the product's principal display panel in the definition of "product category" may not be helpful.

Response: The EPA believes that the last part of the definition after subpart "...and which appears on the product's principal display panel." should not be deleted. The Agency has concluded that the product's principal display panel often describes in enough detail which product category listed, in tables 1 or 2, applies to the product. The EPA does not believe that any confusion will result in identifying into which product category a product falls.

Comment: Several commenters (IV-D-19, IV-D-26, IV-D-33, IV-D-41, IV-D-47, IV-D-58, IV-D-59) disagreed with the proposed definition of "regulated entity." Five of these commenters (IV-D-19, IV-D-33, IV-D-47, IV-D-58, IV-D-59) suggested that the definition as it appears in § 59.201(c) is more consistent with the intent of the proposal, and suggested that the definition in § 59.202 be modified to match

§ 59.201(c). Two commenters (IV-D-33, IV-D-59) went so far as to suggest that the term "regulated entity" be deleted from the definitions if it is not consistent. Other commenters (IV-D-26, IV-D-41) recommended that the definition be modified to exclude processors or distributors. Commenter (IV-D-41) stated that distributors should not be subject to these standards because coverage of distributors does nothing to further the purpose of the VOC limitations and places an additional regulatory burden on them although they are less capable of controlling the VOC content than manufacturers or importers.

Response: It was EPA's intent to regulate only the party with ultimate control over the product's compliance with the VOC content limits. In order to clarify this intent, the definition of regulated entity was revised to read as follows:

> "Regulated entity means the manufacturer, distributor, or importer named on the label of any consumer product offered for sale or distribution in the United States and subject to this subpart. Distributors whose names do not appear on the label are not regulated entities. If the distributor of the product is named on the label, the distributor is also a regulated entity."

The revised definition responds to the commenters' concerns by specifying that the regulated entity is the party named on the label.

For example, a product is manufactured by Company A, distributed by a retail chain, Company B, and carries the Company B label. Company A may or may not be listed on the label. In this case, Company B is a regulated entity, regardless of whether Company A is named on the label, because the product is manufactured for Company B who is named on the label.

In another case, a product is manufactured by Company A, and carries the Company A label. It is distributed to Company B, a retail chain. The name of the retail chain is

not listed on the label. Therefore, Company A is the regulated entity.

In all cases, distributors who are not named on the label are not regulated entities under the final rule.

Comment: One commenter (IV-D-26) suggested that EPA clarify the definition of "structural waterproof adhesive" by stating that the adhesive is intended for use on a structure. The commenter stated that otherwise any adhesive meeting certain technical specifications would be a structural waterproof adhesive, whether or not it is used for structural purposes.

Response: The EPA does not believe it is appropriate to add the word structure to the definition because the meaning could be interpreted as adhesive used only on a structure when the adhesive could be used on other items (e.g., furniture, etc.).

Comment: One commenter (IV-D-26) supported EPA's use of the definition of "VOC" or "volatile organic compound" from 40 CFR part 51 because it is specially tailored to focus on compounds that actually contribute to the formation of tropospheric ozone through chemical reactions in the atmosphere and to exclude substances that are not of regulatory concern. By using the part 51 definition, the commenter asserted that the Agency has chosen the proper definition and thus the proper regulatory focus because this approach follows the statutory command for EPA to regulate those consumer products that have the potential to contribute to nonattainment of the national ambient air quality standards (NAAQS) for ozone.

Response: The EPA agrees, and therefore has maintained the use of the "VOC" definition from 40 CFR part 51 to focus on compounds that contribute to the formation of tropospheric ozone.

2.2.3 Standards for Consumer Products

Comment: Two commenters (IV-D-46, IV-D-57) commented on the inclusion of emissions trading under the proposed Open Market Trading Rule (OMTR) or Guidance Document as an option for compliance with the proposed commercial and consumer product regulation. One commenter (IV-D-57) stated that open market trading could assure product quality while providing flexibility, cost savings, incentives for innovation, and increased environmental performance to both consumers and manufacturers of consumer products. The commenter asserted that open market trading could also increase the performance and effectiveness of the consumer products rule in achieving meaningful ozone reduction. The commenter further argued that open market compliance options assure that smaller manufacturers or marketers are not disadvantaged or put out of business by the implementation of the regulations, thus reducing competition and increasing consumer costs.

One commenter (IV-D-46) stated that consumer product credit trading is not appropriate for this regulation because market incentives, including allowance for trading of emission credits from consumer products, have not been adequately considered in this rulemaking action and consumer product credit trading is extremely controversial. This commenter noted that allowing the trading of emission credits can put some companies at an extreme competitive disadvantage because of the highly competitive nature of the consumer product market and the wide diversity of resources and product mix between consumer manufacturers and distributors.

Response: The consumer products rule will regulate products that typically are distributed nationally. The open market trading guidance (proposed August 25, 1995, 60 FR 44290) is for State-developed regional trading programs addressing the generation and use of discrete emission reductions within the non-attainment areas covered by the program. Additionally, as noted by commenter IV-D-46, EPA has neither fully considered nor proposed such market incentives

as part of this consumer products rule. The EPA believes it would be more appropriate to consider any market incentives for the consumer products rule separately from the open market trading guidance.

Comment: Three commenters (IV-D-24, IV-D-55, IV-D-60) requested that EPA adopt an Alternative Control Plan (ACP) similar to CARB's ACP. An ACP allows manufacturers that are unable to meet a specific VOC for one product to balance the emission from their non-compliant product with the reduction benefit from an over-compliant product. One commenter (IV-D-55) suggested that an ACP is essential for sound consumer product regulation because it provides the ability to reduce VOC emissions while retaining the flexibility of continuing to market a regulated product with a formulation that has superior performance. The commenter further stated that an ACP would provide an economic incentive to develop product technologies that are lower in VOC than the table of standards. The commenter suggested that EPA add an ACP provision to the national consumer products rule at the first opportunity, without delaying the adoption of the national rule.

