

BEFORE THE CALIFORNIA AIR RESOURCES BOARD

PROPOSED AMENDMENTS TO THE
CONTROL MEASURE FOR PERCHLOROETHYLENE
DRY CLEANING OPERATIONS AND ADOPTION OF REQUIREMENTS
FOR MANUFACTURERS AND DISTRIBUTORS OF PERCHLOROETHYLENE

Comments of the
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I. Introduction

The Halogenated Solvents Industry Alliance, Inc. (HSIA) appreciates the opportunity to provide comments on the Air Resources Board's (ARB) proposed amendments to the air toxic control measure for perchloroethylene dry cleaning operations. HSIA represents users and producers of halogenated solvents, including perchloroethylene (PERC).

In 1993, ARB promulgated an air toxics control measure (ATCM) to reduce emissions of PERC from dry cleaning facilities. The ATCM set forth requirements for dry cleaning equipment using PERC, as well as requirements for equipment operation and maintenance, record keeping, and reporting. Despite the significant reduction in PERC emissions from the dry cleaning industry since 1993, and the resulting dramatic drop in ambient levels of PERC, the proposed amendments would phase out the use of the solvent over the next 16 years. Installation of new PERC equipment would be prohibited after 2007 and existing PERC machines would be required to be replaced by non-PERC equipment 15 years after manufacture. In addition, dry cleaning operations located in residential buildings and those operating converted PERC equipment would be required to install alternative technology by July 2010.

The proposed amendments also would impose record keeping and reporting requirements on distribution companies selling PERC to dry cleaners in the state and on solvent manufacturers selling PERC to these distributors. According to the Staff Report,¹ these requirements have been proposed to assist ARB in the implementation of the Non-Toxic Dry Cleaning Incentive Program established by Assembly Bill (AB) 998.

HSIA opposes the Board's decision to dismiss the staff's original proposal to allow continued use of PERC and to require development of the current proposal to impose a state-wide phaseout to address what is, at most, a localized issue. The Staff Report has not fully considered the impacts on air quality that would result from the proposal. ARB's assessment of

¹ Staff Report: Initial Statement of Reasons for the Proposed Amendments to the Control Measure for Perchloroethylene Dry Cleaning Operations and Adoption of Requirements for Manufacturers and Distributors of Perchloroethylene (December 8, 2006).

alternative approaches, moreover, falls far short of what's required under Health and Safety Code (HSC) Section 57005.

HSIA also opposes the proposed record keeping and reporting requirements for PERC manufacturers. The proposed requirements for manufacturers would not result in the collection of any information not already proposed to be collected from distributors in the state. It appears solely intended to identify distributors that fail to meet their regulatory and statutory mandate to report. HSIA has provided ARB with composite information from its manufacturing members on a voluntary basis in the past, and is willing to continue to do so. We believe that the proposal to require that manufacturers provide confidential sales information that is available to ARB by other means is neither necessary nor appropriate.

II. PERC Alternatives

The proposed ATCM amendments would require that cleaners replace their existing PERC equipment with an alternative technology when the equipment is 15 years old. The Staff Report reviews several available alternatives to PERC, the most notable of which are synthetic hydrocarbon solvents, volatile methyl siloxane, carbon dioxide, and water-based cleaning systems (wet cleaning). As suggested in the Staff Report, and discussed in greater detail below, technical and economic limitations of carbon dioxide and wet cleaning likely will preclude these processes from widespread use. The Staff Report also suggests that concerns about the potential toxicity of volatile methyl siloxane may keep cleaners from selecting it, despite the fact that it is exempt from control as a volatile organic compound (VOC). As a result, the synthetic hydrocarbon solvents are the most likely candidate for cleaners considering an alternative solvent. As emissions of these solvents contribute to the formation of ozone in the lower atmosphere, their widespread use in the dry cleaning industry would be problematic.

