State of California
AIR RESOURCES BOARD

Final Statement of Reasons for Rulemaking,
Including Summary of Comments and Agency Responses

PUBLIC HEARING TO CONSIDER THE ADOPTION OF AMENDMENTS TO CALIFORNIA REGULATIONS FOR REDUCING VOLATILE ORGANIC COMPOUND EMISSIONS FROM CONSUMER PRODUCTS AND AEROSOL COATING PRODUCTS

Scheduled for Consideration: November 21, 1996
Agenda Item No.: 96-9-5

I. INTRODUCTION

On November 21, 1996, the Air Resources Board (the "Board" or "ARB") conducted a public hearing to consider the adoption of amendments to the Regulation For Reducing Volatile Organic Compound Emissions From Consumer Products (the "consumer products regulation"), Title 17, California Code of Regulations (CCR), sections 94507-94517, and the Regulation For Reducing Volatile Organic Compound Emissions From Aerosol Coating Products (the "aerosol coatings regulation"), Title 17, CCR, sections 94520-94528. An Initial Statement Of Reasons For Proposed Rulemaking (ISOR) was prepared and made available to the public on October 4, 1996. The ISOR is incorporated by reference herein. This Final Statement of Reasons for Rulemaking (FSOR) updates the ISOR by identifying and explaining the modifications that were made to the original proposal. The FSOR also summarizes the written and oral comments received during the rulemaking process, and contains the ARB's responses to those comments.

At the hearing the Board adopted Resolution 96-58, in which the Board approved the proposed amendments to the consumer products and aerosol coatings regulations. The approved amendments included modifications to the originally proposed language. In addition, amendments were also approved to the Regulation for Reducing Volatile Organic Compound Emissions From Antiperspirants and Deodorants ("the antiperspirant and deodorant regulation;" Title 17, CCR, sections 94500-94506.5). The amendments to the antiperspirant and deodorant regulation were not proposed in the original proposal, but were necessary in order to incorporate the changes to state law made by Assembly Bill (AB) 1849 (Stats. 1996, ch. 766). All of the modifications to the original proposal are described in Section II of this FSOR entitled "Modifications Made to the Original Proposal." In accordance with Government Code section 11346.8(c), Resolution 96-58 directed the Executive Officer to adopt the modified regulations after making them available for public comment, and to make such additional modifications as may be appropriate in light of the comments received.

A "Notice of Public Availability of Modified Text," together with a copy of the full text of the modified regulations, with the modifications clearly indicated, was mailed on March 17, 1997,

to each of the individuals described in subsections (a)(1) through (a)(4) of section 44, Title 1, CCR. By this action the modified regulations were made available to the public for a 15-day comment period from March 17, 1997 to April 1, 1997, pursuant to Government Code section 11346.8.

In response to the comments received during the 15-day comment period, the Executive Officer determined that it was appropriate to make one additional modification to section 94508(a)(1) of the consumer products regulation, and to add certain additional documents to the rulemaking record. Accordingly, a Supplemental Notice of Availability of Modified Text and Availability of Additional Documents (Supplemental Notice), was made available for a 15-day comment period from July 17, 1997, to August 1, 1997. The Supplemental Notice contains a list of the documents that were added to the rulemaking record, explains in detail the rationale for the changes made to section 94508(a)(1), Title 17, CCR, and contains the text of section 94508(a)(1) with the modifications clearly indicated. The Supplemental Notice was mailed on July 17, 1997, to each of the individuals described in subsections (a)(1) through (a)(4) of section 44, Title 1, CCR. The documents added to the rulemaking record were also made available for public comment as specified in the Supplemental Notice. These documents, the Supplemental Notice, and the "Notice of Public Availability of Modified Text" (dated March 17, 1997) are each incorporated by reference herein. The Executive Officer subsequently issued Executive Order Number G-97-066, by which the modified regulations were adopted.

As defined in Government Code section 11345.5(a)(6), the Board has determined that this regulatory action will neither create costs or savings to any State agency nor affect federal funding to the State. The Board has also determined that these regulations will not create costs or impose a mandate upon any local agency or school district, whether or not it is reimbursable by the State pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code; or affect other non-discretionary savings to local agencies. In preparing the regulatory proposal, the ARB staff considered the potential economic impacts on California business enterprises and individuals. A detailed discussion of these impacts is included in the ISOR.

The Board has further determined that no alternative was presented or considered which would be more effective in carrying out the purpose for which the regulatory action was proposed, or would be as effective and less burdensome to affected private persons, than the action taken by the Board.

Finally, it should be noted that two separate rulemaking actions relating to consumer products were considered by the Board at the November 21, 1996, hearing. The rulemaking action addressed in this FSOR was the second consumer products item considered at the hearing. The first consumer product item was the adoption of a new consumer products test method (ARB Method 310) and related amendments to the regulatory test methods sections in the consumer products, antiperspirant and deodorant, and aerosol coatings regulations. This first item was submitted to the Office or Administrative Law for approval on the same day as the second item which is the subject of this FSOR. To avoid confusion, it may be helpful to consider both items

together--particularly since there is one CCR section (section 94515(a), Title 17, CCR) to which amendments were made by both the first and second rulemaking actions.

II. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL

Described below are the modifications that were made to the original proposal in response to comments received during the public comment periods.

Modifications Made to the Antiperspirant and Deodorant Regulation

Sections 94502(d)(3) and(d)(5) and 94502(e) were modified to extend the "sell-through" period (i.e., the time manufacturers are allowed to sell non-complying products manufactured prior to the effective date of a VOC standard) from 18 months to 3 years. These modifications were necessary to reflect changes to state law made by AB 1849 (see Health and Safety Code section 41712(g)). This statutory change to the "sell-through" period is a self-executing change which is legally effective whether or not ARB regulations were modified to reflect the change. Even though no changes to the antiperspirant and deodorant regulation were originally proposed in this rulemaking action, the ARB determined that it was important to minimize any public confusion by amending ARB regulations as soon as possible to incorporate the changes made to state law. Therefore, the Board utilized the 15-day notice in this rulemaking action to make these changes and disseminate them to the public.

Modifications Made to the Consumer Products Regulation

Section 94507. Applicability

Section 94507 was modified to reference section 94509(i) and thereby clarify that for aerosol adhesives, the regulation applies to all uses of aerosol adhesives, including consumer, industrial, and commercial uses.

Section 94508. Definitions

The definition of "Adhesive" in section 94508 was modified to clarify the applicability of the regulation and incorporate the provisions of AB 1849. A detailed explanation of the rationale for these changes is contained in the Supplemental Notice of Availability of Modified Text and Availability of Additional Documents (dated July 17, 1997).

Section 94509. Standards for Consumer Products

Section 94509 was modified to reflect the changes to state law made by AB 1849. Subsection 94509(i) was added to reflect the ARB's expanded authority to regulate

aerosol adhesives, and to clarify that the 75 percent VOC standard for aerosol adhesives applies to all uses of aerosol adhesives, including industrial and commercial uses as well as consumer uses. Subsections 94509(c) and (d) were modified to extend the "sell-through" period from 18 months to 3 years.

Section 94513. Reporting Requirements

A minor change was made to section 94513(d) "Special Reporting Requirements for Aerosol Adhesives," to clarify that reporting information is only required for products sold or offered for sale in California.

Section 94513(e), "Special Reporting Requirements for Perchloroethylene-Containing Consumer Products," was added to enable the ARB to track the use of perchloroethylene in consumer products. This provision is necessary so that ARB staff will be able to determine if there is any increase in perchloroethylene use as a result of exempting this compound from the VOC definition.

- Subsection (e)(1) specifies the applicability of subsection (e) and defines "perchloroethylene-containing consumer product."

- Subsection (e)(2) specifies the information to be reported to establish the baseline use of perchloroethylene, in order to determine if any increase in such use occurs in the future.

- Subsection (e)(3) specifies the reporting requirements for new products containing perchloroethylene sold in California on or after January 1, 1997, and specifies the dates the information is required and what information is required.

- Subsection (e)(4) establishes annual reporting requirements for consumer products regulated under section 94513(e) sold or offered for sale in California from 1997 through 2001.

- Subsection (e)(5) establishes a process for the Executive Officer to follow in making information submitted pursuant to section 94513(e) available to publicly owned treatment works in California.

Modifications Made to the Aerosol Coatings Regulation

Section 94522. Standards and Requirements for Aerosol Coating Products

Section 94522(b) was modified to extend the "sell-through" period from 18 months to 3 years, in order to reflect the changes to state law made by AB 1849.

Section 94524. Administrative Requirements

Section 94524(e) "Special Reporting Requirements for Perchloroethylene-Containing Aerosol Coating Products," was added to enable the ARB to track the use of perchloroethylene in aerosol coating products. The perchloroethylene reporting requirements in this subsection are essentially the same as the requirements (described above) in section 94513(e) of the consumer products regulation. One minor difference does exist, however. The reporting requirements in the aerosol coatings regulation do not require that new uses of perchloroethylene be reported. This requirement is unnecessary because "new or increased" uses of perchloroethylene in aerosol coating products are prohibited by section 94522(b), Title 17, CCR.

III. SUMMARY OF COMMENTS AND AGENCY RESPONSES

The Board received numerous written and oral comments, both in connection with the November 21, 1996, hearing, and during the two subsequent 15-day comment periods. A list of commenters is set forth below, identifying the date and form of all comments that were timely filed. Following the list is a summary of each objection or recommendation made regarding the proposal, together with an explanation of how the proposed action has been changed to accommodate the objection or recommendation, or the reasons for making no change.

As discussed previously in this FSOR, two separate regulatory actions relating to consumer products were considered by the Board at the November 21, 1996, hearing. A few comment letters (e.g., the comment letter from the Chemical Specialties Manufacturers Association, listed below) contain comments on both the regulatory action discussed in this FSOR, as well as comments on the separate consumer products regulatory action that was also considered by the Board at the November 21, 1996, hearing (i.e., the adoption of ARB Method 310 and the related amendments to the regulatory test methods sections). The comments related to this separate consumer products rulemaking are addressed in a separate FSOR for that rulemaking.

Comments Received During the 45-day Public Comment Period

Abbreviation	**Commenter**
3M	Dennis L. Stein, Sr. Product Responsibility Specialist 3M Company written testimony: November 13, 1996 oral testimony: November 21, 1996

AMP	Fred J. Lombardi, National Sales Manager Aerosol Maintenance Products written testimony: November 18, 1996
AS	John H. Ehlert, President Aerosol Systems written testimony: November 18, 1996
AIROSOL	Carl Stratemeier, President Airosol Company, Inc. written testimony: November 21, 1996
Amrep	Shaun V. Knapp, Director of Regulatory Affairs Amrep Inc. written testimony: October 4, 1996
ACMC	Paul T. Haluza, Vice-President, Government Relations Automotive Chemical Manufacturers Council written testimony: November 18, 1996
APAA	Aaron M. Lowe, Senior Director Regulatory and Governmental Affairs Automotive Parts and Accessories Association written testimony: November 14, 1996
Citizen	Citizen (Name Unreadable) written testimony: October 29, 1996
CONDEA	Wayne L. Sorensen, Engineering Scientist Condea Vista Company written testimony: November 19, 1996
C.P. Hunt	C. P Hunt Company written testimony: October 29, 1996
CRC	Richard L. Miller, Vice President CRC Industries, Inc. written testimony: November 4, 1996
CSMA-Engel (11/13)	Ralph Engel, President Chemical Specialties Manufacturers Association written testimony, with attachment: November 13, 1996

CSMA-Engel (11/21)	Ralph Engel, President Chemical Specialties Manufacturers Association written testimony: November 21, 1996
CSMA-Fratz (10/25)	Doug Fratz Chemical Specialties Manufacturers Association written testimony: October 25, 1996
CSMA-Fratz (11/13)	Doug Fratz Chemical Specialties Manufacturers Association written testimony: November 13, 1996
CSMA-Nelson	Laurie Nelson Chemical Specialties Manufacturers Association oral testimony: November 21, 1996
Cyclo	Gary L. Ouellette, President/CEO Cyclo Industries, LLC written testimony: October 25, 1996
EZON	Joel Sherman, General Manager Ezon Inc. written testimony: November 12, 1996
HSIA-Voytek	Peter E. Voytek, Ph.D, Executive Director Halogenated Solvents Industry Alliance, Inc. written testimony, with attachments: November 20, 1996
HSIA-Risotto	Stephen Risotto Halogenated Solvents Industry Alliance, Inc. oral testimony: November 21, 1996
HOUGHTON	Charles L. Howlett, General Manager Houghton Chemical Corporation written testimony: November 1, 1996
HYDROSOL	Edward S. Piszynski, Vice President Hydrosol Incorporated written testimony: November 19, 1996
IRTA-(10/3/96)	Katy Wolf, Ph.D., Executive Director Institute for Research and Technical Assistance written testimony, with attachment: October 3, 1996