Response: The EPA has not adopted an ACP in the final rule. The EPA is considering developing an ACP as a separate regulatory initiative. If warranted, EPA will develop an ACP following promulgation of the consumer products rule.

Comment: Four commenters (IV-D-26, IV-D-38, IV-D-39, IV-D-52) provided comments in support of a later compliance date. One commenter (IV-D-38) suggested that EPA should extend the proposed compliance date from September 1, 1996 to September 1, 1997. The commenter stated that the 5 month period between publication of the proposed regulation and the compliance date of September 1, 1996 would not allow sufficient time to identify the most cost-effective technology without cost burdens. Three commenters (IV-D-26, IV-D-39, IV-D-52) requested additional time to comply with the proposed

rule because they contended that the deadlines were unachievable for the industry. One commenter (IV-D-26) explained that their company would require 6 months to achieve compliance, a second commenter (IV-D-38) requested 12 months, while another commenter (IV-D-39) suggested 2 to 3 years following publication of the final rule to achieve compliance.

One commenter (IV-D-26) also requested a process to obtain an extension in cases where regulated entities cannot comply due to special circumstances that can occur with companies that are smaller and regionally-focused. Another commenter (IV-D-52) asked EPA to include at least a 3- or 6-month delay in the effective date of the final rule, whichever is sufficient to allow companies to apply for and receive variances from the requirements of the proposed consumer products rule.

Another commenter (IV-D-26) requested that EPA more clearly explain the different compliance dates. The commenter suggested that different compliance dates can be confusing unless EPA provides clearer explanations. The commenter suggested that all the compliance dates appear in the same section of the rule. Alternatively, the commenter requested that EPA summarize the various dates in a table in the rule so that regulated parties are less likely to miss or confuse compliance dates.

Response: Since proposal, EPA has extended the date of promulgation and the compliance date. The final rule gives regulated entities over 2 years from proposal and 3 months from promulgation to comply with the requirements of the final consumer products rule. The EPA believes that this schedule provides the majority of the regulated entities adequate time to come into compliance. Furthermore, regulated entities that cannot achieve compliance by the compliance date may request a variance of up to 5 years under §59.206.

The final rule more clearly states the different compliance dates for consumer products. The EPA has

determined that a table is not necessary to explain the compliance dates.

Comment: Eleven commenters (IV-D-01, IV-D-13, IV-D-26, IV-D-42, IV-D-46, IV-D-48 to 51, IV-D-53) commented on the stringency of the VOC limits of the proposed rule. Eight of the commenters (IV-D-26, IV-D-42, IV-D-46, IV-D-48 to 51, IV-D-53) supported the proposed VOC content limits. One commenter (IV-D-26) supported the proposed VOC content limits because they are in agreement with existing State and consumer product regulations. One commenter (IV-D-01) recommended that EPA regulate to the maximum levels possible wherever the technology exists to substitute or reduce the VOC content of consumer products. Another commenter (IV-D-13) stated that EPA's proposed rule should be more stringent and that the proposed limits are set at levels which have been met in four States for several years. The commenter did believe that the proposed VOC content limits represent the level of best available controls (BAC). In contrast, another commenter (IV-D-35) claimed that EPA did not propose a rule that is based on the best available technology because neither reformulation nor substitution allows for higher quality consumer products that may have higher VOC contents than allowed by the proposed rule.

Another commenter (IV-D-60) recommended that EPA consider including VOC standards that take effect in the future consistent with those adopted by CARB because many areas of the country will require additional long term reductions in VOC to attain or maintain the NAAQS for ozone. Two commenters (IV-D-23, IV-D-24) recommended that EPA adopt a biannual routine review policy of any regulatory changes made by CARB when pertaining to Phase II future VOC limits.

One commenter (IV-D-24) stated that CARB's Technical Support Documents indicated that current CARB VOC limits for consumer products are technologically feasible and achievable. The commenter also noted that CARB has identified several

alternative technologies available for new products to meet the specified limits. The commenter believes that EPA's limits should be at CARB's proven limits.

One commenter (IV-D-46) stated its belief that the proposed rule was technologically feasible because it incorporated elements of State VOC rules that have already been demonstrated. The commenter stated its belief that the proposed limits are economically feasible because many companies have already reformulated their products to meet the various State standards so the only additional economic cost would be to produce the requisite supply of a lower-VOC product to market nationally. This commenter stated that further reformulation of these product categories to meet lower VOC limits would come at exponentially higher costs and in some cases would require entirely new technology.

Response: The VOC content limits in the proposed rule represent what EPA has determined to be the level of BAC in accordance with the considerations set forth in section 183(e)of the Act. The EPA identified BAC based primarily upon EPA's consumer products survey, an analysis of existing State rules for consumer products, and additional information gathered by the Agency during the study of the consumer and commercial products industry. The EPA believes that the limit proposed for each product category is currently demonstrated due to availability of complying products already on the market, and is consistent with most of limits currently enforced by States that have consumer products rules.

For some product categories, EPA's analysis of the database developed from the consumer products survey suggested that lower VOC content limits might be technologically feasible. However, EPA has chosen to propose standards consistent with most of the currently enforceable limits set by States on the basis of consideration of all factors noted in section 183(e)(1)(A). The existence of these State standards, and the fact that some products are already

complying with these standards, provides stronger evidence that these levels are achievable for a wide range of product applications at current levels of product efficacy.

The EPA had to consider that a variety of different consumer products are used across the country and that regulating the product categories based upon existing standards from one region would not necessarily be appropriate for a national rule. As a result EPA has decided not to include future effective VOC standards consistent with those of CARB into the rule at this time. A periodic review of future rules is likewise not provided for in section 183(e) of the Act at this time.

The EPA concurs that the California Phase II limits are lower than the limits in the consumer products rule; however, California's Phase II limits take effect in 1998 and EPA does not have sufficient information to conclude that these lower limits can be applied nationwide. Therefore, the Act does not allow application of these limits.

