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CONSTRUCTION CO., INC.

April 13, 2009

Chancellor Gene Block
University of California, Los Angeles
2147 Murphy Hall
Los Angeles, CA 90095-1405

Re: Alleged Unethical Conduct by UCLA Professors Mary D. Nichols and John R. Froines

Dear Chancellor Block:

I greatly appreciate the March 17, 2009 response from William H. Cormier regarding my March 11, 2009 letter to you concerning two UCLA professors. In separate enclosed complaints I have presented specific allegations of unethical conduct against UCLA Professors Mary D. Nichols and John R. Froines. These complaints are directly related to provisions in the *UCLA Policy 993*, the *University of California Standards of Ethical Conduct*, and the *California Health and Safety Code*. Specifically, I allege that these two professors, through their actions in connection with the California Air Resources Board (CARB), have grossly misrepresented scientific results in the research record. This amounts to falsification, a direct violation of *UCLA Policy 993*. In addition, they have failed to follow proper legal requirements for establishing California regulations, a direct violation of the *University of California Standards of Ethical Conduct* and the *California Health and Safety Code*. Because of the seriousness of these complaints, I request that you personally review them. You may forward the second copy to Mr. Cormier for formal evaluation.

My complaints primarily concern a major on-going scientific dispute over the health effects of diesel particulate matter (PM) on Californians. My understanding is that the available epidemiological and toxicological evidence regarding diesel PM health effects in California does not justify the draconian regulations approved by CARB to reduce diesel emissions from off-road and on-road diesel vehicles. During the past two years, Professor Nichols, Chair of CARB, has played a major role in the approval of these diesel regulations, which are estimated to cost more than \$10 billion to implement. During the past eleven years, Professor Froines, Chair of the CARB Scientific Review Panel on Toxic Air Contaminants, has played a major role in designating diesel PM as a toxic air contaminant (TAC) and in emphasizing the adverse health effects of diesel PM on Californians.

Both Professors Nichols and Froines support the CARB claim that diesel PM contributes to 3,500 premature deaths per year in California. The alleged lethality of diesel PM is the primary public health rationale for the off-road diesel regulations that CARB put into effect on June 15,

Chancellor Gene Block

April 13, 2009

2008 and the on-road diesel regulations that CARB approved on December 12, 2008. I believe that Professors Nichols and Froines are the two individuals most responsible for these costly diesel regulations. Furthermore, I believe that these regulations are not warranted for these several important reasons:

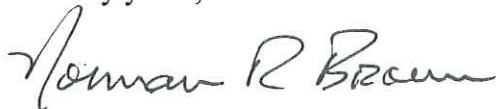
- The observational epidemiologic evidence relating diesel PM and mortality, particularly within California, is too weak and uncertain to justify CARB regulations;
- The epidemiologic evidence relevant to California has not been independently verified;
- CARB peer reviewers and scientific advisors are biased towards the regulatory goals expounded by CARB;
- With one of the lowest total age-adjusted death rates in the United States, California certainly cannot be experiencing premature deaths due to diesel PM.

My concerns are the same as those contained in the enclosed February 17, 2009 letter to Professor Nichols and other CARB members from Assemblymen Chuck DeVore and Mike Villines and Senator Lou Correa of the California State Legislature (Attachment A). This letter provides scientific, legal, and economic justifications for the "Temporary Suspension of CARB On-Road and Off-Road Diesel Truck Regulations." Further criticism of CARB diesel science and regulations is given in the following enclosures: May 27, 2008 Washington Times Commentary "Diesel Risks Mostly Hot Air?" (Attachment B) by Henry I. Miller, M.D., of the Hoover Institution at Stanford University and December 3, 2008 "Request to Postpone and Reassess CARB Diesel Regulations" (Attachment C) by James E. Enstrom, Ph.D., and Matthew A. Malkan, Ph.D., of UCLA, Robert F. Phalen, Ph.D., of UC Irvine, and Anthony Fucaloro, Ph.D., of Claremont McKenna College.

In summary, I request that you have my allegations evaluated in accord with *UCLA Policy 993*. If my allegations are not clear enough, I request the opportunity to submit additional clarifying material. Based on my own frustrating experiences in dealing with Professor Nichols regarding CARB diesel science and regulations, it may be very difficult for UCLA to fully and fairly evaluate my allegations, but I greatly appreciate your willingness to try. I, along with countless others, have pleaded with Professor Nichols about the devastation to California industries without adequate justification, only to be met with indifference bordering on animus to those of us whose businesses will be destroyed via edict. Since this matter is extremely important to me and thousands of other adversely impacted California businessmen who are struggling to survive in the current troubled economy, I eagerly await your findings.

Thank you very much for your consideration.

Sincerely yours,



Norman R. Brown, President
Delta Construction Company, Inc.

Alleged Unethical Conduct by UCLA Professor Mary D. Nichols

Mary D. Nichols is Professor in the UCLA Institute of the Environment (http://www.ioe.ucla.edu/people/person.asp?Facultystaff_ID=10) and Professor in Residence in the UCLA Law School (<http://www.law.ucla.edu/home/index.asp?page=640>), as well as Chair, California Air Resources Board (CARB) (<http://www.arb.ca.gov/board/bio/chair.htm>). Below are four specific allegations of unethical conduct by Professor Nichols, who has been directly involved with matters described in each allegation. Several hundred pages are needed to fully describe these allegations, but only a few essential pages have been enclosed with this complaint. All of the pages can and should be viewed or printed from the Internet by using the weblinks contained within the text below.

1) Three Allegations of Falsification of Scientific Evidence:

a) The October 24, 2008 CARB Staff Report “Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California” (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_final.pdf) seriously misrepresents the relationship between fine particulate matter (PM) and premature deaths in California and does not properly incorporate 148 pages of July 11, 2008 CARB public comments on the draft version of this report (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf). Evidence of falsification is given in the public comments and in the scientific criticism published in the January 2009 California Transportation News “A Regulatory Fraud or a Polluted Process?” (http://www.cdtoa.org/old_archives/2009/01_09/TransNewsLowResProof.pdf), pages 5-9, 11, 26, 27.

b) The December 16, 2008 CARB summary “Health Effects of Diesel Exhaust Particulate Matter” (http://www.arb.ca.gov/research/diesel/dpm_draft_3-01-06.pdf) is featured as part of “Diesel Health Effects” on the homepage for CARB “Diesel Programs and Activities” (<http://www.arb.ca.gov/diesel/diesel.htm>). This summary misrepresents the current health effects of diesel PM in California and fails to incorporate the July 11, 2008 public comments on CARB diesel science (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf). Evidence of falsification in this summary is given in the public comments and the scientific criticism published in the January 2009 California Transportation News, as cited above.

c) A March 15, 2009 Bakersfield Californian column (Attachment D) by Assistant Managing Editor Lois Henry describes how bad science and regulations from CARB are harming California industries (<http://www.bakersfield.com/news/columnist/henry/x1763640146/Lois-Henry-Dodgy-science-strangles-industry>). In her March 25, 2009 Bakersfield California Forum response (Attachment E) to Lois Henry, Professor Nichols seriously misrepresents the current health effects of diesel PM on Californians and indicates no willingness to address legitimate criticism of CARB diesel science (<http://www.bakersfield.com/opinion/forum/x468334809/California-cant-wait-on-diesel-regs>). In her March 25, 2009 Blog response to Professor Nichols (Attachment F), Lois Henry fully defends her column, emphasizing that the epidemiologic studies used by CARB have not been independently verified (<http://people.bakersfield.com/home/Blog/noholdsbarred/42886#comments>). Furthermore, a March 14, 2009 San Diego Union-Tribune editorial (Attachment G) harshly criticizes CARB diesel science (<http://www3.signonsandiego.com/stories/2009/mar/14/lz1ed14top213329-air-boards-shame>).

