California Environmental Protection Agency

Air Resources Board

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

PUBLIC HEARING TO CONSIDER ADOPTION OF AMENDMENTS TO THE CALIFORNIA CONSUMER PRODUCTS REGULATION -- MID-TERM MEASURES

Scheduled for Consideration: July 24, 1997
Agenda Item No: 97-6-4

State of California
AIR RESOURCES BOARD

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TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

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I. INTRODUCTION

On July 24, 1997, the Air Resources Board (the "Board" or "ARB") conducted a public hearing to consider amendments to the regulation for reducing volatile organic compound (VOC) emissions from consumer products (the "consumer products" regulation; Title 17, California Code of Regulations (CCR), section 94507-94517). An Initial Statement Of Reasons for Proposed Rulemaking (ISOR) was prepared and made available to the public on June 6, 1997. 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 97-37, in which the Board approved the proposed amendments to the consumer products regulation. The approved amendments add 25 VOC limits for eighteen additional consumer product categories to the Table of Standards (which specifies the allowable VOC content of consumer products within specified time periods). The approved amendments included modifications to the originally proposed language. 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 97-37 directed the Executive Officer to adopt the modified regulation after making the modified regulatory language 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 regulation, with the modifications clearly indicated, was mailed on October 6, 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 regulation was made available to the public for a 15-day comment period from October 6, 1997 to October 21, 1997, pursuant to Government Code section 11346.8. The Executive Officer then determined that no additional changes should be made to the regulation, and subsequently issued Executive Order 98-035, by which the modified regulation was 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 amendments 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 adopted regulation is a "major regulation" within the meaning of Health and Safety Code section 57005 (enacted by Senate Bill 1082: Stats. 1993, ch. 418), because the regulation will have an economic impact of the state's business enterprises in an amount exceeding ten million dollars. During the 45 and 15-day comment periods, no alternatives or combination of alternatives were submitted to the ARB which would be equally as effective as the proposed regulation (i.e., no alternatives, or combination of alternatives, were submitted which would achieve at least the equivalent level of environmental protection within the same time frame as the proposed regulation.)

The Board has also determined, pursuant to Government Code section 11346.5(a)(3)(B), that the regulations may affect small business. 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 which would be as effective and less burdensome to affected private persons, than the adopted regulations.

II. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL

Various modifications to the original proposal were made in order to address comments received during the 45-day public comment period, to clarify the regulatory language, and to correct minor clerical errors. These modifications are described below.

1. Section 94508. Definitions

   The definition of "Dry Cleaning Fluid" in section 94508 was modified to include products used exclusively on "S-coded" fabrics, which are upholstery fabrics designed to be cleaned only with water-free spot cleaning products. The definition of "Lubricant" was modified to exclude products that are sold to establishments that manufacture or construct goods or commodities and that state on their label "not for retail sale."

2. Section 94509. Standards for Consumer Products. The following modifications were made to section 94509:

   Section 94509(a). Several changes were made to the originally proposed VOC standards and effective dates specified in the Table of Standards. First, all of the VOC standards with January 1, 2000 effective dates were extended to January 1, 2001 to give manufacturers more time to comply. This modification affected automotive wax, polish, sealant or glaze (instant detailers), carpet and upholstery cleaners, non-aerosol general purpose degreasers and spot removers. Second, the first tiers of the two-tiered VOC standards were eliminated so that manufacturers could comply by meeting one VOC standard rather than two. This modification affected heavy-duty hand cleaners or soaps, multi-purpose lubricants, penetrants, and paint removers or strippers. Third, the effective dates were extended for automotive rubbing or polishing compounds, metal polish/cleanser and non-aerosol rubber and vinyl protectants to give businesses more time to comply with the VOC standards. Fourth, a new January 1, 2003 effective date was added to the Table of Standards for multi-purpose lubricants, penetrants and non-aerosol rubber and vinyl protectants. Finally, the VOC standards were increased for automotive rubbing or polishing compound, heavy-duty hand cleaner or soap, multi-purpose lubricant, penetrant, and ready-to-use non-aerosol carpet and upholstery cleaner to meet industry's concerns and to discourage the use of Toxic Air Contaminants.

   Section 94509(c). The sell-through provision was slightly modified for clarification purposes.

   Section 94509(e). The January 1, 1993 effective date was deleted from the ozone-depleting compounds provision in order to clarify that the product categories included in the Mid-term Measures are not subject to this provision until the regulation becomes legally effective.

   Section 94509(j). The original proposal set forth labeling requirements for floor wax strippers. Section 94509(j) was modified in order to clarify and add greater specificity to these labeling requirements.

3. Section 94510. Exemptions Section 94510(b) was slightly modified for clarification purposes.

4. Section 94512. Administrative Requirements. Sections 94512(b) and (c) were slightly modified for clarification purposes.

5. Section 94513. Reporting Requirements. This section was modified based on changes made to the effective dates in the original proposal. First, section 94513(g)(3)(A) was modified to reflect the reporting requirements for product categories with VOC standards effective January 1, 2001. Next, section 94513(g)(3)(C) was added to specify the reporting requirements for product categories with VOC standards effective January 1, 2003. Finally, subsection 94513(h) was deleted because it applied to categories with two-tiered VOC

standards; this subsection is no longer necessary because the two-tiered VOC standards were eliminated.

6. Section 94514. Variances. Sections 94514(b) and (c) were slightly modified to correct a clerical error. This error occurred when section 94514 was reorganized in a rulemaking action approved by the Board in November 1996. As part of this reorganization, the following sentence was inadvertently placed at the end of subsection (c): "Interested members of the public shall be allowed a reasonable opportunity to testify at the hearing, and their testimony shall be considered." This sentence should have been placed at the end of subsection (b), where it makes more sense in context (i.e., subsection (c) deals with "Notices and public hearings for variances" and subsection (c) deals with "Treatment of confidential information.") Therefore, we moved this section from the end of subsection (c) to the end of subsection (b), and this modification is reflected in the final regulation order for the current rulemaking action. This modification was not shown or made available during the 45 or 15-day comment periods for this rulemaking action. However, it is a change without regulatory effect, since the above sentence is not being changed; it is simply being moved a few up lines in the regulation. We therefore request that this change be approved by OAL pursuant to section 100, title l, CCR, as a change without regulatory effect.

7. Section 94515(b)(2). A minor change was made to this subsection in order to correct a typographical error in the numbering of the definition of "VOC" in section 94509. As with the change described in No. 9 above, this is a change without regulatory effect that was not shown or made available during the 45 or 15-day comment periods. This change is also reflected in the final regulation order for the this rulemaking action.

8. In addition to the modifications described above, various other minor clarifications and grammatical modifications were also made to the regulatory language. All of these modifications were shown in the 15-day notice and made available during the 15-day comment period from October 6, 1997 to October 21, 1997.

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III. SUMMARY OF COMMENTS AND AGENCY RESPONSES

The Board received numerous written and oral comments during the 45-day comment period for this regulatory action. A list of commenters is set forth below with 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 with an explanation of how the proposed action has been changed to accommodate the objection or recommendation, or the reasons for making no change. Only one comment letter was received during the 15-day public comment period. This comment letter is not summarized or responded to below because the letter supports the proposed regulatory changes and makes no specific recommendations.

Comments Received During the 45-day Public Comment Period

Abbreviation	Commenter
3M	Richard A. McKelvey Product Responsibility Senior Specialist 3M Automotive Aftermarket Division written testimony: July 22, 1997
3M	Dennis L. Stein Product Responsibility Senior Specialist 3M Corporate Product Responsibility oral testimony: July 24, 1997
ACMC	John Carney, Group Executive Automotive Chemical Manufacturers Council written testimony: July 18, 1997 oral testimony: July 24, 1997
APAA	Aaron M. Lowe, Senior Director Regulatory and Governmental Affairs Automotive Parts & Accessories Association written testimony: July 1, 1997 oral testimony: July 24, 1997
BM	Don Williams Blackhawk Museum oral testimony: July 24, 1997

CAP	Kenny Cason, Director of Advertising Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Bill Cavalle, Vice President Commercial and International Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Joyce Cerneka, Associate Product Manager Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Brian Dean, Sr. Product Manager Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Steve Demas, Sr. Product Manager Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Sue Diehl-Sellman, Sr. Product Manager Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Rick Eisenberg, Sr. Product Manager Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Lee Hunt, Sr. Product Manager Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Ron Lane Chief Auto Parts Inc. oral testimony: July 24, 1997
CAP	William V. Pantuso, Vice President Merchandising and Distribution Chief Auto Parts Inc. written testimony: July 9, 1997

CAP	Bill Silcott, Product Manager Chief Auto Parts Inc. written testimony: July 9, 1997
CAP	Rusty Woodland, Sr. Product Manager Chief Auto Parts Inc. written testimony: July 9, 1997
CAWA	Jennifer Zins Thomas, Legislative Liaison California Automotive Wholesalers' Association, Inc. written testimony: July 21, 1997
CC	Victoria Jones, Manager of Government Relations The Clorox Company written testimony: July 18, 1997
CSK	Jim Bazren, President and CEO CSK Auto written testimony: July 23, 1997
CSMA	D. Douglas Fratz, Director of Scientific Affairs Chemical Specialties Manufacturers Association written testimony: June 30, 1997 July 15, 1997 July 24, 1997
CSMA	Michael F. Thompson, Director of State Legislative Affairs Chemical Specialties Manufacturers Association oral testimony: July 24, 1997
CTCA	Kenneth A. Dalpè, Analyst Regulation Review Unit California Trade and Commerce Agency written testimony: July 17, 1997
CTFA	Catherine Beckley Cosmetic, Toiletry, and Fragrance Association oral testimony: July 24, 1997

DB	Robert Graham, Vice President & Technical Director Research & Development Diversified Brands written testimony: July 21, 1997 oral testimony: July 24, 1997
DB	Doug Raymond, Director, Regulatory Affairs Diversified Brands written testimony: July 21, 1997
DPR	Paul H. Gosselin, Assistant Director Division of Enforcement, Environmental Monitoring and Data Management Department of Pesticide Regulation written testimony: July 21, 1997
EFP	Bill Quest E F Products, Inc. written testimony: July 10, 1997
EO	Elsie Jordan Eagle One Company oral testimony: July 24, 1997
GAS	Marc. C. Graham, General Manager Grand Auto Supply written testimony: July 8, 1997
GL	Doug Dykstra Guardsman-Lilly oral testimony: July 24, 1997
HF	Jim Norton HIRSIG-FRAZIER CO., INC. written testimony: July 15, 1997
HI/LO	K. Grant Hutchins, Vice President and General Counsel Hi/Lo Auto Supply, L.P. written testimony: July 9, 1997
JF	Jerry Fields Private Citizen written testimony: July 18, 1997

LASC	Levin's Auto Supply Company written testimony: July 7, 1997
MVP	Bob Marchese, Vice President Mark V Products, Inc. written testimony: June 5, 1997 oral testimony: July 24, 1997
MEG	Barry J. Meguiar, President/CEO Meguiar's, Inc. written testimony: June 11, 1997 oral testimony: July 24, 1997
MEG	Gary M. Silvers, Vice President Research and Development Meguiar's, Inc. written testimony: July 14, 1997 oral testimony: July 24, 1997
MPWC	A. Craig Burnett, Chemist Mother's Polishes Waxes and Cleaners written testimony: June 23, 1997 July 10, 1997 July 14, 1997 July 22, 1997 oral testimony: July 24, 1997
MPWC	Patrick Cirelli, Vice President, General Manager Mother’s Polishes Waxes and Cleaners written testimony: July 17, 1997
MPWC	Dennis Holloway, Chief Financial Officer Mother's Polishes Waxes and Cleaners written testimony: June 20, 1997 oral testimony: July 24, 1997
NAA	George W. Brown, Executive Director National Aerosol Association written testimony: July 22, 1997
NT	Denis A. Halton, No Touch written testimony: June 25, 1997 June 25, 1997

	June 25, 1997 July 10, 1997 oral testimony: July 24, 1997
OPP	Laurent Streichenberger, President Oscar's Professional Products oral testimony: July 24, 1997
QCC	Mike Quest Quest, Crelia & Company written testimony: July 10, 1997
QSC	L. Elizabeth Hill, Vice President Environmental/Governmental Affairs Quaker State Corporation written testimony: July 22, 1997
QSC	Herb Schreiber Quaker State Corporation oral testimony: July 24, 1997
QSC	Cheryl L. Stanley-Hill, Manager Environmental/Governmental Affairs Quaker State Corporation written testimony: July 2, 1997 oral testimony: July 24, 1997
RSS	Arnold Leanse Romero-Surlow Sales, Inc. written testimony: July 10, 1997
RUC	Peter D. Goldman, President Reed-Union Corporation written testimony: July 17, 1997
SCAQMD	Pat Leyden, Deputy Executive Officer Stationary Source Compliance South Coast Air Quality Management District written testimony: July 23, 1997
SCJ	Chip Brewer S.C. Johnson oral testimony: July 24, 1997

SEMA	Frank Bohanan, Director of Technical Affairs Specialty Equipment Manufacturers Association oral comments: July 24, 1997
TRAK	R. Keith Green, President TRAK AUTO written testimony: July 14, 1997
TWC	Fred Sutter The Wayne Companies, Inc. written testimony: July 15, 1997
USAC	R.E. Hanson, President United Syatt America Corporation written testimony: July 8, 1997
USEPA	Andrew Steckel, Chief Rulemaking Office United States Environmental Protection Agency written comments: July 23, 1997

A. Comments on Specific Categories

Automotive Rubbing or Polishing Compound and Automotive Wax, Polish, Sealant or Glaze

1. **Comment:** Staff does not understand the technical and economic barriers faced by California manufacturers who must meet the proposed standards. It will be difficult to reformulate products in these categories to obtain a product which will meet the demand of consumers, and these difficulties may lead to the elimination of product forms. (GAS, HI/LO, CAP, EFP, RSS, QCC, HF, CSK, RUC, TWC, TRAK, MVP, ACMC, JF, USAC, LASC, EO, SEMA, MEG, OPP, CAWA, MPWC)

Agency Response: Staff recognizes that the regulatory standards will require reformulation of products to achieve compliance, and that some companies needing to reformulate to produce complying products are smaller businesses that may face greater technical and/or economic barriers than larger businesses. We also appreciate the time and effort that various companies and associations put forth in order to present technical and financial information specific to these product categories. All information presented was taken into consideration when determining the appropriate standards.

The technological and commercial feasibility of the standards is demonstrated, among other things, by the products currently available at or below the standards. As explained in detail in the ISOR (Volume II, Chapter 6) the standards were set to ensure that viable, commercially

and technologically feasible products will be available to consumers within the time frames specified. For each product category, there are one or more products currently being sold that are at or below the standard. For more challenging standards, manufacturers are given a longer time in which to comply (i.e., a later effective date), and the ARB staff will be assessing manufacturers' progress in meeting the standards before they become effective. For these reasons, we are convinced that the standards will not lead to the elimination of any product forms.

2. **Comment:** Adoption of this regulation will force out-of-state or Internet purchases or will spawn a black market for these products. (GAS, HI/LO, CAP, EFP, RSS, QCC, HF, CSK, RUC, TWC, TRAK, JF, APAA, SEMA)

Agency Response: Because there are many complying products on the market that consumers have deemed acceptable (as evidenced by their purchases), the regulation will not force consumers to purchase non-compliant products from other states or the Internet, or create a black market. This is simply an unrealistic concern.