The EPA recognizes that setting lower VOC content limits could have potential adverse effects on consumer choices and could eliminate certain product applications and efficacy levels from the market. The EPA does not have evidence or information to indicate that such impacts are warranted to achieve an additional level of emission reductions. The EPA notes that it has selected the VOC content limits after full consideration of the factors specified in section 183(e) and has made a determination that such levels are appropriate given consideration of these factors. Because the proposed limits reflect EPA's determination of BAC, EPA has maintained the limits in the final consumer products rule.

Comment: One commenter (IV-D-35) contended that the VOC reduction percentage imposed on consumer products by EPA is arbitrary and biased. The commenter argued that EPA must determine BAC as defined by statute, not by seeking a specific percentage reduction.

Response: The EPA determined the VOC content limits in this rule based on consideration of BAC as required by the Act. Percent VOC reduction was not the determinant for the VOC limits required by the rule. Instead, percentage reduction was estimated only after BAC VOC limits were established.

Comment: One commenter (IV-D-33) requested that EPA include in § 59.203(a) a reference to paragraph (b) as well as paragraph (d) as exemptions to the compliance with the VOC levels stated in table 1 of the rule. The commenter recommended EPA insert the following language: "...except as provided in paragraphs (b) and (d) of this subsection, §§ 59.204 and 59.206."

Response: The EPA made the change suggested by the commenter. The EPA determined that the change clarifies and explains the type of consumer products that are exempt from the VOC content limits.

Comment: Two commenters (IV-D-24, IV-D-29) recommended that EPA revise the proposed standards for several categories to reflect the more stringent existing emission requirements of the CARB rule. The commenters requested that the limit for air fresheners (single phase) change from 70 percent (VOC limit by percent weight) to 30 percent, for engine degreasers from 75 percent to 50 percent, for glass cleaners (non-aerosol) from 8 percent to 6 percent, and the limit for nail polish removers from 85 percent to 75 percent.

Response: The commenters did not provide enough information to determine if the recommended 30 percent limit for air fresheners (single phase) is technically feasible nationwide. As a result, the limit of 70 percent for air fresheners (single phase) stated in the rule will remain unchanged.

Survey and industry reports regarding product efficacy indicate that engine degreasers with lower VOC contents are significantly less effective and generally induce consumers

either: (1) to use greater quantities of product; or (2) to use substitutes such as kerosene or gasoline. Either of these actions would negate the benefits of lower VOC content in engine degreasers. Therefore, EPA determined at proposal that a VOC content limit of 75 percent was optimal for achieving VOC emission reductions. The limit of 75 percent for engine degreasers stated in the final consumer products rule will remain unchanged.

The EPA and Chemical Specialties Manufacturers Association (CSMA) data indicate that glass cleaner (nonaerosol) products with VOC contents lower than 8 percent do not meet performance requirements for commercial and high volume users. Liquid and pump spray products with less than 8 percent VOC generally result in use of greater quantities by consumers. The CSMA presented data at a workshop for the CARB (July 31, 1990) demonstrating that, for vinegar-based glass cleaners, a product with a VOC content of 6 percent requires significantly more product usage than an 8 percent product. Therefore, EPA has concluded that an limit of 8 percent will achieve greater emission reductions and represents BAC. The proposed limit of 8 percent for glass cleaners (nonaerosol) was unchanged.

The EPA believes a nail polish VOC limit of 75 percent does not allow for all the applications needed for nail polish removers. The EPA received data from the Cosmetic, Toiletry, and Fragrance Association (CTFA) that indicated that a substantial portion of the market for nail polish removers includes products that are intended to be used on artificial nails and do not contain acetone. Acetone has been recently taken off of EPA's VOC list and as a result some of the nail polish removers with acetone as a constituent can meet a VOC limit of 75 percent. The CTFA stated that some nail polish removers are formulated with ethyl acetate, an ingredient that meets the definition of a VOC under current EPA regulations. Acetone cannot be used in such products because acetone-based

products will destroy the artificial nails. As a result, EPA has determined that an 85 percent limit for VOC is necessary for nail polish removers.

2.2.4 Innovative Product Provisions

Comment: Two commenters (IV-D-46, IV-D-55) supported the innovative product provisions in the consumer products rule because they believe that it is essential to have a provision allowing for the development and approval of innovative products that may have a VOC content above the table of standards limit but in actual use have VOC emissions that are lower than similar products which are within the table of standards limits. One commenter (IV-D-46) strongly supported giving companies the choice of either submitting premarket innovative product approval applications with EPA or simply registering an innovative product instead.

Response: The EPA has maintained the innovative product provision in the final consumer products rule. A regulated entity intending to market an innovative product must submit a written request for the Administrator's written concurrence that the innovative product meets the requirements of § 59.204 (a). The regulated entity may submit the request at anytime up to the time the innovative product is available for sale or distribution to consumers.

2.2.5 Code-dating

Comment: One commenter (IV-D-29) offered an alternative to the current provision in § 59.205 that requires each consumer product container or package to display the day, month, and year of manufacture, or a code indicating that date. The commenter suggested that EPA change § 59.205 to state that the manufacturer could comply with § 59.205 by printing on the label that the product complies with the VOC limits effective after a certain date rather than indicating the day, month, and year that the product was manufactured.

Response: The EPA did not change the date coding provisions § 59.205 in the final consumer products rule. The

EPA requires a date code to be placed on the product in addition to the recordkeeping and reporting requirements in order to assure compliance and to aid in enforcement. The consumer products rule allows products manufactured before the compliance date to be sold indefinitely. Thus, both compliant and noncompliant products can be present together on the shelf. The date code would allow the EPA to determine whether a particular product on the shelf was subject to the rule (i.e., whether the product was manufactured on or after the compliance date). The EPA could then determine whether the product was in compliance by referring to the record of ingredients used to produce that particular batch of product. To determine compliance, EPA must check the formulation of the batch. Thus, EPA must be able to both determine that the product was manufactured on or after the compliance date and trace the product back to the formulation records used in its production. The EPA believes that the date code accomplishes these two purposes without imposing additional burdens. The commenter's approach of labeling the product as being compliant will not enable EPA to trace the product back to its particular batch.