IRTA-(11/7/96)	Katy Wolf, Ph.D., Executive Director Institute for Research and Technical Assistance written testimony: November 7, 1996
K&W-Goode	John M. Goode, Jr., President K & W Products written testimony: November 12, 1996
K&W-Bleth	Matthew Bleth, Lab Technician K&W Products written testimony: November 19, 1996
Kirwan	Betty-Jane Kirwan Latham & Watkins, representing Exxon Chemical Co. written testimony: October 22, 1996
Loctite	Han Haas, Consumer and AAM Product Development Manager Loctite Research, Development and Engineering Group written testimony: November 12, 1996
Mittelman	The Mittleman Group (10 identical letters, 10 signatures) written testimony: October 29, 1996
NPCA	H. Allen Irish, Counsel National Paint and Coating Association written testimony: November 21, 1996
Nova	Nova Automotive written testimony: October 29, 1996
Poctrich	John Poctrich written testimony: October 29, 1996
Protect-It	Identical letters from 6 individuals (names unreadable) Protect-It, Inc. written testimony: October 29, 1996
SCAQMD	Pat Leyden, Deputy Executive Officer South Coast Air Quality Management District written testimony: November 14, 1996

S.C. Johnson	F. H. Brewer, III (Chip Brewer) Director, Government Relations S.C. Johnson Wax, Inc. written testimony: November 4, 1996 oral testimony: November 21, 1996
Sherwin-Williams-Adhesives	Bob Graham, Vice President, Technical Director Doug Raymond, Division Director, Regulatory Affairs Sherwin-Williams Diversified Brands, Inc. written testimony: November 14, 1996
Sherwin-Williams-Perc	Bob Graham, Vice President, Technical Director Doug Raymond, Division Director, Regulatory Affairs Sherwin-Williams Diversified Brands, Inc. written testimony: November 14, 1996
Sherwin-Williams-Oral	Bob Graham, Vice President, Technical Director Sherwin-Williams Diversified Brands, Inc. oral testimony: November 21, 1996
SNAP	Sam P. McInnis, Chief Executive Officer Snap Products, Inc. written testimony: November 11, 1996
SPECIALTY CHEMICAL	John H. Ehlert, Vice-President Speciality Chemical Resources, Inc. written testimony: November 18, 1996
State	Tammy Westerman, Vice President, Marketing State Industrial Products written testimony: November 11, 1996
TMP	David G. Hill, Vice President Marketing Taylor Made Products written testimony: November 18, 1996
Tri-TAC	Jay Witherspoon, Tri-TAC Air Committee Co-Chair Robert Ferrante, Tri-TAC Air Committee Co-Chair Tri-TAC written testimony, with attachment: November 19, 1996

USEPA	Andy Steckel, Chief Rulemaking Office, Air Division United States Environmental Protection Agency written testimony: November 19, 1996
Valvoline	Michael D. Thompson, Pyroil Product Manager Valvoline written testimony: November 20, 1996
VCAPCD	Richard H. Baldwin, Air Pollution Control Officer Ventura County Air Pollution Control District written testimony: November 7, 1996
WILSONART	Richard R. Hautala, Vice President, Technology Wilsonart International written testimony: November 18, 1996

Comments Received During the First 15-day Comment Period (March 17 to April 1, 1997)

Abbreviation	**Commenter**
3M	Dennis Stein, Sr. Product Responsibility Specialist 3M Company written testimony: March 27, 1997
BAAQMD	James R. Guthrie, Director of Enforcement Bay Area Air Quality Management District written testimony: March 26, 1997
BUTCHER'S	Bonita C. Patterson, EH&S/Regulatory Affairs Supervisor The Butcher Company written testimony: March 31, 1997
CONDEA	Wayne L. Sorensen, Engineering Scientist Condea Vista Company written testimony: March 31, 1997
CSMA	Ralph Engel, President Chemical Specialties Manufacturers Association written testimony: March 28, 1997

EAA	Steven J. Antonellis, President Eastern Aerosol Association written testimony: March 28, 1997
GRACO	Douglas B. Farrow, Corporate Intellectual Property Counsel Graco, Inc. written testimony: April 1, 1997
NAA	George W. Brown, Executive Director National Aerosol Association written testimony: March 31, 1997
SCAQMD	Steve Jones, AQ Analysis and Compliance Supervisor South Coast Air Quality Management District written testimony: April 1, 1997
SATA	Andrew Lisska, President Southern Aerosol Technical Association, Inc. written testimony: March 25, 1997
STA'-PUT®	E. A. Kinsel, Plant Manager STA'PUT®, INCORPORATED written testimony, with attachment: March 25, 1997
TITECO	Kevin May, Technical Director TITECO, Inc. written testimony: March 18, 1997
Tri-TAC	Jay Witherspoon, Tri-TAC Air Committee Co-Chair Robert Ferrante, Tri-TAC Air Committee Co-Chair Tri-TAC written testimony: March 31, 1997
VCAPCD	Richard H. Baldwin, Air Pollution Control Officer Ventura County Air Pollution Control District written testimony: March 20, 1997

Comments Received During the Second 15-day Comment Period (July 17- August 1, 1997),

Abbreviation	**Commenter**
CSMA	Michael F. Thompson Chemical Specialties Manufacturers Association written testimony: August 1, 1997
STA'-PUT®	E. A. Kinsel, Plant Manager STA'PUT®, INCORPORATED written testimony: July 25, 1997

I. Comments Received During the 45-day Public Comment Period

A. Perchloroethylene: Exemption of perchloroethylene (PERC) from the Volatile Organic Compound (VOC) definition

1. Comment: We fully support the analyses and conclusions of California Air Resources Board (ARB/Board) staff regarding PERC and urge the Board to adopt a final regulation exempting PERC from the VOC definition. The exemption of PERC is essential for our members that manufacture brake cleaners to be able to comply with the 50 percent VOC content standard that becomes effective on January 1, 1997. Without this exemption, our industry will not be able to supply the convenient and effective brake cleaner products in California that are sold throughout the rest of the country. This exemption is essential to maintaining the technological and commercial feasibility as well as the necessity, of the 50 percent brake cleaner standard. Brake cleaners represent the primary use of PERC among consumer products currently regulated by ARB and since it is currently used, there is no reason to believe that ARB's exemption, consistent with national regulations by the United States Environmental Protection Agency (U.S. EPA), will increase the use in these products. (CSMA-Nelson; CSMA- Engel- 11/13/96; Citizen; Protect-it; Nova; Mittleman; Poctrich; C.P. Hunt; CRC.; SPECIALTY CHEMICAL; AS; K&W-Bleth; K&W-Goode; State; SNAP, Valvoline; TMP; HOUGHTON; EZON; AIROSOL; HYDROSOL; AMP; ACMC; APAA; Sherwin-Williams-Perc; Sherwin-Williams-Oral; HSIA-Risotto; HSIA-Voytek)

Agency Response: The Board approved the staff's proposal to exempt PERC from the VOC definition in the consumer products regulation and the aerosol coatings regulation at the November 21, 1996, hearing. This modification would also affect the Alternative Control Plan (ACP) regulation (Title 17, CCR, sections 94540-94555) because the ACP regulation incorporates by reference the VOC definition in the consumer products regulation.

2. Comment: This proposal modifies the definition of VOCs to exempt PERC, among other things, consistent with similar action by the U.S. EPA in March 1996. We support your proposal

to exempt PERC as a VOC and urge you to extend the same treatment to other areas beyond consumer products and aerosol coating products. (SCAQMD)

Agency Response: The Board approved the staff's proposal to exempt PERC from the VOC definition in the consumer products regulation and the aerosol coatings regulation at the November 21, 1996, hearing. The ARB has no other statewide regulations that include a VOC definition, except for the antiperspirant and deodorant regulation. While the ARB may eventually amend the VOC definition in the antiperspirant and deodorant regulation, doing so would have no practical impact since PERC cannot be used in antiperspirants and deodorants. PERC cannot be used because, among other reasons, it is an identified toxic air contaminant whose use in antiperspirants and deodorants is prohibited by section 94502(c), Title 17, CCR.

3. Comment: There is no question that PERC is of low photoreactivity and should be exempted from the VOC consumer products regulations. We urge ARB to go forward with this exemption, but we also oppose the exemption unless provisions for controlling PERC as a toxic are introduced directly into the consumer products regulations. (IRTA-10/3/96)

Agency Response: Because of this commenter's concern, the concern of other commenters, and ARB staff's careful consideration of all comments and scientific data provided, at the hearing the ARB staff proposed additional amendments that would establish special reporting requirements for manufacturers using PERC in their formulations. The Board approved these reporting requirements, which are found in sections 94513(e) and 94529(e). The reporting requirements specify that manufacturers must annually report their use of PERC. Through this reporting, ARB staff will be able to closely monitor PERC use and determine if its use is increasing. If the reporting shows an increase that would damage public health, appropriate mitigation measures will be put in place. For example, under ARB's authority to regulate toxic air contaminants, an airborne toxic control measure (ATCM) could be established which would control PERC emissions to a health-protective level. This commenter was involved in the development of the reporting requirements and agreed that through the reporting process established, their concerns would be substantially addressed.

4. Comment: We support the revisions to the California Consumer Products regulations, as described in your "ISOR for Proposed Amendments to the California Regulations for Reducing VOC Emissions from Consumer Products and Aerosol Coating Products" of October 4, 1996. We believe that the revisions to the definition of VOC exempting PERC are appropriate in light of our similar action. Since PERC contributes negligibly to the formation of tropospheric ozone, it should not be regulated as a VOC. However, removing PERC from the definition of VOC raises public health concerns that should not remain unaddressed. We recommend that ARB closely monitor the usage of PERC in consumer products, and if an increase in usage is detected, that you consider imposing constraints on the PERC content of consumer products. (USEPA)

Agency Response: ARB staff agrees that PERC use should be carefully monitored. As described in the response to the previous comment, reporting requirements were put into place to

address the commenter's concerns. If the reporting shows an increase in PERC that would damage public health, appropriate mitigation measures will be put in place

5. Comment: We are concerned with the potential cross-media (water quality) impact from the exemption of PERC as a VOC. PERC is a federal priority pollutant (pollutants which are selected on the basis of their known or suspected carcinogenicity, mutagenicity, teratogenicity, or high acute toxicity). PERC is of concern to publicly owned treatment works (POTWs) for both air quality and water quality impacts. For some POTWs, Assembly Bill (AB) 2588 health risk assessments show that PERC is a significant contributor to overall risk from air emissions. PERC also is incompatible with most wastewater treatment processes and can be of concern for discharge to surface waters or groundwater. As a result, many POTWs have gone to great efforts to prevent the discharge of PERC into their sewerage systems by working with dry cleaners and other PERC users to reduce or eliminate their discharges. We feel that the exemption may have a significant impact on water quality and/or POTWs. However, at this time there is insufficient evidence to conclusively link these commercial products with PERC discharges to POTWs. Until such time, we will work in partnership with ARB to monitor the impacts of the exemption. (Tri-TAC)

Agency Response: The Response to Comment 3 is incorporated herein. The ARB staff conducted a thorough environmental impacts analysis and among the potential impacts investigated were the potential effect of the PERC exemption on air quality and water quality. The analysis found that the exemption was not likely to result in any significant adverse environmental impacts. However, ARB staff did acknowledge in the ISOR that there was a very slight potential for adverse impacts from increased PERC use. This is why the reporting requirements were added to the consumer products and aerosol coatings regulations. Specifically, subsections 94513(e)(5) and 94524(e)(4) were added to address the commenter's concerns regarding possible adverse impacts on POTWS. The commenter was involved in the development of the reporting requirements and agreed that the reporting process would address their concerns.