3. **Comment:** Emission reductions could still be achieved if products which provide a high degree of protection in this category are permitted to be formulated with more reasonable volatile organic compound (VOC) limits. (GAS, HI/LO, CAP, EFP, RSS, QCC, HF, CSK, RUC, TWC, TRAK, JF, APAA, EO, SEMA, MEG, ACMC, CSMA)

Agency Response: The commenters are basically asking for a higher VOC standard for "premium" products versus "non-premium" products. As discussed in the ISOR (Volume II, Chapter VI), ARB staff does not believe that the available information justifies making the distinction requested by the commenters. In response to industry concerns, however, the ARB has formed a working group with industry to determine what characteristics constitute a "premium" product, and how to test for these characteristics. If the working group is able to find a meaningful way to differentiate premium from non-premium products, and test results confirm that premium products require a higher VOC content, then the ARB may propose separate standards for the premium and non-premium products in a future regulatory action.

4. **Comment:** A VOC content of greater than 15 percent is required for the more aggressive, heavier-cutting rubbing or polishing compounds. (MEG)

Agency Response: The proposed standard for automotive rubbing or polishing compounds was raised from 15 percent to 17 percent, and the effective date of the standard was changed from 1/1/2002 to 1/1/2005. This higher VOC standard and the longer lead time should eliminate concerns regarding the efficacy of automotive rubbing or polishing compounds when used with high speed mechanical buffers, which are commonly used for the type of applications identified by the commenter.

5. **Comment:** To effectively remove surface defects and polish out scratches without damage to new paint systems, it is necessary for automotive rubbing or polishing compounds to contain higher amounts of VOCs than the proposed standard allows. (MEG, ACMC MPWC)

Agency Response: In response to industry's contention that new automotive paints are becoming increasingly harder and that it is more difficult to remove surface defects from these paints, the ARB increased the VOC standard for automotive rubbing or polishing compounds from 15 percent to 17 percent. We believe that this modification will address the concern identified by the commenter.

6. **Comment:** Businesses producing automotive rubbing or polishing compounds and automotive wax, polish, sealant or glaze products are under-represented in the ARB survey due to lack of reporting. This is particularly true of the smaller businesses. (APAA, MVP, OPP)

Agency Response: We recognize that the ARB survey results do not include responses from every manufacturer of automotive rubbing or polishing compounds and automotive wax, polish, sealant or glaze products. However, the formulation information received is extensive and accurately represents the overall market place. This means that the ARB's demonstration that the standards are technologically and commercially feasible is based on adequate, representative data.

The ARB staff made extensive outreach efforts to increase market coverage in the survey, including directly contacting many small businesses. For the entire survey, these efforts included placing over 1700 phone calls to companies that did not respond to the initial survey mailing. In addition, staff provided industry lists of companies that responded to our survey and requested feedback on any missing companies. No feedback was provided by industry.

7. **Comment:** Companies which have marketed their products based on a strong reputation for quality and effectiveness will be forced to formulate products similar to all other companies in the industry. Highly marketable product attributes will likely cease to exist. (APAA, MEG, MPWC)

Agency Response: Based on all available information, there is no clear distinction between so called "premium" and "non-premium" products in the automotive rubbing or polishing compound category, and the automotive wax, polish, sealant or glaze category. Both complying and non-complying products in these categories are marketed as "premium" products. No data is available to substantiate the contention that VOC contents greater than allowed by the VOC standards are necessary to produce high quality, effective products. Therefore, there is no evidence that highly marketable product attributes will cease to exist under the approved VOC standards. The ISOR (Volume II, Chapter VI) contains a more detailed discussion of the technological and commercial feasibility of the VOC standards for automotive rubbing or polishing compounds, and automotive wax, polish, sealant or glaze products. As described in the

response to Comment No. 3, however, the ARB has formed a working group in response to the concerns raised by the commenters.

8. **Comment:** It is doubtful that a working group assigned to deal with the issues concerning "premium" versus "non-premium" products will be successful in reaching a consensus as to how to determine and quantify which attributes are characteristic of premium and non-premium products. There is concern over the difficulty of finding test methods to substantiate the chosen characteristics and we feel that the major manufacturers may not accept placement of their products into a product category termed "sealer and glaze" regardless of VOC content. (MPWC)

Agency Response: As indicated in response to Comments No. 3 and 7, both complying and non-complying products are marketed as "premium" products, and there is no evidence that VOC contents higher than the VOC standards are necessary to produce "premium" products in these categories. However, the ARB has formed a working group to select appropriate test methods and conduct testing of products with varying VOC contents. There are test methods available to measure product characteristics such as durability, gloss, distinctness of image, and evaporation rate. In conducting the tests, we will include products produced by major and small manufacturers to get a representative sample of the products in the market place. It is too soon to determine whether or not this effort will be successful, or whether consensus will be achieved. In addition, we have no plans to create a product category termed "sealer and glaze", so this particular issue should not become an obstacle. .

9. **Comment:** Several of the products listed in the automotive rubbing or polishing compound category and automotive wax, polish, sealant or glaze category do not belong in these categories because the products are miscategorized or were not manufactured in 1995. (CSMA)

Agency Response: When ARB released the initial list of products in each category to the CSMA for review, we informed the commenter that this was not the final list used by the ARB to compile data for the regulatory standards. The product listings for both the automotive rubbing or polishing compounds and the automotive wax, polish, sealant or glaze products were thoroughly reviewed and were corrected in response to industry comments. We believe that the final list has been corrected to address any problems identified by industry.

10. **Comment:** Regulation of these product categories should be postponed. (AAPA, ACMC, EO, MEG, OPP, MVP, CAWA)

Agency Response: As indicated in the responses to the previous comments, it is appropriate to establish VOC standards for these product categories based on the extensive formulation data the ARB has received from manufacturers of automotive rubbing or polishing compounds, and automotive wax, polish, sealant or glaze products. Health and Safety Code section 41712 requires the ARB to adopt regulations to achieve the maximum feasible reduction in VOC emissions from consumer products. Therefore, all product categories must be considered for regulation when the VOC standards are demonstrated to be technologically and commercially

feasible. Since we believe that the standards for these product categories are indeed feasible, there is no reason to postpone the regulation of these categories.

The federal Clean Air Act also requires states to achieve the federal ambient air quality standard for ozone by the earliest practicable date. In the California State Implementation Plan (SIP) for ozone, the ARB committed to adopt the Mid-term Measures for consumer products by July 1997, and to achieve the emission reductions by 2005. It should be noted that the regulation provides manufacturers until 2005 to comply with the VOC standards, which is the maximum allowable time specified in our SIP commitment.

11. **Comment:** The hard paste wax subcategory of automotive wax, polish, sealer or glaze should be included among the subcategories that will be addressed by a workgroup. (ACMC)

Agency Response: As discussed in the response to Comment No. 3, the ARB has formed a workgroup to address various issues in these product categories. As requested by the commenter, the workgroup will address issues related specifically to hard paste wax products.

12. **Comment:** Setting the hard paste wax standard at 45 percent would kill the product form. (MEG) The proposed standard for hard paste wax is based on one product that has an unknown market share and no assessable consumer acceptance. (MPWC)

Agency Response: Based on all available information, there is no evidence to suggest that a 45 percent VOC standard would eliminate the hard paste wax product form. As stated in the Initial Statement of Reasons (Volume II, Chapter VI, page 14), manufacturers can comply by increasing the amount of low vapor pressure VOCs in their products. The complying product contains low vapor pressure VOCs. The complying product has a VOC content well below the 45 percent limit, and is currently marketed as a "premium" hard paste wax. As indicated in response to Comment No. 7, there is no evidence that a VOC content greater than the VOC standard is necessary to produce high quality, effective hard paste wax products.

A technologically feasible product standard is one that meets at least one of the following criteria: (1) the standard is already being met by at least one product within the same category, or (2) the standard can reasonably be expected to be met in the time frame provided through additional development methods. While there is at least one "premium" product on the market that already complies easily with the VOC standard, we have provided manufacturers until 2005 to meet the standard. The ARB will also assess manufacturers' progress in meeting the VOC standard prior to its effective date.

13. **Comment:** Regulation of automotive appearance products might interfere with California Vehicle Code 5050. (SEMA)

Agency Response: California Vehicle Code section 5050 states:

> The Legislature finds and declares that constructive leisure pursuits by California citizens is most important. This article is intended to encourage responsible participation in the hobby of collecting, preserving, restoring, and maintaining motor vehicles of historic and special interest, which hobby contributes to the enjoyment of the citizen and the preservation of California's automotive memorabilia.

There is no credible argument that the regulatory standards for these product categories would interfere with the rights of any citizen to pursue automotive-related hobbies or preserve California's automobile memorabilia.

Carpet and Upholstery Cleaner

14. **Comment:** The definition of carpet and upholstery cleaner states that this category includes, but is not limited to, products that make fabric protectant claims. This statement could be misinterpreted, and should be deleted, or modified to say that this category includes products that also make fabric protectant claims, but not products whose sole purpose is to provide fabric protection or water repellency. (CSMA)

Agency Response: The suggested modification is unnecessary. The first sentence of the definition of "Carpet and Upholstery Cleaner" establishes the basic attributes of this product category. The comment is directed at the second sentence of the definition, which merely clarifies that a product which meets the criteria of the first sentence does not cease to be a "carpet and upholstery cleaner" simply because the product happens to make fabric protectant claims. The commenter seems to be concerned that some products that are "carpet and upholstery cleaners" (under the first sentence of the definition) might also be considered "fabric protectants", which is a separate product category with a separate VOC limit of 60 percent. This is not a practical problem; it is common for a consumer product to meet the definition of more than one product category. Section 94512(b) of the consumer products regulation addresses this common situation by essentially specifying that if a product meets the criteria of more than one definition, then the lowest applicable VOC standard shall apply. This presents no real problem for a "carpet and upholstery cleaner", since any product that can meet the "carpet and upholstery cleaner" standard (of .1 to 7 percent VOC) would easily comply with the less stringent 60 percent VOC standard for "fabric protectants".

15. **Comment:** The 2.5 percent VOC limit proposed for carpet and upholstery cleaner (non-aerosol, ready-to-use) is inappropriate for a number of technical reasons. It is the only

non-dilutable product proposed for regulation with a limit expressed to the tenth percent, which presents quality control problems for companies manufacturing these products. In addition, a 2.5 percent limit would be below the limit of detection of the analytical method (Method 310) that would be used as the primary test for compliance. Since the analytical error of Method 310 is ±3 percent, we believe that it is inappropriate for the limit for a ready-to-use product to be less than 3 percent. We urge that the limit for the "carpet and upholstery cleaner (non-aerosol, ready-to-use) be changed from 2.5 to 3 percent. (CSMA)

Agency Response: In response to this comment, the VOC limit for "carpet and upholstery cleaner" (non-aerosol, ready-to-use) was increased from 2.5 to 3 percent VOC.

16. **Comment:** Automotive carpet and upholstery cleaners, in a trigger pump, require no less than 10 percent VOCs. This is required for cleaning and drying purposes. Unlike household carpets and furniture, a car seat and mats must dry shortly after product use, so that the vehicle can be driven. Also, the soils and grime associated with automotive cleaning require different chemistry than household products. The excessive use of surfactants, foam suppressors and
anti-deposition materials is inappropriate for automotive use. Therefore, products designed for automotive applications should be exempted. One way to accomplish this would be for automotive use products to state on their label, "Automotive Use Only." (ACMC, MPWC)

Agency Response: We do not agree with the technical concerns expressed by the commenter. The standard for carpet and upholstery cleaner is appropriate for automotive products because the 3 percent VOC standard is currently being met by carpet and upholstery cleaners sold for automotive use. This includes products for both household and automotive use, products exclusively for automotive use, and products being used at professional body shops where dry time is important. In addition, many automotive care handbooks suggest the use of household products to clean the interior of automobiles.

Floor Wax Stripper

17. **Comment:** The table of standards should show "See 94509(j)" for floor wax strippers to avoid confusion caused by the split standard. (CSMA)

Agency Response: We agree. The Table of Standards includes the reference to 94509(j), as requested by the commenter.

18. **Comment:** The floor wax stripper language under 94509(j) should allow floor wax strippers not intended to remove heavy buildup to only list a 3 percent VOC dilution ratio. Products designed to remove heavy buildup should list a 12 percent VOC dilution ratio. (CSMA)

Agency Response: Section 94509(j) was modified as requested by the commenter.

19. **Comment:** Industry members provided substantial down-the-drain data for floor wax stripper ingredients ethanolamine and 2-butoxyethanol. These data should be used to determine a down-the-drain factor for this category. (CSMA)

Agency Response: The ARB staff is proceeding with the analysis and substantiation of the data provided. A down-the-drain factor will be developed cooperatively with industry members when sufficient data is provided. This information may be useful in refining the emissions inventory for this category, but no changes to the regulatory standards would be necessary as a result of the information.

20. **Comment:** The CSMA product work group provided down-the-drain data for floor wax strippers which ARB staff deemed inadequate. CSMA feels that the ARB assessment of the data is inappropriate. The testing performed was under typical use conditions for floor wax strippers, and studies on the biodegradability of the ingredients were provided. (CSMA)

Agency Response: The testing conditions used to determine the evaporative emissions of 2-butoxyethanol for floor wax strippers were not representative of typical use conditions. The air flow conditions were minimized and the atmospheric concentration of 2-butoxyethanol was maximized. This test procedure minimized evaporative losses of 2-butoxyethanol, maximizing the VOCs going down-the-drain. As ARB staff previously discussed with industry members, a mass balance test under conditions of higher air flow is needed to accurately represent typical use conditions.

Hair Shine

21. **Comment:** We support the VOC standard for the hair shine category. (CTFA)

Agency Response: We agree that the VOC standard for hair shine is appropriate.

Heavy Duty Hand Cleaner or Soap

22. **Comment:** CSMA believes that a two-tier VOC standard of 10 percent in 2002 and
5 percent in 2005 would limit the variety of products and available formulation types which could lead to an increase in the number of cases of contact dermatitis (due to prolonged exposure to greases and oils) and allergic reactions (due to a decrease in the number of formulation types available) among consumers. CSMA urges no more than one VOC limit not lower than 15 percent. (CSMA)

Agency Response: In response to the concerns expressed by the commenter, section 94509(a) was modified to eliminate the two-tier VOC standard, and to specify a single-tier VOC

standard of 8 percent (instead of 5 percent) effective in 2005. At the 8 percent VOC limit, there is at least one complying product already on the market among the four formulation types identified from the Mid-term Measures Survey results. There is no evidence that an 8 percent limit would cause any increases in contact dermatitis or allergic reactions. Product label claims and standard performance tests (performed separately by both industry and ARB staff) indicate that many of the lower-VOC products are able to effectively remove difficult tars, greases, and oils, although lower-VOC products may take 1- 4 times longer than the higher-VOC petroleum-based products to perform the cleaning. However, the clearing time is still within the 120 seconds criteria established by the American Society for Testing Materials and the Federal General Services Administration.

23. **Comment:** CSMA believes that the ARB staff has inaccurately depicted the down-the-drain issue for this product category. CSMA states that they have provided data demonstrating that a "significant percentage of the VOC content of these products is rinsed down the drain and biodegraded during wastewater treatment." CSMA questions the statement in the ISOR that "the majority of products are formulated for use without water" and states that a product task group has provided data indicating the percentage of users who do "rinse-off." CSMA also questions ARB staff's statement that the VOCs in heavy-duty hand cleaners are not as likely [as ethanol] to be biodegraded. (CSMA)

Agency Response: As stated in the ISOR, the usage instructions among the product labels sampled indicate that the majority of the heavy-duty hand cleaners state that they *may* be wiped dry after usage. ARB staff acknowledges that these 'waterless' hand cleaners, as well as other heavy-duty hand cleaners, may also be rinsed off with water during and after usage. The data supplied by industry regarding product usage was either conjecture or was derived from tests which were too limited in scope. Widespread testing of consumers or consumer surveys were not conducted to determine the typical product use patterns. Without adequate data, the ARB staff could not make adjustments for VOCs going down-the-drain. In addition, the VOCs in heavy-duty hand cleaners which are rinsed down-the-drain are not certain to biodegrade in the wastewater system before volatilizing. A study prepared for the Soap and Detergent Association analyzed ethanol's fate in wastewater treatment facilities. The study concluded that the extent of volatilization of ethanol could be extended to compounds having similar Henry's Law constants. However, d-limonene, a common VOC ingredient among heavy-duty hand cleaners, has a Henry's Law constant more than four orders of magnitude greater than ethanol. ARB staff is willing to continue to work with industry in ensuring that an appropriate emission estimate is made for this category when sufficient data are provided.