2.2.6 Variances

Comment: One commenter (IV-D-34) supported the variance provision in the final rule. Another commenter (IV-D-13) did not support the variance provision because the proposed rule did not represent technology-forcing levels of VOC control and complying product formulations have been available for many years.

Response: The EPA has concluded that providing a variance procedure is appropriate. The Agency will grant a variance if the applicant demonstrates that compliance with the rule would result in an economic hardship, and that the benefit from granting the variance outweighs the public interest in avoiding any increased emissions or air contaminants that would result from issuing the variance. The

EPA recognizes that certain interruptions in the availability of raw materials and/or manufacturing processes may affect a manufacturer's ability to comply continuously with the standards. The EPA anticipates that this variance provision will help to mitigate potential adverse impacts to small businesses. Small businesses in the consumer products industry are likely to have fewer research and development resources, and therefore, will benefit from the allowed variance. The EPA further notes that the availability of a variance procedure should not necessarily be dependent upon the existence of "technology forcing" VOC limits, but rather upon the legitimate need for variances under the scenarios contemplated above.

Comment: One commenter (IV-D-52) requested that EPA revise the proposed variance section to allow "grandfathering" for companies that already have received variances from State agencies regarding similar provisions of State consumer product rules because the criteria for granting a variance are the same in State rules as they are in the proposed national rule. The commenter suggested the variance provision should allow EPA to issue an automatic Federal variance if a company applies and shows it already has been issued a variance from the same standard under a State consumer products rule. The commenter suggested that such "grandfathering" could be done for a limited transitional period, such as for at least 1 year following adoption of a final Federal consumer products rule. The commenter stated that a grandfathering provision would avoid substantial duplication of efforts and would recognize the work that States have done in implementing State consumer product rules. The commenter suggested that if EPA is concerned about public notice and opportunity for comment, EPA could streamline the variance provision by requiring a public hearing only if a member of the public requests a hearing at which time EPA could conduct a more detailed review of the request covered by the previously-issued State variance and

the manufacturer could submit more information in support of the variance at that time. The commenter suggested that in the event that EPA does not allow automatic grandfathering, companies should be allowed to use the application they submitted to a State for the application for the variance from the National consumer products rule.

Response: The EPA criteria for issuing a variance are not the same as those for all States. Because some States may have different criteria than the Federal standards, EPA has determined that automatic "grandfathering" would be inappropriate. Therefore, EPA has not changed the "Variances" § 59.206 to "grandfather" variances already issued by the states for similar consumer products.

Comment: One commenter (IV-D-52) requested that EPA add the following provisions in the variance procedures in § 59.206 to protect companies from enforcement action pending a decision on a variance:

> Where a person has applied for a variance, no notices of violation shall be issued during the period between the date of filing for the variance and the date of decision by EPA, for violations covered by the variance application.

The commenter believes it is unnecessary for EPA to consider possible violations during the variance period, because the penalties under existing law provide sufficient incentive for companies to comply before and after the pendency of the variance application.

Response: While the rule is silent on this issue, EPA will bear the commenter's concern in mind in reviewing such applications. It is generally not EPA's practice to take enforcement action against a source that has filed a variance request until the Agency has acted upon the request negatively.

2.2.7 Test Methods

Comment: One commenter (IV-D-33) supported the test methods provided in the proposed rule. The commenter

supported basing compliance with these standards on manufacturing records for all products except charcoal lighter materials.

Response: The EPA believes using manufacturing records for all products (except charcoal lighter materials) provides the most cost-effective and effective means for determining compliance and hence enforcement.

2.2.8 Charcoal Lighter Material Compliance Testing Protocol

One commenter (IV-D-25) stated that the South Coast Air Quality Management District (SCAQMD) regulates charcoal lighter materials and had granted equivalency for some of the test equipment in § 59.208. The commenter requested several modifications be made to the rule for the charcoal lighter material testing protocol to make it consistent with SCAQMD rule.

The commenter (IV-D-25) requested that certain equipment be granted equivalency such as: Omega strip recorder with a Strawberry Tree Data Acquisition System for continuous recording requirements stated in § 59.208(f)(3)(i), a Davis DTA 4000 vane anemometer to measure stack velocity, and a Ratfisch RS55 total hydrocarbon analyzer to measure organic vapor. The commenter also requested that the span of 70 ppm methane be changed to 90 ppm methane for the organic vapor monitor to be consistent with SCAQMD rule.

The commenter (IV-D-25) requested certain SCAQMD test methods and procedures be considered as equivalent: SCAQMD 25.1 test method for total non-methane hydrocarbon concentration (TNMHC) to EPA Method 25; baseline emission testing (using the electronic probe) may be applied to other test runs provided that the test runs occur within 4 months of the baseline testing to EPA's requirement of all runs must be conducted over 3 consecutive days or less; testing for impregnated charcoal since the lighter material and barbecue charcoal supplies both the lighter material and barbecue charcoal, they can apply the 9 grams/start of VOC emissions

from an electric probe compared to EPA's requirement to test both the untreated charcoal and treated charcoal.

The commenter (IV-D-25) also stated that EPA should specify a standard charcoal to be used for the test. The commenter stated that the Kingsford© brand charcoal from the west coast was used by SCAQMD to develop the baseline emission factor. If this charcoal is not used, the commenter asserted that the baseline emission factor may be invalid and may need to be revised.

Response: The EPA made the suggested changes in the final rule to be consistent with the SCAQMD test methods. Consistency with the SCAQMD test methods is necessary to ensure that test results are consistent for a given product. However, the EPA did remove the requirement to obtain charcoal from the "west coast" in order for the method to be practical for nationwide use.

Comment: One commenter (IV-D-25) stated that the Charcoal Lighter Material Compliance Testing Protocol § 59.208(b) which provided that: "The testing must demonstrate that subject VOC emissions resulting from the ignition of barbecue charcoal are less than or equal to 9 grams per start." should be replaced with "on average, less than or equal to."