A. Additional Use of Hydrocarbon Solvents Will Contribute to Smog Production

The Staff Report indicates that about 1,100 dry cleaning machines (21 percent) currently operate with hydrocarbon solvent. According to information provided at the Board's May 2006 hearing, most of these machines are located in the South Coast Air Quality Management District

(SCAQMD) where about one third of the machines (700 out of 2,100) now use hydrocarbon solvent. As described in the Staff Report, use of hydrocarbon solvents creates air quality concerns for ARB and the local air district. Based on information collected by ARB and SCAQMD, ARB estimates that the proposed amendments to the ATCM for PERC dry cleaning (combined with SCAQMD's current Rule 1421 requirements) would increase VOCs statewide by 1.5 tons per day.² The Staff Report notes that this increase would need to be addressed in the next comprehensive revision of California's State Implementation Plan (SIP) for ozone, but provides no indication how the increase might be addressed.

Ozone has been associated with premature death. ARB estimates that current ozone levels in the state may cause 630 deaths per year. The greatest risk of ozone exposure is to those who are more active outdoors, such as children, athletes, and outdoor workers. Exposure to levels of ozone above the current ambient air standard leads to lung inflammation and lung tissue damage, and a reduction in the amount of air inhaled into the lungs. Recent evidence, moreover, suggests a link between the onset of asthma and exposure to elevated ozone levels in exercising children.

ARB's estimate of VOC emissions from dry cleaning operations is based on an assumption that the average hydrocarbon cleaner consumes 78 gallons of solvent annually and that 46 percent (36 gallons or 230 pounds) of the solvent consumed is emitted to the atmosphere. Anecdotal information collected by HSIA, and provided to ARB staff, suggests that hydrocarbon solvent consumption may be considerably higher than 78 gallons. If half of the additional solvent is emitted to the atmosphere, the impact on ozone levels would be significantly higher than ARB staff have assumed.

Given ARB's ongoing struggle to reduce ozone levels in the state, HSIA questions the Board's zeal to implement a PERC phaseout without further assessing the inevitable switch to hydrocarbon solvent that will result. Such an evaluation is necessary, not to determine whether to further impose controls on hydrocarbon solvents, but to better assess whether it is prudent to

² According to the Staff Report (page VIII-8), ARB estimates an increase of 0.7 tons/day of VOCs outside of SCAQMD. SCAQMD, in turn, estimates a VOC increase of 0.8 tons/day as a result of its decision to phase out PERC dry cleaning. The Staff Report incorrectly states that the statewide increase would be 1.2 tons/day.

trade the estimates of potential health benefits associated with the proposed phaseout³ for the very real and quantifiable health impacts of the resulting increase in ozone levels.

B. Silicone-Based Solvents May Present Toxicity Concerns

The Staff Report indicates that the Office of Environmental Health Hazard Assessment (OEHHA) is conducting an assessment of the public health impacts from the volatile methyl siloxane solvent (decamethylcyclopentasiloxane, or D5) used in an estimated 190 machines in the state. While HSIA can not comment on the available toxicity information, we note that OEHHA's 2003 preliminary review of D5 and a related product (octamethylcyclotetrasiloxane, or D4) concludes:

While basic testing is still underway for D4 and D5, staff has evaluated the available data. We have concerns about the potential carcinogenicity of D5 and the estrogenic activity of D4. Since D5 is very lipophilic, we are concerned that it will bioaccumulate in the food chain. Dow-Corning conducted a two year study of D5 by inhalation in rats. After both 12 and 24 months, female rats showed an increase in tumors of the uterine endometrium. Dow Corning noted that the usual progression of hyperplasia to adenoma to adenocarcinoma was not observed in the experiments and that the statistically significant increase in adenocarcinomas alone is lost when the other tumors (adenomas) are added in. However, a statistically significant increase in a malignant tumor due to D5, a chemical that is bioconcentrated and is a candidate to replace [PERC], indicates a potential hazard for workers in the dry cleaning industry and perhaps for the general public.⁴

OEHHA's concern about the potential toxicity of D5, and the resulting decision to exclude the purchase of equipment for its use from the AB 998 grant program,⁵ have dampened enthusiasm for the solvent among California's cleaners. Pending the outcome of OEHHA's ongoing review, use of the silicone solvent likely will remain limited.

³ According to the Staff Report, the average population weighted cancer risk from exposure to current ambient levels of PERC is estimated to be slightly above 1 chance per million (10^{-6}). This figure contrasts sharply with a recent estimate that the overall risk of cancer within the US population is 300,000 in a million (i.e., 3 in 10).