2) Allegation of Failure to Follow California Health and Safety Code Sections 39670-39671

California Health and Safety Code Sections 39670-39671 define the CARB Scientific Review Panel (SRP) on Toxic Air Contaminants (TAC) (Attachment H) (<http://caselaw.lp.findlaw.com/cacodes/hsc/39670-39671.html>) and (<http://www.scientificintegrityinstitute.org/SRP060608.pdf>), as summarized on two enclosed pages. Section 39670 (b) states “The members of the panel shall be highly qualified and professionally active or engaged in the conduct of scientific research, and shall be appointed as follows, subject to Section 39671, for a term of three years.” Section 39670(b) (4) states “Members of the panel shall be appointed from a pool of nominees submitted to each appointing body by the President of the University of California. The pool shall include, at a minimum, three nominees for each discipline represented on the panel, and shall include only individuals who hold, or have held, academic or equivalent appointments at universities and their affiliates in California.” Section 39671 states “The terms of the members of the Scientific Review Panel on Toxic Air Contaminants appointed pursuant to subdivision (b) of Section 39670 shall be staggered so that the terms of three members expire each year.” Section 39671 is a result of the February 21, 1986 Assembly Bill AB 3792 by Marion La Follette, which states “Existing law establishes the Scientific Review Panel on Toxic Air Contaminants composed of 9 members appointed for 3-year terms effective January 1, 1984. . . . This bill would revise the terms of panel members by extending the terms of 3 panel members until January 1, 1988, and 3 until January 1, 1989, as specified, so that the terms of the members will be staggered with 3 terms expiring each year.” (<http://www.scientificintegrityinstitute.org/SRPAB090983.pdf>). The specification of “a term of three years” and of precise ending dates above clearly indicates that the intent of the California legislature was to have timely turnover on the panel, not appointments of indefinite length.

However, Professor Nichols has not followed the above Code Sections regarding the appointment and reappointment of SRP members. Information from CARB SRP transcripts and other sources indicates that all current SRP members have served at least 5 years, 5 members have served at least 12 years, and two members have served at least 23 years. One member who has been on the panel since 1986 was reappointed on January 9, 2008; another member who has been on the panel since 1997 was reappointed on February 10, 2009; and another member who has been on the panel since at least 1986 is up for reappointment during 2009. Because SRP members have not been nominated or renominated in accordance with Code Section 39670 (b), the SRP has been dominated for two decades by a few activist scientists who are NOT representative of the large pool of California scientists who are qualified to serve. If representative scientists had been on this panel in 1998 then diesel PM may never have been designated as a TAC and the Draconian diesel regulations approved by CARB may never have been imposed on California businesses. When a regulatory agency like CARB has vast authority and impacts the economic viability and livelihood of thousands of Californians, it is very important that this agency follow the law as enacted by the California legislature. During the past year Professor Nichols has been repeatedly informed about these legal issues, such as, via the enclosed February 17, 2009 letter from Assemblymen Chuck DeVore and Mike Villines and Senator Lou Correa (Attachment A) of the California State Legislature (http://www.arb.ca.gov/lists/siprev09/1-carb_devore_villines_correa_letter_regarding_diesel_regs_021709.pdf).

Alleged Unethical Conduct by UCLA Professor John R. Froines

John R. Froines, Ph.D., is Professor in the UCLA School of Public Health (http://portal.ctrl.ucla.edu/sph/institution/personnel?personnel_id=45492) and UCLA Institute of the Environment (http://www.ioe.ucla.edu/people/person.asp?Facultystaff_ID=75), as well as Chair, California Air Resources Board (CARB) Scientific Review Panel (SRP) on Toxic Air Contaminants (TAC) (<http://www.arb.ca.gov/srp/public.htm>). Below are two specific allegations of unethical conduct by Professor Froines. Several hundred pages are needed to fully describe these allegations, but only a few essential pages have been enclosed with this complaint. All of the pages can and should be viewed or printed from the Internet by using the weblinks contained within the text below.

1) Allegation of Falsification of Scientific Evidence:

Evidence of falsification is contained in the enclosed June 4, 2008 letter (Attachment I) that Professor Froines wrote to Senator Don Perata recommending California Senate confirmation of Mary D. Nichols as Chair, CARB (<http://www.scientificintegrityinstitute.org/FroinesNichols060408.pdf>). This letter included the enclosed Attachment on diesel particulate matter (PM) and mortality (<http://www.scientificintegrityinstitute.org/FroinesDiesel060408.pdf>). The 23 scientists that Professor Froines cited in the Attachment all agreed with the findings of CARB Staff Report on PM and premature deaths (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_final.pdf). However, his letter and Attachment failed to cite a single dissenting scientist or any of the epidemiologic evidence that clearly indicates there is NO current relationship between PM and mortality in California. His sentence "While there may be a few studies that suggest a lack of evidence for the relationship, the overwhelming evidence suggests the relationship is positive" does not accurately describe the epidemiologic evidence in California. Specific evidence of falsification in the Attachment is given in the enclosed pages of scientific criticism published in the January 2009 California Transportation News "A Regulatory Fraud or a Polluted Process?" (Attachment J) (http://www.cdtoa.org/old_archives/2009/01_09/TransNewsLowResProof.pdf, pages 7-9).

Furthermore, Professor Froines failed to mention the extensive, long-term efforts to reverse the August 27, 1998 CARB declaration of diesel PM as a TAC, which was a direct result of his May 27, 1998 diesel TAC letter (<http://www.arb.ca.gov/toxics/dieseltac/combined.pdf>). Professor Froines is well aware of the intense scientific controversy regarding diesel PM because he was named as a defendant in the 1999-2006 lawsuit (Apodaca et al. v. California Air Resources Board et al.) that challenged the diesel PM TAC declaration (<http://www.scientificintegrityinstitute.org/Apodaca021706.pdf>). Also, Professor Froines is well aware that three of the 23 scientists he cited in the Attachment have published key epidemiologic research on PM and mortality that is based on the 1982 American Cancer Society (ACS) Cancer Prevention Study (CPS II) cohort database. These three scientists have refused to facilitate any form of independent reanalysis of the ACS database, in violation of the Federal Data Quality Act. For his Attachment to be objective, Professor Froines should have acknowledged that the evidence used by CARB to establish a relationship between diesel PM and mortality in California has not been independently verified and is still highly disputed, as evident in the 148 pages public comments on this relationship, that were submitted to CARB as of July 11, 2008 CARB (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf).

2) Allegation of Failure to Follow California Health and Safety Code Section 39670.

Professor Froines has served as the toxicologist on the CARB SRP since at least 1986 and is currently up for reappointment to another three-year term. No other California toxicologist has had an opportunity to serve during this period. This is in violation of the letter and spirit of the California Health and Safety Code Section 39670, which clearly specifies that each SRP member is to be appointed for a term of three years and is to be appointed from a pool of at least three nominees submitted to the appropriate appointing body by the President of the University of California (<http://caselaw.lp.findlaw.com/cacodes/hsc/39670-39671.html>). Indeed, the selection process for all nine SRP members has not followed Code Section 39670. Information from CARB SRP transcripts and other sources indicates that all SRP members have served at least 5 years, 5 members have served at least 12 years, and Professor Froines and one other member have served at least 23 years. One consequence of this pattern of service is that the SRP consists primarily of activist scientists who are NOT representative of the diversity of all California scientists who are qualified to serve on this panel. Furthermore, Professor Froines, who has been SRP Chair since 1998, is well aware of this situation regarding SRP appointments.

Since Professor Froines first began assessing diesel exhaust as a potential TAC for the SRP in 1989, he has been the California scientist most responsible for emphasizing the adverse health effects of diesel PM and for getting it declared a TAC. This TAC declaration is primarily based on weak and controversial epidemiologic relationships between PM and deaths, not on the toxicological evidence that falls within Professor Froines' scientific area of expertise. Most experimental toxicological evidence does not support the health risks of diesel PM found in the epidemiologic studies. Furthermore, other California toxicologists disagree with Froines' assessment of diesel PM toxicity. UC Irvine Professor Robert F. Phalen has described this disagreement in his 2002 book "The Particulate Air Pollution Controversy: A Case Study and Lessons Learned" (http://www.amazon.com/gp/reader/1402072252/ref=si3_rdr_ty). Professor Phalen has run the UC Irvine Air Pollution Health Effects Laboratory for over 30 years and currently serves on the directly relevant US Environmental Protection Agency (EPA) Clean Air Scientific Advisory Committee Particulate Matter Review Panel (CASAC-PMRC) (<http://yosemite.epa.gov/sab/sabpeople.nsf/WebPeople/PhalenRobert%20F.?OpenDocument>). Furthermore, the 669-page 2002 US EPA "Health Assessment Document for Diesel Engine Exhaust" does not support the CARB finding that diesel exhaust causes premature deaths (<http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=29060>).