Response: The EPA made the change the final consumer products rule as suggested by the commenter. The change of adding "on average..." before "less than or equal to" would ensure consistency with other State regulations (i.e. Oregon and Texas) as well as recognize that the test consists of at least six test runs.

Comment: One commenter (IV-D-25) requested EPA to make an addition to § 59.208(h)(ii) regarding the Pretest Procedure for the ignition of the VOC emissions tests. The section provides that the briquettes be randomly stacked in a pile with a bottom diameter of 22 centimeters and a maximum height of 13 centimeters. The commenter suggested EPA add the

stacking ring described in § 59.208(f)(ix) to the procedure for stacking the briquettes.

Response: The EPA inadvertently omitted this detail in the Pretest Procedure in § 59.208(h)(ii) of the proposed rule. The EPA has included the use of a stacking ring for the ignition of the VOC emissions tests in § 59.208(h)(ii) of the final consumer products rule.

2.2.9 Recordkeeping and Reporting

Comment: One commenter (IV-D-52) requested that EPA clarify in the final rule whether or not the rule's recordkeeping, reporting, code-dating, and test methods (i.e., everything but the VOC limitation requirements) apply to distributors. This commenter also requested that EPA clarify that facilities that fill consumer products are not considered processors for purposes of the consumer products rule because these facilities are independent and do not have the information requested by EPA in the proposed rule.

Response: Distributors and facilities that fill consumer products could be the party responsible for the recordkeeping, reporting, code-dating, and test method requirements if they are considered the regulated entity. As explained in section 2.2.2, the definition of "regulated entity" has be changed in the final rule. According to the revised definition, distributors who are not named on the product label are not considered regulated entities. However, if the product is manufactured by a company not named on the product's label, the manufacturer of the product is a regulated entity.

With regard to concern about the regulated entity not having information on product formulations, the regulated entity may choose a designated agent (in this case, the custom filler) to maintain the records. If requested, the regulated entity must be able to supply copies of product records to the administrator within a reasonable amount of time.

Comment: One commenter (IV-D-03) recommended that EPA clarify the recordkeeping and reporting requirements in

§ 59.209 which stated that reporting for FIFRA products begins 1 year later than for non-FIFRA products. The commenter suggested the following language:

> (i) Records of formulation in use on or after September 1, 1996, for all consumer products subject to 59.203(a), or September 1, 1997 for all consumer products subject to 59.203(d) and..."

Response: The EPA made the suggested change in the final consumer products rule to provide any consumer products registered under FIFRA (7 U.S.C. section 136-136y) a 1 year extension from the compliance date stated in the final rule. The EPA added this extension to be consistent with the extension mentioned in § 59.203(d) of the final consumer products rule.

Comment: One commenter (IV-D-25) requested that EPA make changes to the recordkeeping requirements in § 59.209(c) to keep it consistent with § 59.203. The commenter requested EPA to add paragraph (c)(iii).

> (iii) Records of emission testing equivalent to that described in 59.208 submitted to a State or local regulatory agency.

The proposed regulation permitted manufacturers to demonstrate charcoal lighter material compliance using records submitted to State or local regulatory agencies.

Response: The EPA agreed and added the new paragraph to § 59.209(c). Modifications were made to incorporate this suggested change into the final rule.

Comment: Seven commenters (IV-D-14, IV-D-17, IV-D-25, IV-D-33, IV-D-36, IV-D-52, IV-D-59) stated that the initial notification report required in proposed § 59.209(d) was overly burdensome. The proposed initial notification report required each manufacturer or importer of a consumer product subject to this rule to submit a one-time notification report by September 1, 1996 or upon startup of a new manufacturing or distribution facility. Three commenters (IV-D-14, IV-D-25, IV-D-33) stated that locations of manufacturing and

distribution facilities change frequently because the consumer products industry relies on contract manufacturing facilities. One commenter (IV-D-33) stated that the proposed requirement was impractical because companies may have dozens to hundreds of facilities for manufacturing and distributing products and they produce rapidly changing product lines at various plants. The commenter noted that the proposed reporting requirements would be a significant paperwork burden for both EPA and industry. Three commenters (IV-D-14, IV-D-17, IV-D-33) recommended the following provisions regarding reporting requirements:

> (d) Each manufacturer or importer of a consumer product subject to this subpart shall submit by September 1, 1996 a one-time Initial Notification Report including the information specified in paragraphs (d)(1) through (d)(4) of this section.
>
> (1) Company name;
> (2) A list of product categories and subcategories, as found in tables 1 and 2, that are manufactured, imported, or distributed.
> (3) Description of date coding systems, clearly explaining how the date of manufacture is marked on each sales unit of subject consumer products; and
> (4) Name, title, and signature of certifying company official.

One commenter (IV-D-14) also recommended EPA add an additional subpart to § 59.209 as follows:

> (f) If requested by the Administrator, the following information shall be made available in a reasonable period of time:
>
> (1) Location of facility(ies) manufacturing, importing, or distributing subject consumer product:
>
> (2) A list of product categories and subcategories, as found in tables 1 and 2, that are manufactured, imported or distributed at each facility; and

(3) Location where VOC content records are kept for each subject consumer product.

One commenter (IV-D-36) requested that EPA allow at least 90 days following final promulgation before the initial notification report was required.

Response: In response to these comments, EPA agrees that some of the proposed recordkeeping and reporting requirements were unnecessary, based upon information provided by commenters. The EPA has simplified the recordkeeping and reporting section for the initial notification reporting requirements to reduce the amount of reporting required. Paragraphs (d), (f), and (g) of § 59.209 have been changed to read as follows:

(d) Each regulated entity shall submit by the applicable compliance date, or within 30 days of becoming a regulated entity, one-time Initial Notification Report including the information specified in paragraphs (d)(1) through (d)(4) of this section.

(1) Company name;

(2) Name, title, phone number, address, and signature of certifying company official;

(3) A list of product categories and subcategories subject to 203(a) and (d), as found in tables 1 and 2, for which the company is currently the regulated entity; and

(4) A description of date coding systems, clearly explaining how the date of manufacturing is marked on each sales unit of subject consumer products.