⁴ Memo to Peter Venturini, ARB, from George Alexeff, OEHHA, Health Effects of Exposure to Alternative Dry Cleaning Solvents, December 2, 2003.

⁵ SCAQMD also does not provide grants for the purchase of equipment to use D5 under its financial assistance program.

C. Wet Cleaning and Carbon Dioxide Systems are Not Economically Viable Alternatives to PERC Dry Cleaning

Despite the fact that wet cleaning and cleaning with liquid carbon dioxide (CO₂) have been commercially available for many years and can be considered mature technologies, their market penetration has been minimal. Based on its latest survey, in fact, ARB estimates that the two technologies combined comprise less than 1 percent of the state's dry cleaning capacity, with only 49 wet cleaning facilities⁶ and 10 CO₂ facilities in operation. Although the state's Non Toxic Dry Cleaning Incentive Program can be expected to generate some interest in these two technologies, the inherent properties of wet cleaning and CO₂ cleaning will continue to substantially limit their potential use.

The Staff Report briefly discusses the advances in wet cleaning processes since the introduction of the process in 1991. These advances, reviewed in additional detail in the technology evaluation conducted for ARB by the Institute for Research and Technical Assistance (IRTA),⁷ are primarily designed to minimize the potential for shrinkage and distortion of the garments and to improve finishing.⁸ The IRTA evaluation describes the current wet cleaning process as follows:

The process generally consists of a computer controlled washer and dryer and specialized finishing units called tensioning equipment. In order to prevent dimensional change and to make finishing easier, many garments are dried with a residual of moisture. Garments that are dried completely may shrink and are difficult to finish. The dryers include moisture sensors and can be shut off at a particular moisture level. After they are removed from the machine, the still wet garments are hung and later finished using tensioning equipment. The tensioning equipment helps to form garments and restore constructed garments during finishing and helps to prevent them from shrinking.

⁶ ARB staff have indicated that not all of the 170 wet cleaning machines indicated in the Staff Report are located at wet clean-only facilities. The Staff Report for the original proposal (April 2006) suggested that 49 wet clean-only facilities were operating in California and that about 40 percent (20) of these locations are demonstration projects. Consequently, the number of commercially successful wet cleaning facilities is substantially less than indicated in the Staff Report.

⁷ Institute for Research and Technical Assistance, Evaluation of New and Emerging Technologies for Textile Cleaning (August 2005).

⁸ While the Staff Report discusses the Green Jet[®] and cold water cleaning systems as separate technologies, HSIA believes it is more accurate to characterize them as alternative approaches to cleaning with water.

The process, as described by IRTA, suggests the basic problem cleaners face when attempting to switch exclusively to a wet cleaning process. While the advances in technology have extended the range of garments that can be processed, the additional steps necessary increase the amount of time and labor required. Since labor already is the largest expense for a dry cleaning operation (regardless of the process used), increased labor costs are of great concern. As a result, wet cleaning is now generally accepted as a useful supplement to – not a replacement for – a solvent-based process.

The application of pressurized CO₂ (in either liquid or supercritical form) has been suggested as an alternative to various solvent processes over the years. In general, CO₂ systems have only been successful in a few applications that produce a high-value product capable of withstanding a high-pressure environment (e.g., solvent extraction of certain pharmaceutical and food ingredients). In the application of CO₂ to dry cleaning, the various manufacturers use lower pressures (700 to 800 pounds per square inch) to reduce the safety requirements (and costs) of the equipment. The reduced pressure, however, limits the cleaning ability of the process. While the equipment is cheaper, moreover, machine costs still exceed \$100,000.

As noted in the Staff Report, the high cost of the CO₂ equipment is a major obstacle to more widespread use by dry cleaners. Although financial assistance is available, the funds represent only a small fraction (10 percent or less) of the cost of the equipment. Additional efforts to reduce the cost of the equipment likely will either further reduce the cleaning ability or compromise the safety of the equipment.

III. Risk Assessment

Much of the information on potential cancer risk included in the Staff Report provides a misleading picture of the potential risks presented by typical PERC dry cleaners in the state. Tables ES-4 (page ES-7) and IV-3 (page IV-8) present risks only for the 90th percentile of PERC usage and emissions. While Figures ES-1 (page ES-9) and V-1 (page V-2) present potential risk based on average emissions, risks are calculated at the point of maximum impact (20 meters). According to ARB survey data, a residential receptor distance of 20 meters is relevant to only about 20 percent of existing cleaners. It is only in the final summary table of potential risks

(Table IV-5 on page IV-11) that the Staff Report provides risks for average emissions and at various receptor distances.