6. Comment: We have continually worked with ARB staff in the regulation of consumer products to reduce smog-causing VOCs while at the same time ensuring that the efficacy needs of aerosol brake cleaners has moved toward PERC as the substitute for the now-banned 1,1,1, trichlorethylene. (ACMC)

Agency Response: ARB staff appreciates the participation of ACMC in the development of the amendment to exempt PERC from the VOC definition in the consumer products and aerosol coatings regulations.

7. Comment: The Institute for Research and Technical Assistance's (IRTA) contention that the exemption will increase workers exposure to PERC and asbestos fibers further is inconsistent with the conclusions of the Board staff's evaluation. IRTA's unsubstantiated claim regarding exposure to asbestos is contradicted by the result of a study of asbestos exposure conducted by the National Institute for Occupational Safety and Health. Based on this study, the U.S.

Occupational Safety and Health Administration concluded that aerosol brake cleaners were an effective method of controlling exposure to asbestos. (AMP; APAA)

Agency Response: This comment is not directed at the proposed amendment to exempt PERC from the VOC definition in the consumer products regulation and the aerosol coatings regulation, but rather is a rebuttal to a comment letter received from the IRTA. However, ARB staff responds as follows. The ARB staff did not specifically address the potential impacts from increased worker exposure to asbestos that could result from the PERC exemption. However, ARB staff believes that the potential for exposure to asbestos fibers is a consequence of all aerosol forms of brake cleaners, whether they are formulated with PERC or not. Therefore, the PERC exemption should have no effect on asbestos exposure.

Comments on the ARB Staff's Environmental Impacts Analysis Relating to the Exemption of PERC from the VOC Definitions

Comments No. 8-32 are not specifically directed at the regulatory amendment to exempt PERC from the VOC definitions in the consumer products and aerosol coatings regulations. Instead, these comments are directed at the ARB staff's environmental analysis, which concluded that there is a slight possibility that the exemption of PERC would cause adverse environmental impacts. In the following comments the IRTA basically contends that the ARB's environmental analysis was not sufficiently comprehensive, and that PERC emissions will increase. However, comments were also received from the HSIA, ACMC, APAA, AMP, CRC, SPECIALTY CHEMICAL, and AS that rebut the claims made by the IRTA. These commenters agreed with the ARB's analysis and conclusions, and criticized the IRTA's comments and conclusions.

Following is the ARB's general response to Comments No. 8-32. After the ARB's general response, all of the comments are summarized. After each comment from the IRTA we have provided a brief response to the specific issue raised by the IRTA. We have not specifically responded to the comments made by HSIA, ACMC, APAA, AMP, CRC, SPECIALTY CHEMICAL, and AS, because these comments were directed at the IRTA's comments and analysis--not the analysis prepared by ARB staff. Therefore, these comments were not objections or recommendations specifically directed at the proposed action or the procedures followed by the Board in proposing or adopting the proposed action. We included these comments in order to add additional information and perspective on the PERC exemption.

ARB Staff's General Response to Comments No. 8-32:

First of all, the consumer products regulation and the aerosol coating regulation are designed to reduce VOC emissions. A thorough analysis conducted by ARB staff concluded that PERC has negligible photochemical reactivity. Therefore, in following similar action taken by the U.S. EPA, it is appropriate to exempt PERC from the definition of VOC in the consumer products regulation and the aerosol coatings regulation. The IRTA agreed that PERC is of low photoreactivity and should not be considered a VOC in these regulations.

Second, the ARB proposed to exempt PERC from the VOC definitions in the consumer products and aerosol coatings regulations only (because the ACP incorporates the VOC definition in the consumer products regulation by reference, PERC is exempted in this regulation as well). This exemption does not apply to any other regulations, such as the regulations of the local air pollution control or air quality management districts (air districts). Should an air district consider exempting PERC from any VOC definitions in their rules, they must conduct their own environmental analysis to determine if the exemption will result in any adverse impacts. Depending on the outcome of these analyses, an air district may choose to exempt PERC from their VOC definition.

Third, ARB staff does not agree with the IRTA's contention that the ARB staff's analysis was not thorough, and also disagrees with the HSIA that there is no evidence that suggests that PERC is a carcinogen. ARB staff acknowledges that PERC is a toxic air contaminant and recognizes that we have a responsibility under the California Environmental Quality Act (CEQA) to mitigate any adverse impacts that may result from our regulations. Therefore, before proceeding with the exemption, the ARB staff conducted an exhaustive, thorough, analysis of the potential that an adverse impact could result from the exemption (see Volume II, pages 29 - 53 of the ISOR). The analysis considered potential impacts of PERC on six pathways that could effect water quality, as well as the potential impacts on landfill loading, ground level ozone, stratospheric ozone depletion, global warming, and toxicity. The analysis concluded, that overall, no significant adverse environmental impacts are likely to occur, but that the exemption of PERC from the VOC definition could result in a slight increase in PERC emissions. Therefore, the ARB staff does acknowledge in the ISOR that there was a very slight potential for an adverse impact.

Because ARB has identified PERC as a toxic air contaminant special attention was given to the potential of adverse toxic effects. A comprehensive risk assessment analysis was conducted. Because the aerosol coatings regulation already contains a provision which prohibits new uses of PERC, and prohibits increased use of PERC in aerosol coatings already containing it, no adverse impacts should result from the exemption in the aerosol coatings regulation. However, the analysis to determine potential toxicity impacts did indicate that there is a slight potential for an adverse impact resulting from the exemption of PERC in the consumer products regulation. This conclusion was based on the use of PERC in aerosol brake cleaners. In discussions with industry, and based on the 1990 U.S. EPA data, it was determined that brake cleaners were most likely to be reformulated with PERC. Because of this, brake cleaners were chosen as the focus of the analysis. However, ARB survey data indicate that most brake cleaners sold in California already are formulated with PERC. Data also indicate that most aerosol brake cleaners meet the 50 percent by weight VOC standard in the consumer products regulation. Therefore it is unlikely that PERC use in brake cleaners will increase to comply with the regulation. State law also requires that consumer products containing toxic air contaminants, such as PERC, must carry a "Proposition 65" warning on their label (Safe Drinking Water and Toxic Enforcement Act of 1986). Because of the potential liability associated with this warning,

ARB staff believes, and industry concurred, that consumer products are unlikely to be reformulated with PERC. For these reasons ARB staff does not believe that PERC emissions will increase as a result of exempting PERC from the VOC definition in the consumer products regulation. A more detailed discussion of all of these issues can be found in the ISOR, Volume II, pages 32-52.

However, because of this commenter's concern, the concern of other commenters, and ARB staff's careful consideration of all comments and scientific data provided, the staff proposed and the Board approved amendments which established special reporting requirements for manufacturers using PERC in their formulations. These reporting requirements, added to section 94513, specify that manufacturers must annually report their use of PERC. Through this reporting, ARB staff will be able to closely monitor PERC use and determine if its use is increasing. If the data obtained indicate an increase in PERC use, appropriate mitigation measures will be put in place. For example, under ARB's authority to regulate toxic air contaminants, an ATCM could be established which would control PERC emissions to a health-protective level.

8. Comment: The exemption of PERC will likely result in an increase in PERC use in brake cleaners. Even without an increase, the continued use of PERC in brake cleaners in this state will have serious consequences including increased worker exposure to PERC and asbestos, increased exposure of the community surrounding auto repair facilities to a carcinogen, and perhaps most important the impacts on water quality. An auto facility that uses PERC for brake cleaning and general purpose cleaning poses a risk to the surrounding community that is roughly equivalent to that of a fairly well controlled dry cleaner.

ARB argues that there will be only a slight increase in the use of PERC in brake cleaners, but presents no data to verify this claim. IRTA requests that ARB acknowledge that the exemption of PERC will pose a significant threat to wastewater and that ARB describe the mitigation measures that will be taken to minimize the threat. It is ARB's responsibility to identify categories of high risk and to develop an ATCM to control emissions from these facilities. IRTA requests that ARB begin work to evaluate whether an ATCM is necessary for auto repair shops using PERC brake cleaner. IRTA request that this evaluation be performed prior to any exemption of PERC from VOC regulations. If the evaluation demonstrates a threat, then the exemption of PERC should be delayed until an ATCM is developed. (IRTA-10/3/96 and 11/7/96)

Agency Response: The ARB staff disagrees with this commenter, but acknowledges that there may be a slight increase in the use of PERC as non-complying brake cleaners reformulate to meet the 50 percent VOC limit. Data collected for the brake cleaner technical assessment, which is part of this rulemaking, indicate that aerosol brake cleaners will be able to meet the 50 percent standard using a variety of technologies. It is unlikely that currently complying products without PERC in the formulation will reformulate with PERC because of the liabilities associated with the requirements of Proposition 65.

Moreover, we disagree with this commenter that the PERC exemption will pose a significant threat to wastewater. Nothing in the ARB staff's analysis indicated a potential adverse impact on wastewater. In fact, as stated in the ISOR, the East Bay Municipal Utility District found that, after prohibiting the discharge of PERC into the sewer system from large industrial sources, PERC levels dropped to levels where no further restrictions were required. This implies that the current levels of PERC in aerosol brake cleaners appear to have little or no impact on wastewater.

However, because of the Board's concern, and in response to this commenter, ARB staff committed to beginning a "needs assessment" to determine if an ATCM needs to be developed to address PERC emissions in brake cleaners. Depending on the outcome of this assessment ARB staff will formally begin the process of developing an ATCM to control PERC use in these products.

9. Comment: IRTA's suggests that the exemption will lead to an increase in the use of PERC in brake cleaners sold in the state contrasts sharply with our own survey of brake cleaner manufacturers which shows that there will likely be "very little" increase, if any, in the overall use of PERC if the exemption is granted. Additionally, there is very little chance that PERC would be substituted in other automotive chemical products, because it does not lend itself to use in other product categories. (ACMC)

10. Comment: IRTA's assertion that the exemption of PERC will lead to an increase in the use of it in brake cleaners contrasts sharply with the conclusion of the Board's staff that the exemption would result in a "very minor" increase in the use of PERC in brake cleaners and other consumer products. (APAA, AMP, CRC, SPECIALTY CHEMICAL, AS)

11. Comment: ARB concludes that the exemption of PERC in the consumer products regulation would not have any significant adverse impacts on the environment. Under CEQA, ARB is required to perform an analysis of all effects that are significant. We do not believe that ARB has demonstrated that the effects are insignificant. Some of the effects have not even been addressed in ARB's analysis and others, deemed to be insignificant, are in fact, significant. (IRTA-10/3/96)

Agency Response: The ARB staff does not agree with the commenter's general claim that the ARB's analysis was not sufficiently thorough. As set forth in the ISOR, staff analyzed the potential adverse impacts resulting from the PERC exemption on six pathways to surface water, groundwater, or wastewater treatment systems. Additionally, staff analyzed the impacts on landfill loading, ground-level ozone formation, stratospheric ozone depletion, global warming and toxicity. We further note that the environmental impacts analyses performed in support of the previously adopted consumer products regulations were based on studying impacts to the same areas as were studied here. No additional areas were brought to light to evaluate during any of the previous rulemakings, and the commenter offers no insight regarding any specific areas for which an impacts analysis should be conducted.