(f) If requested by the Administrator, the following information shall be made available in a reasonable period of time:

(1) Location of facility(ies) manufacturing, importing, or distributing subject consumer product;

(2) A list of product categories and subcategories, as found in tables 1 and 2, that are manufactured, imported or distributed at each facility; and

(3) Location where VOC content records are kept for each subject consumer product.

(g) Each regulated entity subject to the innovative product provisions in section 59.204 shall submit notifications as indicated in section 59.204(d) and (e).

The EPA believes that these changes to the final rule will make the reporting requirements less burdensome on the regulated entities without affecting EPA's ability to determine compliance. The initial notification report is due 90 days from the date of publication of the final rule or by the compliance date. The EPA believes that the reporting requirements are essential to ensure compliance and to permit enforcement as necessary, but has decided to simplify the requirements in a fashion that does not undermine these objectives.

Comment: One commenter (IV-D-33) noted that the automatic reporting of date-code changes required under proposed § 59.209(e) could be accomplished by regulated entities supplying updates upon request from EPA. The commenter based this suggestion upon its assertion that within one to 3 years almost all the products manufactured prior to the effective date will be out of the chain of commerce while the requirements of the rule will continue indefinitely.

Response: Contrary to the commenter's assertion, EPA believes it is essential to be able to ascertain the date of manufacture of a product on the shelf, without regard to how long the regulation has been in effect. The EPA's rationale for this position is discussed in detail in section 2.2.5 of this BID. Therefore, EPA has not changed the provision in the final consumer products rule.

Comment: Several commenters (IV-D-26, IV-D-27, IV-D-37, IV-D-43, IV-D-52, IV-D-59) expressed concern about the possibility of reporting requirements that would reveal trade secrets and proprietary formulations to competitors. One commenter (IV-D-26) requested that EPA clarify that consumer products manufacturers can comply with the rule without divulging trade secret information from their raw material suppliers. A second commenter (IV-D-43) requested that EPA modify the regulation so that private label distributors can arrange to have the necessary information reported by the contract filler. This commenter argued that this modification would assure confidentiality of proprietary information and avoid duplicative recordkeeping. Three of the commenters (IV-D-27, IV-D-37, IV-D-41) stated that since they do not manufacture the products they should not be required to understand the formulation of the products or have the reporting requirements of the manufacturers. One commenter (IV-D-27) described itself as a private label distributor. For marketing reasons, the commenter's name is on the package instead of the filler's. The commenter noted that the manufacturer might not want other companies to know that it is filling for multiple competitors.

One commenter (IV-D-33) supported the recordkeeping and reporting requirements and recommended that EPA modify § 59.209(a) that required certain manufacturing records to be maintained by each manufacturer or importer subject to the provisions of § 59.209(a). The commenter suggested that EPA use the following language:

> (a) Each regulated entity of a given product subject to the provisions of § 59.203(a) or (d) shall maintain records specified in (a)(I) and (a)(ii) of this section for a least 5 years, or assure that a designed agent maintain such records.

Two commenters (IV-D-41, IV-D-47) requested clarifications to amend § 59.209 to allow manufacturers to meet their recordkeeping requirements by having their contract packager

or designated agent maintain the required records. One commenter (IV-D-41) stated that the use of contract packagers is prevalent in the consumer product industry and allowing them to maintain the records for purposes of compliance will facilitate recordkeeping and still be consistent with the intent and purpose of the proposed VOC standard. The other commenter (IV-D-47) requested that EPA modify proposed 59.209(a) to include the "manufacturer or his agent" in order to recognize that the regulated entity does not need to physically possess the formulation and production records to comply with § 59.209(a)(i) and (ii). Another commenter (IV-D-41) also requested that EPA change the language that requires the party named on the label to maintain records. Four commenters (IV-D-10, IV-D-47, IV-D-52, IV-D-59) requested modifications to § 59.209(d). Two commenters (IV-D-10, IV-D-47) requested that EPA clarify the relationship between the regulated entity and the actual producer of the consumer product by modifying § 59.209(d) to specifically require that the location in (d)(2) is that of the regulated entity and that the location in (d)(4) can be that of the producer. One commenter (IV-D-10) stated that it should be sufficient that regulated entities who do not manufacturer the product they market maintain and provide information concerning the location of its contract fillers and have on file a letter of agreement from its fillers certifying that their product formulations and recordkeeping procedures comply with the national standard.

Response: It was EPA's intent that the regulated entity (the party with ultimate control over the VOC content of the product) also be responsible for the recordkeeping and reporting requirements. In response to the concerns raised about trade secrets and proprietary information, the recordkeeping and reporting requirements of § 59.209(a) were revised to indicate that the manufacturer may provide written

certification to EPA accepting responsibility for the recordkeeping requirements on behalf of the regulated entity.

Failure to maintain the required records may result in enforcement action by EPA against the certifying manufacturer in accordance with the enforcement provisions applicable to violations of these provisions by regulated entities. The certifying manufacturer may revoke the written certification by sending a written statement to EPA and the regulated entity giving at least 90 days notice that the certifying manufacturer is rescinding acceptance of responsibility for compliance with the recordkeeping requirements listed in this paragraph. Upon expiration of the notice period, the regulated entity must assume responsibility for maintaining the records specified in this paragraph. Written certifications and revocation statements, to EPA from the certifying manufacturer shall be signed by the responsible official of the certifying manufacturer, provide the name and address of the certifying manufacturer, and be sent to the appropriate EPA Regional Office at the address listed in § 59.210. Such written certifications are not transferable by the manufacturer.

Other changes were made to simplify the recordkeeping and reporting requirements. The location of each facility manufacturing, importing, or distributing a consumer product, and the VOC content records, need only be supplied upon request by the Administrator, rather than with each initial notification. Similarly, changes in the date coding system made after a 3 year period will only need to be submitted upon request, not automatically required within 30 days following the change.