Apart from the concerns about Staff Report's presentation of potential risks, HSIA is very concerned about the underlying assumptions related to the carcinogenic potential of PERC. As discussed below, the inhalation unit risk factor (URF) used for the assessment is inconsistent with risk estimates derived by USEPA and others. In addition, a recently published epidemiology study failed to find an association between PERC exposure and an increased cancer incidence among dry cleaning workers in the Nordic countries.

A. CalEPA's URF Overstates the Potential Cancer Risk Presented by PERC Dry Cleaning Emissions

In its recent proposal to amend the national emissions standards for PERC dry cleaning facilities⁹, the U.S. Environmental Protection Agency (USEPA) discusses the variation in URFs that have been developed for PERC, including the estimate developed by the California Environmental Protection Agency (CalEPA). This discussion notes that the CalEPA value is an order of magnitude higher than other published estimates, including the estimate derived by USEPA in 1986 as part of its most recent Agency-wide assessment of PERC.¹⁰ In its proposal, USEPA uses both the CalEPA URF and a lower value (7.1×10^{-7} per $\mu\text{g}/\text{m}^3$) developed in 1998 by its own Office of Pollution Prevention and Toxic Substances (OPPTS) for its estimate of potential cancer risks.¹¹ In discussing the CalEPA and OPPTS values, the December 2005 proposal notes that:

[b]oth are derived with consideration of findings of liver tumors in mouse laboratory bioassays, with the OPPTS value additionally considering laboratory findings of mononuclear cell leukemia in rats, and both have received public comment and scientific peer review by external panels.

⁹ 70 *Federal Register* 75884, December 21, 2005.

¹⁰ USEPA, Addendum to the Health Assessment Document for Tetrachloroethylene (Perchloroethylene), Updated Carcinogenicity Assessment for Tetrachloroethylene (Perchloroethylene, PERC, PCE), Office of Health and Environmental Assessment, EPA-600/8-82/005FA, External Review Draft (March 1986).

¹¹ USEPA, Cleaner Technologies Substitutes Assessment for Professional Fabricare Processes, Office of Pollution Prevention and Toxics, EPA 744-B-98-001 (June 1998).

In its discussion, USEPA correctly recognizes that one “significant contributing factor” to the differences in the risk estimates that have been developed is the variability in the “characterization of human metabolism of [PERC].” As noted in the Agency’s 1985 Health Assessment Document (HAD),¹² experimental studies indicate that PERC metabolism in humans is “very limited” and amounts to “only about 1 to 3 percent of the estimated amounts absorbed.” The basis for this conclusion is human volunteer studies and several empirical studies of occupationally exposed workers published in the scientific literature. In generating its URF for PERC, however, CalEPA assumes that a much higher fraction of the dose (18.5 percent) is metabolized in humans. CalEPA’s assumption is based on the inclusion of data from a study of Japanese workers in a kimono manufacturing facility¹³ suggesting that PERC may be more readily metabolized than predicted by the volunteer studies, particularly at low ambient concentrations.

A recent article by Clewell *et al.*¹⁴ summarizes the various estimates of human metabolism that have been used in risk assessments of PERC. Clewell *et al.* consider more recent experimental data from human subjects exposed to relatively low concentrations of the solvent.¹⁵ The authors conclude that the fraction of PERC metabolized following inhalation and oral exposure is 1.1 percent and 2.6 percent, respectively.

Clewell *et al.* also compare the estimate of the exposure level that would result in the public health goal (PHG) of one-in-a-million (10^{-6}) risk developed by CalEPA in a 2001

¹² USEPA, Health Assessment Document for Tetrachloroethylene (Perchloroethylene), Office of Health and Environmental Assessment, EPA/600/8082/005F (July 1985).

¹³ Ikeda *et al.*, Urinary Excretion of Total Trichloro Compound, Trichloroethanol, and Trichloroacetic Acid as a Measure of Exposure to Trichloroethylene and Tetrachloroethylene, *British Journal of Industrial Medicine* 29: 328-333 (1972).