12. Comment: The negligible photochemical reactivity of PERC is unquestioned. If conforming changes are not made to the Board's consumer products and aerosol coatings regulations, formulators of these products either will use photochemically reactive alternatives, thereby increasing the smog burden in the State of California, or will be unable to comply with strict new VOC limits applicable to such consumer products as aerosol brake cleaners. (HSIA-Voytek)

13. Comment: IRTA agrees that PERC is a low photochemical reactive compound, but opposes its exemption from the consumer products and aerosol coatings regulations unless provisions are in place for controlling it as an air toxic under California Health and Safety Code section 39650. This is not an adequate legal basis for delaying the exemption of PERC, as it is undisputed that PERC is not a reactive organic compound for purposes of the Board's consumer products regulation. Delay of this exemption would mean that the formulators of aerosol brake cleaning products would not be able to comply with the VOC limits on these products effective January 1, 1997. (HSIA-Voytek)

14. Comment: IRTA criticized the proposed exemption of PERC on the ground of potential cancer risk to workers and the surrounding community, and attempted to draw a parallel between the proposed exemption and the ATCM adopted by the Board for PERC dry cleaning operations. The ISOR, however, adequately addresses worker safety and the analysis also finds that the emissions from brake cleaning shops under a worst-case assumption do not exceed emissions allowed by California law from dry cleaning operations. IRTA failed to recognize that the consumer products regulation is based on the Board's authority to regulate reactive organic compounds under California Health and Safety Code section 41712. No determination as to the need for regulation of aerosol brake cleaning products containing PERC under California Health and Safety Code section 39655 has been made. (HSIA-Voytek)

15. Comment: ARB, in exempting PERC from VOC regulations in brake cleaners is encouraging the use of the aerosol spray method. ARB's analysis of "significance" is incomplete because it does not investigate the consequences of increased asbestos exposure that could result from the PERC exemption. The use of brake cleaners is intimately tied to the issue of asbestos exposure. The Occupational Safety and Health Administration (OSHA) promulgated a final rule on asbestos on August 10, 1994. Workers in auto repair facilities were required to comply with new standards that applied to brake and clutch servicing and repair. Asbestos was used widely in brakes and, when brakes were serviced, worker exposure to asbestos could be high depending on the methods used. During the OSHA rulemaking, there was significant controversy surrounding the methods that OSHA would allow. Because of testimony indicating that the solvent/spray method might not adequately control asbestos, OSHA considered banning the solvent/spray method. The HSIA and other industry groups fought to retain the use of the solvent system and in the final rulemaking it was retained; however, facilities opting to use the solvent/spray method must demonstrate its equivalence. OSHA did list the enclosure/HEPA vacuum system and the

wet-brush recycle methods as "preferred." Many commenters were concerned that the solvent/spray method would not adequately wet the asbestos during removal of the brake drum. (IRTA-10/3/96)

Agency Response: The ARB staff does not agree that the exemption of PERC encourages the use of the aerosol spray method. Data collected from manufacturers in 1990, several years prior to the possible exemption of PERC from the VOC definition, indicate that 95 percent of brake cleaner products sold in California were aerosol forms. Aerosol brake cleaners were, and continue to be, the choice of consumers prior to any regulatory action by the ARB. Regarding asbestos exposure, ARB staff believes that the potential for exposure to asbestos fibers is a consequence of all aerosol forms of brake cleaners, whether they are formulated with PERC or not. Therefore, the PERC exemption should have no effect on asbestos exposure.

16. Comment: The absence of objectivity in IRTA's comment is demonstrated by IRTA's reliance on the argument that the Asbestos Standard adopted by the OSHA in August 1994 discourages use of aerosol brake cleaning products. IRTA conveniently overlooks a published correction to the final Asbestos Standard which not only permits use of the solvent/spray method as "equivalent" to the enclosure/HEPA vacuum system and the wet-brush recycle method, but which goes further and acknowledges that the solvent/spray method meets the equivalency criterion based on a NIOSH study already in the record of the Asbestos Standard. (HSIA-Voytek)

17. Comment: Aerosol cans containing PERC are not limited to brake cleaning use. We are currently conducting an EPA-sponsored Environmental Justice project designed to test and demonstrate water-based parts cleaners and have visited many auto repair facilities over the last year. Aerosol cans are literally everywhere in these facilities and they are used widely from general cleaning of components on automobiles and for parts cleaning. The Norton study, although it did not address this issue, includes survey data that confirms this impression. The Norton study indicates that more than half the facilities surveyed used PERC aerosols for degreasing, cleaning tools, spot removal, general cleaning, and for other uses. It is evident that PERC aerosol cans are widely used for purposes other than brake cleaning. The worker exposure analysis conducted by Norton and ARB did not take into account the additional exposure from cleaning. (IRTA-10/3/96 and 11/7/96)

Agency Response: The ARB analysis used the number of cans of brake cleaner used per day at a typical facility, not the number of cans that were used solely for cleaning brakes. The commenter offers no alternative reliable data on which to base the analysis, and does not suggest any way to estimate the number of PERC-containing aerosol cans which may be more appropriate to use in the analysis. As discussed in the ARB Staff's General Response to Comments 8-32, the issue of whether PERC emissions from consumer products needs to be controlled further will be addressed in a "needs assessment" to be conducted under ARB's authority to control toxic air emissions.

18. Comment: IRTA's concerns about worker exposure to PERC in brake cleaning products appear to be premised on the misconception that the worker exposure was limited to brake cleaning products used solely for cleaning brakes. The point is made clear in the ISOR that the exposures modeled by Norton and Board staff were based on the total number of cans of brake cleaning products used each day in the brake cleaning facility for any and all uses. The analysis was not limited to brake cleaning products used solely for cleaning brakes. (HSIA-Voytek)

19. Comment: ARB relies on survey information from the Norton study performed by George Mason University. ARB concludes that the PERC time weighted average under worst case assumption would range from 0.5 to 5 ppm over an 8-hour work period. The stated conclusion is that this is well below the federal Permissible Exposure Level (PEL) of 100 ppm and the state PEL of 25 ppm. ARB's evaluation is based on several assumptions concerning the amount of PERC in a can of brake cleaner, the number of brake jobs performed, the shop air volume, the type and level of ventilation and so on. There are a number of problems with the Norton study and the analysis conducted by ARB. First, the study was commissioned by the Halogenated Solvents Industry Alliance (HSIA), a trade organization with a clear interest in the outcome of the study. The results and analysis must be viewed with caution. (IRTA-10/3/96)

Agency Response: The ARB staff does not agree with this commenter. The Norton study performed at George Mason University provided the best available data for use in performing the health impacts analyses for this rulemaking. This commenter has offered no alternative reliable data on which to base the analysis. In addition, it is unwarranted to assume that the results of a study at an academic institution have been influenced or biased because of the funding source. The commenter offers no data to support this claim. Moreover, the worst-case scenario was used in the ARB staff analysis to ensure that exempting PERC from the VOC definition in the consumer products regulation would not impact public health.

20. Comment: We refute IRTA's claims on the validity of the Norton Study and challenge them to show any bias in the survey questionnaire that would result in reporting of lower exposures. IRTA's principal interest in this rulemaking has been its concern that the Board's exemption of PERC "will serve as an example for the local air districts to reach a similar conclusion," adversely affecting IRTA's business of converting degreasers from PERC to alternatives. Just as Board members have carefully evaluated the Norton Study and conducted their own analysis of it, the Board must carefully evaluate IRTA's comments. IRTA has failed to submit any evidence for review in this rulemaking. If IRTA has evidence that suggests that PERC use poses a risk to workers or the public, it should submit such evidence for public review. Otherwise, we submit that the Board should review the legalistic arguments from IRTA with skepticism. (HSIA-Voytek)

21. Comment: The Norton Study addresses only time-weighted average exposures and not short-term exposure. We are concerned that the short-term exposure limit (STEL) could easily be violated during brake jobs because the aerosol cans of PERC are likely to be emptied rapidly. It is not clear whether the STEL can be met under these circumstances. ARB apparently has been

given a study that has examined the STEL issue and determined that the use of PERC brake cleaner does not exceed the STELs. Because the study is not available, it is impossible to evaluate it and comment on whether its conclusion that the STELS can be met are justified. Again, the results are suspect because the industry group that commissioned the study has a clear interest in its outcome. (IRTA-10/3/96)

Agency Response: The ARB staff does not agree with the commenter and incorporates the Response to Comment 19 herein. ARB staff relied upon a study authored by Kevin Cosgrove to determine a possible short-term exposure impact. The results of this study were compared to the California Occupational Safety and Health Administration time-weighted average value and the threshold limit value recommended by the American Conference of Governmental Industrial Hygienists. Based on these comparisons, as shown in Table IV-5 of the ISOR, it is unlikely that the limits recommended by either of these agencies would be exceeded. All documentation relied upon for the ARB's analysis of the PERC exemption--including the Kevin Cosgrove study--is included in the rulemaking record and was made available to the public at least 45 days before the November 21, 1996, public hearing.

22. Comment: There is a detailed study in the record that addresses the STEL to workers in automotive repair facilities. This study, which used a worst-case assumption that the aerosol formulation would contain 100 percent PERC, found the average 15-minute STEL to be 42.2 ppm. No exceedances of the 100-ppm ACGIH STEL were observed. The Radiator Speciality study is addressed in detail in the ISOR. IRTA's argument that the results of the Radiator Specialty study were "suspect because the industry group that commissioned the study has a clear interest in it outcome," is specious. The study was conducted by Health and Hygiene, Incorporated and the samples were analyzed by Roche Analytic Laboratory, using analytical methods established by the National Institute for Occupational Safety and Health. Roche is accredited by the American Industrial Hygiene Association. (HSIA-Voytek)

23. Comment: ARB does not analyze a possible increase in the use of PERC in engine degreasers because "engine degreasers are typically used by automotive mechanics in an outdoor or semi-enclosed environment where the engine can be rinsed with water or steam-cleaned after application of the engine degreaser product which is then captured in a designated container for appropriate disposal." It is not clear what data or information ARB are relying upon to conclude that engine degreasers are used in an outdoor environment. Moreover, the waste products are not always captured and, if PERC is present in the contaminated water even in small quantities, it can pose a significant problem for the POTWS. (IRTA-10/3/96 and 11/7/96)

Agency Response: The ARB staff did not specifically analyze the effects of a possible increase in the use of PERC in engine degreasers because the data indicate, as shown in Table IV-2 of the ISOR, that a typical engine degreaser contains very little PERC when compared to brake cleaners. ARB staff based its conclusions that engine degreasers are used in a more open environment on product usage labels. These labels were included in the ISOR as Appendix D.

Although the commenter speculates that the waste water is not always captured for proper disposal, the commenter offers no data to substantiate this claim.

24. Comment: Exempting PERC from VOC regulations will increase its use as a brake cleaner (and general purpose cleaning solvent) in auto repair facilities. ARB dismisses the issue of water contamination without appropriate analysis. SCAQMD found a significant impact under CEQA from their requirement for a conversion to water-based cleaners. We received an EPA Environmental Justice grant to test and demonstrate water-based cleaners in auto repair facilities. Under phase I of IRTA's Environmental Justice project, the spent water cleaning formulations from 15 facilities were analyzed after several months of use to determine if they were classified as hazardous waste and if they met discharge standards. The analysis revealed that, of 15 spent cleaners analyzed, 7 contained VOC. When the VOC was speciated, the components were chemicals from brake cleaning formulations. Three of them had very high concentrations of PERC. ARB is required, under CEQA to conduct an analysis to determine whether the exemption of PERC from VOC regulation will have a significant impact. ARB has conducted limited analysis on worker exposure in terms of personal exposure limit and on wastewater and has concluded that these impacts are not significant. In terms of wastewater, the analysis is incomplete and it fails to address the already substantial groundwater and soil contamination by PERC and the potential for increased PERC loading in the water table through a VOC exemption. (IRTA-10/3/96)

Agency Response: The ARB staff does not agree with the commenter and incorporates the responses to Comments No. 8 and 11. As the ARB staff's analysis indicates in the ISOR, there is a slight potential for an increased use of PERC in non-complying products reformulated to meet the 50 percent by weight VOC standard. As shown in the ISOR, the ARB staff's analysis did not simply dismiss the issue of water contamination that may result from the PERC exemption. Staff analyzed the potential of adverse impacts resulting from the PERC exemption on six pathways to surface water, groundwater, or wastewater treatment systems. It should also be noted that brake cleaners are designed to be sprayed onto brake assemblies and allowed to dry. To have the potential adverse impact on water quality that this commenter alludes to assumes that the majority of brake cleaner users will misuse the products. ARB staff also believes that the VOCs this commenter says were found in the spent water cleaning formulations could be from a variety of products that contain similar solvents to brake cleaners. Simply comparing the components of engine degreasers with brake cleaners, as was done in Table IV-2 of the ISOR, confirms this.