Comment: One commenter (IV-D-13) stated that EPA should require additional information in the reporting requirements for consumer product manufacturers. For example, the commenter stated that EPA should request product content and labeling information in the reporting requirements. The

commenter does not believe that the information required by the proposed rule is sufficient to establish a firm foundation for compliance and enforcement actions. Another commenter (IV-D-34) stated that they support the reporting requirements stated in the proposal to provide formulation data to demonstrate compliance. The commenter believes it is the least costly way of ensuring compliance.

Response: The EPA believes that the requested amount of reporting will provide enough information to enable EPA to obtain VOC content information upon request. Requiring the regulated entities to submit VOC content information as part of the initial report would be excessively burdensome to both regulated entities and EPA and would not enhance EPA's ability to ensure compliance.

Comment: One commenter (IV-D-43) requested that EPA not require reporting for each batch of production because such a requirement would inundate EPA with a excessive and burdensome amount of paperwork. The commenter (IV-D-43) recommended that the manufacturers instead maintain these records and make them available to EPA for periodic audits, thereby eliminating paperwork and labor expense for both the manufacturers and EPA.

Response: The only report required from regulated entities is a one-time initial notification report that is due on or before the compliance date or within 30 days of when the manufacturer becomes subject to the rule. The report requires the company name; the name, title, phone number, address, and signature of certifying company official; a list of products categories and subcategories subject to the rule; and descriptions of date coding systems, clearly explaining how the date of manufacture is marked on each sales unit of subject consumer products. The regulated entities or their designated agents are not required to submit reports of each planned batch, but must maintain records of each batch of

production in a form suitable for expeditious inspection and review on request by the Administrator.

2.3 IMPACTS

2.3.1 Cost Effectiveness

Comment: Two commenters supported the EPA's traditional approach to measuring cost-effectiveness. One of these commenters (IV-D-11) supported the approach because air quality studies demonstrate that ozone and its precursors are being transported from region to region. The commenter also disagreed with the alternative method (of restricting the measure to nonattainment areas only) because it assumes that VOC reductions outside nonattainment areas have no value. The other commenter (IV-D-13) stated that EPA should maintain the traditional measure because it is commonly used for comparisons and will continue to provide meaningful comparisons. The commenter did not believe that the alternative measures discussed accurately reflect all the benefits provided by this particular rule. One commenter (IV-D-33) supported both approaches to measuring cost-effectiveness, since both calculations provide relevant information on the cost-effectiveness of the rule.

Four commenters supported the alternative approach to measuring cost-effectiveness. One commenter (IV-D-09) stated that the measurement should reflect the rule's express purpose - achieving compliance with the ozone NAAQS in nonattainment areas. The commenter, therefore, recommended using only those emissions expected to occur within ozone nonattainment areas. The commenter continued by suggesting that EPA only consider emissions expected to occur during the ozone nonattainment season or during the "chemically relevant" window preceding an expected noncompliance event, because emission reductions at other times will not help to achieve compliance with the NAAQS. Another commenter (IV-D-12) stated that cost-effectiveness analysis permits the comparison of regulatory alternatives and such calculations are used as a proxy for

benefits. The commenter stated that since the greatest benefits would be attributed to emissions reduced in nonattainment areas during the ozone season, the measure of cost-effectiveness should reflect emission reductions achieved (1) in nonattainment areas, and (2) during the ozone season. The third commenter (IV-D-22) stated that the national measure seems like a "bargain," but that a more appropriate measure would be cost-effectiveness of VOC reductions in nonattainment areas. The commenter agreed with the approach of using the ratio of population in nonattainment areas to determine the level of emission reductions to apply to the calculation, but points out that EPA used data from 1988-90 and that more recent population estimates in nonattainment areas would be much lower. The fourth commenter (IV-D-32) urged EPA to adopt the alternative approach proposed because the current approach created a bias against tailored, local, and seasonal regulatory approaches. The commenter stated that to have valid use in public policy analysis, EPA's cost-effectiveness measure must include the social benefits that flow from regulation and the resulting costs. The commenter stated that rather than assigning a zero value to all attainment area reductions, EPA should weight these emissions based on their relationship to improvements in public health. The commenter continued by stating that emission reductions outside the ozone season should be assigned a different weighting than those occurring during the ozone season. They suggested that EPA should provide consistent methodology to allow valid comparisons of the cost-effectiveness of (1) nationwide, year-round VOC control regulations; (2) nationwide, ozone season VOC controls; (3) nonattainment area-specific controls; and (4) nonattainment area, ozone season VOC controls.

Response: Cost effectiveness -- the cost per ton of emissions reduced -- is a measure used to compare the cost efficiency of alternative strategies for reducing pollutant emissions, or to provide a comparison of a new strategy with

historical strategies. EPA's established method of calculating cost effectiveness of a rule with nationwide applicability is to divide the total cost of the rule by total emissions reductions. After considering these comments, EPA does not plan to adopt the alternative approaches suggested to calculating cost effectiveness for rules with nationwide control requirements, for reasons that are presented below.

One issue raised by the comments is whether EPA's traditional measure creates a bias against strategies that apply in a limited geographic area (e.g. in nonattainment areas) relative to nationwide strategies, or against seasonal strategies relative to year-round strategies. This issue would arise if the Agency used cost effectiveness figures to compare the desirability of these dissimilar types of strategies. In fact, EPA did not use cost effectiveness estimates in this way in developing the consumer products rule and does not plan to do so for other rules or guidance being developed under section 183(e). In the case of the consumer products rule, EPA considered applying restrictions to consumer products only in nonattainment areas (either by rule or through control techniques guidelines for states). The Agency determined that geographically targeted restrictions for these nationally distributed consumer products would pose substantial implementation difficulties for government, would impose substantial compliance burdens on a large number of regulated entities, and would be less effective at reducing emissions than a national rule (see section 2.1.2 for further discussion). Given that a strategy applicable only to nonattainment areas is not practical or desirable for consumer products, EPA did not see a need to invest resources to pursue that strategy and calculate its cost effectiveness.