Metal Polish/Cleanser

24. **Comment:** The 30 percent VOC standard for Metal Polish/Cleanser, effective
January 1, 2002, represents a difficult reformulation challenge for some of the products in this broad category. It is requested that the effective date for this limit be extended to 2005 to allow

more time for alternative formulations to be developed. (CSMA)

Agency Response: As requested by the commenter, the effective date for this VOC limit was extended from January 1, 2002 to January 1, 2005.

Multi-purpose Lubricant

25. **Comment:** As proposed by ACMC, the 1994/1995 Consumer Product Survey form had 12 categories of lubricants, which staff subsequently combined into three categories
(a fourth, "multipurpose dry lubricants," was exempted). As a result, the survey information collected presents a skewed picture of the category. For instance, the VOC requirement of a cutting oil may be quite different from a teflon-based lubricant. But since they are both lumped into the Multipurpose Lubricant category, one standard has been established for each of these products . (ACMC)

Agency Response: The commenter does not accurately describe the process ARB staff used to analyze the survey data. The survey did collect information on 12 different types of lubricants. However, after analyzing each of these categories individually, eight of the twelve categories, including cutting oil and teflon-based lubricants, were eventually dropped from consideration due to low emissions. In addition, cutting oil and teflon-based lubricants were never grouped together under a "Multipurpose Lubricant" category as suggested by the commenter. The four remaining categories are covered by the regulation. Of these four categories, only two ("multipurpose lubricants" and "lithium grease-based multipurpose lubricants") were combined under a single "Multipurpose Lubricant" category with a single VOC standard. However, each of these categories were reviewed separately, and it was found that the proposed VOC standard was appropriate for each category.

26. **Comment:** The dual standards of 60 percent and 45 percent for multipurpose lubricants and penetrants represent a very significant reformulation challenge. We urge that only a single limit be set for these two categories, at a level no less than 50 percent, and an effective date no sooner than 2005. (CSMA)

Agency Response: As requested by the commenter, the dual standards were eliminated and a single 50 percent VOC standard was approved by the Board. However, the effective date of the 50 percent VOC standard was set at 2003, instead of the 2005 date requested by the commenter. The ARB staff concluded that the 2003 effective date provides adequate lead time, because the technology currently exists to reformulate these products to meet the 50 percent standard, as detailed in Volume II, Chapter VI of the ISOR. In fact, eleven percent of the multipurpose lubricant market and 45 percent of the penetrants market currently comply with the 50 percent standard.

27. **Comment:** While we would have preferred a more extended effective date for aerosol penetrants and lubricants - 2005 instead of 2003, we believe that this proposal has an

achievable time table, especially with the adjustment to a single tier 50 percent VOC level. (NAA)

Agency Response: We agree that the 50 percent VOC standard for multipurpose lubricants and penetrants is achievable by 2003.

Penetrants

28. **Comment:** Penetrants used to seal and condition irreplaceable moldings and/or interior surfaces, etc. would not provide the level of protection which is expected of them if they were reformulated. (SEMA)

Agency Response: The "penetrants" regulated under the Mid-term Measures are defined as lubricants "designed and labeled primarily to loosen metal parts that have bonded together due to rusting, oxidation, or other causes." This definition does not include products that perform the functions described in the comment. Therefore, the comment does not apply to the products subject to the regulatory standard.

Rubber and Vinyl Protectant

29. **Comment:** The ARB should establish subcategories for "premium" products in the Rubber and Vinyl Protectant (non-aerosol) category. Without separate categorization and a separate standard for "premium" products, these products will disappear. (ACMC, QS)

Agency Response: The products falling into the "Rubber and Vinyl Protectant" category make very similar claims. Quaker State's product, Black Magic Professional Protectant, makes performance claims that are also made by competing, low-VOC products. Quaker State has provided test results which shows that their product outperforms its low-VOC competitors, but competing companies have also provided data contradicting Quaker State's claims. Additionally, Quaker State's recommended subcategory has specifications which are so exclusive that the subcategory would be inequitable to other manufacturers because it would contain only Quaker State's product. Therefore, the ARB does not feel that subcategorization is warranted. However, the ARB did extend the effective date for the non-aerosols standard from 2000 to 2003 to provide additional lead time for manufacturers to comply.

30. **Comment:** There is no reason to establish a separate subcategory for Black Magic Professional Protectant. The product has been competing in the marketplace as "just another protectant," and there is no evidence that this product fills a consumer need that cannot be filled by products which comply with the standard. No Touch is opposed to subcategorization of the Rubber and Vinyl Protectant category. (NT)

Agency Response: As stated in the response to the previous comment, the ARB staff agrees with the commenter that subcategorization is not warranted for this category.

31. **Comment:** The effective date of the non-aerosol Rubber and Vinyl Protectant standard should be changed from January 1, 2000 to January 1, 2003. This would allow time for staff and industry to discuss the feasibility of the standard. (QS)

Agency Response: For the reasons stated in the responses to the previous two comments and in the ISOR (Volume II, Chapter VI, page 102), the ARB believes that the three percent VOC standard is technologically and commercially feasible. However, in response to this comment, the ARB extended the effective date of the standard to January 1, 2003.

32. **Comment:** The aerosol and non-aerosol categories of Rubber and Vinyl Protectant should have concurrent implementation dates, and at the earliest possible time. Providing a effective date of January 1, 2005 for aerosols, while non-aerosols have an effective date of January 1, 2000, will cause manufacturers to simply switch from non-aerosols to aerosols, creating a loophole. The technology exists today for reformulation. (NT)

Agency Response: We have changed the effective date for the non-aerosol standard to January 1, 2003, so the difference in effective dates is only 2 years. This 2-year difference in effective dates is not likely to cause manufacturers to switch from non-aerosol to aerosol products. Switching formulations incurs research, development and marketing costs, which would be difficult to recoup in such a short time frame. Although we agree that technology exists today for producing compliant products, certain manufacturers have expressed concern over the difficulty in meeting the standard while maintaining their product's specific attributes, which their customers expect. These manufacturers contend that without time to develop an alternative formulation which meets their customers' expectations, loss of brand loyalty, and hence, economic hardship, would result. In response to these concerns, we believe that it is appropriate to provide additional time to reformulate.

33. **Comment:** Establishing a subcategory for "higher efficacy" rubber and vinyl protectants follows a precedent already set by the personal fragrance standards, where products containing more than 20 percent fragrance are subject to a different standard. (QS)

Agency Response: The commenter's reasoning is flawed. Personal fragrance products have two standards because the fragrance oil in these products is exempt as a VOC. Therefore, products with more than 20 percent fragrance are subject to a stricter 70 percent VOC standard because they already would meet the 80 percent standard, which applies to products with less than 20 percent fragrance. The higher 80 percent standard for these personal fragrance products is therefore not justified by "higher efficacy", and this rationale does not serve as a precedent for the Rubber and Vinyl Protectant category.

Wasp and Hornet Insecticide

34. **Comment:** It is stated that, "Approximately one million pounds of wasp and hornet insecticides were sold daily in California during 1995." We believe that this sales figure actually represents annual sales. (CSMA)

Agency Response: The commenter has correctly identified a typographical error in the ISOR. This sales figure does represent annual sales, not daily sales. The correct sales number is represented in the table on the same page of the ISOR (Volume II, Chapter VI, page 131).

B. Cost Analysis

Impacts Due to Elimination of "Niche" Products

35. **Comment:** The Mid-term Measures appear to utilize a "one size fits all" regulatory structure that is likely to lead to the elimination of product forms as well as products from the market. Unlike products regulated under the Phase I and II consumer products regulations, the Mid-term Measures product categories each contain a wide variety of products that perform many different functions and serve many niche markets. (ACMC)

Agency Response: We disagree that the Mid-term Measures utilizes a "one size fits all" structure. ARB staff developed the VOC standards in the Mid-term Measures only after careful analysis and extensive consultation with the affected industry groups to ensure that product forms would not be eliminated. The Mid-term Measures amendments accommodate the variety of product forms covered under the regulation by providing different VOC standards for different subcategories of products where necessary. For example, the regulation provides three different VOC standards for different types of "carpet and upholstery cleaners." This approach is no different from the ARB's past consumer products regulations (Phase I and Phase II), which also covered categories with a variety of different product forms. Under this approach (as stated in Volume II, Chapter III of the ISOR) manufacturers of high-VOC products which perform the same function as their lower-VOC counterparts must reduce their VOC content. It is expected that when a product formulation changes, some attributes of the product will also change, although the basic function is maintained. If ARB were to establish standards which accounted for every distinct feature of every product, then each product would require a standard unto itself, and no emission reductions could be achieved.

36. **Comment:** The regulations place small companies at a disadvantage because they do not leave the latitude to make products with varying characteristics, making all products basically the same. (MPWC)

Agency Response: The Mid-term Measures provide a "level playing field" because both large and small companies must meet the same VOC standards. The standards do not force

manufacturers to make products that are basically the same because the regulations provide manufacturers with the flexibility to formulate products as they choose, so long as they meet the specified VOC standards. In addition, the Innovative Products Provision and Alternative Control Plan provide alternative means of complying with the regulations that allow some products to be formulated with a VOC content above the proposed standards.

Costs in General Underestimated

37. **Comment:** We do not agree with the numerous statements in the cost analysis that the methodology will tend to overestimate costs and impacts. In actuality, the cost assessment methodology fails to assess numerous types of costs that, although individually small, add up to significant additional costs. These costs include: (1) the two-year rulemaking itself, with the submission of data to the survey, the numerous meetings in California, and the development of studies and other input to ARB; (2) regulatory compliance audits to determine which products are subject to limits, and the exact VOC status of all ingredients used in products subject to regulation, and the communication of the results of the audits to distributors and others; (3) code-dating of products that do not already have it; and (4) production recordkeeping. (CSMA)

Agency Response: We believe the cost analysis overestimates the true cost to industry because significant factors which tend to reduce costs could not be quantified. As mentioned in Volume II, Chapter VIII of the ISOR, these factors include: (1) mitigation of costs to affected businesses by passing some of the costs on to consumers in the form of higher prices; (2) decreases in the price of raw materials as higher demand for these materials induces economy of scale production; and (3) technology transfer in which research and development efforts to reformulate a given product allow similar products to be reformulated at a much lower cost. The costs cited by the commenter are either not directly associated with compliance with the regulation, or are not significant compared to the factors in the analysis which tend to overestimate costs. For example, industry participation in meetings and the submission of studies and other input to ARB during the development of the regulation are voluntary activities. The cost of completing the survey form is minor compared to the costs addressed in the analysis. Most companies already code-date their products and keep production records. Finally, the costs of "compliance audits" should be minor for most companies because they are familiar with their own products and the ingredients in them, and because most reformulated products will be sold nationally (eliminating tracking of separate California and "49 state" product versions).

38. **Comment:** If R&D or marketing efforts are unsuccessful, additional costs might be needed to pursue other options in the rule. The preparation of innovative product applications can present significant further costs, as can the submission of variance petitions and attendance at the subsequent hearing. (CSMA)

Agency Response: As explained in the ISOR, the ARB staff believes that each of the VOC standards has been set a level that can be achieved by consumer products manufacturers.

The innovative products and variance provisions both provide additional flexibility to manufacturers in complying with the regulation. Each of these options is voluntary, and companies will not pursue them unless it is in their economic interest to do so. Therefore, it is not necessary to attempt to include the costs associated with these programs in the analysis. If a company pursues these options only after unsuccessful reformulation or marketing efforts, it is true that they will have incurred the added expense of unsuccessfully pursuing reformulation. However, they may also avoid the generally higher materials costs of complying formulations. These costs are often more significant than the costs of research and development, as mentioned in Volume II, Chapter VIII, p. 15 of the ISOR.

39. **Comment:** The ARB states that the cost to become compliant is negligible, yet we have spent over $100,000 in travel and research and development. (MPWC)

Agency Response: The commenter misinterpreted the cost analysis. Nowhere in the cost analysis do we say that the cost of compliance is "negligible." In the analysis it is stated that most businesses will be able to absorb the costs of the regulations, but the regulations may impose an economic hardship on some businesses with small or no margin of profitability. These businesses can seek relief under the variance provision of the consumer products regulation, and may be able to obtain extensions of their compliance dates if they meet the specified variance criteria.

40. **Comment:** The cost-effectiveness estimate is erroneous because it is based on faulty cost estimates. The costs to reformulate, study, market, and release a new formulation have been understated by at least 43 percent. In the case of some formulations in the automotive appearance chemical market, the cost to reformulate is off by as much as 500 percent. Specifically, in category 200b (polishing compounds), the cost analysis is based upon a "VOC free" formulation and there is no LVP in the formula. The formula is deplete of glycerin, oleic acid, and any lite distillates, which are essential in a working polishing compound. Also, in category 210a (automotive wax, polish, sealant, or glaze), the price listed for LVP-distillates is 24 cents per pound, while the true cost is 70 cents per pound plus shipping. Also, the price for waxes is listed as 60 cents per pound while the average cost of waxes (other than carnauba) is $2.00 per pound. Similarly, in category 210b (hard paste wax), the prices listed for LVP solvents and waxes are too low, and the amount of LVP solvent is impractical. (MPWC)

Agency Response: The commenter does not explain how they determined that the ARB staff underestimated the cost to "reformulate, study, market, and release" a new formulation by at least 43 percent, or how they concluded that the ARB's reformulation cost estimates are off by as much as 500 percent. The cost analysis is intended to provide a general picture of the economic impacts typical businesses might encounter. We recognize that individual companies may experience different impacts than projected. Regarding the complying sample formulation for polishing compounds (category 200b), the formulation is based on an actual product from our survey. There are zero-VOC products in this category, as listed in the November 25, 1996 survey data summaries that were made available to the industry. In addition, the commenter is incorrect

in stating that the complying sample formulation contains no low vapor pressure (LVP) compounds. The sample formulation lists mineral oil and surfactant, both of which are "LVPs." Regarding ingredient prices, the ARB staff used information from the "Chemical Market Reporter," discussions with industry representatives, or relatively high default values of $3.50 or $7.00 per pound. Differences between the price paid by the commenter and the price listed in the analysis may be due to differences in the specific grade or type of ingredient used, and the amount purchased by the individual company. The price estimates were used for both noncomplying and complying sample formulations. Therefore, if the cost of an ingredient was underestimated (as suggested by the commenter), it may either raise or lower the estimated change in materials cost when reformulating to a complying product.

41. **Comment:** Small manufacturers of automotive waxes and polishes will be severely impacted by product reformulations since they are already faced with competition for severely limited shelf space due to the consolidation of auto parts retail chains and the fact that the wax market has been declining over the past several years. (APAA)

Agency Response: The competition for shelf space and overall market for car waxes affect both small and large manufacturers. These factors exist independent of ARB regulations. Nevertheless, the regulation is designed to accommodate small manufacturers. The regulation specifies an effective date of 2005 for the VOC standards for automotive waxes and polishes (except "instant detailers"). This provides nearly eight years lead time for manufacturers to distribute the costs of developing complying formulations. There are also other compliance options provided by the innovative products provision of the consumer products regulation, the alternative control plan regulation, and the variance provision (for short-term relief).