25. Comment: The ISOR addresses the concern of IRTA regarding PERC contamination of ground water resulting from past disposal of PERC by dry cleaning operations and indicates that Board staff will be monitoring PERC emissions in any event. It should be noted in assessing IRTA's comments, that IRTA is sponsoring the conversion of mineral spirit cleaning baths to water-based cleaners. This project has raised a number of concerns by publicly owned treatment works and municipal water districts as to potential contamination from the disposal of these water-based cleaners, because of the presence of heavy metals in the residue. The selective

sampling provided by IRTA is not a sufficient scientific basis for suggesting that aerosol brake cleaning products are significant contributors to whatever waste pollution results from the water-based cleaning systems. The Board should resist IRTA's efforts to link unrelated issues. (HSIA-Voytek)

26. Comment: There are numerous brake cleaners in common use that do not contain PERC. The OSHA regulation on asbestos referred to earlier spurred the development of the water-based brake cleaning systems and they are available and used by many facilities today. The PERC exemption is not necessary to allow brake cleaners to meet VOC limits in consumer products. There are several alternative brake cleaners, including water-based materials. In effect, in light of the damage that could be caused, there appears to be no reason to go forward with the exemption at this time. (IRTA-10/3/96 and 11/7/96)

Agency Response: The ARB staff agrees with the commenter that water-based brake cleaners are available and used by consumers. We also agree that the use of PERC in brake cleaners is not necessary to allow these products to comply with the 50 percent by weight VOC limit. This is confirmed by the ARB's technical assessment on the ability of brake cleaner manufacturers to formulate products to meet the 50 percent VOC standard.

However, the ARB staff does not agree with the commenter that the purpose of the exemption is to allow brake cleaners to comply with the 50 percent VOC standard. The consumer products regulation and aerosol coatings regulations are designed to reduce VOC emissions. A thorough analysis conducted by ARB staff concluded that PERC is of low photochemical reactivity. Because of this analysis, and following a similar exemption made by the U.S. EPA, it is appropriate to exempt PERC from the VOC definition.

27. Comment: IRTA's statement that a "non aerosol water-based brake cleaning system is used by most of the auto repair facilities in the country," is a complete fabrication. According to the Chemical Specialties Manufacturers Association (CSMA) and the Automotive Chemicals Manufacturers Council (ACMC), aerosol brake cleaning products are used by the overwhelming majority of automobile repair shops in the United States. Equally irresponsible is IRTA's suggestion that formulators convert from PERC to acetone which is highly flammable. Spraying acetone around a garage or repair shop in the presence of ignition sources would lead to personal injury, property damage, and even deaths from fires and explosions. (HSIA-Voytek)

28. Comment: The most egregious misrepresentation in the IRTA comments is the statement that the principal beneficiaries of the PERC exemption would be HSIA and the aerosol products formulators, and that the small auto repair facilities in California would suffer. It is the small auto repair facilities who are the backbone of this market in California who cannot afford the expenses of converting to water-based systems that IRTA promotes. The small businesses rely on continued availability of nonflammable aerosol brake cleaning products. (HSIA-Voytek)

29. Comment: There is a conflict in the consumer products document regarding ARB's position on PERC used in brake cleaners on the one hand and methylene chloride used in aerosol adhesives on the other hand. ARB is proposing to delay the VOC limits on aerosol adhesives so that manufacturers of aerosol adhesives can avoid formulating with methylene chloride. Methylene chloride is a carcinogen and ARB, in allowing the delay, is discouraging the use of a very toxic chemical. PERC is also a carcinogen and a much stronger carcinogen than methylene chloride. If ARB finds exposure to methylene chloride unacceptable, then exposure to a stronger carcinogen cannot be acceptable. ARB's position on methylene chloride is not consistent with the position on PERC. ARB indicates that the Board "does not wish to encourage increased public exposure to methylene chloride." We urge ARB to adopt a similar appropriate position in the case of PERC use in brake cleaners and general cleaners. (IRTA-10/3/96 and 11/7/96)

Agency Response: The ARB staff does not agree that there is a conflict regarding the ARB's position on PERC use in brake cleaners, and methylene chloride use in aerosol adhesives. Data indicate that PERC is already used in a large percentage of brake cleaners. We expect only a slight, if any, increase in PERC use in brake cleaners because only a small percentage of these products need to reformulate to meet the 50 percent by weight VOC standard. It is also unlikely that all of these products would choose to comply by reformulating with PERC. Aerosol adhesives, on the other hand, are not using methylene chloride extensively at this time. However, to meet the January 1, 1997, standard of 25 percent by weight VOC, manufacturers would have no other reformulation option than to use methylene chloride to comply. This would be a direct increase in methylene chloride use, and is why we proposed to delay implementation of this standard until 2002.

30. Comment: IRTA's effort to compare the exemption of PERC to the way methylene chloride is regulated in the aerosol coatings regulation is completely disingenuous. There are alternatives to methylene chloride in paints and coatings, that are not available to formulators of aerosol brake cleaners. According to EPA, the evidence does not support considering PERC a probable human carcinogen. (HSIA-Voytek)

31. Comment: The local air districts in California look to ARB for guidance on setting the policy for toxics and several air districts are delaying their exemption of PERC from VOC regulations until ARB exempts the chemical in consumer products. PERC is used widely in stationary source applications and an exemption from VOC regulations would strongly increase its use in other applications because there are no state toxics regulations in place that would limit or minimize the chemical's use. (IRTA-10/3/96)

Agency Response: The ARB staff does not agree with the commenter. It is true that local air districts rely on the ARB to provide guidance on controlling air toxics through the statewide Toxic Air Contaminant Identification and Control Program (AB 1807). However, in the case of determining VOC exemptions, should any air district choose to exempt a compound from a VOC definition in an air district rule, it must conduct its own environmental impacts analysis to determine if there are any adverse impacts before proceeding with the exemption.

The commenter is also incorrect that there are no regulations restricting PERC use. The ARB has developed an ATCM to limit PERC emissions from dry cleaning operations. This control measure limits the emissions of PERC and addresses well over half of the PERC use in California.

32. Comment: The issue that is apparently of greatest interest to IRTA is the fear that an ARB exemption of PERC from its consumer products and aerosol coatings regulations may encourage local air quality management districts to exempt PERC from their stationary source regulations. The Board is not required to consider how its decisions may harm the business activities of a commenter by influencing other regulatory bodies responsible for making similar decisions in different regulatory contexts. It should be apparent that the air districts are fully capable of exercising their lawful authority regardless of the Board's policy-making in a different regulatory context. (HSIA-Voytek)

B. Definitions

33. Comment: We support the various definition changes being made to the regulation and agree that they improve clarity. (USEPA)

34. Comment: We support ARB's proposed amendments to the definitions of "flying bug insecticide" and "crawling bug insecticide" to allow the introduction of products designed to control moths and house dust mites. The proposed amendments address what we view as significant inequities caused by the current definitions. The changes ARB is suggesting will eventually provide Californians with access to products fulfilling important consumer needs, but will not reduce the emissions reductions achieved under the current ARB regulation and Table of Standards. (SC Johnson-oral and written)

35. Comment: We are supportive of all of the modifications being proposed in the definition section of the existing regulation. (CSMA-Nelson; CSMA-Engel-11/21)

Agency Response: In response to Comments 33-35, we note that the Board approved the amendments supported by the commenters.

36. Comment: We support the extension of ARB's regulation to cover institutional and industrial aerosol adhesives by eliminating the word "household" from the former "household adhesives" definition. This change is consistent with our belief that ARB should regulate all aerosol adhesives in the state of California, whether used by consumers, institutions or industry. Assembly Bill 1849, recently signed by Governor Wilson, also requires this change, as well as giving ARB total responsibility for regulating aerosol adhesives beginning January 1, 1997. We also support the change to the "general purpose adhesive" definition to make clear that ARB does not intend to regulate nonaerosol specialty adhesives (which it has not regulated in the past). We support this change because it will hopefully eliminate much of the ambiguity of what products are regulated by the consumer products regulation. (3M-written)

Agency Response: The Board approved the definitional changes supported by the commenter. However, staff notes that "industrial and institutional" adhesives used in the operation or maintenance of an establishment have always been subject to the consumer products regulation. As explained in volume II, page 23 of the ISOR, the amended definition of "adhesive" was intended to clarify this fact.

C. Brake Cleaners

40. Comment: The 50 percent VOC standard for "nonchlorinated" brake cleaners should be immediately reconsidered, or exempted until ARB can determine the size of this "subcategory" through their surveys. "Nonchlorinated" brake cleaners can be accomplished at a level of 75 percent VOC using 25 percent acetone (a non-VOC). However, increasing the acetone content to 50 percent to comply with the 50 percent VOC standard reduces the efficacy. Also, water-based products continue to be unacceptable to most users and offer potential problems and dangers. Hopefully, PERC will be exempted as a VOC so it can be used in "chlorinated" brake cleaners to comply with the 50 percent standard. (Cyclo)

Agency Response: ARB staff does not agree that a separate subcategory and VOC standard for nonchlorinated brake cleaners should be considered. These issues were previously addressed in the 1992 Phase II rulemaking action for consumer products (see pages V.15 to V.18 of the Phase II Technical Support Document, and the Phase II Final Statement of Reasons). As explained in the Phase II rulemaking record, the 1990 consumer products survey showed that in 1990 there were several water-based brake cleaner products that already complied with the January 1, 1997, VOC standard of 50 percent. While it is unclear what the commenter means by stating that water-based products offer potential problems and dangers, we recognize that the typical criticisms of water-based products are that they do not clean as well and take too long to dry. However, manufacturers of these products have indicated to ARB staff that their products achieve similar performance characteristics as nonwater-based products, and no scientific evidence has been presented which indicates that water-based products are ineffective. The concerns regarding water-based brake cleaners have been thoroughly addressed in our responses to comments 129-133, 138, and 139 of the Phase II Final Statement of Reasons.

ARB staff also does not agree that increasing the acetone content in a brake cleaner to a 50 percent level will reduce its efficacy. Among many other factors, the efficacy of a product is determined by the different types and amounts of ingredients that are combined together. From the ARB's 1996 telephone survey, several manufacturers indicated that acetone is already present in their products and will be increased to an appropriate amount, along with other adjustments in the formulation, to comply with the 50 percent VOC standard. With regard to PERC, at the November 21, 1996, hearing the Board approved the staff's proposal to exempt this compound from the VOC definition in the consumer products and aerosol coatings regulations. This exemption may give manufacturers of brake cleaners an additional reformulation option.

41. Comment: Reducing VOC levels for brake cleaners, which are not widely used by the average consumer, will place undue pressure on the manufacturing, labeling, and warehousing of these products. First, ARB imposed these regulations without giving manufacturers a viable means to reach them. Currently, acetone is the only solvent exempted by ARB that can be used as a replacement for VOCs. Using acetone will increase the cost and reduce the efficacy of the product due to longer drying times. The U.S. EPA already exempted PERC as a VOC, but the ARB has not. There is no option to reduce VOCs in chlorinated products.

Second, brake cleaners are not regulated under any other VOC regulation set by other states and the U.S. EPA, which will create distribution problems. Manufacturers will need to sell products exclusively for use in California and another less expensive and more effective set of products for the rest of the world. The penalties due to mixed deliveries could be staggering. These regulations should be standardized across the nation and apply to products more widely used by the consumer. If not, each individual state could set different VOC standards for the same product. (Amrep)

Agency Response: The ARB staff does not agree with the commenter and incorporates the Response to Comment No. 40 herein. Reducing VOC emissions from consumer products, including brake cleaners, is important because these emissions contribute to the ozone problem in California. The importance of this impact is described in the Initial Statement of Reasons for the Phase I and Phase II consumer products rulemakings. The justification and supporting documentation for regulating VOCs from consumer products are found in the Technical Support Document, Phase II, October 1991; Staff Report, Phase II, October 1991; and Appendices, Phase II, October 1, 1991. There are several methods available to reformulate noncomplying products. These methods are described in Volume II, pages 8 to 11 of the Initial Statement of Reasons for the current rulemaking action (October 4, 1996), and also on pages V.1 to V.3 and pages V.15 to V.18 of the Phase II Technical Support Document (October 1991).

Due to the severity of the ozone pollution problem, more stringent measures are needed in California than in other states, or in a national regulation to reach attainment with the national health-based standard for ozone. Therefore, different states will have different levels of regulation. However, ARB staff does not agree that this will create significant distribution problems. While a few companies may choose to have separate distribution systems, most consumer product manufacturers have indicated that they intend to distribute one product nationally. The individual company must weigh the advantages and disadvantages of having a separate distribution system. Finally, it should be noted that the compliance issues faced by manufacturers of brake cleaners are no different in principle than the issues that have been faced by manufacturers of all the other consumer product categories regulated by the ARB. Other manufacturers have successfully addressed these challenges, and ARB staff is confident that brake cleaner manufacturers will also be able to do so.

