

MEMORANDUM

TO: Bob Pruett
FROM: T. Eagan, R. Ward, A. Carter
RE: Air Resources Board and Environmental Tobacco Smoke

On June 1 we met with you and Kurt Malmgren regarding actions of the California Air Resources Board, the Office of Environmental Health Hazard Assessment (OEHHA) and the Scientific Review Panel (SRP) on environmental tobacco smoke (ETS). The primary reason for the meeting was to discuss two draft reports issued by OEHHA on the subject of ETS which will be submitted to the SRP for review and recommendation. A workshop has been scheduled for June 14 in Berkeley by OEHHA

Of principal concern to you was an apparent attempt by CARB to gain regulatory authority over indoor air quality. Our observation was that it is more likely that CARB, if it is going to regulate ETS at all, will attempt to do so outdoors rather than indoors.

While CARB historically has sought control over indoor air quality, the two draft OEHHA reports, to be followed by four more, in all probability will not result in CARB regulating ETS either indoors or outdoors. More likely, OEHHA will attempt to take a regulatory action under its general authority or under the guise of Proposition 65. In all likelihood that attempt will come in the form of listing ETS as a "reproductive toxin" under Proposition 65, possibly as early as this Fall.

CARB's Indoor Regulatory Ambitions

CARB's last serious attempt to move indoors came in 1989 and was thwarted by then-Gov. George Deukmejian after Cabinet debate. Attorneys for CARB admitted at that time that they lack control over indoor air quality but stated they would "influence" the indoor environment through research and continued regulation of outdoor sources that impact indoor sources.

In the past year CARB has regulated such consumer products as perfumes, deodorants and household cleansers because they emit volatile organic compounds (VOCs) into the ambient air. CARB has no authority over such products when used indoors decided they could regulate because of the impact of VOCs when they escape into the outdoor environment. At any time

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CARB could decide to do the same with ETS, but that does not appear to be their stated goal at this time.

CARB's desire to control indoor air quality has not been realized and may or may not be realized under the administration of Gov. Pete Wilson. Wilson will be governor at least through this year and though his political standing was hurt badly by three consecutive years of recession, recent polls show him leading his opponent, Kathleen Brown, among likely voters. It is possible Wilson will prevail in November, an event considered extremely unlikely as recently as six months ago.

Despite not having achieved its ambition of control over indoor air, CARB has been effective in making its presence known and has not abandoned its goal of total authority. The current series of reports being prepared by OEHHA and submitted to CARB's SRP are steps being taken to achieve that goal. However, when the SRP has reviewed the reports and made its recommendations, they will be referred back to OEHHA and the Prop. 65 Developmental and Reproductive Toxicant Committee (DART) for whatever step is to be taken next. The reports were referred to CARB's SRP at the insistence of Dr. Stanton Glantz of the University of California, Berkeley. Dr. Glantz also insisted that the SRP's recommendations be forwarded to CARB for action but Cal/EPA Secretary Jim Strock, recognizing CARB's limited authority, asked instead that they be sent to OEHHA. In short, the reports in question are not part of what is known as the AB 1807 process which would result in a CARB action. What is taking place now is either an attempt by OEHHA to regulate ETS or a new harassment campaign against tobacco.

CARB's Outdoor Regulatory Programs

The passage of four bills across a nine year period of time (1983 - 1992) expanded considerably CARB's regulatory muscle and has added impetus to their attempt to gain control of indoor air quality:

AB 1807 by Assemblywoman Sally Tanner: This bill, passed in 1983, established the Air Toxic Control Program. It required CARB to identify toxic air contaminants (TACs).

AB 2588 by Assemblyman Lloyd Connelley: Known as the Air Toxic Hot Spots Information and Assessment Act of 1987, this measure requires stationary sources to report the type and quantity of certain substances their facilities routinely release into the air. The goal of the act was to identify facilities having localized impacts, ascertain health risks and require notification of nearby residents of significant risks.

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SB 1731 by Senator Charles Calderon: Passed in 1992, this bill required owners of significant risk facilities to reduce those risks. The Calderon bill amended AB 2588.

AB 2728 by Assemblywoman Sally Tanner: This bill required state coordination with the Federal Clean Air Act and integration of the Federal air toxic emission standards with the AB 1807 process. Required CARB to designate the 189 federal hazardous air pollutants (HAPs) as toxic air contaminants (TACs) for purposes of the AB 1807 process. Integration was completed in 1993 by CARB.