¹⁴ Clewell *et al.*, Evaluation of Physiologically Based Pharmacokinetic Models in Risk Assessment: An Example with Perchloroethylene, *Critical Reviews in Toxicology* 35: 413-433 (2005).

¹⁵ Völkel *et al.*, Biotransformation of Perchloroethene: Dose-Dependent Excretion of Trichloroacetic Acid, Dichloroacetic Acid, and N-acetyl-S-(trichlorovinyl)-L-Cysteine in Rats and Humans after Inhalation, *Toxicology and Applied Pharmacology* 153: 20-27 (1998). The results of this study are consistent with the earlier volunteer studies used by EPA in the 1985 and 1986 assessments.

assessment¹⁶ for drinking water exposure to one derived using a preferred model by Gearhart *et al.*¹⁷ that includes the generally accepted estimates of human metabolism. The preferred model yields a URF of 3.8×10^{-7} per $\mu\text{g}/\text{m}^3$, which is very similar to the OPPTS URF of 7.1×10^{-7} per $\mu\text{g}/\text{m}^3$, as well as the URF derived by EPA in its last Agency-wide assessment for PERC (5.8×10^{-7} per $\mu\text{g}/\text{m}^3$).¹⁸ The article concludes that the PHG developed by CalEPA is 240-fold lower (*i.e.*, more stringent) than that predicted by the Gearhart *et al.* model. Clewell *et al.* conclude that this difference “is primarily due to the different estimates of fractional metabolism in the human.” Most significantly, Clewell *et al.* conclude that the CalEPA model “greatly overestimates fractional metabolism in humans at the low exposures of interest for risk assessment. Therefore, the upper bound estimates of fractional metabolism obtained with [the CalEPA] model must be considered highly suspect.”

By assuming a rate of PERC metabolism that is 6 to 18 times higher, CalEPA has derived a URF that is an order of magnitude higher than all other available estimates, including the two published estimates developed by USEPA. ARB’s use of this estimate can be expected to yield risks that will be about 10-fold greater than those that would be derived with any of the other estimates. Using a more appropriate estimate of potential cancer risk, the estimates for residential risks presented in Table IV-5 would range from less than 0.1 to 10×10^{-6} instead of the 1 to 100×10^{-6} range currently presented.

B. A Recent Epidemiological Study Strongly Suggests PERC Exposure is Not Associated with Increased Cancer Incidence in Dry Cleaning Workers

Prior studies of dry cleaners, primarily from the United States, have indicated that PERC exposure might increase the risk of esophageal and cervical cancer, as well as non-Hodgkin’s lymphoma (NHL). These earlier studies suffered from limitations, however, that included

¹⁶ CalEPA, Public Health Goal for Tetrachloroethylene in Drinking Water, Office of Environmental Health Hazard Assessment (August 2001).

¹⁷ Gearhart *et al.*, Variability of physiologically-based pharmacokinetic (PBPK) model parameters and their effects on PBPK model predictions in a risk assessment for perchloroethylene (PCE), *Toxicology Letters* 68: 131- 144 (1993).

¹⁸ The value of 5.8×10^{-7} per $\mu\text{g}/\text{m}^3$ was calculated as the geometric mean of risk estimates from several different data sets in the Agency’s 1986 draft Addendum to the HAD, which was never finalized. The value in the original 1985 HAD was 4.8×10^{-7} per $\mu\text{g}/\text{m}^3$.

exposure to solvents other than PERC and the inability to take into account lifestyle factors (*e.g.*, smoking) known to affect the incidence of these cancers. As described in a 2003 review of the existing epidemiological literature by Mundt *et al.*,¹⁹ the existing studies were limited by a “widespread lack of valid exposure measurements or other adequate indicators of potential for exposure.” Based on these limitations, the Mundt review concluded that the “current epidemiological evidence does not support a conclusion that occupational exposure to [PERC] is a risk factor for cancer of any specific site.” Specifically, the authors found that, based on existing evidence, a relationship between PERC and cancer of the oral cavity, liver, pancreas, cervix, and lung was considered unlikely. Scientific evidence was found to be inadequate for laryngeal, kidney, esophageal and bladder cancer. The article also stated, however, that because there had been a number of positive findings suggested in some of the studies (*e.g.*, for esophageal cancer) additional evidence was needed to elucidate if any real associations do exist.