D. Test Methods

As discussed previously in this FSOR, two separate regulatory actions relating to consumer products were considered by the Board at the November 21, 1996, hearing. The rulemaking action that is not addressed in this FSOR concerns the adoption of ARB Method 310 and the related amendments to the regulatory test methods sections (the "Method 310 rulemaking action"). Comments 42 through 49 pertain to the Method 310 rulemaking action. While for informational purposes these comments are summarized below, they are responded to in the separate FSOR for the Method 310 rulemaking action.

However, it should be noted that there is one CCR section (section 94515, Title 17, CCR) that is being amended by both the Method 310 rulemaking action and the rulemaking action that is addressed in this FSOR. The amendments to section 94515 addressed in this rulemaking action are mostly noncontroversial clarifications, the rationale for which is discussed in the ISOR, Volume II, pages 21 and 22. But there is one amendment to section 94515 that was more controversial. This is the amendment contained in section 94515(b)(3), which provides that the results of Method 310 shall take precedence over a manufacturer's formulation records, in situations where the records are contradicted by the Method 310 results. This language parallels very similar language that is contained within the text of Method 310. While the basic rationale for this language is set forth on page 22, Volume II, of the ISOR, a very detailed discussion and response to the issues surrounding this language is contained in the Method 310 FSOR (see the response to Comments No. 2 - 8, Method 310 FSOR). Rather than repeat this lengthy discussion here, the Method 310 FSOR is incorporated by reference herein.

42. Comment: We are in support of the need for most of the revisions to the existing regulations being proposed by ARB staff. The final problem, however, is one that is of upmost importance to our industry. It concerns the conditions under which results from Method 310 may be used to demonstrate that product formulation data submitted to ARB are inaccurate. We are urging ARB to make certain small but important further modifications to the regulatory language related to Method 310, or to defer adoption of Method 310 until such time as it can be fully validated for use on the consumer products regulated by the existing regulations. (CSMA-Engel-11/21/96)

43. Comment: Section 94515 Test Methods: We strongly object to the language in Subsection (b)(3) which states: "if product records appear to demonstrate compliance with the VOC limits, but these records are contradicted by product testing performed using ARB Method 310, the results of ARB Method 310 shall take precedence over the product records and may be used to establish a violation of the requirements of this article." This language would appear to allow any result obtained using Method 310, whether valid or not, to take precedence over the formulation data supplied by the manufacturer, even if that data were perfectly valid in demonstrating that the consumer product was manufactured with a formula that was in compliance with the applicable VOC limit. This does not represent a justifiable use of Method 310. The purpose of the test method is to provide an estimate of the contents of the

consumer product container that inherently either meets the standard or does not based on the actual contents of the container, not the response of those contents in a given test procedure. Method 310 has not been sufficiently validated regarding either precision or accuracy to justify that it automatically "shall take precedence over product records." There have been no interlaboratory studies whatsoever to evaluate the precision and accuracy of Method 310 using any commercial products subject to these regulations. This total lack of validation cannot justify its results taking precedence over the actual contents of the consumer product as manufactured. Several of our member companies assisted in an interlaboratory "round robin" testing program to begin validation of the precision and accuracy of Method 310. The evaluation was "in all cases, the measured VOC was higher than the calculated VOC." This evaluation shows significant evidence that Method 310 is not reliable to be given automatic precedence over formulation data. We therefore support the adoption of Method 310 only if section 94515(b)(3) is modified to read: "If the Executive Officer is able to demonstrate the inaccuracy of the supplied formulation data, then the Executive Officer will take appropriate enforcement action." If ARB is unwilling at this time to adopt this language and establish a fair and reasonable burden of proof for this finding, then we urge the Board to defer approval of Method 310 until such time as it can be validated for all currently regulated products and forms. (CSMA-Engel-11/21/96; CSMA-Fratz-10/25/96)

44. Comment: Section 1.0 Applicability Test Methods: The method currently has no mechanism to provide estimates of the exempted low vapor pressure (LVP) -VOC content of a consumer product, or any standard procedure to confirm the LVP-VOC status of an ingredient for use in consumer products, and is incapable of measuring the fragrance content that is subject to the two percent fragrance exemption. We ask that Section 1.3 state that "Method 310 does not apply to the determination of the composition or concentration of fragrance components or LVP-VOCs in products." ARB staff has agreed to this modification. (CSMA-Engel-11/21/96; CSMA-Fratz-10/25/96)

45. Comment: Section 2.0 Test Methods: We requested that two unvalidated procedures potentially relevant to estimating LVP-VOC content and status, 2.5 (ASTM D2887-93) and 2.7 (ASTM E1131-86) be deleted, and included with the isoteniscope procedure in our project next year to develop and evaluate LVP-VOC methods for inclusion in Method 310. ARB has agreed to delete these methods. (CSMA-Engel-11/21/96; CSMA-Fratz-10/25/96)

46. Comment: Section 3.0 Testing Procedure: We requested that Section 3.5.1 be changed from "may perform testing to confirm" to "shall perform additional testing to evaluate." ARB staff has agreed to this change. We strongly object to the following subsections: a) 3.6.2: If the Executive Officer is unable to verify the accuracy of the supplied formulation data, then the Executive Officer will take appropriate enforcement action, and b) 3.6.3: If there exists a discrepancy that cannot be resolved between the results of Method 310 and the supplied formulation data, then the results of Method 310 shall take precedence over the supplied formulation data." We urge that these two subsections be modified to read: a) 3.6.2: If the Executive Officer is unable to verify the accuracy of the supplied formulation data, then the Executive Officer will request the product manufacturer or responsible party to supply

information to explain the discrepancy, and b) 3.6.3: If the Executive Office is able to demonstrate the inaccuracy of the supplied formulation data, then the Executive Officer will take appropriate enforcement action."

ARB staff has agreed to our proposed language in 3.6.2, but not our proposed language in 3.6.3. We believe that our language in 3.6.3 allows ARB to act against manufacturers that provide false formulation data, while requiring a reasonable burden of proof in reaching an affirmative finding that the evidence developed under the procedures of Method 310 demonstrates that the formulation data are actually inaccurate, and does not represent the actual content of the product. (CSMA-Engel-11/21/96; CSMA-Fratz-10/25/96 and 11/13/96)

47. Comment: Section 5.0 Method Precision and Accuracy: We believe that it should be made clear that 2 percent precision estimate is absolute percent, not relative percent, and that this section should note that this estimate should increase as additional procedures, such as the LVP-VOCs methods, are added and assessed for precision. We also requested that the significance of the precision estimate be explained in terms of ARB procedures in determining noncompliance. We urge that a statement regarding method accuracy be added to note that the existence of either fragrance material or LVP-VOCs in the product will affect the accuracy of the method. Finally we ask that an outline of Compliance Division procedures be included as an appendix to this method, or separately to show the course of events after a determination is made in Method 310 that "the Executive officer will take appropriate enforcement action" in Section 3.5.3 and 3.6.2, or in handling failures to provide requested data in Section 3.5.4. (CSMA-Engel-11/21/96; CSMA-Fratz-10/25/96)

48. Comment: We concur with ARB that dropping both ASTM D-2887 (GC/FID) and the isoteniscope vapor pressure tests from Method 310 is appropriate at this time to reduce confusion in the understanding of these regulations. We do believe there to be an error in the calculation of Method 310 confidence limits. We believe ARB should give some consideration to raising the confidence limits from the current level of 95 percent. At the current confidence level, there is on average, one analysis out of twenty, when a compliant product will be flagged as non-compliant. Given the expenses, time, and legal costs involved, there is sufficient justification for raising these confidence limits. We believe Method 310 could be used by a business to ensure its products are in compliance, but we are not sure whether ARB would recognize Method 310 results obtained by outside labs or in-house laboratories since the tests are standard ASTM, EPA, and NIOSH methods. In addition, the cost of the method was not considered in the economic impact of the regulation. (CONDEA)

49. Comment: Exxon Chemical is concerned over ARB's proposal to adopt the language Watkins proposed in Appendix A to the Staff Report dated October 4, 1996. This would result in confusion to Exxon Chemical's customers and expose them and Exxon Chemical to enforcement for violation of a ARB regulation because the section withdraws permission for Exxon Chemical to use the isoteniscope method or its initial boiling point-vapor pressure method to determine the LVP content of solvents in consumer products. Upon adoption of

section 94515, use of Exxon Chemical's test procedure can no longer be used. Under the circumstances, we suggest two options: Withdraw from the Board's agenda adoption of any method to certify LVP-VOC, namely ASTM D2887, until the isoteniscope method is included in Method 310 or add the following language to the end of Section 94515: "Notwithstanding the above, a manufacturer of solvents used in consumer products may determine compliance with the requirements of this article using the isoteniscope procedure or other generally accepted procedure for determining vapor pressure until Method 310 is revised to include an isoteniscope procedure." (Kirwan)

E. Fabric Protectants

50. Comment: We urge ARB staff to continue discussion with our member companies who are concerned about their ability to comply with the 60 percent standard for fabric protectants by January 1, 1997. (CSMA-Engel-11/21/96; CSMA-Fratz-10/25/96)

Agency Response: As ARB staff has done in the past, we will continue to work with manufacturers to assist them in complying with the regulatory standards. For those manufacturers who need additional time to formulate 60-percent VOC fabric protectants, the variance provision may be utilized, provided the necessary criteria are met.

51. Comment: We support the 60 percent VOC limit for fabric protectants because technology already exists to produce water-based fabric protectants that have a VOC content below 60 percent and meet performance requirements for many uses. We introduced a water-based fabric protectant in the retail aftermarket which has a VOC content well below the standard, has broad acceptance, is sold nation-wide, and meets most performance needs. Water-based fabric protectants cannot be used on fine fabrics, such as silk; however, special fabrics like these are normally special order and would not normally be post-treated at the retail level. (3M-written)

Agency Response: The ARB staff agrees with this commenter and recognizes that water-based fabric protectants may not always be suitable for use on all fabric types. This was acknowledged during the development of the fabric protectant standard, and the VOC limit was established such that both solvent and water-based products could comply with the regulation. As discussed on pages 3 - 6, Volume II, of the ISOR, the 60 percent standard is technologically feasible for both solvent-based and water-based products. Because of this, ARB staff recommended, and the Board agreed, that the 60 percent by weight VOC standard should take effect as scheduled on January 1, 1997.

F. Sell-through of Products

53. Comment: We urge ARB staff to further revise this section 94509(c) which is now in conflict the California Clean Air Act, as amended by AB 1849. The statute requires that consumer products be allowed a three-year sell-through period, while the existing rule allows only

eighteen months. To be made consistent with current statutory authority, the phrase "for up to eighteen months" must be modified to read "for a period of three years." (CSMA-Engel-11/21/96; CSMA-Fratz-10/25/96)

Agency Response: As suggested by the commenter, at the November 21, 1996, hearing the Board approved amendments to all three consumer products regulations to incorporate the three-year "sell-through" provisions of AB 1849.

G. Code-Dating

54. Comment: Section 94512(b) Code-Dating: ARB staff has responded to our concern and we now support adoption of the proposed changes to this section, including the prohibition on altering or defacing code dates. (CSMA-Engel-11/21/96)

Agency Response: The Board approved these amendments at the November 21, 1996, hearing.

55. Comment: We support exempting zero VOC products from the date coding requirements. (USEPA)

Agency Response: The Board approved these amendments at the November 21, 1996, hearing.

H. Reporting Requirements

56. Comment: Section 94513 Reporting Requirements: We support the modifications to this section which are intended to clarify that the reporting requirements of this regulation are not automatic, but occur only on written notice from the Executive Officer. (CSMA-Engel-11/21/96)

Agency Response: The Board approved these amendments at the November 21, 1996, hearing.