Additionally, in 1988 AB 3343 was signed which mandated CARB to identify the relative contribution to total exposure to contaminants from indoor concentrations as well as ambient concentrations. While the Board was given no enforcement powers, they did move further indoors.

With the integration of the 189 Federal HAPs into the California program, OEHHA, in cooperation with CARB and the SRP, began developing reports on "potency numbers" for each substance or combinations of substances. Since CARB was not limited to the 189 HAPs, they added several substances to the list. Included was environmental tobacco smoke.

Simple identification of the 189 HAPs as TACs, and the addition of other substances, had no direct economic impact on business. The identification imposed no compliance costs, required no fees and altered no permit conditions.

However, once "potency numbers" for individual TACs are developed and endorsed by the SRP, substances become candidates for establishment of control measures by state, local or regional agencies. A list of the TACs identified by CARB is attached.

While CARB is involved in the indoor air quality issue through regulation of specific substances on the TAC list, they will not be satisfied until actual control over air quality indoors is under their jurisdiction. The Federal Clean Air Act requires the states to develop State Implementation Plans (SIPs) specifying how they will attain air quality improvements. California, because its major metropolitan areas have been classified as "non-attainment areas", has been forced to be much more aggressive than other states. The regulation of consumer products is a good example of that aggressiveness. CARB recently regulated such consumer products as perfume, deodorants and household cleansers because they emit volatile organic compounds (VOCs). While CARB lacked authority to regulate these products indoors, they adopted outdoor regulations because the VOCs escaped into the ambient air. Manufacturers had no choice but to reduce VOCs in their products.

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Despite the aggressive posture of CARB and the various air quality management districts, the major metropolitan areas will not achieve attainment in the foreseeable future, even though the most stringent air quality measures in the nation have been mandated. CARB recently required the reformulation of gasoline and diesel fuel at considerable cost to industry. The result has been to render many existing refineries obsolete and require the expenditure of billions to retrofit others.

CARB believes it has done about all it can to remove the majority of pollutants from the air. The next level of regulation will cost more per pound and will have little effect on air quality. CARB now believes that if they are to secure their own future, they must focus on pushing clean-air technologies and regulating indoor air quality.

CARB realizes full well that regulation of the various TACs will not solve indoor air quality problems. However, since their mission is health-based, they feel moving into indoor air regulation is defensible and consistent with their program goal. Further, much of the science developed to support the potency of the various TACs is also applicable to defending "health-based" indoor air quality measures. Under Assemblywoman Tanner's A.B. 3343 (1988), CARB already is required to identify indoor air contaminants as part of the A.B. 1807 process.

The science used to extrapolate the cases of cancer per numeric segment of the population is based on exposure to outdoor air. Because it is not under their jurisdiction, indoor air is simply not considered by the Air Board. However, to justify their entry into the indoor air regulatory arena, they would maintain that by regulating indoor air quality they will reduce the cancer rate thereby relieving pressure on industry to further reduce smokestack emissions.

Cal/OSHA and Indoor Air

With state agencies such as Cal/EPA, CARB, OEHHA the Department of Health Services and local government pursuing aggressive courses of action on tobacco, Cal/OSHA, which under law controls air quality in the workplace, has been pushed into the background. If Fed/OSHA successfully promotes a workplace smoking ban as part of an overall standard on workplace air quality, however, Cal/OSHA must follow suit by either adopting the federal standard or developing its own that is at least as effective as the federal standard. Cal/OSHA presently has an advisory committee on indoor air quality. The Committee first met on June 8 and will reconvene on June 20. The Committee will comment on the proposed federal standard. Those comments should be monitored and influenced if possible. Intrusions into the regulation of the workplace (smoking bans) over the past several years by state and local level agencies under the banner of public health have, for the most part, gone unchallenged. As a result,

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Cal/OSHA has been joined by a plethora of agencies regulating workplace health.

Private citizens more than five years ago petitioned the Cal/OSHA Standards Board for development of a health and safety order banning workplace smoking. The petition was sent by the Standards Board to the Division of Occupational Safety and Health and has remained on the back burner. Cal/OSHA has an historic reluctance to regulate workplace smoking and has been able to keep CARB out of indoor air issues.

Given the new approach to indoor air regulation by CARB, it appears the preemption of Cal/OSHA will continue unless halted by either the Legislature or the courts.