42. **Comment:** I do not believe that the small volume of products sold by manufacturers of premium automotive care products has enough of an effect on air quality to justify putting them out of business when they can no longer sell their products. (JF)

Agency Response: As detailed in the ISOR, the regulatory standards will not prevent manufacturers from continuing to make effective automotive care products. In addition, we have agreed to form a working group with the industry to investigate the ability of manufacturers to make "premium products." During the development of the regulation, the industry requested higher VOC standards for premium products, but was not able to agree on what constituted a premium product. Therefore, the working group will seek to reach agreement on the characteristics that define a premium product, and to develop standardized test methods to measure these characteristics. If appropriate based on the results of the test methods, the Executive Officer will propose modifications to the regulation for the Board's consideration. Regarding the need for emission reductions from automotive care products, the ISOR (Volume II, Chapter IV) explains in detail the need to achieve substantial emission reductions from consumer products, including emission reductions from relatively small product categories.

43. **Comment:** Twenty-eight of the 59 products I currently manufacture are covered by the Mid-term Measures. I estimate that it will cost me at least $50,000-$100,000 to reformulate each of my compounds/polishes and $10,000 for each of the other products. This adds up to a minimum of $960,000. I will not be able to fund this research. This gives an unfair advantage to larger, well-funded companies such as 3M which can hire more chemists, and can patent the use of products and procedures before smaller firms can discover them. (MVP)

Agency Response: The commenter did not provide sufficient information to verify his estimated reformulation costs, or to evaluate the impact on his business. It is also not clear whether the commenter is assuming that all reformulation costs will be incurred in a single year, or will be spread out from now until the time the VOC standards become effective. Nevertheless, the regulation is designed to accommodate small businesses by providing up to eight years to reformulate their noncomplying products. As detailed in the ISOR, reformulation technologies are currently available for all the affected product categories, and complying products are currently on the market in all cases except hair shine (for which known reformulation technology is available). In addition, as detailed in Volume II, Chapter VIII, of the ISOR, we recognize that the regulations may impose an economic hardship on some businesses with small or no margin of profitability. These businesses can seek relief under the variance provision of the consumer products regulation, and obtain extensions to their compliance dates if they meet the specified variance criteria. We do not agree that the regulation gives an unfair advantage to larger, well-funded companies, because these large companies must often spread out their resources among a larger product line. In addition, even in the absence of this regulation, companies with more resources available to them are at an advantage.

44. **Comment:** Small companies such as Meguiar's cannot invest their R&D time in
"re-inventing the wheel." They must invest their R&D time to improve or innovate new products. This proposal will waste valuable resources, putting us further behind the larger companies. (MEG)

Agency Response: The proposed regulations require manufacturers to develop lower-polluting products, which is not reinventing the wheel. Both small and large companies must invest research and development (R&D) efforts to develop complying products. Therefore, the regulations will not necessarily place the commenter behind larger companies. Even in the absence of the regulations, companies with more money to invest in research and development efforts are at an advantage compared to companies with fewer resources.

45. **Comment:** The Mid-term Measures will adversely affect small companies that make automotive appearance products because the regulations will drive them to make products similar to all other offerings in this industry. Consumers will not want to purchase products from these

small companies because they will cost more compared to products made by the larger companies, and their performance will be basically the same. (APAA)

Agency Response: The Mid-term Measures provide a "level playing field" because both large and small companies must meet the same VOC standards. The standards do not force manufacturers to make products that are basically the same because the regulations provide manufacturers with the flexibility to formulate products as they choose, so long as they meet the specified VOC standards. As detailed in the ISOR, there is generally more than one reformulation technique available to manufacturers. In addition, the Innovative Products Provision and Alternative Control Plan provide alternative means of complying with the regulations that allow some products to be formulated with a VOC content above the proposed standards. As explained in the response to Comment No. 42, the ARB staff has also agreed to form a working group with the industry to investigate the ability of manufacturers to make "premium" automotive wax and polish products.

Raw Materials

46. **Comment:** The ARB expects manufacturers to use LVP solvents to replace the VOC's. Switching to LVP solvents will increase the price of the product by 176 percent for paste wax, 117 percent for liquid wax, and 1,148 percent for aerosol wax. In addition, the other changes in the formulation will likely increase raw materials costs. Also, the cost of the VOC solvents will increase because we are buying smaller amounts. (EO)

Agency Response: The ARB does not expect manufacturers to use any one technology to comply with the standard. In most cases, the limit was set at a level in which more than one technology is available for compliance, giving manufacturers flexibility for meeting the VOC limits. The limits were not set at levels where LVP solvent use was the only method to comply. We understand that some of the raw materials necessary for compliance may be more expensive than what manufacturers are currently using; however, in most cases the manufacturers only need to use a very small amount to make a complying product.

Also, ARB staff evaluated raw material cost impacts from the VOC standards. Details about this analysis can be found in Volume II, Chapter VIII, pages 19-20. The anticipated raw materials cost changes range from no cost to about $0.60 increase per unit of product. On a sales weighted average basis, the average raw materials cost increase ranges from $0.03 to $0.07 per unit. These cost increases are within the range of previous consumer products regulations.

47. **Comment:** The ARB underestimated the increased cost of raw material to small businesses by as much as 300 percent. These costs were obviously taken at bulk rates which we cannot buy them at. (MWPC)

Agency Response: The commenter does not explain how they arrived at their estimate of a 300 percent increase in raw material costs for small businesses. The ARB analysis used very accurate data to evaluate the cost impacts associated with raw material costs such as the *Chemical Market Reporter*, discussions with industry representatives, or relatively high default values of $3.50 or $7.00 per pound. It should also be noted that we used the same methods to calculate the cost of complying (reformulated) products as we did for existing (noncomplying) products. Therefore, if we underestimated materials costs of reformulated products, for small businesses which buy small quantities, we also underestimated the costs of existing products, which would tend to inflate the estimated increase in materials costs. We realize that this analysis is intended to provide a general picture of the economic impacts to a typical business and that some businesses may experience a greater impact. We also realize that the price of raw materials can be impacted by the amount purchased; however this difference in price is typically insignificant.

48. **Comment:** The cost analysis should use ingredient cost estimates based on the actual average delivered cost of ingredients to manufacturers in the category. It is also important to note that the costs of ingredients can vary based on the quantities purchased. Small manufacturers tend to pay higher prices for ingredients. (CSMA, SEMA)

Agency Response: This comment is addressed in the responses to Comments No. 46 and 47.

49. **Comment:** The raw material prices used in the cost assessment formulations are based on the purchase of bulk quantities. Smaller companies will pay significantly higher prices for raw materials, plus shipping. (MWPC, SEMA)

Agency Response: This comment is addressed in the responses to Comments No. 46 and 47.

50. **Comment:** We do not agree with the assumption in the ISOR that raw materials costs for new reformulation chemicals will decrease as the market demand for these products increases. This may be true, but in several cases, ARB's own alternative formula options include products proprietary to a single manufacturer such as HFC-152a made by Dupont. (ACMC)

Agency Response: The ARB staff's cost analysis used the current prices of raw materials to estimate compliance costs. In calculating these estimates, the staff took a conservative approach and did not assume that raw materials costs would decrease in the future. However, it is likely that the current high prices of raw materials may not last long. The

regulation is likely to create new demand for these raw materials, making their production more profitable due to economies of scale. The potential for profit is likely to attract new producers or induce the expansion of production by existing producers. In the long run, the increased level of competition is likely to put downward pressures on prices.

51. **Comment:** The statement that costs will decline due to higher demand runs counter to basic economic theory. Higher demand for the raw materials necessary to reformulate will drive prices higher, not the opposite as stated in the economic analysis. We therefore believe that the prices stated in the study regarding raw material costs are grossly underestimated for all firms. The staff analysis further does not take into account the fact that small businesses will once again be placed at a severe disadvantage due to the need to use new, more expensive materials without the benefit of being able to obtain volume discounts. (APAA, MPWC, SEMA)

Agency Response: As stated in the response to the previous comment, the staff's cost analysis is based on current prices of raw materials. We simply do not agree with the commenter that "basic economic theory" indicates that higher demand will permanently increase prices for raw materials. We therefore do not agree that using the *current* price for raw materials has resulted in an underestimation of compliance costs. Finally, the inability to take advantage of volume discounts is one of the inherent disadvantages of operating small businesses. This disadvantage is not going to change by the use of new raw materials.

52. **Comment:** We disagree with the statement in the cost analysis that the actual cost of reformulation may be lower since compliant product raw material prices may decrease. The future prices of raw materials are very difficult to predict, and it is an industry standard for our suppliers to undertake price increases each year. (MPWC)

Agency Response: The prices of raw materials are determined by supply and demand for those raw materials at any time. If the supply of raw materials keeps up with the higher demand created by the regulation, prices would be stable. However, if the quantity supplied exceeds the quantity demanded, prices tend to fall and vice versa. In the long run, prices tend to fall as economies of scale develop for any given technology. The improvement in technology also tends to bring prices down.

53. **Comment:** The assumption that the price of raw materials falls as demand increases assumes a constant supply of raw materials that always satisfies demand. The other side of economic theory is that if supply does not meet demand, prices go up. (MPWC)

Agency Response: It is correct that if the quantity supplied is less than the quantity demanded, prices would go up. However, as stated in response to the previous comments, staff used the current prices for raw materials and has only raised the possibility that the future prices of raw materials would fall as production of those raw materials increases to satisfy the higher demand. As production increases, the unit cost of production tends to fall due to economies of scale. The increased level of competition should force producers to pass on much of the cost

savings to the customers purchasing those raw materials.

CSMA Cost Survey

54. **Comment:** We have conducted a survey of our industry and have provided more accurate one-time (nonrecurring) and ongoing (recurring) cost estimates to ARB staff for use in modifying their cost analysis. (CSMA)

Agency Response: The one-time cost data supplied by the commenter was not provided in sufficient detail to allow the ARB staff to substantiate it, even though their survey form apparently collected detailed information. Nevertheless, the cost estimate ranges from the commenter's data were very similar to the cost estimate ranges used by the ARB.

55. **Comment:** We believe the analysis of California businesses should be re-run using CSMA's revised cost estimates. The new assessment will probably begin to cause some serious impacts on a number of California companies that rely heavily on products covered by the Mid-term Measures. (CSMA)

Agency Response: It is not necessary to re-run the cost analysis. As mentioned in the response to the previous comment, the cost estimates provided by the commenter are similar to the ARB's cost estimates. As such, the estimated economic impacts based on a decline in the return-on-owner's equity (ROE) would also be similar.

56. **Comment:** We calculated the cost-effectiveness analysis using the industry's corrected cost estimates and a corrected methodology that is consistent with ARB guidelines for these analyses. Our analysis shows that the cost-effectiveness is about $12.08 per pound, making it one of the least cost-effective rules yet proposed, although marginally within the guidelines established by the ARB. (CSMA)

Agency Response: As mentioned in the response to the previous two comments, the cost estimates provided by the commenter are similar to the ARB cost estimates. The cost-effectiveness ratio estimated by the commenter is significantly higher than the ARB's estimate because of differences in the methodology the commenter used to calculate cost-effectiveness. Specifically, the commenter argues that since products are generally marketed nationwide, we should account for the cost of marketing reformulated products nationwide, but should only account for the emission reductions achieved in California. This is a fundamental difference in methodology. As explained in the ISOR (Volume II, Chapter VIII, p. 13) and the response to Comment No. 66, the ARB believes it is appropriate to either use the cost for national production divided by the national emission reductions or, equivalently, use the California-apportioned (by population) cost divided by the California-apportioned emission reductions. This methodology for estimating cost-effectiveness is consistent with the methodology used in ARB's past consumer products rulemakings.

57. **Comment:** The impacts of raw materials costs should have been based on the corrected cost estimates supplied by CSMA from its industry survey. ARB's estimates appeared to assume that higher-priced performance products would reformulate to be similar to lower-priced products, but this would not usually be commercially feasible. (CSMA)

Agency Response: We believe that our materials cost estimates are representative of what the industry will experience. As explained in detail in the ISOR (Chapter VIII, p. 20), the estimates are based on existing complying formulations and materials prices from the *Chemical Market Reporter*, industry sources, or conservative default values. The materials cost estimates provided by the commenter are not significantly different from the ARB's estimates, and would not significantly alter our economic impacts analysis. We disagree that our analysis used higher-priced noncomplying "performance products" and lower-priced complying products. If this had been the case, our analysis would have estimated cost savings (or no materials costs) for most categories. We used typical examples of both complying and noncomplying formulations in the analysis. In some cases, the analysis was conservative in that we assumed companies would use very expensive ingredients such as the propellant hydrofluorocarbon-152a in their complying formulations.

Small Companies

58. **Comment:** We are concerned about small companies which may face failure if they lose their customer base due to a decrease in product performance. (ACMC, SEMA)

Agency Response: The ARB staff acknowledges that the proposed regulatory standards will necessitate reformulation of products, and that some affected companies are smaller businesses. However, the standards apply to all products above the specified VOC standards, so both small and large companies will need to reformulate some products. Hence, changes in product efficacy, if any, will not disproportionately affect small companies. Given that the standards do not take effect for three to seven years, there is ample time for small and large companies alike to reformulate efficacious products. In fact, there are currently complying products already on the market in all categories except hair shine (for which there is known reformulation technology). Finally, variances may be provided in the event that businesses face extraordinary economic hardship due to circumstances beyond their reasonable control.
To ensure that companies are able to develop efficacious, compliant products, the ARB will be tracking the progress of the manufacturers in achieving the VOC standards. If it is determined that manufacturers are unable to make quality compliant products, the standards will be reevaluated.

59. **Comment:** The ARB's cost analysis underestimates the impact on automotive wax and polish companies because the Mid-term Measures survey did not include many companies which tend to be small manufacturers disproportionately impacted by the regulations. (APAA, OPP)

The assessment is not based on impact studies of specific small California-based companies whose business is strictly limited to the automotive appearance chemical market. (MPWC)

Agency Response: In determining the impact of the proposed regulatory standards on the industry, ARB staff estimated the change in "return-on-owners-equity" (ROE) for a typical business. The cost analysis utilized companies from the ARB's Mid-term Measures survey. The survey, which did not include all manufacturers, did include the majority of manufacturers and a representative cross-section of small, medium and large businesses. A "typical" business profile was used, which represented this cross-section. Using this typical business profile, the analysis found that most affected businesses will be able to absorb the costs of the regulation with no significant adverse impact on profitability. In addition, cost data provided by some California-based small businesses also indicated that the regulation is cost-effective. Staff recognizes that some businesses will incur greater reformulation costs than others. It is not possible to do a separate cost analysis on each individual company that might potentially be impacted by the regulation, or a separate cost analysis for groups of companies that manufacture products in each product category. In an attempt to minimize the financial burden incurred by smaller manufacturers of automotive appearance products, however, those product categories where industry expressed concern over reformulation have effective dates that allow seven years lead time to reformulate. This will allow companies to spread out their research and development costs.

60. **Comment:** The cost analysis assessment does not take into account the different marketing strategies of premium products which are based on repeat use and customer loyalty versus mass marketing to a very large but infrequent use sector of the market. Small California based automotive specialty companies rely upon inherent value and repeat business. Some large out of state conglomerates rely upon one time sales to a very large segment of the population. (MPWC)

Agency Response: As mentioned in the response to Comment No. 58, the regulation will not prevent small or large manufacturers from continuing to make high quality products which represent "value" to consumers. We agree that small companies relying upon customer loyalty rather than mass marketing use different marketing strategies. However, the small companies relying on repeat business face lower advertising costs than mass marketers. The various marketing strategies used by companies are reflected in the cost analysis, since the cost analysis uses a "typical" company in each business sector, which reflects a general cross-section of that sector.

61. **Comment:** Only the larger companies will be able to fund the research and development necessary in order to reformulate products to meet the Mid-term Measures

standards; smaller companies cannot absorb the research and development costs imposed by this regulation. (OPP, MVP, MPWC)

Agency Response: This issue was addressed in the response to Comment 59. The ARB's cost analysis found that the regulation was cost-effective. In categories facing significant reformulation challenges, the effective date of the standards is eight years away. This long lead time allows manufacturers to spread out their research and development costs. In addition to compliant technologies that are currently available, as demonstrated by the complying products currently on the market, additional time may be afforded to companies through variances. For all of these reasons, we simply do not agree that smaller companies will be unable to absorb the research and development costs necessary to comply with the regulatory standards.