This scientific controversy is one key reason why it is important to have appointments to the SRP made in full accordance with Code Section 39670. The fact that CARB diesel regulations costing billions of dollars to implement are a direct result of a SRP TAC determination is an even more important reason why Professor Froines and other SRP members should be required to strictly adhere to all relevant provisions of California Health and Safety Code. Since thousands of California businesses are in danger of extinction because of CARB regulations that do not exist in any other state and that appear to be scientifically unjustified, the above allegations of unethical conduct should be fully and fairly evaluated in a timely manner.

Attachments:

- (A) February 17, 2009 letter to Professor Nichols and other CARB members from Assemblymen Chuck DeVore and Mike Villines and Senator Lou Correa of the California State Legislature (http://www.arb.ca.gov/lists/siprev09/1-carb_devore_villines_correa_letter_regarding_diesel_regs_021709.pdf) (2 pages)
- (B) May 27, 2008 Washington Times Commentary “Diesel Risks Mostly Hot Air?” by Henry I. Miller, M.D., of the Hoover Institution at Stanford University (<http://www.ciaqc.com/ciaqc/releases/49.htm>) (2 pages)
- (C) December 3, 2008 “Request to Postpone and Reassess CARB Diesel Regulations” by James E. Enstrom, Ph.D., and Matthew A. Malkan, Ph.D., of UCLA, Robert F. Phalen, Ph.D., of UC Irvine, and Anthony Fucaloro, Ph.D., of Claremont McKenna College (http://www.arb.ca.gov/lists/truckbus08/902-request_to_postpone_and_reassess_carb_diesel_regulations_120308.pdf) (1 page)
- (D) March 15, 2009 Bakersfield Californian column by Assistant Managing Editor Lois Henry (<http://www.bakersfield.com/news/columnist/henry/x1763640146/Lois-Henry-Dodgy-science-strangles-industry>) (2 pages)
- (E) March 25, 2009 Bakersfield Californian letter by Professor Nichols (<http://www.bakersfield.com/opinion/forum/x468334809/California-cant-wait-on-diesel-regs>) (1 page)
- (F) March 25, 2009 response to Professor Nichols by Lois Henry (<http://people.bakersfield.com/home/Blog/noholdsbarred/42886#comments>) (1 page)
- (G) March 14, 2009 San Diego Union-Tribune editorial “Air Board’s Shame” (<http://www3.signonsandiego.com/stories/2009/mar/14/lz1ed14top213329-air-boards-shame>) (attached PDF) (1 page)
- (H) Summary of California Health and Safety Code Sections 39670-39671 which define the CARB Scientific Review Panel (SRP) on Toxic Air Contaminants (TAC) (<http://www.scientificintegrityinstitute.org/SRP060608.pdf>) (2 pages)
- (I) June 4, 2008 letter that Professor Froines wrote to Senator Don Perata recommending California Senate confirmation of Mary D. Nichols as Chair, CARB (<http://www.scientificintegrityinstitute.org/FroinesNichols060408.pdf>) (2 pages) June 4, 2008 Attachment from Professor Froines on diesel particulate matter (PM) and mortality (<http://www.scientificintegrityinstitute.org/FroinesDiesel060408.pdf>) (2 pages)
- (J) Evidence of falsification in the Froines Attachment in the January 2009 California Transportation News “A Regulatory Fraud or a Polluted Process?” (http://www.cdtoa.org/old_archives/2009/01_09/TransNewsLowResProof.pdf), (pages 7-9)

Attachment A

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Assembly California Legislature

CHUCK DeVORE
REPUBLICAN WHIP
ASSEMBLYMAN, SEVENTIETH DISTRICT



COMMITTEES
VICE CHAIR, REVENUE AND TAXATION
BUDGET
VETERANS AFFAIRS

February 17, 2009

California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, California 95812

Re: Temporary Suspension of CARB On-Road and Off-Road Diesel Truck Regulations

Dear Board Members:

As members of the California State Legislature, we are requesting that you temporarily suspend the On-Road Diesel Vehicle Regulations that you approved on December 12, 2008 (<http://www.arb.ca.gov/regact/2008/truckbus08/truckbus08.htm>) and the Off-Road Diesel Vehicle Regulations that went into effect on June 15, 2008 (<http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>). There are strong scientific, legal, and economic justifications for requesting this suspension, which we summarize below.

1) Scientific Justification for Suspension

There are several reasons to question the CARB claim that diesel particulate matter (PM) causes about 4,000 premature deaths per year in California, which is the primary scientific justification for CARB diesel emissions regulations. There is substantial epidemiologic evidence from six independent sources that there is no current relationship between fine particulate matter (PM_{2.5}) and premature deaths in California. The evidence that CARB relies upon is not sufficient to establish a true causal relationship in California. Also, serious doubts have been raised about the professional qualifications of the CARB staff members who prepared the key report on PM_{2.5} and premature deaths. Further, the final version of this report and relevant public comments were never shown to outside peer reviewers as required by state law. Diesel toxicity and PM pollution in California are at record low levels. California has the fourth lowest total age-adjusted death rate among US states and few "premature" deaths. Modifying diesel engines in the way proposed by CARB may be of little value because of the "particulate mass fallacy" and the chemical composition of PM in California vs. other states. These scientific issues should be fully addressed by CARB before enacting regulations which will cost upwards of \$10 billion to implement.

2) Legal Justification for Suspension

On August 27, 1998 the CARB declared diesel PM to be a toxic air contaminant (TAC) and this has subsequently led to the diesel vehicle regulations cited above. This controversial declaration was the direct result of the highly contested April 22, 1998 declaration by the

CARB Scientific Review Panel (SRP) on Toxic Air Contaminants. After historical review, there is substantial evidence that the appointments of the nine members of the SRP as of 1998 were not made in accord with all relevant provisions in Sections 39670-39671 of the California Health and Safety Code and with the intent of the original legislative bills that created the SRP: AB1807 (Tanner, 1983) and AB3792 (La Follette, 1986). There are legitimate questions regarding the precise appointment and reappointment procedure that was followed for specific panel members, their length of service, and the proper public disclosure of their potential conflicts of interest. These legal issues should be fully addressed by CARB before implementing costly regulations on the people of the State of California.

3) Economic Justification for Suspension


The CARB on-road and off-road diesel regulations have been estimated to cost up to 10 billion dollars to implement. Furthermore, these regulations have been approved at a time when the California economy is in a recession, unemployment is pushing 10%, and trucking-related businesses are struggling to stay viable. In passing its December 12, 2008 regulations, CARB effectively ignored the economic arguments and pleas presented in about 500 written and/or verbal public comments. One California contractor gave particularly telling comments: "The affect on my company is 100 percent of my portable equipment will be illegal to use or sell in the state of California: 100 percent of my trucks, 90 percent of my off-highway. Three regulations all at once. This is a destruction of my capital. I have spent 44 years in this business gaining this equity, and these regulations have destroyed it all at once. Destroys a business model of the entrepreneur who saves money and invests it and provides employment and a tax base for the economy." The economic concerns of individual Californians and of large coalitions, like "Driving Toward A Cleaner California" (<http://www.drivecleanca.org>), should be fully addressed by CARB.

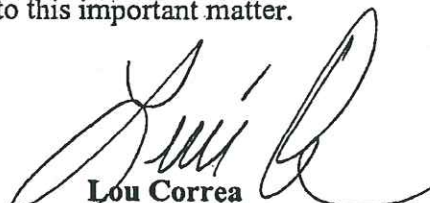
Detailed documentation for these scientific, legal, and economic justifications are available in posted CARB public comments. These are the written comments submitted as of December 10, 2008:

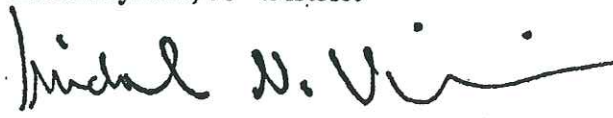
(<http://www.arb.ca.gov/lispub/comm/bccommprt.php?listname=truckbus08>) and verbal testimony delivered directly to the Board on December 11, 2008 (<http://www.arb.ca.gov/board/mt/2008/mt121108.pdf>) and on December 12, 2008 (<http://www.arb.ca.gov/board/mt/2008/mt121208.pdf>). New CARB diesel vehicle regulations should not be implemented until the issues raised in these comments have been fully addressed.

Thank you very much for your prompt attention to this important matter.

Sincerely yours,


Chuck DeVore
Assemblyman, 70th District


Lou Correa
Senator, 34th District


Mike Villines
Assembly Republican Leader

Attachment B

Diesel Risks Mostly Hot Air?