I. Aerosol Adhesives

57. Comment: We support the ARB staff's proposal to postpone the 25 percent by weight VOC standard for consumer aerosol adhesives from January 1, 1997, to January 1, 2002. We appreciate ARB's recognition of the technological impossibility of achieving a 25 percent VOC limit for aerosol adhesives (without use of methylene chloride). We also strongly support the scheduled June 1, 2000, public hearing to review the 25 percent VOC standard for economic and technical feasibility to ensure that the 25 percent VOC content is actually achievable prior to implementing this limit. We recognize that ARB's extension of the 25 percent VOC limit until the year 2002 creates a State Implementation Plan (SIP) shortfall and we appreciate ARB finding credits through the year 2002 to compensate for this shortfall. There is no real reason to

conclude (nor is one set forth in the document) that there will be technical advances which will render the 25 percent standard feasible by 2002. The postponement will comply with the current amendments to California Health and Safety Code (section 41712), which grants ARB primary authority to regulate aerosol adhesives statewide and maintains the 75 percent limit. (Sherwin-Williams-Adhesives-written and oral; NPCA; WILSONART; 3M-written and oral; Loctite)

Agency Response: At the November 21, 1996, hearing the Board approved the staff's recommendation to postpone the 25 percent VOC standard until January 1, 2002, as well as the staff's recommendation to conduct a technical assessment by June 1, 2000. However, the ARB staff disagrees with the statement that the 25 percent VOC standard is not feasible and cannot be achieved by 2002. As explained on page 17 (Volume II) of the ISOR, there are currently products on the market that comply with the 25 percent VOC standard. While these products rely on the use of methylene chloride, we are also aware that industry is expending significant resources toward developing low-VOC aerosol adhesives that do not use methylene chloride. If the technical assessment shows that a higher standard is appropriate, we will propose modifications to the standard at the Board hearing to be held by June 1, 2000.

58. Comment: We do not agree with maintaining January 1, 2002, as a date for revision to the 25 percent standard as we feel it sends an inaccurate message to other states and air pollution control districts within the state that this limit will truly be attainable at that time. (WILSONART)

Agency Response: The ARB staff does not agree with this commenter and incorporates the Response to Comment 57 herein. Each state and air pollution control district must conduct their own assessment as to the feasibility of the 25 percent VOC standard. If the technical assessment shows that a higher standard is appropriate, we will propose modifications to the standard at the Board hearing to be held by June 1, 2000.

62. Comment: We support the proposed amendments that will delay the 25 percent by weight standard for aerosol adhesives until January 1, 2002. We support this amendment so that we can retain a similar standard in our Rule 74.20, Adhesives and Sealants, which has been approved by EPA as an amendment to the SIP. If the 25 percent standard were removed from consumer products regulations, state law would require us to also remove it from the Ventura County Air Pollution Control District's Rule 74.20, which would be a relaxation of the SIP. We would be very concerned if the Board removes the 25 percent aerosol adhesive standard without providing compensating emission reductions from a state regulatory measure. A state-mandated relaxation of an air district regulation should not put the burden on our local industrial sources to account for the lost emission reductions. (VCAPCD)

Agency Response: The Board approved the staff's proposal to postpone the effective date of the 25 percent VOC standard until January 1, 2002. ARB staff is aware that removing the 25 percent standard without making up the foregone emission reductions would constitute a SIP

relaxation. As explained on page 20 (Volume II) of the ISOR, the ARB plans to use unclaimed emission reductions from the aerosol coatings category to make up for the foregone reductions until January 1, 2002. If in the year 2000 our technology assessment shows that a higher standard is appropriate, we will work with industry, the local air districts, and the U.S. EPA to ensure that no SIP relaxation occurs.

63. Comment: We support ARB's revision to postpone the 25 percent standard for aerosol adhesives to 2002, provided that you meet the SIP commitment for the emission reductions foregone by this action, 0.2 tons per day from 1997 to 2002. We understand that ARB intends to use unclaimed reductions from the aerosol coatings rules to fully mitigate the foregone reductions from the aerosol adhesives. We support this idea in principle as a satisfactory mitigation for the 0.2 tons per day foregone from the aerosol adhesives category. We expect that a 110(l) demonstration will accompany submittal of these regulatory revisions to us as a SIP revision, and we will provide you with guidance on the formulation of such a demonstration. (USEPA)

Agency Response: ARB staff agrees with the commenter that using the unclaimed reductions from the aerosol coatings category will make up for the foregone emission reductions from aerosol adhesives, so that no SIP relaxation will occur. As mentioned by the commenter, the ARB also intends to include in the SIP revision a demonstration that the revision is consistent with section 110(l) of the federal Clean Air Act.

II. Comments Received During the First 15-day Comment Period (March 17 to April 1, 1997)

J. Low Vapor Pressure Compounds

64. Comment: Section 94513(a)(10)(B) of the Regulation for Reducing VOC Emissions form Consumer Products requires that the chemical name and associated Chemical Abstract Service (CAS) number of LVP-VOC's be reported. Since low vapor pressure VOCs are exempt from the requirement of this regulation, we feel that it jeopardizes the confidentiality of our formulations to disclose the identity of these materials. We do not have a problem with the disclosure of the amounts of these materials contained in a product as long as the specific identity does not have to be disclosed. (BUTCHER'S)

Agency Response: This comment is not related to the modifications made in the March 17, 1997, Notice of Public Availability of Modified Text. However, the ARB staff responds as follows: supplying formulation information pursuant to section 94513(10)(B) would not jeopardize the confidentiality of this information, because the ARB protects trade secrets and other confidential information as specified in the California Public Records Act and ARB regulations (see Title 17, CCR, sections 91000-91022). This confidentiality protection is specifically provided by section 94513(c) of the consumer products regulation.

K. Perchloroethylene

65. Comment: We have reviewed the amendments to the regulation with special attention to the PERC products' reporting requirements. We believe these reporting requirements as stated in the latest revisions, coupled with the POTW PERC monitoring, will provide ARB and Tri-TAC with the ability to determine if POTWs are being adversely impacted by the delisting of PERC as a VOC. We support this regulation amendment.
(Tri-TAC)

Agency Response: The ARB staff agrees with this commenter and notes that the amendments supported by the commenter were approved by the Board at the November 21, 1996, hearing.

L. Aerosol Adhesives

66. Comment: Many aerosol adhesives have been regulated by the individual air districts in California since the early 1990's because of their industrial use. The air district definitions for aerosol adhesives include the qualifiers "hand-held" and "disposable." In spite of these qualifiers, every air district we contacted gave us either verbal or written assurances that our larger and recyclable containers would be considered aerosols, and would be so regulated. Although there is no definition of aerosol adhesive in AB 1849, ARB has taken the position that it only applies to hand-held, disposable cans. This is in spite of the fact that larger products have historically been regulated as aerosol adhesives and ARB's own definition of "Aerosol Product" contains no such qualifiers. We do not understand the rationale of a special definition for this single product, when that language is counter to the conventional definition for aerosols used by the ARB, and by the U.S. EPA. Additional criteria added to that accepted meaning is unnecessarily restrictive for some aerosol adhesives, and those controversial requirements could later be used as a precedent for newly-developed aerosols in other product categories. All additional criteria should be deleted, and CARB's original definition of aerosol adhesive should be retained. (EAA; STA'-PUT®; NAA)

Agency Response: The ARB staff does not agree with the commenters and incorporates the Responses to Comments 76 and 77 herein. The comments received by the ARB from air district staff, as well as the plain language of air district adhesive rules, do not support the statement that large, recyclable containers have historically been regulated as aerosol adhesives by the air districts. In proposing a definition for aerosol adhesive, the ARB is clarifying the intent of AB 1849, which transferred authority over previously regulated industrial uses of aerosol adhesives from the air districts to the ARB. A detailed discussion of the rationale for the amendments is contained in the "Supplemental Notice of Availability of Modified Text and Availability of Additional Documents," which was made available to the public on July 17, 1997, and is incorporated herein.

In addition, we do not believe that adding additional criteria to the definition of aerosol

adhesive will set a precedent for other product categories. Any such change to the general definition of "aerosol product" would be subject to the full rulemaking process established by the Administrative Procedure Act. In this process the commenters would be free to participate and suggest appropriate regulatory language.

67. Comment: The proposed aerosol adhesive definition is limited to "disposable" containers that will further add to the already burdened landfills. There is less waste with one large container compared to multiple hand-held containers. It is our belief that any definition of aerosol product should allow recyclable as well as disposable containers. While ARB's primary mandate is air quality, allowing disposable containers while forbidding recyclable ones is counterproductive when it comes to solid waste issues. A large refillable container will not be disposed of, but reused. (GRACO; TITECO; SATA)

Agency Response: The ARB definition for "aerosol adhesive" limits this category to "nonrefillable" (i.e., disposal) cans in order to be consistent with the local air district definitions. ARB staff does not agree with the commenter's speculation that more waste would occur because the ARB is using to use the definitions that have historically been used by the air districts. This simply means that the ARB is not regulating the large refillable containers, which will continue to be subject to the more stringent VOC limits in the current air district adhesives rules. ARB staff also notes that not all of the large containers are recyclable, and that products are currently available which can meet the limits in the air district rules. Even if the larger, noncomplying adhesive products were no longer manufactured, the likely result is that industrial users would simply switch to the complying bulk, sprayable systems that are currently available, rather than purchase numerous small cans of aerosol product. The vast majority of large-scale industrial spray adhesive applications are currently accomplished through the use of air atomized spray equipment rather than aerosol products.

68. Comment: Any definition of aerosol product should allow those which are attached to ancillary equipment such as spray guns. The use of ancillary equipment such as a spray gun allows precise selection of spray pattern size which in turn leads to higher transfer efficiency and lower VOC emissions. In an industrial setting, efficiency is far greater with an aerosol system than a bulk product. Bulk products require external power and equipment to apply, and air atomized application is less efficient, requires high maintenance, and subjects the operator to both bulk liquids and fine mists. Clean-up of an air powered system is equally labor intensive and uses solvents that add to the waste and emissions. Spray application will still have to comply to current transfer efficiency standards, so there will be no added burden to the current regulatory body. (GRACO; SATA; TITECO)

Agency Response: The response to the previous two comments explain why the ARB did not adopt the definition of "aerosol adhesive" suggested by the commenters. ARB staff also does not believe that air-atomized bulk adhesives are less efficient than aerosol systems in industrial settings. Air district rules contain transfer efficiency requirements for spray equipment and require the use of enclosed systems, or low-VOC or low vapor pressure solvents, to minimize

emissions from cleanup.

69. Comment: The proposed definition of aerosol adhesive represents an unfair surprise on the part of ARB. The modified language was not included in the staff modifications developed prior to the November 21, 1996, hearing, and distributed during the hearing. There is no indication regarding why this statement was added, or under what authority it was added, nor is there any statement in AB 1849 that would imply the need for such a change in this definition. The proposed definition of aerosol adhesives appears to have been made quickly and without sufficient review of all pertinent inputs. Therefore, we believe that such a significant change in the definition should, at a minimum, be considered an original notice and should require a minimum 45-day comment period. The added language must be deleted, and the originally proposed definition must be promulgated as approved by the Board. (CSMA; STA'-PUT®)

Agency Response: The commenters are correct in stating that the proposed definition of "aerosol adhesive" was not part of staff's suggested modifications that were made available at the November 21, 1996, hearing. However, a new 45-day notice is neither necessary nor legally required. The modifications to the "aerosol adhesive" definition are within the scope of the originally noticed item, which proposed several definitional changes in the adhesives category, and also proposed modifications to the VOC standard for aerosol adhesives. To address some of the commenter's concerns, however, a Supplemental Notice of Public Availability of Modified Text and Availability of Additional Documents, dated July 17, 1997, was circulated to set forth the rationale for the modified language and give the affected public an additional opportunity to comment.

The commenters also appear to be asking whether the Executive Officer has the authority to issue a 15-day notice containing regulatory language which differs somewhat from the language approved by the Board at the November 21, 1996, hearing. This is a standard practice that has been used at the ARB for many years. In this rulemaking, the authority was delegated to the Executive Officer by the language in Resolution #96-58 which (on page 4) directs the Executive Officer to adopt the modified regulatory language "... and such other conforming modifications as may be appropriate...", and further directs the Executive Officer to consider such written comments as may be received during the 15-day comment period and "... make modifications as appropriate in light of the comments received...". This broad delegation of authority to the Executive Officer is specifically allowed by Health and Safety Code sections 39515 and 39516.