A recent epidemiological study by Lynge *et al.*²⁰ provides strong evidence that the incidence of several important cancer types among dry cleaning workers in the Nordic countries was not related to PERC exposure. This study presents important information directly relevant to ARB’s assessment of potential cancer risk from PERC use in dry cleaning.

The Nordic study, conducted by five prominent European epidemiologists, responded to most of the shortcomings identified by Mundt *et al.* The Nordic study was undertaken as a series of case-control studies nested in groups of laundry and dry cleaning workers identified from 1970 census data in Denmark, Norway, Sweden and Finland – a total of over 46,000 persons. It covers a period when PERC was the dominant solvent and included all persons working in dry cleaning in the four countries in 1970. The nested case-control design allowed the researchers to compare the cancer risks of dry cleaners with those of laundry workers, a similar group apart from the use of PERC. In particular, cigarette smoking was equally frequent among exposed and unexposed subjects.

¹⁹ Mundt *et al.*, Critical Review of the Epidemiological Literature on Occupational Exposure to Perchloroethylene and Cancer, *International Archives of Occupational and Environmental Health* 76: 473-491 (2003).

²⁰ Lynge *et al.*, Cancer in Persons Working in Dry Cleaning in the Nordic Countries, *Environmental Health Perspectives* 114: 213-219 (2006).

Lynge *et al.* found that the risks of esophageal, liver, kidney, pancreatic, and gastric cardia cancer and NHL were not increased among the Nordic dry cleaners. An elevated incidence of cervical cancer was not observed in women directly involved in dry cleaning, and was determined by the researchers not to be related to PERC exposure. The authors observed a small increase in bladder cancer that also was not associated with the extent of exposure to PERC, consistent with previous studies where incidence of this cancer was not increased in the study populations exposed only to PERC.

In light of some of the previous findings, perhaps the most significant finding in the Nordic study is the absence of an increase in esophageal cancer. Prior studies of smaller groups of U.S. workers reported an increase in esophageal cancer, which is associated with smoking, alcohol consumption, and poor nutrition. The Nordic researchers note that, while the U.S. studies compared cancer incidence among dry cleaners with that of the national population, the current study controlled for the possible effects of smoking and other lifestyle factors by comparing incidence between two similar groups – dry cleaning and laundry workers. In sum, the Nordic study methodology significantly improved the ability to detect the potential for an increase in cancer incidence as the result of PERC exposure, and found no increases in cancer associated with PERC exposure using that improved methodology.

The results of the Nordic study strongly suggest that CalEPA should seriously reconsider whether the evidence supports regulation of PERC based on potential human carcinogenicity.

IV. Regulatory Alternatives

The Staff Report concludes that compliance with the proposed ATCM amendments would have a significant adverse economic impact on cleaners in the state and that the amendments represent a “major regulation” since the estimated cost to California business enterprises exceeds \$10 million in at least one year. Although the Staff have reviewed regulatory alternatives to the proposed amendments, as required by HSC Section 57005, they have failed to consider an alternative that is “less costly” than the proposal.

A. The Staff Report Does Not Evaluate Less Costly Alternatives to the Proposed Amendments

Before adopting a major regulation, HSC Section 57005(a) requires that ARB:

consider whether there is a less costly alternative or combination of alternatives which would be equally as effective in achieving increments of environmental protection in a manner that ensures full compliance with statutory mandates within the same amount of time as the proposed regulatory requirements.

Neither of the alternatives considered in the Staff Report meet this criteria. The first alternative (Alternative 1) would prohibit additional use of hydrocarbon solvent, in addition to requiring a 15-year phase out of PERC equipment; the second alternative (Alternative 2) merely shortens the phase-out period for PERC equipment from 15 to 10 years. According to the analysis in the Staff Report, both are more costly than the current proposal.