Impacts on Retailers or Distributors

62. **Comment:** We feel that the regulations will have an adverse impact on our members which distribute and stock many of the consumer products being considered for regulation. Costs are due to handling and checking inventories to ensure noncomplying products are not sold past the sell-through period, and product returns due to lower performance of reformulated products. (CAWA, CAP)

Agency Response: During the development of this regulatory proposal, industry was provided with an opportunity to submit cost data regarding the estimated impact on suppliers and distributors. The ARB received no data to indicate that the impact to suppliers and distributors will be significant. Manufacturers are responsible for reformulating noncomplying products, and it is manufacturers, not distributors and retailers, who will bear the vast majority of the regulatory costs. As a practical matter, retailers and distributors can minimize their costs by letting their suppliers know that they will accept only complying products for sale, and by relying on their suppliers to make and keep this commitment. This is what typically happens right now with respect to the existing consumer products standards. Any sell-through costs should also be minimal, because Health and Safety Code section 41712(g) provides a three year sell-through period, which is ample time for old noncomplying products to clear the retail shelves. We also do not believe that there will be any significant costs from increased product returns, since products that comply with the new standards are currently being sold now, and the standards have been set at levels which assure that efficacious products can still be made.

63. **Comment:** If we lose our business to larger manufacturers, you will hurt hundreds of smaller independent distributors because they are not part of the established distribution network which is used by large companies. (OPP)

Agency Response: As stated in the response to Comment No. 59, the ARB's cost analysis indicates that most affected businesses, including smaller businesses, will be able to absorb the costs of the regulation with no significant adverse impact on profitability. In addition, smaller distributors sell many of the same products as larger distributors, so the impact will not disproportionately affect small distributors. Finally, the Mid-term Measures regulation only

affects 18 product categories from diverse markets. Since distributors sell hundreds of products, the products sold by a single distributor which are covered by the Mid-term Measures will typically be a small percentage of their total product line.

64. **Comment:** The costs to distributors and retailers of these products could be significant, given the complexity of the regulation. Comprehensive on-going regulatory compliance audits would be required to assure that they are selling only complying products in California. (CSMA)

Agency Response: The response to Comment No. 62 explains why the ARB believes that the costs to distributors and retailers will not be significant. Regarding the claim that "comprehensive on-going regulatory compliance audits would be required", this is simply not a realistic concern. The first ARB standards for consumer products became legally effective on January 1, 1993, and numerous additional VOC standards have been phased in after 1993. What has been happening is that manufacturers are assisting retailers and distributors in complying with the standards. Retailers and distributors have simply not incurred the type of significant costs claimed by the commenter, and there is no reason to expect that this latest round of VOC standards will impact these businesses any differently.

65. **Comment:** No cost or impact analysis appears to have been attempted on California retailers and distributors who must contend with burdensome attempts to assure that the products they are selling meet currently effective standards, are within their three year sell-through period, or are for sale and use outside of California. (CSMA)

Agency Response: This comment is addressed in the responses to the previous three comments.

National versus California

66. **Comment:** We disagree with the ARB's assumption that regulated products will be reformulated and marketed on a national basis. While products reformulated for the
Phase I and II consumer products regulations may generally be marketed nationally, there are some companies who continue to produce separate automotive chemical products for California and the remaining 49 states. (ACMC)

Agency Response: As with past consumer product regulations, we expect most manufacturers to sell complying products nationally. It is appropriate to use projected national emission reductions to determine the cost-effectiveness of the regulation since the majority of manufacturers market their products nationwide, and the emission reductions will be realized not only in California but throughout the United States. Although this may not be the case for every

manufacturer, it represents how most businesses operate. A full discussion of the assumptions made by the ARB staff can be found in Volume II, Chapter VIII, Page 13 of the ISOR.

67. **Comment:** The ARB cannot assume a national distribution of products formulated to California standards without better information as to the performance of these products. It is highly likely that those companies that possess the capital to market two distinct appearance product lines for California and the remaining 49 states will survive while others will fail. (APAA)

Agency Response: The consequences predicted by the commenter have not occurred for past consumer products regulations, and there is no reason to think that the situation will be any different for this regulation. In addition, both complying and non-complying products make the same or similar performance claims, and we believe that complying products will perform satisfactorily for all the reasons identified in the ISOR and because, in most cases, complying products are already available and being used by consumers. Finally, manufacturers of auto appearance products (which are represented by the commenter) have eight years to develop complying products that meet their performance specifications.

68. **Comment:** We concur with the basic methodology of the cost-effectiveness assessment except that the assessment fails to account for the fact that manufacturers will be reformulating products nationwide to provide VOC emissions reductions for California. The recurring and nonrecurring costs experienced by industry are actually eight times higher
(or emissions reductions actually eight times lower) than that assumed by ARB in this analysis. Since the costs to industry are real costs that can only be attributed to this rule, ARB's assessment is essentially taking credit for nationwide reductions in VOC emissions with a rule that is effective only in California. Our review of other cost-effectiveness assessments by ARB has found no case where ARB has ever sought to take credit for reductions outside of California that were incidental to an ARB rule. (CSMA)

Agency Response: As explained in more detail in the ISOR (Volume II, Chapter VIII, page 13), the ARB believes that in calculating cost-effectiveness it is entirely appropriate to make the "apples to apples" comparison of national costs to national reductions (or to make the equivalent comparison of California costs to California reductions). This approach is the same approach used by the ARB for all of the previous consumer products regulatory actions, notwithstanding the commenter's statement to the contrary. Although the impetus for reformulation is the new standards, most manufacturers will sell their reformulated products nationally, so the reformulation costs and emission reductions are calculated nationally.

69. **Comment:** The Mid-term Measures will require me to make a separate line of products for California. I will require warehouse space and cash to keep these new products in stock. (MVP)

Agency Response: The regulations do not require anyone to make a separate line of products for California. This is, however, a compliance option that manufacturers may choose. Based on past experience with previous ARB consumer products regulations, we do not expect many manufacturers to choose this option.

70. **Comment:** ARB's commercial feasibility is based on national (not just California) economic impacts which effectively "waters down" the cost impact of these regulations. For example, we rely on national external distribution channels. We have already been receiving letters from national chains notifying us that our products will not be distributed anywhere if the same products cannot also be distributed in California because of the "potential" liability. Therefore, if we want to distribute our products nationally, they must meet the California VOC requirements. Since we do not have the option to refrain from, or provide separate, California distribution, we feel that the economic impact analysis must include the complete elimination of at least a portion of our products. These eliminations include products which would: (1) not technically allow for reformulation; (2) not be marketable due to low efficacy, or (3) be identical to the market leader, eliminating any product distinction or market niche. (QSC)

Agency Response: We do not agree that the ARB's cost estimates are "watered down," since the cost analysis accounts for national costs and national benefits achieved from national distribution of reformulated products. The economic impact analysis includes the costs to manufacturers for making complying products. In some cases a particular standard may result in the elimination of a certain type of product formulation and the creation of a new or different product. This is the only way that VOC emission reductions can be obtained (see ISOR; Volume II, Chapter III, Page 1-3). However, the VOC standards have all been set at levels that will allow manufacturers to make efficacious complying products. In almost all cases there are complying products already on the shelves, and in some cases the market leader is a complying product. Finally, manufacturers are given the appropriate amount of time to develop a distinct product that fulfills a market niche. For these reasons, we do not agree with the commenter's contention that the "complete elimination" of at least a portion of a company's products should have been accounted for in the ARB's cost analysis.

71. **Comment:** The cost-effectiveness values are understated because ARB staff has not used the total fixed-cost portion of the cost-effectiveness. Instead, they have used only the fixed costs associated with the quantity of products marketed in California. They then divide that apportioned cost by the California emission reduction that will result from these consumer products regulations. Most businesses impacted by these regulations will not adopt a dual manufacturing and distribution system (one for California and one for the remaining 49 states)

because major retail stores and distributors buy in quantity and sell or distribute products nationally. Therefore, any emission reductions outside of California are unintentional and independent of reductions required by other states. (CTC)

Agency Response: The response to Comments No. 64 explains why the ARB believes that the cost-effectiveness values were appropriately calculated. In addition, the commenter incorrectly describes the methodology used by the ARB staff. The ARB staff divided national costs by national emission reductions, or used the equivalent method of dividing California costs by California reductions. This methodology assumes the existence of a single product manufacturing and distribution system. We agree with the commenter that most manufacturers will not adopt a dual manufacturing and distribution system. See Volume II, Chapter VIII, Page 13 in the ISOR for more information regarding this assumption.

Miscellaneous Cost Comments

72. **Comment:** To assume that industry can pass some costs along and reduce other costs has not been supported in the past few years. (MPWC)

Agency Response: In estimating the impacts on the industry, we assumed a "worst-case scenario" in which all costs would be absorbed by manufacturers (and none passed on to consumers). In the ISOR we simply mention that in reality many businesses will pass on some of these costs in the form of higher prices to consumers, or they will reduce some of their costs to compensate for the cost of the regulation. We did not attempt to estimate the extent to which the impact on industry would be reduced by these factors. It should also be noted that the ARB's estimate of the impact on consumers (increase in per-unit cost) similarly assumes a "worst-case" scenario in which all costs are passed on to consumers in the form of higher prices (with none absorbed by manufacturers). In reality, we believe it is probable that the costs of regulation will be partially absorbed by companies and partially passed on to consumers, depending on the individual product or company.

73. **Comment:** In many cases, manufacturers of automotive care products are prevented by retailers from increasing their prices. Therefore, they must look at reformulation options not only with an eye toward maintaining the efficacy of the product, but at the lowest cost possible. (ACMC, MPWC)

Agency Response: We recognize that manufacturers must consider both product efficacy and cost when they reformulate their products, and that some retailers are reluctant to accept price increases.

74. **Comment:** Solvents represent one of the higher cost ingredients in automotive chemical products. If there were viable alternatives that would lower the cost of the product, while maintaining the efficacy, they would reformulate without regulatory mandates. (ACMC)

Agency Response: We do not agree with the commenter. As detailed in Volume II, Chapter VI, of the ISOR, many manufacturers already make complying products, which indicates that viable alternatives are available for manufacturers of noncomplying products. There are many reasons, in addition to the cost of product ingredients, why individual manufacturers may or may not choose to reformulate their products. Moreover, the ARB staff does not agree that solvents represent one of the higher cost ingredients in automotive chemical products. Active ingredients such as waxes, silicone fluids, and surfactants are generally much more expensive than the petroleum-based solvents typically used in automotive chemical products. However, we do recognize that solvents are more expensive than water, which is often used as the solvent in complying formulations. However, water-compatible active ingredients are often more expensive than their counterparts used in solvent-based formulations, or other ingredients necessary in water-based formulations may increase their price. For these reasons, water-based formulations may be more expensive, less expensive, or comparable in cost to solvent-based formulations.

75. **Comment:** Any significant price increase caused by these regulations will lead to decreased sales for the manufacturer and decreased choices for the consumer. (ACMC)

Agency Response: We agree that a significant increase in the price of a product could lead to decreased sales, and that the product could be withdrawn from the market if it is no longer profitable for the manufacturer. As explained in the ARB's cost analysis, however, for most manufacturers we do not expect a significant increase in the price of products due to the regulation. Based on our analysis, we estimate a maximum increase of less than 0.4 percent in product prices, with a range from 0.05 to 0.5 percent based on the segment of the consumer products industry affected. It should also be noted that these estimates assume that all costs are passed on to the consumer (and none absorbed by the manufacturer). As explained in the response to Comment No. 72, we expect that some of the costs of the regulation will actually be absorbed by manufacturers. Therefore, the cost impacts to consumers will probably be less than estimated, which would minimize any potential decrease in sales.

76. **Comment:** It is our understanding that the Mid-term Measures standards for "automotive waxes, polishes, sealants and glazes" will make it difficult, if not impossible to reformulate many liquid and hard cake paste wax products while retaining the high degree of protection and ease of application which are demanded by our customers. This may force customers to purchase products over the Internet, mail order, and the black market. The associated loss to our member retailers will be significant since appearance products account for 14 percent of store sales. In addition, ARB's emission reductions will be lower than estimated. We suggest that the ARB staff develop a proposal which would be protective of the environment,

but which would permit continued sales of effective and marketable appearance products. (APAA, CAP, PACCAR Automotive Inc., CSK, RUC, TWC, HI/LO, QCC, RSS, EFP, TRAK, HF, SEMA, Ron Lane)

Agency Response: As explained in detail in the ISOR, ARB staff believes that the regulation will allow manufacturers to produce effective and marketable products that comply with the standards. In fact, there are many complying liquid products and at least one complying hard paste wax already on the market. Specifically, 39 percent of the market under the "Automotive Wax, Polish, Sealant, or Glaze - All Other Forms" category (which includes primarily liquid wax/polish products) currently complies with the regulation. We are only aware of one complying hard paste wax ("Perfect-It Show Car Paste Wax" manufactured by 3M). However, the product is well below the 45 percent VOC limit for this category. In recognition of the challenge faced by some manufacturers, we have provided until 2005 to reformulate liquid and hard paste waxes. For these reasons, we believe it is highly unlikely that any significant number of consumers would be dissatisfied with complying products and would seek out noncomplying products sold illegally over the Internet or through mail order, or that a "black market" in noncomplying products would develop. Additional discussion of the issues regarding these product categories is contained in the responses to Comments No. 1-12.

77. **Comment:** The ARB should postpone the Mid-term Measures regulation to allow time for further review of inventory and economic data and reformulation options. We feel that the ARB technical staff does not fully understand the technical and economic barriers the automotive aftermarket industry will face, including the possible elimination of certain product forms such as hard paste wax and premium liquid waxes for example. (CAWA)

Agency Response: We do not believe that any delay in adopting the regulation is warranted. ARB staff conducted a thorough analysis of the emissions inventory, economic data, and reformulation options in the ISOR. The ISOR explains in detail the techniques that manufacturers can use to reformulate their products, and the estimated costs of reformulation. Additional discussion of the issues raised by the commenter is contained in the responses to Comments No. 1-12.

78. **Comment:** Significant capital and operating costs will be incurred by suppliers of ingredients, since complying with these limits will require massive shifts in the ingredients bought for these products. These types of shifts cause previous capital purchases to be abandoned, new capital purchases to be made, and other changes that might be expected to lead to increases in the prices of ingredients to product manufacturers. Aerosol propellant distributors, for instance, will have to spend hundreds of thousands of dollars each to install additional tanks to handle the various new propellant blends their customers will need for compliance. (CSMA)

Agency Response: As stated in the ISOR (Volume II, Chapter VIII, p.4), we recognize that there could be some impacts on raw material suppliers. However, ARB staff concluded that in most cases the impact to suppliers of containers, solvents, propellants and other

chemicals will be minimal. ARB staff expects that most impacts will primarily be the result of shifts in demand from one chemical to another or from one type of container to another. In addition, most suppliers have a customer base that extends well beyond the manufacturers of products covered by the Mid-term Measures. For example, chemical companies often supply a variety of industries in addition to the consumer products industry, and propellant manufacturers generally serve the entire aerosol products industry. The categories covered by the Mid-term Measures standards represent only a small percentage of the total consumer products market. Finally, ARB staff has received no information which would indicate that additional costs to suppliers and distributors would be severe.

79. **Comment:** The primary impacts on state and local agencies would include higher prices paid for the large volume of these products purchased, and the potential for increases in sales taxes (with price increases) or decreases in sales taxes if product sales drop. (CSMA)

Agency Response: These concerns are unrealistic. The potential impacts on state and local agencies due to price increases will be negligible because the maximum increase in "per-unit" costs is estimated to be 0.4 percent, and because the cost of products covered by the Mid-term Measures generally represents a tiny fraction of the costs incurred by state or local agencies. In addition, there is absolutely no reason to expect any significant increase or decrease in sales (or sales taxes) as a result of this regulatory action.