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Overview of Proposed Strategies

OEHHA at this point in time has produced drafts of only two of six reports to be compiled on the overall subject of ETS. There is no announced timetable for release of the other four. However, sources at OEHHA say they plan to have work completed on all six reports and have them to the SRP for consideration by this Fall.

Public notice is already required for tobacco under Proposition 65 and must be posted in all places where the public gathers and smoking is allowed. Listing ETS under Proposition 65 as a "reproductive toxin" will trigger new public notice requirements.

In the short term, the industry can do little but present its science at the public workshop OEHHA has scheduled for June 14. When the SRP meets later this year to consider listing ETS as a "reproductive toxin", they may or may not allow additional comments. While they will consider comments from the June 14 workshop, the SRP is under no obligation to take comments during their proceedings and will allow no "outside contact" once they agree to make recommendations on OEHHA's proposal.

In the long term, CARB could decide to proceed with regulation of ETS under the AB 1807 process. The work on the subject will already have been done by OEHHA and the SRP. The only element missing would be adoption of a standard by CARB. Administration and enforcement of such a standard would be a nightmare.

Because of the large number of substances to be review on the TAC list, almost all industries in California will have their indoor activities affected. To date, each industry has been left to defend itself and no successes have been logged.

A better and hopefully more effective approach would be creation of a coalition with the assigned goals of 1.) Leading the opposition regulation on a substance by substance basis, 2.) Seeking regulatory and/or statutory amendments that will bring relief to affected industries and, 3.) Blocking CARB's attempt to gain authority over indoor air quality. Such a coalition should be created under a new organization that cannot be readily identified with tobacco as the sponsor. This will be discussed in more detail under the specific components of the strategy

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Development of a coalition likely will be of interest to a number of companies and trade associations. Many already have had experience with the CARB regulatory process and will not be hard to convince that regulation of indoor air is around the corner.

Organizations such as the Chemical Specialty Manufacturers Association and the Cosmetic, Toiletry and Fragrance Association are candidates. The companies represented by these associations have been through the VOC regulatory process which has either forced them to reformulate their products or drop products from the market in California. Lane and Fink, the manufacturer of Lysol, has spent millions in a litigation process in the hopes of remaining in the marketplace.

The fragrance industry is increasingly concerned about the regulation of fragrances by local agencies. Marin and Santa Cruz Counties have established "fragrance free" zones for meetings held in public buildings and other publicly sponsored events. The Bay Area Rapid Transit System also has discussed the possibility of banning the use of fragrances by passengers. The involvement of an organization with indoor air quality as its principal concern is likely to be well received.

Regulation of indoor air quality is accomplished by three means: 1.) Regulation of individual contaminants; 2.) Defining a prescriptive approach to the proper installation, maintenance and operation of heating, ventilation and air conditioning (HVAC) systems and, 3.) A combination of the above. CARB generally feels the combination is the best approach.

The science of actually determining the level of TACs produced indoors and emitted into the ambient air has not taken into account the filtering by HVAC systems or the absorption into interior fixtures. The process of making such a determination has profound economic implications for businesses and industries affected.

Given the number of industries that will be affected as CARB moves down the TAC list, creation of the coalition should be possible. CARB presently is well into the process of establishing a reference exposure level (REL) for lead in the ambient air. The proposed lead REL alone affects such industries as computers, fiberoptics, medical research, telecommunications, aerospace, foundries, batteries, electric vehicles etc. The same industries unquestionably will be affected by other substances on the TAC list.

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An important addition to the coalition would be organized labor. Regulation of many of the presently listed TACs unquestionably will cost jobs by making California less competitive with other major industrial states. OEHHA's proposed REL for lead, which would be ten times more stringent than the existing federal and state standards for ambient air lead, has several companies searching for a less hostile environment for their facilities. The resulting job loss should be of considerable concern to several jurisdictions.

As stated, the current process of evaluating the toxicity of ETS sets the stage for the ARB's entry into the regulation of indoor air. The rationale is that -- since the scientific determination has been made that ETS is both a carcinogen and a reproductive toxin, it is in the interest of public health that it be regulated indoors. In other words, the notification requirement required under Proposition 65 is not likely to be deemed sufficient public protection given what we now know about ETS.