Henry Miller, Washington Times

If you were strapped for cash and lived in North Dakota, would you spend money on hurricane insurance? That would be as foolish as the recent actions of the California Air Resources Board (CARB), part of the California Environmental Protection Agency. As part of its mandate to ensure good air quality in the state — a laudable goal — CARB has begun a program to reduce diesel exhaust emissions from freight moving along California's trade corridors, including its seaports (which require huge amounts of truck traffic to transport arriving and departing containers).

This "Goods Movement Emission Reduction Plan" (GMERP) is the result of a determination in April 2006 by CARB that diesel exhaust particulate matter represents a significant health threat to Californians, supposedly causing respiratory diseases and 2,400 premature deaths per year. (Fine particulate matter is very small soot that diffuses deep into the lungs.)

Public funding for this initiative comes from a transportation bond approved by California voters in 2006 which provides \$1 billion to reduce diesel exhaust emissions.

However, a large coalition of California truck owners, farmers, construction contractors and business and community leaders has raised serious concerns. The coalition recently estimated that applying the new emissions regulations to the 2.3 million or so diesel trucks that move goods throughout California could cost at least \$8 billion.

This new burden could further damage the state's economy, already faltering in the face of falling real estate values and confiscatory taxes. Moreover, California will be at a competitive disadvantage because no other state has a similar diesel emissions reduction program. The fundamental question is whether this project is a cost-effective use of public and private resources.

To find an answer, let's begin at the beginning. How solid is the evidence that diesel exhaust particulate matter is a significant threat to the health of Californians? CARB's estimate that particulate matter is responsible for 2,400 premature deaths appears to be based primarily on a 2005 epidemiological study from the University of Southern California that found a substantial association between fine particles and mortality in the Los Angeles basin during 1982-2000.

Other research, however, including experimental laboratory evidence, has failed to confirm those findings. In particular, a major nationwide study released in 2000 by the Health Effects Institute in Boston found no excess mortality risk associated with fine particles in California during 1982-1989, and a large and detailed 2005

epidemiological study from the University of California-Los Angeles found no association between fine particulate matter and mortality in elderly Californians during 1983-2002.

Likewise, the U.S. Environmental Protection Agency's voluminous 2002 report "Health Assessment Document for Diesel Engine Exhaust" did not conclude that diesel exhaust causes premature deaths. Moreover, current levels of particulate matter in California's air are the lowest ever recorded in the state.

All this indicates CARB exaggerated the adverse health effects of diesel exhaust and tried to portray them as firmly established.

The GMERP is already creating mischief and damaging the state's economy. A recently adopted plan to clean up the air in and around the Port of Long Beach by replacing thousands of aging diesel trucks is creating havoc among trucking company employees and independent truck drivers over how this costly plan will be carried out. And there are efforts to establish a new port in Baja California because of the onerous, debilitating environmental regulations and constraints on development at the ports of Long Beach and Los Angeles (the two busiest in the United States). This new Mexican port would siphon billions of dollars away from the California economy and transfer many lucrative trucking and port jobs across the border.

CARB fails to appreciate that the expenditure of public monies is a zero-sum game, and that regulation intended to reduce health risks imposes costs that must be weighed against the benefits. The direct and indirect expenses related to government programs — for purposes good, bad, or indifferent — exert an "income effect" that reflects the correlation between wealth and health.

The accumulation of wealth by societies is necessary to fund medical research, build schools, support infrastructure and sanitation, and even improve environmental amenities. It is no coincidence that richer societies have lower mortality rates and cleaner environments than poorer ones. Thus, depriving communities, or individuals, of wealth increases their health risks. Conversely, the deprivation of income itself has adverse health effects, including an increased incidence of stress-related problems, including ulcers, hypertension, heart attacks, depression and suicide.

It is difficult to quantify the relationship between loss of income and mortality, but academic studies suggest every \$5 million to \$10 million of regulatory costs will induce an additional fatality through this "income effect." (Thus, the conservatively estimated direct and indirect costs of the GMERP could cause about 2,000 deaths.)

At a time when the California economy is slowing and the state faces a \$15 billion to \$20 billion budget deficit, state officials must establish priorities rigorously.

Before expending scarce state resources on GMERP and placing a huge financial burden on the trucking industry — costs that will be passed on to businesses and, ultimately, to consumers — CARB should reassess the overall health effects of diesel exhaust in California and the relationship between fine particles and mortality.

If CARB does not change course, billions of pollution-reducing dollars will, in effect, vanish into thin air.

Henry Miller, a physician and molecular biologist, is a fellow at Stanford University's Hoover Institution. He was at the National Institutes of Health and the Food and Drug Administration from 1977 to 1994. His most recent book is "The Frankenfood Myth."

Attachment C

REQUEST TO POSTPONE AND REASSESS CARB DIESEL REGULATIONS

James E. Enstrom, Ph.D., M.P.H. 35-year lifestyle epidemiologist
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Anthony Fucaloro, Ph.D. 35-year chemist with public policy expertise
Claremont McKenna College Joint Science Department afucaloro@jsd.claremont.edu

Matthew A. Malkan, Ph.D. 25-year astrophysicist
UCLA Department of Physics and Astronomy malkan@astro.ucla.edu

Robert F. Phalen, Ph.D. 35-year air pollution toxicologist
UC Irvine Air Pollution Health Effects Laboratory rfphalen@uci.edu

December 3, 2008

General Concerns Regarding Air Pollution Health Effects and Regulations

- 1) Pollution levels are much lower today than in previous decades and current health risks are small.
- 2) Small epidemiologic associations are often spurious, rather than cause-and-effect relationships.
- 3) Regulations designed to solve one problem may have consequences that do more harm than good.
- 4) Scientists who are not popular activists are often marginalized and their important research is ignored.
- 5) Conflict of interest regarding power and funding exists between regulators and conforming scientists.
- 6) New regulations must be based on a fair evaluation of all available evidence from diverse sources.

Specific Concerns Regarding October 24, 2008 CARB Staff Report on PM2.5 and Premature Deaths

- 1) Authors have no relevant peer reviewed publications and lead author has misrepresented his "Ph.D."
- 2) Report and public comments were never shown to outside reviewers as stated in Executive Summary.
- 3) Five independent sources indicate no current relationship between PM2.5 and deaths in California.
- 4) California has fourth lowest total age-adjusted death rate among US states and few "premature deaths."
- 5) Diesel toxicity and fine particulate air pollution in California are currently at record low levels.
- 6) Before approving new diesel regulations, CARB should fully evaluate PM2.5 and deaths in California.

Conclusion

Important epidemiologic and toxicologic evidence does not support adverse health effects of diesel claimed by CARB and new diesel regulations should be postponed until above issues are fully and fairly evaluated.

Attachment D

Lois Henry CALIFORNIAN COLUMNIST

Dodgy science will kill industry



We are about to cripple California's trucking and construction industries for absolutely no good reason. If I really believed the California Air Resources Board's draconian new diesel emissions standards would save thousands of lives a year, I might say, sorry guys, you gotta suck it up for the greater good.

But when you scratch the surface of the alleged science used

Bakersfield.com

Read archived columns at Bakersfield.com/henry or weigh in on this topic on her **No Holds Barred** blog at Bakersfield.com/blogs.

by CARB to justify these rules, there's just no "there" there. Our air is NOT killing us, despite what the "environmental alarmist complex" would have us believe.

And, oh yeah, CARB's lead researcher, Hien T. Tran, who wrote the report on which the diesel rules are based lied about having a Ph.D. in statistics from University of California, Davis, according to a CARB spokesman. That's right, he made it up to get a CARB management job for which a Ph.D. isn't even required. No Ph.D. requirement seems more than a bit loose to me, but

Please see **HENRY / B5**

The Bakersfield Californian OPINION

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HENRY: Emissions will be close to 2023 goal without extra regulation

CONTINUED FROM B1
that's another story.

The CARB spokesman said they're standing by that report, as well as their diesel rules, which were to go into effect in 2011 but likely will be delayed two years under a state budget deal as a nod to the crumbling economy.

Some people are calling for the rules to be eased while we get through this econ-aggeden, but I say that's a Band-aid on an axe wound.

The rules need to be scrapped. We need a redo, this time using a group of bona fide scientists who don't have to lie about their credentials. The object of the new standards, by the way, is to reduce PM2.5 (tiny bits of soot) from diesel emissions, which CARB adamantly believes kills thousands of Californians every year, despite studies to the contrary.

The agency has mandated that all diesel trucks and heavy equipment be retrofitted with devices to reduce PM2.5 emissions by 80 percent by 2020 compared to what they were in 2000.