80. **Comment:** We are disappointed that the section of the ISOR on future activities does not mention what we consider to be the most important future activity: continued efforts to correct the consumer products VOC emissions inventory used as the basis for the State Implementation Plan (SIP), and which currently significantly overestimates the VOC emissions attributable to consumer products in California. (CSMA)

Agency Response: The ARB staff is currently conducting an extensive survey of the consumer products industry. The survey results will be used to update the emissions inventory and perform a comprehensive SIP revision in the year 2000.

81. **Comment:** Many companies will have to divert a majority of their energy to reformulating for the California market. This will take away their ability to compete with companies in other parts of the United States. For example, Car Brite, in Indiana, does not sell in California and will not have to spend money reformulating products. This will give Car Brite an advantage in certain fast growing domestic and global markets. (MVP)

Agency Response: Any company that sells their products in California must comply with the proposed regulations, whether they are located in California or not. It is true that a small regional manufacturer that does not sell their products in California will not have to reformulate their products, and may therefore have an advantage outside of California over a company that must expend resources to reformulate their products. However, a regional manufacturer that chooses not to manufacture a California-complying product cannot expand into the California

market, or sell to many large national retailers that want a single product nationwide. In addition, a company that is currently selling their products in California can choose to sell their reformulated product only in California, passing on the cost of reformulation only to California consumers. Companies also have the option of withdrawing from the California marketplace and competing in other areas of the nation or internationally without reformulating for California. However, our past experience with the consumer products regulation, and the analysis in the ISOR, indicate that manufacturers will be able to successfully reformulate their products, in most cases selling their reformulated products nationwide.

82. **Comment:** The statement that the cost-effectiveness for the Mid-term Measures is consistent with our existing consumer products program and other ARB measures is not necessarily a positive statement because in March of this year the ARB postponed the effective date of the VOC standard for hairspray by 17 months, demonstrating that regulations in this case were put into effect without appropriate consideration of technical limitations and true cost impacts. In addition, with respect to architectural coatings, many paint companies closed their doors and moved from California. (MPWC)

Agency Response: We believe that it is an accurate statement that the cost-effectiveness of the Mid-term Measures is consistent with existing consumer products regulations and other ARB programs. The consumer products industry has been able to successfully comply with a great majority of the existing regulatory standards. In a few cases, such as the 55 percent VOC hairspray standard, the ARB modified the regulatory requirements after assessing the industry's progress toward achieving the standards. This demonstrates the ARB's commitment to make adjustments in the regulations when necessary if advances in technology do not progress as expected. The fact that technology does not always develop as anticipated does not demonstrate that the regulations were adopted without appropriate consideration. Architectural coatings, like other "stationary sources" of emissions in California, are regulated by the individual air pollution control agencies (districts), although the ARB does provide technical assistance and in 1989 approved an architectural coatings "suggested control measure" for use by districts. Nevertheless, we have seen no evidence that paint companies are leaving California due to these district regulations.

83. **Comment:** You state in your analysis that costs are expected to range from no cost to an increase of $0.60 per unit. Unfortunately, on items that have a unit product price of $1.34, an increase of $0.60 would be devastating. (MPWC)

Agency Response: The $0.60/unit cost increase was reported as an upper end estimate for "aerosol rubber and vinyl protectants" and "hair shines." For both of these products (which are not made by the commenter) we conservatively assumed that companies would reformulate using a very expensive propellant (hydrofluorocarbon-152a). However, other less expensive propellants can also be used to make effective products. Finally, as mentioned in previous comments, the estimated increase in cost per unit represents a "worst-case scenario" in

which all costs of regulation are passed on to consumers, and none are absorbed by the manufacturers.

84. **Comment:** You state in your cost analysis that cheaper reformulation technologies may be developed. However, it is our understanding that regulations are to be based upon current available technology. (MPWC)

Agency Response: As stated in Volume II, Chapter III, of the ISOR, a standard is technologically feasible if the standard is already being met by at least one product within the same category, or the standard can reasonably be expected to be met in the time frame provided through additional development efforts. The cost estimates in the ISOR are based on existing reformulation technologies. The statement that "cheaper reformulation technologies may be developed" simply recognizes that industry is innovative and generally develops less expensive formulations over time than we initially estimated.

85. **Comment:** The Alternative Control Plan (ACP), Section VIII, stated that the cost to industry to reduce one pound of VOC would be between $0.01 and $1.04. The present assessment is significantly higher at $0.00 to $5.60. (MPWC)

Agency Response: The commenter's statement is not clear. As stated in Volume II, Chapter VIII, of the ISOR (p. 25), the ACP is a completely voluntary program which imposes no additional costs to businesses to comply with the standards. Manufacturers who take advantage of the ACP's emissions averaging provisions are presumably doing so because it costs less than direct compliance with the standards or it provides some other market benefits.

86. **Comment:** We have not seen any data that support the statements on page 6 of the ISOR regarding the impacts on business profitability based on "return on owner's equity (ROE) analysis. To our knowledge, no California based businesses were polled. (MPWC)

Agency Response: The financial information for the ROE analysis is from Industry Norms and Key Business Ratios, 1994-1995, published by Dun & Bradstreet. These data represent a national average including California companies. The ARB staff assumed that the profitability of California business is similar to companies in the rest of the nation. The references for the data used in the report are cited in the ISOR and are available upon request. The financial data used in the report was obtained from published reports.

87. **Comment:** There are no data to support the Mid-term Measures nonrecurring cost estimates which were based on the Phase I and II consumer products regulations. (MPWC)

Agency Response: As explained in detail in Volume II, Chapter VIII (p. 14-15) of the ISOR, the nonrecurring cost estimates were based on cost estimates from the Phase II consumer products rulemaking, which were updated based on information gained from a recent analysis of the second-tier standard for hairspray (which probably represents an upper-end cost estimate). This is the best available data, since a review of the relevant technical literature and industry trade

journals provided little information, and in the past, cost surveys have not been very effective in gathering information.

88. **Comment:** The estimated nonrecurring costs of $8,000 to $120,000 per product are less than half of what it will cost my company to reformulate one product. (MPWC)

Agency Response: The commenter did not provide any data to substantiate their estimated nonrecurring costs, and it is unclear whether the commenter is referring to the average of the range or the high-end of the range. Nevertheless, as stated in Volume II, Chapter VIII, of the ISOR, the cost analysis is intended to provide a general picture of the economic impacts typical businesses might encounter. We recognize that individual companies may experience different impacts than projected.

89. **Comment:** The cost analysis assumes that the only recurring costs are from increased product ingredient costs. However, marketing research indicates that any consumer-noticeable change in a formulation will require extensive marketing and all the cost associated with a new product roll-out. (MPWC)

Agency Response: Recurring costs are the additional ongoing costs of compliance, such as the cost of more expensive ingredients used in a reformulated product. We believe that it is not appropriate to include marketing costs as an additional ongoing cost of compliance, since companies typically allocate funds for marketing even in the absence of product reformulation.

90. **Comment:** The cost analysis states that 29 analyses were completed, but only 25 are accounted for. (MPWC)

Agency Response: The "29 analyses" refers to the evaluation of the 25 first-tier VOC standards, and the four "second-tier" VOC standards that were included in the original proposal. In some tables in the ISOR, the cost of both the first and second-tier standards was combined. In addition, the four second-tier standards were eliminated by the Board in the final version of the regulation.

91. **Comment:** The cost-effectiveness of the Mid-term Measures at $0.00 to $5.60/pound is higher than that for ARB's other consumer products regulations. We also note that there are relatively very few tons of VOC to be reduced when compared to previously regulated consumer goods. Finally, to compare aerosol coatings and architectural coatings to the Mid-term Measures is inappropriate since the costs per unit, usage frequency and tons of VOC reduction for these products places them in a league of their own. (MPWC)

Agency Response: The overall cost-effectiveness of the Mid-term Measures is comparable to the cost-effectiveness of the ARB's other consumer products regulations. The cost-effectiveness analysis for the Mid-term Measures was much more extensive, because the cost-effectiveness was estimated for each individual VOC standard. As a result, the range in cost-effectiveness is wider than in past estimates, resulting in a higher "upper-end" estimate. As shown

in Table VIII-8 of the ISOR, the average-cost effectiveness of the Mid-term Measures regulation is actually lower than that of many of the ARB's other consumer products regulations. In addition, it is appropriate to compare the cost-effectiveness of the Mid-term Measures to these other measures which achieved larger emission reductions because the cost-effectiveness is expressed as the ratio of dollars per pound of VOC reduced. This ratio allows the cost-effectiveness of different regulations with different emission reductions to be fairly compared.

92. **Comment:** In our opinion, the potential cost increases shown in Exhibit C for the aerosol rubber and vinyl protectant may be overstated for the following reasons: (1) formulations would be developed to use up to 10 percent LPG propellant for a cost of about 2.5 cents rather than 25 percent HFC-152a at a cost of 46 cents; (2) water-based content would be higher than 50 percent, but less than the 75 percent shown for the nonaerosol protectant; and (3) the solvent-based and petroleum distillate ingredients would be essentially "banned" from the market, to be replaced to the greatest extent feasible by low-cost water-based products. This reduces the ingredient cost, since the price per pound of water is $0.002 compared to $0.25 for petroleum distillates. (NT)

Agency Response: The cost estimate is based on a reasonable complying formulation. We agree that there are less expensive reformulation options available. However, we do not agree that manufacturers will necessarily reformulate their products to be water-based, as suggested by the commenter. Solvent-based products using petroleum distillates will still be possible using low vapor pressure (LVP) solvents. As stated in Volume II, Chapter VI (p. 106) of the ISOR, some products currently on the market already comply using LVP solvents. Manufacturers of solvent-based noncomplying products may choose to reformulate with LVP solvents because their products will be more like the original solvent-based product.

93. **Comment:** The Board should accept the ARB staff's proposal to change the effective date for rubber and vinyl protectants to 2003 to allow time for a more complete disclosure of the economic effects of the proposed requirements. (QSC)

Agency Response: The Board adopted the regulation with a 2003 effective date for non-aerosol rubber and vinyl protectants, as recommended by the commenter.

94. **Comment:** The proposed regulation will require much greater economic investment than presented by the ISOR for rubber and vinyl protectants. The economic effects of the proposed ARB requirements will encompass costs for research, packaging, marketing, and advertising. Based on our estimates, the nonrecurring costs will range from $3.6 to $7.6 million

per product, and do not include the effects of eliminating the UV inhibitor and plasticizer when we reformulate. (QSC)

Agency Response: The commenter has greatly overestimated the cost of compliance by inappropriately including numerous marketing and advertising costs such as point-of-sale displays, rebate and coupon promotions, and television and radio promotions. These expenses account for most of the $3.6 to $7.6 million estimate. The remaining costs account for $230,000- $350,000, which is still much higher than the ARB staff estimated. The commenter did not provide sufficient information to verify these costs. However, as stated in Volume II, Chapter VIII (p.1) of the ISOR, the analysis is meant to provide a general picture of the economic impacts typical businesses subject to the regulation might encounter. We recognize that individual companies may experience different impacts than projected.

95. **Comment:** The Mid-term Measures will require the reformulation of rubber and vinyl protectant products to water-based formulations. This will result in: (1) elimination of a product category from the market; (2) reduced marketing effectiveness and brand distinction; and (3) reduced market share. We estimate the costs of these impacts at $25 million dollars. The ARB's economic assessment did not include the costs associated with the elimination of products. (QSC)

Agency Response: The regulatory standards will not require manufacturers of rubber and vinyl protectants to produce water-based formulations. As described in Volume II, Chapter VI (p. 105-106) of the ISOR and the response to Comment No. 92, companies can also reformulate solvent-based products using low vapor pressure compounds (LVP's) or volatile methyl siloxanes (VMS). Therefore, there is no reason to include the "costs associated with the elimination of products" in the ARB's economic assessment.

96. **Comment:** We disagree with the statement in the ISOR that raw material cost has the most significant impact on overall cost-effectiveness, and that the annualized nonrecurring fixed costs have a relatively small impact. ARB estimates $8,000 to $120,000 per product which is just not realistic for the U.S. market. Additionally, ARB's nonrecurring costs are annualized using a 10 year project horizon. This is appropriate for depreciating capital equipment, but not for the typical return on investment for consumer products where 1 to 2 years is standard for automotive appearance products where market demand is especially fickle. Finally, raw material costs for many of the products which are "at risk" are already higher than some of the so-called compliant products. This is because water is of course less expensive than other premium and or active components. (QSC)

Agency Response: In general, the ARB cost analysis showed that the recurring (materials) costs had the greatest impact on the total cost and cost-effectiveness. However, the staff recognized that for some product categories or individual products, the one-time costs will be more significant. As explained in the response to Comment No. 94, the commenter greatly overestimated their nonrecurring fixed costs by inappropriately including marketing and advertising costs. This may account for the commenter's belief that the ARB analysis places too

much weight on the recurring (materials) cost. Also, we disagree that the ten-year amortization of nonrecurring costs is inappropriate. A ten year amortization period for one-time costs is standard for many cost analyses, and is reasonable given the lifetime of consumer products on the market. While some products may remain on the market for only one or two years, others remain on the market for much longer than ten years. Regarding the raw materials costs, it is true that in some cases the complying formulations are less expensive than the noncomplying formulations. However, more often the opposite is true. Many of the water-based formulations are comparable or more expensive than the solvent-based formulations because the water-compatible ingredients are more expensive than the solvent-compatible ingredients, thus eliminating savings derived from using water as the solvent (as shown in Appendix F of the ISOR for aerosol general purpose degreasers and aerosol undercoatings).

97. **Comment:** We have received cost data from a number of businesses that would be impacted by these regulations. These data indicate that the reformulation, distribution and marketing costs will be substantially higher for some products covered by the Mid-term Measures. We recommend that in those cases where the industry data indicate substantially higher costs, that a few additional product subcategories be established to allow greater flexibility in achieving emissions reductions. Without these changes, performance-based products will not be marketed in California, or these companies may leave the state since they will no longer be able to market their products in California. In extreme cases, some businesses may cease doing business completely. (CTCA)

Agency Response: The ARB staff received some of the cost data supplied to the commenter and found that it did not adequately document the costs claimed, or included inappropriate costs (see the response to Comment No. 94). We have already created product subcategories as necessary to accommodate different product forms. We believe that further subcategorization is unnecessary, and that the ISOR clearly demonstrates that manufacturers will be able to manufacture effective products that meet the proposed VOC standards. As explained in the responses to Comment No. 3 and 7, the ARB staff has formed a working group to address concerns of automotive wax and polish manufacturers about their ability to make higher-performing "premium products." Finally, the cost analysis in the ISOR demonstrates that most manufacturers will be able to absorb the costs of the regulation. Businesses that cannot comply with the regulation by the effective date of the VOC standards can seek relief under the variance provision. It is very unlikely that companies will relocate outside of California due to the regulation, because consumer product manufacturers will still be required to sell complying products to their customers in California regardless of where the products are manufactured. The ARB staff is also aware, from conducting "technology assessments" of manufacturers' progress in achieving compliance with previous consumer products regulations, that companies have not left California or gone out of business due to the ARB's consumer products regulations.

98. **Comment:** We recommend that the two-tiered VOC standards and recordkeeping under section 94513(h) be eliminated. (CTCA)

Agency Response: The regulation was modified as suggested by the commenter.

99. **Comment:** Regulating our automotive wax and polish products down to the performance of our competitors would negate everything we do. We would be out of business because we would no longer be able to produce the dramatic results that our customers expect, and like we have been doing for the past 96 years. (MEG)

Agency Response: As explained in the responses to Comments No. 1 -12, we do not believe that the regulatory standards will result in automotive wax and polish products with lower performance levels. Manufacturers are free to reformulate their products as they wish, as long as they meet the proposed VOC standards. Many of the products currently on the market comply with the proposed VOC standards. The manufacturers of these complying products have optimized their formulations in the absence of VOC restrictions.