The Scientific Review Panel / Office of Environmental Health Hazard Assessment / Developmental and Reproductive Toxicant Committees preparation of the scientific justification to list ETS as a reproductive toxin is, in our view, impossible to stop. It has been sanctioned by Secretary Strock and is far enough along in the process that it would be self-deluding to think otherwise.

Specific Components of the Strategy

We believe the strategy necessary to achieve an overall goal of maintaining the Department of Industrial Relations authority over indoor air quality should include the following:

- **The development of a broad based coalition under the umbrella of an existing or newly formed trade association.** By necessity, tobacco should not be up-front or even a visible player in this effort. If tobacco were to be viewed as the focal point of such an organization, it would be difficult, if not impossible, to recruit members and to enlist the support of the scientific and economic expertise that will be necessary to the effort.

We strongly suggest that a new organization be created as the umbrella for the effort. It would be difficult to use the California Manufacturers Association (CMA) as the umbrella organization if labor is to be considered a necessary player. The CMA could and should be a member but should not be the controlling organization. The

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organization to which dollars flow could be a labor association or a law firm. We believe the formation of an institute with the designated purpose of achieving indoor air quality with a balance of health and economics to be the most reasonable approach. This should be discussed in some detail if this strategy is accepted.

Funding of the Coalition could be via a grant to the designated organization which would, in turn, provide the seed money to begin the effort. As the Coalition grows the financial burden on the tobacco industry would be reduced.

The development of a coalition is labor intensive and should be viewed as an ongoing task. Our experience with development of coalitions, even under the threat of a clear-and-present-danger, is that extracting dollars is a challenge and that once they are on board, it requires vigilance to retain their interest. Information flow is key.

Solicitation of members would be conducted in California and in Washington D.C. Most of the industries and individual companies potentially interested in coalition membership are represented in Sacramento either individually or through a trade association. However, it has been our experience, particularly in the case of trade associations, that the Washington D.C. offices or their legal counsel often coordinate the reactive efforts in Sacramento.

Possible Coalition members include:

Chemical Specialty Manufacturers Association
Cosmetic, Tolley and Fragrance Association
Battery Council International
Lead Industries Association
California Building Industry Association
California Retailers Association
Building Owners and Managers Association of Calif.
California Fabricare Institute
Calif. Assoc. Sheet Metal and Air Conditioning Contractors
Western States Petroleum Association
National Federation of Independent Business
Carpet and FabriCare Institute
California Paint Council
National Home Furnishings Association
Printed Circuitry Alliance
Chemical Industry Council of Calif.
Fragrance Materials Association of the U.S.

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Chemical Manufacturers Assoc.

Calif. Hotel and Motel Assoc.

Calif. Restaurant Assoc.

*(individual companies that have obvious indoor air quality vulnerability would also be solicited)

- **Review of existing science and development of the economic basis for advocating the use of HVAC systems in the control of Indoor air.** We recommend that a well recognized air quality consulting firm with the capacity to develop both the science and the economic foundation for the Coalition's position be retained. We have a specific firm in mind that is recognized as one of the premiere air quality/economic consulting firms in the state and also has a credible national reputation. If the firm were aware that tobacco was the motivating factor it is probable they would elect not to participate.

This effort should maximize the use of existing information (i.e. Healthy Buildings International) to keep costs to a minimum. This effort should begin immediately as it is quite probable this information will enhance the successful solicitation of members.

Actively participate on the Cal/OSHA advisory committee on Indoor air quality within the Department of Industrial Relations (DIR). The basis of our effort is to keep the regulation of indoor air quality under the jurisdiction of the Department of Industrial Relations. DIR is considered a more business-friendly organization and has publicly advocated the use of HVAC to control indoor air quality.

The coalition is not simply a watch and report effort. The intent is to be proactive in the development of a credible foundation to enable the DIR to fend off any attempt to usurp their existing authority.