The report on which the rules were concocted is valid, insists a CARB spokesman, because it underwent "peer review" by other scientists.

Yes, but only the draft version. Not the final one with comments from the public, including a number of scientists who disputed its conclusions and the fact that it discounted studies showing little to no increased death rate in California from PM2.5. (Even a map from one of the studies CARB did value showed little to no PM2.5 deaths in California, but that was also ignored in the report.)

As for the studies that were used in the report, they were weighted by a group of 12 scientists, nearly half of whom wrote or helped author the very studies being graded. And at least a few of those graders are being paid by CARB for more studies.

When I asked Bart Croes, chief of CARB's research division, and Linda Smith, chief of CARB's health and exposure assessment branch, how that's not a screaming conflict of interest, they passed the buck and said the scientists were picked by the EPA. In my business, that's what we call a "non-denial confirmation."

Digging further into that report, I wondered why it was OK to take results from one air study that found increased death rates from PM2.5 in Los Angeles, mix them with results from studies elsewhere in the U.S., then average those results and apply them to the entire state of California.

I don't have a Ph.D. (real or fake), but that seems pretty slapdash to me.

Smith told me averaging results is perfectly acceptable because of the volume of studies from all over the world that show PM2.5 is dangerous to health and "PM is PM" — just as hazardous one place as another.

Not quite, according to Robert E. Phalen, Ph.D. (a REAL one!), with the Air Pollution Health Effects Laboratory at UC Irvine and author of the book "The Particulate Air Pollution Controversy: A Case Study and Lessons Learned."

CARB simply measures how many micrograms of PM are in a cubic meter of air, he writes, not by size or even chemical composition.

"The use of this crude mass indicator is not only scientifically shaky, but it can also be hazardous to public health," Phalen writes.

For example, filters that lower particles in emissions by breaking down them into smaller bits could actually increase adverse health effects, Phalen says. And without knowing the chemical makeup of the particles that are actually causing health problems, you could be eliminating harmless material while ignoring real culprits.

The available science is not sufficient to define the

"It's a matter of political judgment if you put your finger on ozone."

— Stanley Young, assistant director for bioinformatics at the National Institute of Statistical Sciences in North Carolina/Diego.

key indicators that determine the health effects of PM," he concludes.

Even if you believed PM2.5 was knocking off your neighbors in droves, CARB's own estimates show we'll be very close to the 2023 emissions reduction goal without any extra regulation at all as old diesel equipment is retired. In fact, we'll be within four or five tons per day of the goal without any added regulation at all.

I mentioned that to CARB's Smith and she sharply reminded me that four tons could represent five to 10 deaths per year, depending on where you looked in Los Angeles.

Which brings me back to the "science" CARB used to come up with its diesel rules.

They relied on a number of epidemiological studies, large sets of observational data (not experiments) queried by scientists to tease out patterns.

The problem with those kinds of studies, according to Stanley Young, assistant director for bioinformatics at the National Institute of Statistical Sciences in North Carolina and who has a real Ph.D. in statistics and genetics, is they can't control for every factor and often end up with biased conclusions.

"Say you're looking at a situation where the temperature goes up, ozone goes up, PM2.5 goes up and humidity goes up. Which of those factors, if any, is killing people?" Young said. "It's a matter of

political judgment if you put your finger on ozone."

When other scientists try to replicate results from observational studies, the conclusions don't hold up 80 to 90 percent of the time.

"If you do exactly what the original researchers did, yes, you get the same results,"

Young said. "When you look at the way they did their analysis, that's where things get dodgy. There is a lot of freedom to move the answer around."

It was Young who blew the whistle on Tran for not having a Ph.D. after he read Tran's report. He couldn't believe how amateurish and poorly done it was.

"Frankly, I was shocked," he said. "I asked if they had looked at the raw data from key papers and done their own analysis. They did not

have the data and the answer was no.

"It's a crazy situation. And I've just been looking (at this from the outside.)"

The view isn't much better from the inside.

Opinions expressed in this column are those of Lois Henry, not The Bakersfield Californian. Her column appears Wednesdays and Sundays. Comment at people.bakersfield.com/home/Bl og/noholdsbarred, call her at 395-7373 or e-mail lhenry@bakersfield.com

Attachment E

The Bakersfield Californian (March 25, 2009)

(<http://www.bakersfield.com/opinion/forum/x468334809/California-cant-wait-on-diesel-regs>) (originally <http://www.bakersfield.com/1435/story/725594.html>)

FORUM: California can't wait on diesel regs

The Bakersfield Californian | Tuesday, Mar 24 2009 9:59 PM

Lois Henry gets it wrong in her March 14 column, "Dodgy science strangles industry," which she uses to criticize the California Air Resources Board's new regulations aimed at reducing emissions from aging, dirty big-rigs and off-road construction equipment.

The State Bus and Truck Regulation, adopted in December after exhaustive research and peer review, and which Ms. Henry would like to "redo," will prevent 9,400 deaths between 2011 and 2025; greatly reduce days of missed work, school and hospitalization; and lower health care costs by billions of dollars. Asthma symptoms, cancer, heart and lung disease will all be affected for the better, once emissions from these one million vehicles are successfully controlled.

The same can be said for CARB's Off Road Regulation, adopted in 2007, which will slash toxic and cancer-causing diesel emissions from the state's estimated 180,000 "off-road" vehicles used in construction, mining, airport ground support and other industries. Over its lifetime, the rule will prevent at least 4,000 premature deaths statewide and avoid \$18 billion to \$26 billion in premature death and health costs.

It is very important to CARB that we scrutinize economic as well as health impacts during the rule development process. As part of that, we meet with the hundreds of business owners and stakeholders impacted, so for almost two years, we went up and down California. As a result, the Truck and Bus regulation was revised more than once to accommodate concerns voiced by the trucking industry.

With regard to the harm that stems from exposure to PM 2.5, there have been several studies produced within just the past few years that support CARB's need to regulate emissions from the nearly 1 million trucks and buses driving California's highways. These include a 2008 report by Cal State Fullerton researchers that found dealing with the health impacts of air pollution, especially diesel emissions, costs the state \$28 billion annually.

If the myriad studies attesting to the harm posed by "tiny bits of soot" are not enough evidence, I encourage you to visit the websites of the American Lung Association, American Cancer Society, American Heart Association, American Academy of Pediatrics, Union of Concerned Scientists and countless other respected organizations for further proof that CARB's steps are critical to saving lives. The weight of scientific evidence clearly supports an increased risk of dying before your time if you are exposed to elevated PM 2.5 levels.

Ms. Henry's whole premise for questioning the science behind the diesel regulations is a red herring. Though we do not take lightly the false claim of a PhD in Statistics from UC Davis by one of the writers of the PM 2.5 health report, Ms. Henry greatly overplayed the significance of this misstatement as it relates to the truck regulation.

The individual in question simply pulled numerous studies together into one document. He did not produce one single piece of new health evidence. More importantly, the report that he helped compile went through four levels of independent, external peer review. Three nationally recognized scientific advisors from Harvard, Brigham Young University and the State's Office of Environmental Health Hazard Assessment assessed all aspects of the work, including all publicly released versions of the report. The UC Berkeley Institute of the Environment selected six formal peer reviewers for the report. We also convened a panel with the U.S. Environmental Protection Agency, the World Health Organization and internationally recognized PM health effects experts. And at the request of the Engine Manufacturers Association, the diesel soot exposure estimates were reviewed by Philip Hopke of Clarkson University. The result? All levels of review agreed with the basic conclusions of the report.

What CARB knows after more than 40 years in business is that diesel exhaust is an insidious and pervasive enemy, responsible for 70 percent of the known cancer risk that comes from air pollution. It can and does kill. To delay enactment of either the Off-Road Heavy Duty Diesel or Statewide Truck and Bus regulation would waste precious time and only cause further pain and suffering to those whose health has already been compromised by diesel air pollution.

Mary D. Nichols is chairwoman of the California Air Resources Board. The Californian reserves the right to reprint Another View commentaries in all formats, including on its web page.

<http://people.bakersfield.com/home/Blog/noholdsbarred/42886#comments>

Lois Henry Blog (March 25, 2009):

No holds barred -> The head of CARB has some choice words for me!

Mary Nichols, the head of the California Air Resources Board took me to task in a letter we published today (3/25) in our Editorial Section.