100. **Comment:** In some cases, ARB's proposed standards are based on products that do not have any significant market share, risking the elimination of those products with a proven demand by consumers, and denying consumers a choice of quality products. (ACMC)

Agency Response: A low complying market share does not necessarily indicate that a standard is infeasible or will result in the elimination of products. For example, some product categories have a low complying market share but many available reformulation options. In addition, the proposed standards were developed after considering many factors in addition to the existence of complying products. Sources of information included discussions with the affected industry, review of the available technical literature, patents, trade journals, as well as the Mid-term Measures survey information (including market share information). In addition, the ARB staff worked with the affected industry to create subcategories with different VOC standards where necessary to preserve product forms and ensure that efficacious products will continue to be available to consumers. We believe that the result of this process is that consumers will continue to have a choice of quality products.

101. **Comment:** The economic assessment and "pattern formulations" for paste wax are based on one product that was first marketed in 1996 and has an "unknown" market share and no assessable consumer acceptance. Thus the cost data for category 210b is not based on the Mid-term Measures survey as stated in the ISOR. (MPWC)

Agency Response: In general, the "pattern formulations" used in the cost analysis were based on products in the Mid-term Measures survey. However, the commenter is correct that for the hard paste wax subcategory of "Automotive Wax, Polish, Sealant, or Glaze", the complying "pattern formulation" was based on an existing product that was not reported in the Mid-term Measures survey. This is because there was only one complying hard paste wax on the market, and it was introduced into the marketplace too late for inclusion in the survey. As

explained in Chapter VI of the ISOR, we believe that the standard for hard paste wax is achievable given the time frame provided for reformulation.

C. Definitions

102. **Comment:** The definition of "Dry Cleaning Fluid" should also include products designed specifically for cleaning "S-coded" upholstery fabrics (solvent-clean-only upholstery fabrics). (CSMA)

Agency Response: As requested by the commenter, the definition of "Dry Cleaning Fluid" was modified to include products exclusively used on "S-coded" upholstery fabrics.

103. **Comment:** The definition for "Institutional and Industrial Product" needs further clarification in regard to the exclusion of industrial products. Many industrial-use products that are currently subject, or will be subject in the future, to stationary source permit limitations could be interpreted to be inappropriately included in the definition of "Institutional Product," and therefore subject to these consumer product rules as well. There was insufficient time to address this issue in this rulemaking process. We suggest that the clarification and refinement of the dividing line between consumer and industrial products be the subject of on-going discussions through the Consumer Products Working Group that includes representatives from industry, air quality districts and the ARB. As a temporary measure, the individual definitions for the various lubricant categories should be clarified to note that products sold exclusively for industrial use, and not sold in retail stores, are excluded. (CSMA)

Agency Response: The definition of "Institutional Product" or "Industrial and Institutional (I&I) Product" was adopted in 1992 as part of the Phase II consumer products rulemaking action. The definition was developed after extensive input from the consumer products industry. The ARB staff believes that the definition has worked quite well in the past, and we are not convinced that it can be improved without creating clarity problems. As suggested by the commenter, however, we will continue to work with the industry and other interested parties to explore whether modifications are appropriate and necessary. It may well be that any potential clarity problems for individual product categories can be better addressed on a more focused category-by-category basis, rather than by modifying the general definition that applies to all product categories. For the category of "lubricants", the ARB followed the commenter's suggestion and modified the definition to exclude products that are (1) sold to establishments which manufacture or construct goods or commodities, and (2) labeled "not for retail sale". It is ARB staff's understanding that these modifications are acceptable to lubricant manufacturers, because the modified language appropriately distinguishes between purely "industrial" lubricants and lubricants that are sold to the consumer market.

D. Table of Standards

104. **Comment:** Several of the product categories proposed for regulation in Phase III would be subjected to both an early limitation, and a lower VOC limit at a later future-effective date. This regulatory strategy could force two costly reformulations on manufacturers of these products within just a few years. ARB is urged to modify each category for which two limits are proposed and set a single limit that is technologically and commercially feasible. (CSMA)

Agency Response: As requested by the commenter, all of the first tiers of the two-tiered standards have been eliminated.

105. **Comment:** The proposed Table of Standards includes VOC standards for some product categories that are effective on January 1, 2000. Since final Office of Administrative Law approval of this regulatory action will most likely not occur until 1998, this would provide too short a period for reformulation of these products. The ARB is urged to change all effective dates currently set at January 1, 2000 to January 1, 2001, to allow adequate time for reformulating these products. (CSMA)

Agency Response: To provide additional time for manufacturers to reformulate their products, all of the VOC limits that were initially proposed to become effective on January 1, 2000 were extended until January 1, 2001.

106. **Comment:** The existing ozone-depleting compound provision prohibits products from containing ozone-depleting compounds as of January 1, 1993. This provision, as it currently exists, could serve to retroactively ban some products manufactured between 1993 and 1996 which contain compounds such as 1,1,1-trichloroethane. It is urged that this provision be revised to affect newly regulated products only when their limit in the Table of Standards becomes effective. (CSMA)

Agency Response: To address this concern, section 94509(e) was modified to delete the confusing reference to January 1, 1993. This modification, together with the modifications to section 94509(f) and the definition of "Existing Product" in section 94508(a)(42), clarify that: (1) the prohibition against ozone-depleting compounds in Phase III products does not apply until the operative date of the Phase III standards (i.e., 30 days after the Phase III rulemaking is approved by the Office of Administrative Law), and that (2) this prohibition does not apply to any complying Phase III product in existence on the operative date of the Phase III standards (or any noncomplying Phase III product subsequently reformulated to meet the Phase III standards, as long as the ozone-depleting compound content of the reformulated product does not increase). These "grand fathering" provisions are consistent with how ozone-depleting compounds have been regulated for the Phase I and Phase II categories, and address the commenter's concern that the regulation could be interpreted to retroactively apply to some products first manufactured between 1993 and 1996. The ARB did not, however, implement the commenter's specific suggestion that this "grand fathering" approach be extended to all Phase III products that may be created between the operative date of Phase III regulation, and the future

date on which each particular limit becomes effective for each Phase III category. This approach would inappropriately extend "grand fathering" to entirely new products created in the future, and could also provide a perverse incentive for manufacturers to reformulate existing products with ozone-depleting compounds shortly before the future effective date of a standard, in order to gain the "grand fathering" exemption for these products.

E. Reporting Requirements

107. **Comment:** Because it was requested that all Phase III limits with a January 1, 2000 effective date be extended to January 1, 2001, it is suggested that language for the special reporting requirements for products that contain perchloroethylene or methylene chloride be revised to reflect this change. (CSMA)

Agency Response: Section 94513(g) was modified as requested by the commenter. The first reports for products with VOC limits effective on January 1, 2001 will now be due on or before March 1, 2000.

F. State Implementation Plan for Ozone

108. **Comment:** The ISOR states that, "the Mid-term Measures emission reductions are necessary for the Sacramento Metropolitan Area and Ventura County Air Pollution Control District to demonstrate ozone attainment by 2005, and the South Coast Air Quality Management District to demonstrate ozone attainment by 2010." We believe that no evidence exists in the record of the development of the 1994 California State Implementation Plan (SIP) to show this statement to be true. It also appears that the need for further reductions from consumer products to meet national or state ambient air quality standards has never been evaluated. For instance, no Urban Airshed Model (UAM) runs have been located that demonstrate that a failure to achieve further reductions in the consumer products inventory would result in failure to meet the ambient ozone standard for any air district in California. (CSMA)

Agency Response: Due to the magnitude of the air quality problem in California, and the inherent uncertainties of estimating emissions and emission reductions, all sources of VOC emissions--including consumer products emissions--must be controlled to the maximum extent feasible. Contrary to the statements made by the commenter, the SIP contains documentation supporting the need for emission reductions from consumer products in order to reach attainment in the Ventura County Air Pollution Control District and the South Coast Air Quality Management District. The ARB staff also conducted UAM runs using all of the control measures committed to in the SIP. These analyses show that all of the SIP measures are necessary to reach statewide attainment of the federal ozone standard. In addition, the ARB staff conducted modeling analyses showing that on a population-weighted exposure basis, reductions in consumer product emissions have similar air quality benefits as compared to emission reductions from mobile sources and other sources.

109. **Comment:** The ISOR states that the 85 percent reduction in consumer products is

"necessary for the South Coast Air Basin, among others, to attain the federal ozone standard." There is no study to determine whether an 85 percent reduction is necessary in the record for the development of the 1994 California SIP (i.e., that a reduction less than 85 percent would not result in ozone attainment for any region of the state). (CSMA)

Agency Response: As mentioned in the response to the previous comment, it is important that emission reductions be pursued from all viable sources of VOC emissions. In addition, an 85 percent reduction in VOC emissions from consumer products is comparable to the emission reductions already required from mobile and industrial sources. Together with significant reductions from stationary industrial facilities, mobile sources and other area sources, the reductions in the consumer products element of the SIP are an essential part of California's effort to attain the air quality standards for ozone. More specifically, a modeling analysis was conducted which determined the carrying capacity of the South Coast Air Basin. We then determined that an 85 percent reduction in consumer product emissions would be necessary to meet the emission reduction target established by the carrying capacity, and attain the ozone standard in the South Coast Air Basin in 2010. The results of the modeling analysis for the South Coast Air Basin are part of the record for the adoption of the South Coast plan, which has been approved by the U.S. EPA as a revision to the SIP.

110. Comment: The ARB's use of the SIP to justify the proposed "Mid-term Measures" amendments appears to be a creative interpretation that goes beyond the approved plan. (ACMC)

Agency Response: The commenter is simply incorrect. The ARB's SIP commitments are described in detail in the ISOR (see Volume I, pages 2 -3 and Volume II, Chapter VII, pages 13 - 15). The commitment to adopt the Mid-term measures is clearly spelled out in the SIP. The amendments fall within this commitment and in no way constitute a "creative interpretation."

G. Environmental Impacts

111. Comment: The ISOR states that, "VOCs have also been found to be a source of PM-10 (particulate matter that is 10 microns in size)," implying that the VOC emissions from consumer products are known to contribute to particulate matter formation. We are not aware of any studies that demonstrate that the VOC emissions from consumer products contribute in any way to particulate matter formation. Indeed, a recent study on "The Atmospheric Aerosol-Forming Potential of Whole Gasoline Vapor" by J. R. Odum, et al, confirmed that "the atmospheric organic aerosol formation potential of whole gasoline vapor can be accounted for solely in terms of the aromatic fraction of the fuel." Consumer products seldom contain

significant quantities of aromatic VOCs, and therefore cannot be expected to contribute significantly to particulate matter. (CSMA)

Agency Response: Although the amount of PM-10 formed as a result of VOC emissions from consumer products has not been quantified, it is widely recognized in the scientific community that VOCs which reach the atmosphere can become involved in either condensation mechanisms or reactions with other species present in the atmosphere to form particulate matter. The rulemaking record contains several references to existing scientific literature which discuss the causes and formation of particulate matter. In addition, the ARB is proposing to conduct further research in this area to quantify the effect VOC emissions from consumer products have on PM-10 formation.

112. Comment: The ISOR states, "The exact reductions in ozone and PM-10 cannot be accurately predicted due to the wide variety of factors that impact the formation of ozone and PM-10." Although this is complicated, it can be predicted that the effect of consumer product VOC emissions on PM-10 is negligible. The effect of consumer product VOC emissions on ozone formation can be reliably quantified and would be found to be very limited based on the low reactivities of the VOCs in consumer products. (CSMA)

Agency Response: It is difficult to quantify the amount of ozone and PM-10 formation that will be reduced as a result of the VOC emission reductions from the Mid-term Measures. This is because of the wide variety of factors that impact the formation of ozone and PM-10, including atmospheric conditions, the ratio of VOCs to NOx in the atmosphere, and the reactivity (ozone formation potential) of the individual VOCs emitted. In addition to not having all of the necessary data, the sensitivity of the model at this time does not allow the ARB staff to accurately predict the exact amount of ozone that will be reduced from this one source of VOC emissions. However, according to modeling performed using the Urban Airshed Model, pound for pound VOC emissions from consumer products have as much impact on population exposure to ozone above the state ozone standard as VOC emissions from motor vehicles. Although we are not able to accurately quantify the reductions in ozone and PM-10 as a result of VOC emission reductions from the Mid-term Measures, it is well recognized that VOCs contribute to both ozone and PM-10. Therefore, any reduction in VOC emissions will benefit the environment by decreasing the amounts of ground level ozone and PM-10 in the air.

113. Comment: The ISOR states that the ARB "conducted a health risk assessment which shows that, by achieving the maximum feasible VOC emission reductions, this regulation would reduce public heath risks by a similar magnitude as other regulations adopted by the ARB and other environmental agencies." There appears to be no evidence of the "health risk assessment" in the record for this or any other rulemaking. If such a risk assessment exists, it should be subject to public review. Also, how was a quantitative risk assessment conducted when it is also

stated, in this section, that no quantitative estimate can be made of the extent to which this regulation will contribute to reductions in ozone formation. (CSMA)

Agency Response: The commenter is apparently using the term "health risk assessment" to refer to a very detailed numerical analysis that provides quantification of the reduction in health risks. The ARB did not conduct this kind of assessment because it was not possible to do so. The ARB's assessment regarding the estimated health risk reductions from the regulation is set forth in Volume II, Chapter VII, page 5 and 6 of the ISOR. As explained in this assessment, it is not possible to quantify the exact health benefits from the Mid-term Measures, but it is possible to make qualitative comparisons. In making these comparisons, the ARB staff considered recent information made available by the United States Environmental Protection Agency (indicated as references in the ISOR), which clearly shows that reducing ozone and PM-10 concentrations improves public health. The U.S. EPA developed this information to support their new health-based ozone and PM-10 standards. As a corollary to this, it follows that by reducing VOC emissions (a known contributor to ozone and PM-10 formation) public health would be improved. The statement that "this regulation would reduce public health risks by a similar magnitude as other regulations" is based on similar reductions in the tons of VOCs emitted.

114. Comment: The ISOR states that, "It is not possible to accurately estimate the health risk reductions that could result from the adoption of this regulation due to lack of data." Adequate data do exist to conduct such an assessment, including estimates of the VOC reductions expected, and the VOC species likely to be reduced. Also, the ozone benefits of this regulation can be estimated, either through the use of Maximum Incremental Reactivity (MIR) calculations or by using the Urban Airshed Model (UAM). If such assessments were conducted, they would show that ozone reductions from this rule are exceedingly small due to the low reactivity of consumer product VOCs. The resulting health benefits of the regulation would therefore also be found to be immeasurably small. (CSMA)

Agency Response: We do not agree with the commenter's assertions. It is not possible to use MIR values and UAM runs to quantify the health benefits from this regulation. The VOC standards for the Mid-term Measures are mass-based; therefore, the MIR values for these products after reformulation are unknown. It is also not possible to use UAM runs to determine the health benefits because, although we do know the VOC reductions expected from this regulation, many others factors are needed to conduct a modeling analysis. These factors include atmospheric conditions, the ratio of VOCs to NOx in the atmosphere, and the reactivity (ozone formation potential) of the individual VOCs emitted. In addition to not having all of the necessary data, the sensitivity of the model does not allow an accurate prediction of the exact amount of ozone that will be reduced from this one source of VOC emissions. We do know, however, that any reduction in ozone and PM-10 will result in an improvement in public health.

H. Technological and Commercial Feasibility

General Agency Response to Comments 115 - 121

Comments No. 115-121 all suggest that the ARB has incorrectly interpreted the terms "commercially and technologically feasible". Following is the ARB's general response that applies to the issues raised in all of these comments. After this general response, brief separate responses are presented to some of the specific points raised by each comment.