The Staff Report estimates that the total cost of the proposed amendments to be \$41 million, and the annual cost to be \$4 million over 15 years. Staff estimate that the annual cost would be \$4.6 million (\$48 million total cost) for Alternative 1 and \$5.7 million (\$59 million total cost) for Alternative 2.²¹ The Staff Report also calculates the cost effectiveness of the two alternatives to be \$3.60 and \$4.40 per pound of PERC reduced, compared to a cost effectiveness of \$3.10 per pound for the proposal. Perhaps in an effort to comply with Section 57005 (a), the Staff Report than inexplicable compares the cost effectiveness of the proposed amendments to the effectiveness of reducing VOC emissions in two unrelated consumer product regulations and concludes that it is “similar.”

The analysis of regulatory alternatives in the Staff Report falls woefully short of that necessary to comply with the requirements of HSC Section 57005. Several less costly alternatives to the proposed amendments can, and should, be considered prior to adoption. One such alternative approach – increasing the phase-out period – is identified in the Executive Summary of the Staff Report. Extending the implementation period would no doubt lower the annual cost of the phaseout and may reduce the overall cost. Contrary to the conclusion in the

²¹ The annual cost of Alternative 2 would actually be higher than indicated in the Staff Report. ARB’s analysis calculates the cost over 15 years when the cost impact would actually occur over a 10-year period.

Executive Summary, moreover, a longer phase-out period would have little, if any, impact on the public health benefits assumed by the Staff.

The Staff's original proposal to allow continued use of PERC, and focus on the potential localized health effects, also meets the criteria of HSC Section 57005(a). The April 2006 Staff Report estimated that the total cost of that proposal was \$16 million (annual cost of less than \$1.6 million), substantially less than the current proposal. Although the Staff's original proposal would not eliminate PERC dry cleaning it would, according to the Staff's analysis, also reduce the average potential cancer risk to less than 10^{-6} . As a result, the original proposal would be "equally as effective in achieving increments of environmental protection in a manner that ensures full compliance with statutory mandates within the same amount of time as the proposed regulatory requirements," as required by Section 57005(a).

V. Reporting Requirements for PERC Manufacturers and Distributors

The proposed amendments would require both PERC distributors and manufacturers to maintain monthly sales records of the gallons of PERC sold for use in dry cleaning in California for 5 years and to make that information available to ARB or any local air district upon request. The proposal also would require that both distributors and manufacturers submit contact information for all companies who sell PERC for use in dry cleaning in the state by January 1, 2008, and to notify ARB of any subsequent changes to this information within 30 days. Since all of the PERC used in dry cleaning in the state is sold through distribution, the information to be retained by, and collected from, solvent manufacturers will be exactly the same as that collected from distributors.

A. The Proposed Requirements for PERC Manufacturers are Unnecessary and Inappropriate

Discussions with ARB staff indicate that the proposed requirements for PERC manufacturers are based on a concern that not all distributors have reported their dry cleaning sales and, as a result, the Board is not collecting all of the revenue to which it is entitled under the provisions of AB 998. Prior to this proposal, however, ARB has not had a mechanism for enforcing the requirement that distributors report their PERC sales and pay the AB 998 fees.

HSIA believes that the penalties that would be imposed under the proposal will serve as an effective incentive for distributors to report their sales, and that the redundant requirements for PERC manufacturers are entirely unnecessary. Such sales data represent proprietary business information, for both distributors and manufacturers. It is entirely inappropriate to include a redundant reporting mechanism for manufacturers when ARB will have an effective enforcement mechanism to ensure that distributors report accurate information.

Through HSIA, the PERC manufacturers have previously provided ARB with composite information on dry cleaning sales and distributors in California on a voluntary basis. HSIA is willing to continue to collect this information from its manufacturing members and to voluntarily periodically provide it to ARB. We oppose the proposal to require manufacturers to provide sales information upon request, whether the request comes from ARB or an individual air district. We suggest, further, that any requests to HSIA for the voluntary submission of manufacturing data come solely from ARB. We do not support providing this information to the air districts.

VI. Conclusion

HSIA strongly opposes ARB's proposal to phase out the use of PERC in dry cleaning facilities. In evaluating this proposal, ARB has failed to fully consider the environmental impacts associated with a phaseout and has failed to evaluate less costly alternatives as required by HSC Section 57005. HSIA also opposes the proposed record keeping and reporting requirements for PERC manufacturers, but is prepared to collect this information from its members for submission to ARB on a voluntary and confidential basis.