While I appreciate that she took the time to write (though put me off on underlings when I called for an interview..) I stand by my stories and note that her letter relies, again, on epidemiological studies which have not had their results independently verified and replicated.

Also, I disagree that it's not a big deal that their researcher, Hien Tran, lied about having a PhD from UC Davis in statistics because all he did was compile information from the studies.

First, he did a bit more than just throw together other people's work. He interpreted it, averaged findings and picked numbers, sometimes at random, to determine the safety of PM2.5 levels.

And that report, not the studies, was what CARB board members used to create the diesel emissions rules that will kill California's trucking and heavy equipment industries.

So, nice try and thanks for playing, but no cigar!

http://www.bakersfield.com/contact_us/newsroom/management/story/36458.html

Attachment F

The Bakersfield Californian (March 25, 2009)

<http://www.bakersfield.com/opinion/forum/x468334809/California-cant-wait-on-diesel-regs>

FORUM: California can't wait on diesel regs

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http://www.bakersfield.com/contact_us/newsroom/management/story/36458.html

Attachment G

The San Diego
Union-Tribune.

DAVID C. COPLEY *Chairman and Publisher*

W. JEFF GATEWOOD
Founder, Oct. 10, 1868

JOHN D. SPRECKELS
Publisher, 1890-1926

COL. IRA C. COPLEY
Publisher, 1928-1947

JAMES S. COPLEY
Publisher, 1947-1973



A COPLEY
NEWSPAPER

KARIN E. WINNER
Editor

WILLIAM OSBORNE
Senior Editor/Opinion

ROBERT A. KITTLE
Editor of the Editorial Page

HELEN K. COPLEY *Publisher, 1973-2001*

EDITORIALS

Air board's shame

It won't review work of discredited scientist

For years, critics joked that the White House of George W. Bush was encased in a massive bubble that kept out all discomfiting information. Now that Bush has exited, this bubble has found a new home at 1001 I Street in Sacramento, headquarters of the California Air Resources Board.

No matter what is happening with the economy, no matter how reasonable are the pleas from affected businesses, no matter if even the respected Legislative Analyst's Office raises concerns, nothing will deter the air board from its central mission: implementing two very costly regulatory schemes adopted in December.

One would impose unique costs on California by forcing the use of cleaner but much costlier fuels; another would impose unique cost on California by adopting much stricter rules on diesel emissions.

Now it appears the air board's single-mindedness will lead it to defy convention in dealing with an internal scandal related to the diesel rules. The board admitted this week what this page reported in December: Hien Tran, the lead

scientist on the study justifying the rules, did not have a Ph.D. in statistics from the University of California Davis as he claimed.

Board officials said, however, that Tran did provide them a Ph.D. from Thornhill University. But by all appearances, Thornhill is a "distance learning" diploma mill with branches in New York and London.

The board is apparently considering disciplining Tran. However, it has declined to hire independent experts to examine his work on the diesel study, as scientific ethicists recommend. Not only that, it refuses to subject Tran's work to a fresh internal review.

This is not how a reputable body should behave, especially when it maintains that its decisions are built on a bedrock of scientific integrity. Instead, it is the behavior of an agency driven by external influences — namely, Gov. Arnold Schwarzenegger's determination to be remembered as an environmental pioneer.

If that requires the California Air Resources Board to rely on the work of a man touting a degree from a diploma mill, so be it. Many adjectives come to mind. We offer one: shameful.

Attachment H

SCIENTIFIC REVIEW PANEL ON TOXIC AIR CONTAMINANTS

AUTHORITY: Health & Safety Code, §39670 (Amended by: Ch. 1161 of 1992, AB 2728 - Tanner); (Amended by: Ch. 726 of 1986, La Follette); (Created/Amended by: Ch. 1047 of 1983, AB 1807 - Tanner)

APPOINTING POWER: Senate Rules Committee; Speaker of the Assembly

NUMBER: 9 Members

Senate Rules Committee

1 - Biostatistician (R1)

1 - Physician or scientist specializing in occupational medicine (R2)

Speaker of Assembly

1 - Toxicologist (S1)

1 - Biochemist (S2)

Secretary, Environmental Affairs Agency

1 - Pathologist

1 - Oncologist

1 - Epidemiologist

1 - Atmospheric scientist

1 - Shall have relevant scientific experience and shall be experienced in the operation of scientific review for advisory bodies.

QUALIFICATIONS: Members shall be highly qualified and professionally active or engaged in scientific research.

Members shall be appointed from a pool of nominees submitted to each appointing body by the President of the University of California. The pool shall include, at a minimum, nominees for each discipline represented on the panel, and shall include only individuals who hold, or have held, academic or equivalent appointments at universities and their affiliates in California.

TERM: 3 years. AB 3792 of 1986 provided for staggered terms. One Senate Rules appointee's and one Speaker appointee's term shall be extended to 1/1/88 as designated by Senate Rules and Speaker respectively. The other appointees terms shall expire on 1/1/87.

COMPENSATION: \$100 per day for attending panel meetings and meetings of the State Board plus actual and necessary travel expenses.

PURPOSE: To advise the Air Resources Board and the Department of Pesticide Regulation in their evaluation of the health effects of toxic contaminants in the air.

COMMENT: Anticipates not less than 4 meetings in (2008)

MEMBER

APPT DATE TERM END

Rules

AIR TOXIC CONTAMINANTS - continued

R2 Paul Blanc 05/17/2006 01/01/2009
San Francisco 94117

R1 Stanton A. Glantz 01/09/2008 01/01/2011
San Francisco 94143

Speaker

S1 John R. Froines 07/19/2006 01/01/2009
Santa Monica 90405

S2 Craig V. Byus 07/19/2006 01/01/2008
Riverside 92521

01/10/2008 9:22 AM

Attachment I



Southern California Particle Center

June 4, 2008

Senator Don Perata
Senate President Pro Tem
Chair, Senate Rules Committee
State Capitol, Room 205
Sacramento, CA 95814

Dear Mr. Perata,

I am writing this letter to support the appointment of Ms. Mary Nichols as Chairperson of the California Air Resources Board (ARB) and to comment on some of the issues surrounding control of air pollution in California with its public health implications. In my view, Ms. Nichols is likely the most qualified person in the U.S. to fulfill the role of ARB Chair. She has a long and stellar history addressing air pollution issues at both the State and Federal levels and she has demonstrated leadership, intelligence, and administrative skills. For example, she was central to the development of standards for PM 2.5 to address excess mortality from ambient fine particles at U.S. EPA. Under Mary Nichols the ARB adopted new rules requiring the construction industry to upgrade its equipment to reduce diesel and greenhouse gas emissions. This regulation is the first rule in the U.S. focused on cleaning up diesel emissions from off-road construction equipment. She is committed to addressing global climate change issues in the State as well as continuing the progress on air pollution control and health protection. I believe the State is fortunate to have a person of Ms. Nichols' caliber to Chair this important government agency.

I am Professor of Toxicology in the UCLA School of Public Health. I direct one of the five Centers funded by U.S. EPA to address the underlying issues associated with public exposure to airborne particulate matter (PM), the Southern California Particle Center (SCPC). I also direct the legislatively mandated UCLA Center for Occupational and Environmental Health (COEH) and a program funded by the South Coast Air Quality Management District called the Asthma Consortium on Air Quality. I am Chair of the Scientific Review Panel (SRP) which was established under AB 1807 to address the issue of Toxic Air Contaminants (TAC) in California. The SRP is a legislatively mandated technical peer review committee advisory to the ARB, the Office of Environmental Health Hazard Assessment (OEHHA) and the Department of Pesticide Regulation (DPR). I was appointed to my membership by the Speaker of the Assembly and later made Chair by the Secretary of CAL/EPA. The SRP is responsible for reviewing proposed toxic air contaminants and risk assessment guidelines. The SRP's task is to ensure that the science behind certain decisions is sound. Since its inception, the SRP has identified 29 toxic air contaminants (TACs), and evaluated the determination of 299 health values for hazardous air pollutants as TACs. Mary Nichols has been a strong supporter of the role of the SRP through her support for strong science based evaluation of air contaminants. She clearly recognized the

importance of having prestigious scientists provide advice to the Agency to facilitate the peer review process of the SRP.

The role of the SRP within the context of AB 1807 is at times difficult and demanding because the determinations are at times controversial. For example, in my role as Chair of the SRP, I had the responsibility of providing leadership on the review of the documents prepared by the ARB and OEHHA on the determination of whether diesel particulate should be recommended to be listed as a TAC. The process of review was begun in 1989 and completed in 1998. The ARB and OEHHA documents had determined there was causal evidence that exposure to diesel particulate resulted in lung cancer based on human occupational epidemiological studies and therefore met the criteria for listing as a TAC.