Another issue raised in these comments is whether the alternative methodology is appropriate for comparing nationwide and target geographic strategies to year-round and seasonal strategies for reducing ozone pollution. The EPA

believes that these alternative methodologies would not be appropriate for such comparisons. The EPA has the following concerns with the two alternative approaches:

- First, VOC emission reductions have benefits other than reducing ozone levels in nonattainment areas. As a result, EPA believes the cost effectiveness calculation for a nationwide, year-round rule should not exclude VOC emission reductions in attainment areas or outside the ozone season. EPA recognizes a primary objective of Section 183(e) of the Clean Air Act is to reduce VOC emissions in ozone nonattainment areas. However, as previously explained, in the development of the consumer products rule the EPA found that the best policy alternative is to implement a nationwide rule. Therefore, emission reductions from this rule will not only be realized in ozone nonattainment areas, but also in all other parts of the country in which consumer products are distributed and consumed.

  In general, the benefits of VOC reductions in ozone attainment areas include reductions in emissions of VOC air toxics, reductions in the contribution from VOC emissions to the formation of fine particulate matter, and reductions in damage to agricultural crops, forests and ecosystems from ozone exposure. Emission reductions in attainment areas help to maintain clean air as the economy grows and new pollution sources come into existence. Also, ozone health benefits can result from reductions in attainment areas. The closure letter from the Clean Air Science Advisory Committee (CASAC) for the recent review of the ozone NAAQS states that there is no apparent threshold for responses to ozone exposure [Source: U.S. EPA; Review of NAAQS for Ozone, Assessment of Scientific and Technical Information, OAQPS Staff Paper; document number: EPA-452\R-96-007]. In other words, reactions to ozone have been found at concentrations below the current standard (0.12, 1 hour), and the revised standard (0.08, 8 hour).

- Second, under either alternative approach, emission reductions in ozone attainment areas would not be included in the calculation of a rule's cost effectiveness. The implicit assumption is that emissions reductions in attainment areas do not contribute to cleaner air in nonattainment areas. In fact, NOx emitted long distances away can affect

> ozone levels in nonattainment areas. In some circumstances VOC sources outside nonattainment area boundaries contribute to ozone levels in nonattainment areas. As a result, a cost-effectiveness comparison based on the alternative approaches sometimes could create a bias against a nationwide rule relative to a strategy that applies in nonattainment areas only.
>
> The EPA also considers it impractical to apply a weighting factor to account for differences in the extent to which emissions inside and outside nonattainment areas contribute to ozone formation in nonattainment areas. EPA is concerned that in order to calculate cost effectiveness using this concept, the Agency would have to conduct extensive and costly air quality modeling to estimate ozone reductions resulting from each candidate control strategy and that this would require extensive data on the location of emissions. Such detailed analysis is appropriate for some policy decisions, but not for others. As a result, EPA is skeptical that this weighting approach would represent a generally useful analytical tool for decision making.

The EPA, of course, agrees that differences in the location and timing of emission reductions are a significant consideration in choosing among alternative strategies. The extent of ozone reductions and other benefits resulting from VOC emission reductions varies, partly based on location and season. In considering nationwide vs. geographically targeted controls, and year-round vs. seasonal controls, the Agency considers available information on the effectiveness of those strategies in reducing ozone -- as well as other health and environmental considerations, economic considerations, and other relevant factors -- in making a holistic assessment of which strategy is most desirable from an overall public policy standpoint.

There are instances where EPA does provide an estimate of cost effectiveness of a control strategy during the ozone season -- generally, when a control strategy is feasible to apply on a seasonal basis, or when limits are set on a

seasonal basis. Although these figures are useful for comparing different seasonal strategies, EPA does not plan to use cost effectiveness figures to compare seasonal and year-round strategies for the 183(e) program for the reasons presented above. In regard to the consumer products rule, EPA notes that the nature of consumer product emissions does not allow for control strategies that reduce emissions only during the ozone season to be an objective for consideration. One reason is that the shelf life and consumption rate of consumer products varies greatly and one cannot predict that a certain percentage of a product made with a specified formulation will be consumed and thus emitted during the ozone season. Due to the fact that reductions during the ozone season only is not a viable control strategy for consumer products, the EPA cannot endorse a seasonal approach to measuring cost effectiveness for the consumer products rule.

2.4 MISCELLANEOUS ISSUES AND CLARIFICATIONS

Comment: Two commenters (IV-D-06, IV-D-33) stated that if EPA does not promulgate before the end of 1996, the States would not be able to receive the 20 percent credit towards their State Implementation Plan (SIP). The commenters were concerned that States might need to develop their own consumer and commercial products rules if EPA does not promulgate before the end of 1996, and that varying State rules could result in conflicting or burdensome regulations for manufacturers and distributors of consumer products.

Response: The EPA's intent was to promulgate the consumer products rule before the end of 1996. The EPA recognizes that the States need to receive the 20 percent credit towards their SIP rate of progress demonstrations. This credit will be given even though the rule will be promulgated after 1996. The EPA believes this position is justified in light of the significant delays in promulgating the rule. The anticipated emission reductions associated with implementation of the rule are expected to remain unchanged.

The EPA anticipates that the promulgation of the final consumer products rule at this time will not force States to issue their own rules in lieu of the Federal consumer products rule in order to get SIP credit.

Comment: One commenter (IV-D-33) requested that EPA make sure the compliance date in § 59.201(a) agrees with the date in § 59.203(a).

Response: The EPA has clarified in the final rule that the compliance dates in §§ 59.201(a) and 59.203(a) will be 90 days after publication of the final rule.

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(Please read Instructions on reverse before completing)

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15. SUPPLEMENTARY NOTES

16 ABSTRACT

A final rule for the regulation of volatile organic compounds (VOC) from consumer products is being promulgated under the authority of section 183(e) of the Clean Air Act. This document contains summaries of comments received from the public, along with EPA's responses to those comments.

17 KEY WORDS AND DOCUMENT ANALYSIS

a DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c COSATI Field/Group
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