If the fight is between competing state agencies, the coalition and the members will be better off than if they were fighting the issue by themselves. There is strong potential to utilize the support of labor in this effort. If the issue is ultimately debated in the Legislature the use of labor is even more desirable. Possible labor organizations for inclusion in the Coalition are:

Western States Council of Sheet Metal Workers
California Conference of Machinists
Hotel, Motel & Restaurant Employees Union
California State Pipe Trades Council
Communication Workers Union of America

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State Building & Const. Trades Council of Calif.
Asbestos Workers Union
Calif. State Assoc. of Electrical Workers

Develop a legislative strategy that will build on the Department of Industrial Relations standing in the indoor air quality arena. The variety of companies and trade associations that will be members of the Coalition should take advantage of the lobbying capability that already exists. Subtle opportunities to affect the DIR authority should be developed and implemented. For example, the annual budget process is restricted to programs that are approved by the Department of Finance for inclusion in the Governors Budget. The DIR will often propose programs for inclusion in the budget that are not approved by the Dept. of Finance. The legislative budget process should be utilized to gain necessary dollars for the DIR to activate programmatic efforts that are consistent with the goals of the Coalition.

Apparent is the need to expeditiously review and understand the DIR's budget objectives and options. It is in the Coalition's interest to begin developing a close working relationship with those in the DIR that can impact the direction of policy and program. The Coalition needs to become a known commodity within the DIR. The Coalition should be viewed as an ally by the DIR.

The Coalition's management is not intended to be involved in lobbying as defined by state law. Coalition management could converse with the variety of involved state agencies and the legislature so long as it was not done in the context of lobbying a specific regulation or piece of legislation. There may come a time when a directed lobbying effort is appropriate and necessary. It would not be prudent to directly use lobbyists identified with tobacco. Therefore, it will likely be necessary to retain a lobbyist for those specific purposes

- **Legal services should be retained that offer an expertise in California regulatory law and air quality.** We have a couple of law firms in mind that fit this description. The law firm needs to have a reputation of persistence and success both in the regulatory arena and in the courts. That type of recognition enhances the Coalition's viability and seriousness. It also has the potential to intimidate detractors of the Coalition's interests in and out of the government sector.

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The numerous California laws, court decisions and regulations necessitate sophisticated legal competence. We also believe there are substantial liability questions which surround the ETS listing as a reproductive toxin. We believe another likely ally to the Coalition's effort is the State's Attorney General. The Office of the Attorney General has demonstrated a pro-business stance and should be considered an important element to the Coalition's strategy.

- **Management of the Coalition should be directed by individuals with experience in air quality regulation, experience in the area of industrial relations, a perspective of the political environment, experience in the formation of coalitions and demonstrated experience and ability in the legislative and regulatory sectors.** We believe that Eagan & Ward are in a position to develop the previously discussed plans and strategies which further the goals of the Coalition. Art Carter should also be retained due to his close ties with labor and past involvement with Cal OSHA. The approval of specific strategies and the expenditure of dollars will require the oversight and approval of a board composed of the Coalition's membership.

The manager will need to have a sense of the pulse on the numerous state agencies involved with public health, industrial safety and air quality. They should be aware of the legislative agendas of those legislators and committees most likely to involve themselves with the indoor air quality issue. They should have the ability to implement the outlined strategy and communicate effectively with the Coalition's membership base. It should be clear this is not a simple association management effort. It is a sophisticated strategy that will require a sizable commitment of time and effort if the goal is to be achieved.

- **The Coalition should be developed in a manner that is applicable to clean air efforts in other states and nationally.** This is a proactive rather than reactive effort. All those involved will learn much from this effort. It is important that the retained knowledge be transferable to other efforts.

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Annual Budget Estimate

Strategic plan development, plan implementation, Coalition management and day to day oversight of activities as outlined in the Strategy: Eagan & Ward -- \$10,000 monthly (\$120,000 annually)

Labor development and Cal OSHA coordination: Art Carter -- \$2,500 monthly (\$30,000 annually)

Scientific analysis of air quality/HVAC issues and economic analysis: Firm to be designated upon acceptance of strategy. \$75,000 (estimated)

Legal Services: Firm to be designated upon acceptance of strategy. \$75,000 (estimate)

Lobbying activities: Firms will vary depending on the issue at hand: \$50,000 (estimate)

Necessary and reasonable expenses: \$30,000 to \$50,000 (estimate) this will depend on the location of office space in the core capitol area.

Total estimate of expenses: \$400,000

It should be noted that a sizable amount of the initial budget includes one time costs and, therefore, we anticipate a lower second year budget.

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Toxic Air Contaminant Identification List

April 1993

I. Substances Identified as Toxic Air Contaminants by the Air Resources Board, pursuant to the provisions of AB 1807 and AB 2728 (includes all Hazardous Air Pollutants listed in the Federal Clean Air Act Amendments of 1990).