Research work since 1998 has confirmed these original conclusions, for example, Garshick et al in a paper in *Environmental Health Perspectives* concluded: "Lung cancer mortality in workers (railroad workers) in diesel exposed jobs was elevated in this cohort.....these results indicate that the association between diesel exhaust exposure and lung cancer is real." More recently, in a 2008 paper, Garshick et al. concluded: "Trucking industry workers who have had regular exposure to vehicle exhaust from diesel and other types of vehicles on highways, city streets, and loading docks have an elevated risk of lung cancer with increasing years of work." In other words, the findings of the State scientists and the ARB have been confirmed several times since 1998. There are probably 40-50 studies now available to indicate the significant risk associated with exposure to diesel exhaust.

It is apparent that air pollution related to traffic (mobile source) emissions may be a key contributor to adverse health impacts. There is considerable evidence that traffic related pollution may have significant consequences throughout California. Booth and Shendell (2008) have reviewed the literature on potential health effects associated with residential proximity to freeways and primary roads and concluded: "Studies we reviewed consistently reported statistically significant associations between residential proximity to traffic and at least one of the following adverse health effects: increased prevalence and severity of symptoms of asthma and other respiratory diseases, diminished lung function, adverse birth outcomes, childhood cancer, and increased mortality risks." The Children's Health Study (CHS) conducted by investigators at the University of Southern California and funded by the ARB showed important consequences on lung growth in children. Finally, in a landmark study Jerrett et al. (2005) demonstrated increased relative risks from ischemic heart disease and lung cancer in Los Angeles with the finding being robust for expressway exposure.

The research conducted in the U.S. with particular emphasis on work carried out in California over the past decade since the recommendation of diesel particulate as a TAC has demonstrated that the health problems associated with air pollution are still a major factor in the lives of the population. There have been demonstrable improvements in the quality of the air compared to past decades, but we have identified new health endpoints with significant risks. A May 2008 ARB press release on premature deaths from particle pollution being higher than originally thought, quoted Ms. Nichols as saying: "Particle pollution is a silent killer. We must work even harder to cut these life-shortening emissions by further addressing pollution sources head-on."

Recently the ARB has developed a Goods Movement Emission Reduction Plan. This plan has unique importance in the addressing of potential health risks associated with the growth of goods movement in the LA Basin. I have never in my career seen a plan that was more thoroughly

reviewed by the scientific community. A description of the review is attached to this letter. The Plan has major implications for addressing risks associated with air pollution linked to goods movement including trucks, ships, rail and stationary sources. This report will enable effective planning for addressing health issues over time, under ARB Chair Nichols' leadership.

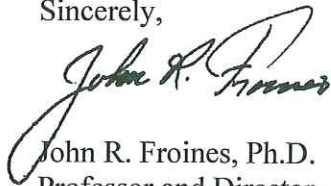
I have reviewed some of the highlights of the ARB's efforts over time to demonstrate the high degree of competency that they and OEHHA possess. There are no State programs of equal stature to those of California throughout the U.S. The ARB is unique in terms of its productivity, resourcefulness, and overall leadership in the field of air pollution. Finally its document on environmental tobacco smoke is unparalleled and represents the single most important document in the area of tobacco smoke. It is at least equal to the reports of the U.S. Surgeon General.

This review has not sought to be exhaustive; I wanted to accomplish three elements: 1) the SRP has been an important peer review scientific body that has served the ARB, OEHHA and DPR effectively since its formation in 1983 by having highly skilled scientists as members of the Panel; 2) the ARB has addressed a wide range of key issues relating to the health consequences of air pollution and is widely recognized for its contributions, and 3) Mary Nichols' first experience as Chair of the ARB, later in charge (assistant administrator) of air and radiation for EPA and now Chair of ARB again provides her with the extensive experience required to perform effectively in a highly scientific world with significant policy, law and economics factors needing to be addressed. She is capable of working with all sides on an issue to more effectively find solutions acceptable to all parties, but she is also able to recognize that some decisions require a firm hand.

The role of the Chair of ARB has been made more challenging by giving ARB the responsibility for addressing issues associated with global climate change as well as issues of air pollution. These responsibilities will require a leader of great skill and commitment. I believe Ms. Mary Nichols has all the strengths and commitment required of the person who will Chair the ARB during this crucial period of time. She is unparalleled as a leader and will be able to take ARB in new directions that will solidify its already impressive record.

I appreciate the opportunity to comment on this appointment and I am available if you have further questions.

Sincerely,



John R. Froines, Ph.D.
Professor and Director
Center for Occupational and Environmental Health

Attachment

Supporting information for the California Air Resources Board's health risk assessment of mortality associated with ambient particulate matter and diesel particulate matter exposures

California's approach for assessing the health risk associated with fine airborne particulate matter (PM_{2.5}) exposures is consistent with methodologies used by the U.S. Environmental Protection Agency (U.S. EPA) and the World Health Organization.

Hundreds of studies conducted around the world provide strong evidence for the influence of PM_{2.5} on premature death. This strong link was further supported by an independent panel of experts elicited by U.S. EPA in 2006. However, only a subset of these studies is suitable for assessing the relative risk applicable to California's general population and for regulatory impact analyses.

The California Air Resources Board (CARB) reviewed an extensive amount of peer-reviewed literature in concluding that a strongly positive association exists between long-term exposures to PM_{2.5} and the increased risk of premature death. While there may be a few studies that suggest a lack of evidence for the relationship, the overwhelming evidence suggests the relationship is positive.

In developing the Goods Movement Emission Reduction Plan (2006), CARB staff included a health risk assessment methodology. This methodology underwent a rigorous peer review process by the following experts, all of whom agree with CARB's analysis on diesel PM health impacts:

- 1) John Froines, UCLA
- 2) Jane V. Hall, CSU Fullerton
- 3) Aaron Hallberg, Abt Associates
- 4) Michael Jerrett, USC (now UC Berkeley)
- 5) Melanie Marty, Cal/EPA - OEHHA
- 6) Constantinos Sioutas, USC
- 7) Akula Venkatram, UC Riverside.

Since developing the Goods Movement Plan, CARB further reviewed the most recent literature to evaluate the latest findings on the PM-premature death relationship. Over 20 publications in peer-reviewed journals published since 2002 were reviewed. It was concluded that the evidence linking long-term PM_{2.5} exposure and premature death is even stronger than previously estimated. This conclusion was supported by CARB's advisors for this effort (Arden Pope, Brigham Young University; Jonathon Levy, Harvard University; and Bart Ostro, Cal/EPA - OEHHA) and also by an independent peer review

panel organized by the University of California, Berkeley, Institute for the Environment. The panel was composed of the following experts:

- 1) Jeffery Brook, Environment Canada
- 2) Mark D. Eisner, UC San Francisco
- 3) Richard C. Flagan, Cal Tech
- 4) Alan Hubbard, UC Berkeley
- 5) Joel Kaufman, University of Washington
- 6) Joel Schwartz, Harvard University

Finally, an informal symposium was convened in March 2008 by CARB and Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA) to solicit input from several well-known researchers in the field of air pollution. The participants in the symposium all agreed with CARB's conclusion on the PM-mortality relationship. Symposium participants included:

- 1) John Balmes, UC San Francisco
- 2) Bert Brunekreef, Utrecht University
- 3) John R. Froines, University of California, Los Angeles
- 4) Daniel S. Greenbaum, Health Effects Institute
- 5) Michael Jerrett, UC Berkeley
- 6) Michael Kleinman, UC Irvine;
- 7) Daniel Krewski, University of Ottawa
- 8) Michal Krzyzanowski, World Health Organization
- 9) Kent Pinkerton, UC Davis
- 10) C. Arden Pope III, Brigham Young University
- 11) Bart Ostro, OEHHA

Attachment J



Executive Director

Report

Leo Brown

A Regulatory Fraud or a Polluted Process – You Choose, It’s Only a Matter of Semantics!

Well, if you read the articles written by both Betty Plowman and President Tom Williamson in this month’s magazine, you now understand that there was and continues to be many abnormalities and problems associated with the CARB agency and their rulemaking process, specifically related to the diesel engine emissions rules. Few are surprised. Betty brought a number of interesting letters (and testimony) to my attention prior to and following the CARB On-road rule hearings, Dec. 11 & 12.