Health and Safety Code section 41712 requires the ARB to adopt consumer products regulations that are "commercially and technologically feasible". The ARB's interpretation of these terms is set forth in Volume II, Chapter III, Pages 1-3 of the ISOR. This is the same interpretation that the ARB has consistently followed since 1990, when the first consumer products rulemaking was adopted. For the reasons explained in the ISOR, we believe that the ARB's interpretation fulfills the intent of the Legislature. Most of the criticisms raised in the following comments are not new. They are essentially the same criticisms that have been raised by comments in previous consumer products rulemakings. These comments have been summarized and responded to at length in the FSORs for the Phase I and Phase II consumer products rulemakings. Since these FSORs are included as references in the current Phase III rulemaking action (see Volume II, Chapter I, Page 5 of the ISOR), we incorporate the ARB's previous responses by reference in this FSOR. The ARB's responses to these comments can be found on pages 25 - 29 in the Phase I FSOR (Comments No. 27 - 33), and on pages 104 - 111 (Comments No. 101- 110) of the Phase II FSOR. These sections of the Phase I and Phase II FSORs are attached as "Appendix A" to this FSOR.

115. **Comment:** We do not agree with the ARB's interpretation of "commercially and technologically feasible." We believe that a standard should be judged to be "feasible" when there is proven technology and consumer acceptance of that technology with a representative share of the marketplace when the regulation is adopted. (ACMC)

Agency Response: The commenter is proposing an interpretation of "feasible" which would prohibit the ARB from adopting any "technology-forcing" standards. We believe that this interpretation is incorrect for the reasons identified in the responses to Comments No. 29(c) and 31 in the Phase I FSOR (see Appendix A).

116. **Comment:** We do not agree with ARB's interpretation of "consumer feasibility" as defined in the ISOR, as that policy potentially eliminates the market advantages small manufacturers create by making specialized, efficacious products that serve discriminating customers. (ACMC)

Agency Response: We assume that the commenter is referring to the term "commercially feasible", which is the term used in Health and Safety Code section 41712 and discussed in the ISOR. As explained in detail in the ISOR, the ARB interprets this term to mean that a standard is "commercially feasible" as long as the "basic market demand" for a particular

consumer product can be met. We do not agree that this interpretation prevents small manufacturers from making specialized, efficacious products. More than one formulation technology is generally available to meet the standards, and the standards will allow distinct, efficacious products to exist in all of the categories.

However, in order to achieve emission reductions, manufacturers must reduce the VOCs in their products. We recognize that every currently marketed product has some unique features that differentiate it from other products. It is expected that when a product formulation changes, some features of the product will also change. If ARB were to establish standards which accounted for every distinct feature of every product, then each product would require a standard upon itself. Such an approach would make it impossible to achieve the maximum feasible reduction in VOC emissions, because changes in formulation would change product features.

117. **Comment:** Commercial feasibility for small manufacturers is not demonstrated by the presence of a single product in the market or a policy that attempts to level the competitive playing field by making all products alike. (ACMC)

Agency Response: The ARB staff did not assume that a standard was "commercially feasible" simply because a single product or a few products met the standard. A number of factors were evaluated in each determination, such as cost and availability of suitable technologies. In addition, the standards will not result in "making all products alike". Each standard will allow manufacturers to produce different types of products with distinct characteristics.

118. **Comment:** The simplistic view of technological feasibility presented in the ISOR makes some limited sense, but only if it is assumed that the category of products under discussion are totally interchangeable in their usage. Virtually all of the product categories being regulated by ARB, however, are inevitably composed of a wide variety of products and uses. (CSMA)

Agency Response: We recognize that each product category contains a wide variety of products and uses. We also believe that this variety was adequately considered when the ARB staff developed the VOC standards. In general, we made sure that the products subject to a given standard perform the same basic functions, and that there are viable options for reformulation that meet consumers' needs. In some cases, a single VOC standard may apply to a product category which contains different product forms or subcategories of products with distinguishing features, because the VOC standard can be met by each product form or subcategory. As explained at length in the ISOR, each of the proposed VOC standards has been set at a level which is technologically and commercially feasible. This means that efficacious complying products that perform the necessary function will continue to be available to California consumers.

119. **Comment:** In defending the concept of maintaining "basic market demand" as the sole index of commercial feasibility, this section sets up a "straw man" in its example of "solvent-based rubber and vinyl protectants." The primary defect in ARB's basic-market-demand concept continues to be that it fails to consider the two primary quantitative factors that affect the

commercial viability of a product in the marketplace: performance and price, the ratio of which constitutes the "value" of the product. Any concept that ignores performance and price can only have tangential connections to the evaluation of commercial feasibility. By ARB's version of the "basic market demand" concept, sour oranges at $100 each could be argued to meet the basic market demand for fruit. (CSMA)

Agency Response: The ARB considered both performance and price when developing all of the VOC standards. We agree with the commenter that these two factors must be considered when evaluating the commercial feasibility of a standard. Contrary to the commenter's characterization, the ARB's approach does not lead to the conclusion that "sour oranges" would meet the basic market demand for fruit. Additional discussion of the general issue raised by the commenter can be found in the response to Comment No. 110 in the Phase II FSOR (see Appendix A).

120. Comment: Marketers in our industry and others know that the commercial feasibility of a product can be difficult to predict. But we think the concept is reasonably clear and simple when viewed in retrospect. A change in the products in a category can be considered commercially feasible if it results in little or no loss in sales volume for that category. If the change results in a significant loss in sales volume, it should be considered commercially infeasible. It is not clear, however, whether this concept is consistent with ARB's "basic market demand" concept. (CSMA)

Agency Response: In the highly competitive consumer products industry, product sales rise and fall for many reasons that have nothing to do with air quality regulations. It would be unworkable to decide if a standard is "commercially feasible" by doing a post-regulation analysis to determine whether product sales went up or down. The cause of sales fluctuations would probably be difficult or impossible to determine. We do agree with the commenter on one point; it would be fairly persuasive evidence that a standard was not "commercially feasible" if it could be accurately determined that a category-wide significant sales drop was occurring because the reformulated products worked so poorly that consumers stopped buying them. However, the ARB staff is convinced that such a result will not happen for the standards in the Mid-term Measures regulation.

121. Comment: We recommend that the ARB meet with industry representatives to establish a mutually acceptable definition of the term "commercially feasible," since this term is not defined in state law. (CTCA)

Agency Response: As mentioned previously, the ARB has already developed an interpretation of this term and has consistently followed it since 1990. The ARB staff has had numerous discussions with industry on this interpretation, both before it was developed and afterwards. Given this long history, we do not believe that additional meetings would be useful.

I. Survey

122. **Comment:** We believe that the statement on Page 15, Volume I, of the ISOR, "However, the lack of industry response to the survey prevented us from using the affected industry's data in this [economic] analysis," misrepresents the facts. A draft survey form was proposed by the ARB, but never finalized or sent to our members. (ACMC, p. 5; CSMA, p. 2)

Agency Response: As agreed to at the March 12, 1997 workshop, the draft survey form was provided to industry associations for distribution to their member companies. Our understanding is that the industry associations never received a significant response rate from their members. In any event, no survey results from the ARB's draft survey were ever provided to the ARB staff.

123. **Comment:** ARB staff did not provide updates to the survey data to industry after February, 1997. We believe that the standards were based upon inadequate data for the automotive product categories. (ACMC)

Agency Response: ARB staff worked very closely with the consumer products industry to determine the best way to release the survey data. Several tele-conferences and numerous discussions with industry and association members were conducted. The primary issue of concern during these discussions was protecting the confidentiality of the survey data. To ensure the accuracy of the data, the ARB staff agreed to a quality assurance review by companies that had responded to the survey. After extensive negotiations, a format was agreed upon whereby the data could be reviewed without breaching confidentiality. The initial release of survey data was dated November 25, 1996. At this time, the ARB staff informed members of industry and the associations that future releases of additional survey data would be difficult, because comparisons between the data tables and the responding companies for each release could reveal confidential information about the later respondents. This concern was acknowledged by members of industry, and a format was agreed upon for the next release, dated February, 1997. With each release, staff reviewed all quality assurance responses regarding the data, and made changes when corrections were needed.

After the February data release, so few additional companies responded that an additional release of data would have revealed confidential information about those companies. The staff checked the data from the additional respondents by discussing questionable data directly with the respondents. In summary, survey data were released to industry in a format which protected the confidentiality of the survey respondents, and data were thoroughly reviewed and corrected when appropriate. We believe that this process insured that adequate data exist as the basis for all categories in the Mid-term Measures regulation, including the automotive product categories.

J. Emissions

124. **Comment:** The 1994 SIP indicates that 120 tons per day are emitted from unregulated categories, and these categories were to be regulated under the Mid-term Measures and a 60 ton per day reduction achieved (a 50 percent reduction). These 120 tons per day of

consumer product emissions were found not to exist, and therefore reductions are not feasible. The SIP should be changed. (CSMA)

Agency Response: The emissions from the unregulated categories were determined to be closer to 90 tons per day, which is less than the expected 120 tons per day. Consequently, the Mid-term Measures regulation will achieve a 50 percent (or 16 tons per day) reduction from the affected categories, rather than achieving a 60 tons per day reduction. The ARB is deferring action on the remaining unregulated consumer product categories until an evaluation of the technical issues and reactivity-based approaches is completed in 2000. In addition, a comprehensive survey of the consumer products industry is currently underway. The results of this survey will be used to update the consumer products emissions inventory. The ARB's current plan is to consider revisions in the year 2000 to the emissions inventory in the SIP.

125. Comment: The Sacramento attainment demonstration for ozone required a 38 percent reduction from consumer products, rather than a 55 percent reduction as called for in the SIP. With the Near-term regulations achieving a 30 percent reduction, additional reductions of 8 percent are all that is required, which is substantially less than the 25 percent from Mid-term Measures put forth in the SIP. Since this is a drop of over two-thirds in the required reductions, the actual tons of VOC reductions needed is less than 20 tons per day. With further inventory corrections, the current Mid-term reductions achieve this. (CSMA)

Agency Response: It is true the Sacramento nonattainment area requires only a 38 percent reduction in consumer products emissions to reach attainment. However, the South Coast Air Basin, the only extreme ozone nonattainment area in the country, requires a 55 percent reduction by 2005 and an 85 percent reduction from consumer products by 2010 to attain the ozone standard. This reduction has been divided into three stages, 30 percent from the Near-term Measures, 25 percent from the Mid-term Measures, and 30 percent from the Long-term Measures. Since consumer products are distributed statewide, it is not feasible to have separate regional standards based on an area's ozone nonattainment status. To achieve only an 8 percent reduction in VOC emissions from the Mid-term Measures would not fulfill the ARB's SIP commitments, and would place a much greater burden on the Long-term Measures. The ARB believes that the proper approach is to achieve in each regulatory action the maximum feasible reductions in VOC emissions, as specified in Health and Safety Code section 41712(b).

126. **Comment:** The products included in performing market coverage adjustments to the Mid-term Measures categories should not have been included, either because they were not manufactured in 1995, were reported under different names, or do not meet the category definitions. (CSMA)

Agency Response: The list of products used to make market coverage adjustments was made available to industry for review and comment. The ARB staff removed products from the list when industry representatives indicated that the products were inappropriately included.

127. **Comment:** The CSMA Pressurized Product Survey collects data on the number of units sold, rather than product weight sold. Therefore, it cannot be used as an adequate basis for estimating emissions since the unit size is not specified. In addition, the survey collects data on industrial products as well as household and institutional products. (CSMA)

Agency Response: The commenter is referring to the discussion in the ISOR which mentions that there are precedents for the use of adjustment factors to account for incomplete market coverage in surveys. One of the precedents mentioned was the adjustment to the aerosol coatings emissions (i.e., spray paint), which relied in part on the CSMA's Pressurized Product Survey (CSMA Survey). For aerosol coatings, it was appropriate to use the CSMA Survey for market adjustments because the sales could be accurately determined, since the average container size is 10.5 ounces and the aerosol coatings regulation includes industrial products. Aerosol coatings are not being regulated in the current rulemaking action, and the specific data obtained by the CSMA Survey is not relevant to the current rulemaking. What is relevant is the general principle that adjustment factors can be successfully used to account for incomplete market coverage in surveys.

128. **Comment:** We urge ARB to prepare a final survey data report as part of the FSOR (CSMA)

Agency Response: As explained in more detail in the response to Comment No. 123, the ARB staff has already provided survey data summaries which represent the vast majority of the products covered by the Mid-term Measures. As with past ARB surveys, we cannot provide updated versions which include a few additional products without inadvertently disclosing confidential information about these products. Therefore, we will not be preparing a final survey data report as part of this FSOR.

K. Miscellaneous Issues

129. Comment: Retailers have been harassed by the agency assigned to enforce the consumer product regulations. They have bullied some retailers even when the active sell-through periods were still in place. (LAST)

Agency Response: The ARB is the agency that enforces the consumer products regulations. While the commenter has not identified any specific enforcement actions taken by the ARB, we simply do not agree that retailers have been "harassed" or "bullied" by the ARB, or that the ARB has failed to properly enforce the "sell-through" provision specified in section 94509(c).

130. Comment: There are serious flaws in the technical support data provided by staff to the proposed regulations that result in a failure to meet the required statutory standards prescribed by law in Health and Safety Code section 41712. (ACMC)

Agency Response: The survey data and other information supporting the Mid-term Measures is set forth in great detail in the ISOR. This data and information is more than sufficient to meet the statutory requirements of Health and Safety Code section 41712. To briefly summarize, the ARB conducted a survey of over 3,000 manufacturers to gather data on 58 product categories. After receiving over 300 surveys, staff checked the data and made follow-up phone calls to manufacturers to correct the data. ARB staff worked extensively with the affected industry to ensure that the data were correct and representative of the products on the market. In this comment, the commenter does not identify any specific issues with either the ARB survey data, or with any other technical information presented in the ISOR. Specific issues raised by all of the commenters are addressed in the earlier portions of this FSOR.

131. Comment: Wood floor waxes regulated in the Phase I regulation are allowed a 90 percent VOC standard. Additionally, other consumer product categories have exempted solid and semi-solid product forms. We feel that the automotive appearance products industry is being penalized, and request the same treatment as other categories. (EO)

Agency Response: The automotive appearance products industry is not being unfairly penalized. Each product category is independently assessed by ARB staff, and the proposed subcategories and VOC standards are based on the specific technical issues related to each category. The Phase I consumer products regulation adopted in 1990 did include a 90 percent VOC standard for wood floor waxes. However, at the time, there were no known reformulation technologies available for this type of product. Water-based formulations were a concern because wood floor waxes are often used on unsealed or poorly sealed wood floors where prolonged exposure to water can cause damage. In addition, the VOC-exempt solvents now available for reformulation without the use of water were not available in 1990. It should also be noted that the wood floor wax subcategory represented only about one to two percent of floor polish sales, while the hard paste wax category represents about 12 percent of the "Automotive Wax, Polish, Sealant, or Glaze" category sales. Regarding exemptions for solid and

semi-solid product forms, we assume the commenter is referring to the exemptions in the "multipurpose lubricant" and "silicone-based multipurpose lubricant" categories. The solid and semisolid products exempted from these lubricant categories are primarily greases which contribute virtually no VOC emissions. In contrast, automotive hard paste waxes are the highest VOC form in the category, with a VOC standard three times higher than that for the liquids and soft paste waxes (under the "All Other" subcategory of "Automotive Wax Polish, Sealant, or Glaze").

APPENDIX A

Selected comments and responses on “Technological and Commercial Feasibility” from the Final Statement of Reasons for the Phase I Consumer Products rulemaking (approved by the ARB on October 11, 1990) and the Phase II Consumer Products rulemaking (approved by the ARB on January 9, 1992).