Acetaldehyde	2,4-D, salts and esters	Hexachlorocyclopentadiene
Acetamide	ODE	Hexachloroethane
Acetonitrile	Oiazomethane	Hexamethylene-1,5-dithiocyanate
Acetophenone	Oibenzoturans	Hexamethylphosphoramide
2-Acetylaminofluorene	1,2-Dibromo-3-chloropropane	Hexane
Acrolein	Oiburylphthalate	Hydrazine
Acrylamide	1,4-Dichlorobenzene(p)	Hydrochloric acid
Acrylic acid	3,3-Dichlorobenzidine	Hydrogen fluoride (Hydrofluoric acid)
Acrylonitrile	Dichloroethyl ether (Bis(2-chloroethyl)ether)	Hydroquinone
Allyl chloride	1,3-Dichloropropane	*Inorganic arsenic
4-Aminobiphenyl	Dichlorvos	Isophorone
Aniline	Dioethanolamine	Undane (all isomers)
o-Anisidine	N,N-Diethyl aniline (N,N-Dimethylaniline)	Maleic anhydride
*Asbestos	Diethyl sulfate	Methanol
*Benzene (including benzene from gasoline)	3,3-Dimethoxybenzidine	Methoxychlor
Benzidine	Dimethyl aminoazobenzene	Methyl bromide (Bromomethane)
Benzotrichloride	3,3-Dimethyl benzidine	Methyl chloride (Chloromethane)
Benzyl chloride	Dimethyl carbamoyl chloride	Methyl chloroform (1,1,1-Trichloroethane)
Biphenyl	Dimethyl formamide	Methyl ethyl ketone (2-Butanone)
Bis(2-ethylhexyl)phthalate (DEHP)	1,1-Dimethyl hydrazine	Methyl hydrazine
Bis(chloromethyl)ether	Dimethyl phthalate	Methyl iodide (Iodomethane)
Bromoform	Dimethyl sulfate	Methyl isobutyl ketone (Hexone)
*1,3-Butadiene	4,5-Dinitro-o-cresol, and salts	Methyl isocyanate
*Cadmium (metallic cadmium and cadmium compounds)	2,4-Dinitrophenol	Methyl methacrylate
Calcium cyanamide	2,4-Dinitrotoluene	Methyl tert butyl ether
Caproactam	1,4-Dioxane (1,4-Dioxoleneoxide)	4,4-Methylene bis(2-chloroaniline)
Capran	1,2-Diphenylhydrazine	*Methylene chloride (Dichloromethane)
Carbaryl	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	Methylene diphenyl diisocyanate (MDI)
Carbon disulfide	1,2-Epoxybutane	4,4-Methylenedianiline
*Carbon tetrachloride	Ethyl acrylate	Naphthalene
Carbonyl sulfide	Ethyl benzene	*Nickel and nickel compounds
Catechol	Ethyl carbamate (Urethane)	Nitrobenzene
Chloramben	Ethyl chloride (Chloroethane)	4-Nitrobiphenyl
Chlordane	*Ethylene dibromide (Dibromoethane)	4-Nitrophenol
Chlorine	*Ethylene dichloride (1,2-Dichloroethane)	2-Nitropropane
*Chlorinated dioxins and dibenzofurans (15 species)	Ethylene glycol	N-Nitroso-N-methylurea
Chlorosulfonic acid	Ethyleneimine (Aziridine)	N-Nitrosodimethylamine
2-Chloroacetophenone	*Ethylene oxide	N-Nitrosomorpholine
Chlorobenzene	Ethylene thiourea	Parathion
Chlorobenzilate	Ethylidene dichloride (1,1-Dichloroethane)	Pentachloronitrobenzene (Quintobenzene)
*Chloroform	Formaldehyde	Pentachlorophenol
Chloromethyl methyl ether	Heptachlor	Phenol
Chloroprene	Hexachlorobenzene	p-Phenylenediamine
*Chromium VI	Hexachlorobutadiene	Phosgene
Cresols/Cresylic acid (Isomers and mixture)		Phosphine
o-Cresol		Phosphorus
m-Cresol		Phthalic anhydride
p-Cresol		Polychlorinated biphenyls (Aroclors)
Cumene		1,3-Propane sultone