70. Comment: The proposal unfairly favors large businesses over small companies. Only small companies with less than 50 employees are supplying aerosol adhesives in larger and recyclable containers. These small manufacturers must now meet statewide regulations for their hand-held units, and must also meet various air district rules for the larger containers. This is burdensome for a large company; even more onerous for a small company with limited marketing or regulatory management resources. In contrast, companies that produce "traditional" aerosol cans would benefit from AB 1849 and are primarily very large organizations. Therefore, we

believe the regulatory definition of aerosol adhesives proposed by ARB would result in an unlevel playing field tilted against the small companies that are producing innovative and more environmentally acceptable alternative products. We request that the large recyclable aerosol adhesives be included in the State's accepted definition of aerosol products, and be regulated by the state rather than by the various air quality districts. (NAA; STA'-PUT®)

Agency Response: The ARB staff does not agree with these commenters and incorporates the Responses to Comments 76 and 77 herein. Air district staff and the language of the air district rules indicate that the large aerosol containers have historically been subject to air district adhesives rules. The ARB's definition of "aerosol adhesive" is intended to clarify that these products are not subject to a new standard as a result of AB 1849. The amended definition will not result in an "unlevel playing field" because all companies, large or small, must comply with the same regulatory standards. As with any regulatory standard, it is possible that certain companies (e.g., small companies) may have fewer resources than other companies, and a more difficult time complying with the standards. If compliance would result in an extraordinary economic hardship, variances are available from both air district rules and ARB consumer products regulations, provided that the specified variance criteria are met.

71. Comment: The aerosol products we supply in larger and recyclable aerosol canisters contain less than half the VOCs of competitive products in aerosol cans. In addition, we have formulated and have available aerosol adhesive in recyclable aerosol canisters that contain significantly less than 75 percent VOCs and do not contain methylene chloride. The proposed regulatory definition of aerosol adhesives would exclude these products, depriving California manufacturers of these alternatives and resulting in higher VOC emissions. All of these products would be effectively banned because the VOC levels would exceed the levels allowable under the remaining air district regulations. (STA'-PUT®)

Agency Response: The ARB staff does not agree with the commenter. VOC emissions will not increase because large, refillable containers are not regulated by the ARB as aerosol adhesives. On the contrary, VOC emissions would increase if the commenter's suggestions were followed and the larger products were allowed to meet a 75 percent VOC standard, instead of complying with the more stringent air district standards for non-aerosol adhesives. This is because manufacturers of these larger products would now be able to sell their products in air districts that previously limited the use of these products under the more stringent air district non-aerosol standards.

72. Comment: The language proposed in the March 15, 1997, 15-day notice would be to utilize the term "aerosol adhesive" to exclude many industrial products that meet the definition as being both an "adhesive" and an "aerosol product" under the definitions of the consumer products rule, while apparently having it include hundreds of different aerosol products that do not meet the definition of adhesive. (CSMA)

Agency Response: The ARB staff agrees with this commenter that there was a drafting error in the "aerosol adhesive" definition that was included with the first 15-day notice. Under this proposed definition, all aerosol products, including such products as hairsprays, could technically have been considered "aerosol adhesives." This error was corrected in the second 15-day notice (the Supplemental Notice of Availability of Modified Text and Availability of Additional Documents, dated July 17, 1997), which clarified that "aerosol adhesive" includes only adhesive products, and not other types of aerosol consumer products.

73. Comment: We support all the changes that affect adhesives. We particularly agree with the change in the definition of an aerosol adhesive, because this change eliminates any doubt as to what is and what isn't classified as an aerosol adhesive. (3M)

Agency Response: The ARB staff agrees with this commenter.

74. Comment: We support the proposed definition for aerosol adhesives which limits the applicability to hand-held aerosol containers. All the adhesive regulations that have been adopted by local air districts reference hand-held application to limit the applicability to consumer-type products. The proposed definition will indirectly benefit air quality statewide. It will also be consistent with adopted local air district regulations and state law. Including the larger pressurized cylinders as aerosols under the Consumer Products Regulation would transfer new authority to ARB to regulate products that have never been considered aerosol products by the air districts. Such a grant of authority does not appear to have been intended by AB 1849. Also, any change in the current language to include these larger containers as aerosol adhesives would undermine certain limits in the local rules, particularly those for contact adhesives. Manufacturers that have spent significant sums of money on research and development of new low-VOC products would be subjected to competition from manufacturers that have simply repackaged conventional high-VOC products. (VCAPCD; BAAQMD)

Agency Response: The ARB staff agrees with these commenters that the proposed "aerosol adhesive" definition, which limits the statewide 75 percent VOC standard to hand-held aerosol cans, is appropriate. We also agree that large canister products requiring the use of ancillary hoses and spray equipment do not meet the definitions of aerosol adhesives found in adopted air district adhesives rules. There are products in current use that meet the air district limits for other adhesive categories, and we agree that the industrial-size pressurized products should continue to be subject to the more stringent air district standards. ARB staff also agrees that manufacturers of low-VOC adhesives would be placed at an unfair disadvantage if higher-VOC, solvent-based products are subject to a 75 percent VOC limit rather than the more stringent air district standards.

III. Comments Received During the Second 15-day Comment Period (July 17 to August 1, 1997)

M. Aerosol Adhesives

75. Comment: CSMA has submitted Comments on this issue in our letters dated March 28, 1997, and April 18, 1997. CSMA is hereby resubmitting these written comments for the record. (CSMA)

Agency Response: The ARB staff incorporates the responses to Comments No. 69 and 72 herein. In their March 28, 1997, letter the CSMA comments that additional changes were made to the aerosol adhesive definition beyond those that were proposed and approved by the Board at the November 21, 1996, hearing. While it is true that additional changes were made to the definition, these changes were legally permissible for the reasons explained in the response to Comment No. 69.

The CSMA also commented in the March 28, 1997, letter that the added language was ambiguous because it had the unintended effect of including hundreds of different aerosol products that do not meet the definition of "adhesive." As explained in the response to Comment No. 72, the ARB staff agreed with this comment and responded by modifying the language, and making the modified language available for a second 15-day comment period.

The April 18, 1997, letter from the CSMA comments on the definition of "aerosol adhesive" contained in the Draft Proposed Determination Of Reasonably Available Control Technology And Best Available Retrofit Control Technology For Adhesives And Sealants guidance document, and states that this definition is different from the definition in the consumer products regulation. ARB staff notes that this comment is not directed at the Supplemental Notice of Availability of Modified Text and Availability of Additional Documents, dated July 17, 1997. The letter again reiterates the comment in the March 28, 1997, letter that additional language was added to the aerosol adhesive definition that was not approved by the Board at the November 21, 1996, hearing. This comment is addressed to in the response to Comment No. 69.

76. Comment: We would like to point out again, for the record, that large recyclable containers with ancillary hoses and spray equipment were never meant to be excluded by AB 1849. In fact, all of the products which would now be excluded by the new definition would have been considered aerosol products under the ARB's definitions existing when the Regulations for Reducing Volatile Organic Compound Emissions from Consumer Products were first introduced, and when AB 1849 first became law. ARB was not even aware of the existence of such products until after AB 1849 became law.

ARB was not aware of the large, recyclable aerosol products until approached by STA'-PUT® INCORPORATED at the end of January 1997 to obtain clarification on the status of our products under the new law. ARB then modified the definition directly as a result of those contacts to target the products supplied by STA'-PUT® INCORPORATED. This would appear to be highly inappropriate and illegal modification of the amendments considered by the Board at the November 21, 1996, meeting, and inconsistent with the intent of AB 1849. (STA'-PUT®)

Agency Response: The ARB staff disagrees with the statement that the large recyclable

products were not meant to be excluded under AB 1849. Assembly Bill 1849 transferred authority to regulate aerosol adhesives previously regulated by the air districts to the ARB. It is therefore logical to conclude that AB 1849 was not intended to include additional products not previously regulated by the air districts as aerosol adhesives. Therefore, we have defined aerosol adhesives to be consistent with the adopted air district rules. The air districts support the proposed definition. Furthermore, based on the language of the air district rules and written comments provided by three air districts, we concluded that the large pressurized containers had not been previously regulated as aerosol adhesives under air district rules.

ARB staff also discussed this issue with staff of the Yolo-Solano Air Quality Management District (YSAQMD). The YSAQMD had previously issued a letter on December 8, 1995, in which they stated that the large pressurized containers would be considered aerosol adhesives. YSAQMD staff has indicated that this determination had been made based on the limited information they had at the time. YSAQMD staff also stated that based on subsequent information obtained by the air district, they no longer consider the large pressurized containers to be aerosol adhesives. A summary of this conversation between ARB and YSAQMD staff was added to the rulemaking record in the second 15-day notice, as provided in Government Code section 11346.8(d). Information provided by the commenter STA'-PUT® in early 1997 was also added to the record in the same notice. Finally, the authority for the ARB's modifications is addressed in the response to Comment No. 69.

77. Comment: We want to point out, for the record, that the larger recyclable containers with ancillary hoses and spray equipment have historically always been regulated by individual Air Management Districts. This point has been made repeatedly in the correspondence with ARB, and has been backed up with names of individuals contacted at the air districts and letters of understanding. To suggest otherwise, as was done in the supplemental notice of July 17, 1997, is to ignore the facts and attempts to rewrite history. Large recyclable aerosol containers with hoses and spray equipment have always been regulated as aerosol adhesives by the air districts and should continue to be regulated as aerosol adhesives by ARB under AB 1849. (STA'-PUT®)

Agency Response: The ARB staff does not agree with the commenter. ARB staff reviewed all of the air district rules relating to adhesives and sealants. The definition of aerosol adhesives in all of the air district rules contains references to "hand-held" or "disposable" or both. Furthermore, we received letters from the Bay Area Air Quality Management District, and Ventura County Air Pollution Control District supporting the proposed definition for aerosol adhesives and stating that the proposed definition is consistent with the air districts' historical interpretation of what qualifies as aerosol adhesives.

78. Comment: We take strong exception to the statement in the Supplemental Notice that "the proposed language is a common sense definition of the term aerosol adhesive." The major aerosol industry associations including, National Aerosol Association, Southern Aerosol Technical Association, Eastern Aerosol Association, WAIB and the Chemical Manufacturers Association have all commented in writing to the ARB that the definition of aerosols should not

include references to size, recyclability or ancillary equipment. Therefore, we believe the reference to the "common sense definition" by ARB is inappropriate, prejudicial, and completely outside of standard aerosol industry practices and concepts. Large and recyclable containers with ancillary devices meet the common industry definitions for aerosol adhesives, and such devices should be regulated as aerosols. (STA'-PUT®)

Agency Response: The ARB staff does not agree with this commenter and incorporates the Responses to Comments 76 and 77 herein. The intent of AB 1849 was to transfer to the ARB the authority to regulate aerosol adhesives previously regulated by the air districts. Therefore, it is reasonable to make the definition of "Aerosol Adhesive" consistent with the air district rules previously in place.

79. Comment: We believe that aerosol adhesives should be defined simply as pressurized systems that use propellants to disperse the product. The additional qualifiers proposed by ARB go well beyond the historical interpretation by the individual air districts and beyond the scope envisioned in AB 1849. As such the reference to "spray mechanism...permanently housed in non-refillable can," "hand held" and "ancillary hoses or spray equipment" should be deleted from the proposed definition. (STA'-PUT®)

Agency Response: The ARB staff does not agree with this Commenter and incorporates the Responses to Comments 76 and 77 herein. For the reasons discussed previously in these responses, we believe that the definition of "aerosol adhesive" is both consistent with AB 1849 and the air district rules for aerosol adhesives.

80. Comment: The supplemental notice was received only ten days before the end of the public comment period. We believe the timing of the notice does not allow sufficient time for all interested parties to prepare responses and that a larger comment period should be allowed. (STA'-PUT®)

Agency Response: The ARB staff does not agree with this commenter. The Supplemental Notice of Availability of Modified Text and Availability of Additional Documents dated July 17, 1997, was mailed to interested parties consistent with all legal requirements. We believe that sufficient time was provided for a response, particularly because the commenter's issues raised by the Supplemental Notice were essentially the same issues raised by the Notice of Public Availability of Modified Text dated March 17, 1997. Thus the public was provided over four months to fully consider their responses to this issue. The information was also made available on ARB's Worldwide-Web Internet Site and at the ARB's public information office.