Category I Continued

beta-Propiolactone
 Propionaldehyde
 Propoxur (Baygon)
 Propylene dichloride
 (1,2-Dichloropropane)
 Propylene oxide
 1,2-Propylenimine (2-Methyl aziridine)
 Quinoline
 Quinone
 Styrene
 Styrene oxide
 2,3,7,8-Tetrachlorodibenzo-p-dioxin
 1,1,2,2-Tetrachloroethane
 Tetrachloroethylene
 (Perchloroethylene)
 Titanium tetrachloride
 Toluene
 2,4-Toluene diamine
 2,4-Toluene diisocyanate
 o-Toluidine
 Toxaphene (chlorinated camphene)
 1,2,4-Trichlorobenzene
 1,1,2-Trichloroethane
 Trichloroethylene
 2,4,5-Trichlorophenol
 2,4,6-Trichlorophenol
 Triethylamine
 Trifluorin

2,2,4-Trimethylpentane
 Vinyl acetate
 Vinyl bromide
 Vinyl chloride
 Vinylidene chloride
 (1,1-Dichloroethylene)
 Xylenes (Isomers and mixture)
 o-Xylenes
 m-Xylenes
 p-Xylenes
 o Antimony Compounds
 o Arsenic Compounds (Inorganic including
 arsine)
 o Beryllium Compounds
 o Cadmium Compounds
 o Chromium Compounds
 o Cobalt Compounds
 o Coke Oven Emissions
 o Cyanide Compounds¹
 o Glycol Ethers²
 o Lead Compounds
 o Manganese Compounds
 o Mercury Compounds
 o Fine mineral fibers³
 o Nickel Compounds
 o Polyyclic Organic Matter⁴
 o Radionuclides (including radon)⁵
 o Selenium Compounds

* Substances which have already been identified by the Board as TACs and which have potency numbers developed by the OEHHA and SRP.

II. Substances currently under review or nominated for review for identification as Toxic Air Contaminants.

A. Substances already in the review process.

Diesel exhaust

Inorganic lead

B. Substances nominated for review.

Dialkylnitrosamines

Environmental Tobacco Smoke

ETS is now up here

III. Substances which are being evaluated for entry into Category II (IIA or IIB). Factors considered in this evaluation include carcinogenic and noncarcinogenic health effects, emissions and exposure in California.

Acetone	Gasoline vapors
Aluminum	Glutaraldehyde
Ammonia	Hexachlorocyclohexanes
Ammonium nitrate	Hydrogen sulfide
Ammonium sulfate	Isopropyl alcohol
Barium compounds	4,4'-Isopropylidenediphenol
Benzoyl chloride	Molybdenum trioxide
Bis(2-ethylhexyl) adipate	n-Butyl alcohol
Bromine compounds (Inorganic)	Nitric acid
Butyl acrylate	Nitrotriacetic acid
Butyl benzyl phthalate	Persulfic acid
Carbon black extracts	2-Phenylphenol
Chlorinated fluorocarbons	Phosphoric acid
Chlorine dioxide	Propene
Chlorophenols	sec-Butyl alcohol
Copper compounds	Silver compounds
Creosotes	Sodium hydroxide
Crystalline silica	Sulfuric acid
Cumene hydroperoxide	Terephthalic acid
Cyclohexane	tert-Butyl alcohol
Decabromodiphenyl oxide	Thiourea
Diaminotoluene (mixed isomers)	1,2,4-Trimethylbenzene
Dicofol	Zinc compounds

Note: For all listing above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc) as part of that chemical's infrastructure.

- 1 XCN where X=H⁺ or any other group where a formal dissociation may occur. For example KCN or Ca(CN)₂
- 2 includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol $(R(OCH_2CH_2)_n-OR')$ where $n = 1, 2$ or 3
 $R =$ alkyl or aryl groups
 $R' = R, H,$ or groups which, when removed, yield glycol ethers with the structure: $R(OCH_2CH_2)_n-OH$. Polymers are excluded from the glycol category.
- 3 includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.
- 4 includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.
- 5 a type of atom which spontaneously undergoes radioactive decay.

On April 8, 1993, the Board identified all federal hazardous air pollutants (HAPs) as toxic air contaminants (TACs). Therefore, for descriptive purposes, the terms federal "HAPs" and California "TACs" are synonymous.

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**Department of Industrial Relations
Division of Occupational Safety and Health**

CAL/OSHA INDOOR AIR QUALITY ADVISORY COMMITTEE

Committee Co-Chairs

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