By far, the most interesting and disturbing communications to the Board was from a Professor at UCLA, James Enstrom. I won’t bother you by repeating what Betty and Tommy discovered about Enstrom’s credentials, but needless to say they are legitimate, impressive, and most importantly, highly relevant to these CARB rules. Particularly, Prof. Enstrom draws attention to the highly questionable science used in the creation, evolution and present regulatory status of the rules.

I have read through his Dec. 10th letter to the CARB Board (see pages 7-11) and now I’m working my way through all the supporting links. And anyone who makes this effort and doesn’t question the entire process and integrity of the public servants and appointed officials associated with the CARB rulemaking process is a fool! If this is an objective, balanced, and honest rulemaking process, then we are doomed as a state and country!

I would like to bullet each of the many procedural problems that Prof. Enstrom pointed out, but I’ll let you first read through his letter and you can decide for yourself if the industry was treated fairly.

Frankly, I’m disappointed and a little ashamed that I was so naive to believe that there may have been some integrity in this governmental process. Isn’t it ironic that with all the partisan political discourse over the last 8-years, we now have a senator from Illinois who will become president and who states that one of his heroes was a fellow Illinois senator and President, Abraham Lincoln, who never let the world forget that the Civil War involved an even larger issue – freedom. In a moving dedication of the military cemetery at Gettysburg in 1863, Lincoln stated this famous phrase, “that we here highly resolve that these dead shall not have died in vain – that this nation, under God, shall have a new birth of freedom – and that government of the people, by the people, for the people, shall not perish from the earth.”

I guess that the “for the people” Lincoln was talking about 145 years ago has evolved into “for the zealot environmentalist movement people” because they somehow have a higher cause than the rest of us and thus can justify forcing their agenda and control on those with the most to lose. There is no freedom here and that was obvious to me two years ago when CARB’s off-road rule was similarly passed. I don’t believe that we should stand by and let this happen!

Interestingly, as I look back at the hearings, I don’t recall one trucker or trucking company representative not saying that they were 100% supportive of clean air and removing the dirtiest trucks from the road. They just wanted the rule to be fair and not a financial burden to their businesses. Well, there was no fairness in this rule and we’ll soon know what the financial burden really is.

President elect Obama ran on a platform based on change – we should be asking the same from CARB!

I propose as Americans that we do whatever it takes to see that we receive justice from this abysmal experience. The rule doesn’t go into effect for two years; so, we can roll-over or demand changes and justice! I know what I’m going to do – what are you going to do?

In Related News

The Governor also appointed Ken Yeager as new member to the CARB Board on January 6th. Ken Yeager, 56, of San Jose, has been appointed to the California Air Resources Board. He has served on the Santa Clara County Board of Supervisors since Dec. 2006 and previously served on the San Jose City Council from 2001 to 2006. Since 1991, Yeager has been a faculty member of the Department of Political Science at San Jose State University, and from 1987 to 1991, he was a graduate assistant at Stanford University. He is a member of the Bay Area Air Quality Management District, Association of Bay Area Governments, California State Association of Counties Climate Change Taskforce, Santa Clara County Health Authority, Valley Transportation Authority and Metropolitan Transportation Commission. Yeager earned Doctor of Philosophy and Master of Arts degrees in education from Stanford University and a Bachelor of Arts degree in political science from San Jose State University. This position requires Senate confirmation and there is no salary. Yeager is a Democrat.

President Elect Obama Seeks Aggressive Economic Stimulus Plan, \$800-billion

Facing a global economic crisis and record U.S. job losses (2-million+), President-elect Obama and congressional leaders agreed Jan. 4th on broad aspects of what’s sure to be the largest short-term economic-stimulus plan the nation has ever seen. They promised to pass legislation quickly.

Democratic leaders said they’d immediately push the ambitious package. The president-elect is proposing \$800 billion, two-year package that includes about \$300 billion in tax cuts or credits, with an emphasis on low- and middle-income earners.

Under Obama’s plan, the key tax provision would be \$500-per-individual or \$1,000-per-couple rebates for most taxpayers. Instead of mailed checks – the rebate method that the Bush administration used in a failed bid to spark the economy last year – the amount would be distributed by withholding less from paychecks over a period of months. To read his entire remarks on this plan go to: http://change.gov/newsroom/entry/dramatic_action/

The 111th Congress convened on Jan. 6th, and Democrats will have large majorities. Obama will be sworn in as the 44th president on Jan. 20th. Democrats once hoped to have the stimulus ready by

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Re: Scientific Reasons to Postpone Adoption of Proposed STATEWIDE TRUCK AND BUS REGULATIONS (<http://www.arb.ca.gov/regact/2008/truckbus08/truckbus08.htm>)

Dear Board Members:

I am writing to describe important scientific reasons that must be addressed regarding the health effects of diesel particulate matter in California before the proposed "STATEWIDE TRUCK AND BUS REGULATIONS" are adopted.

These comments add to my previous public comments, which were submitted on April 22, 2008 (http://www.arb.ca.gov/lists/erplan08/2-carb_enstrom_comments_on_gmerp_042208.pdf), on July 11, 2008 (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf), and on October 1, 2008 (http://www.arb.ca.gov/lists/verdev2008/33-32-carb_enstrom.pdf).

These new comments describe serious scientific deficiencies in the final October 24, 2008 CARB Staff Report "Methodology for Estimating Premature Deaths Associated with Long-Term Exposures to Fine Airborne Particulate Matter in California" (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_final.pdf).

This CARB Staff Report and the very similar May 22, 2008 CARB Draft Staff Report with the same title (<http://www.arb.ca.gov/research/health/pm-mort/pm-mortdraft.pdf>) have been used as a primary public health justification for reducing diesel particulate matter in California.

These reports have been prominently cited in the proposed STATEWIDE TRUCK AND BUS REGULATIONS, particularly in Appendix D: Health Impacts from On-Road Diesel Vehicles (<http://www.arb.ca.gov/regact/2008/truckbus08/appd.pdf>) and in Appendix E: Health Risk Assessment for On-Road Diesel Trucks (<http://www.arb.ca.gov/regact/2008/truckbus08/appe.pdf>).

To document the serious scientific deficiencies in the CARB Staff Report, I have identified and described six specific examples of serious errors and misrepresentations.

Example 1: Scientific Qualifications of CARB Staff Report Authors

List of authors on third title page:

Project Coordinator and Lead Author

Hien T. Tran, Ph.D.

Contributing Authors

Álvaro Alvarado, Ph.D.

Cynthia Garcia

Nehzat Motallebi, Ph.D.

Lori Miyasato, Ph.D.

William Vance, Ph.D.

Response:

Because of my concerns about the unsatisfactory and unprofessional way in which the 148 pages of public comments in response to the May 22, 2008 CARB Draft Staff Report (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf) were incorporated into the October 24, 2008 CARB Staff Report above, I have investigated the scientific qualifications of the report authors. My search of PubMed (<http://www.ncbi.nlm.nih.gov/sites/entrez/>)

identified only two peer reviewed papers by lead author Hien T. Tran. Furthermore, NONE the peer reviewed papers by Tran and the five contributing authors have been on topic of their report, fine particulate matter (PM2.5) and mortality in California.

Dr. S. Stanley Young of the National Institute of Statistical Sciences wrote to Governor Arnold Schwarzenegger regarding the May 22, 2008 CARB Draft Staff Report. In response, California EPA Secretary Linda S. Adams wrote a November 4, 2008 letter to Dr. Young (<http://www.scientificintegrityinstitute.org/Adams110408.pdf>). The Adams letter makes the following statement "Regarding the professional background of the authors, the lead author and project coordinator, Hien Tran, holds a doctorate degree in statistics from the University of California at Davis . . ."

However, I have determined from the UC Davis Office of the University Registrar and the UC Davis Department of Statistics that Hien Tran holds NO Ph.D. in statistics from UC Davis. Also, I searched ProQuest Dissertation Express (<http://disexpress.umi.com/dxweb#search>) and found NO evidence of a dissertation on any subject from any university awarded to the Hien T. Tran employed by CARB. ProQuest UMI Dissertation Publishing has been publishing dissertations and theses since 1938 and has published over 2 million graduate works from graduate schools around the world (<http://www.proquest.com/en-US/products/dissertations/>). Although Tran is shown with a Ph.D. in the draft and final reports and in the December 7, 2007 CARB Research Division Organizational Chart (<http://www.arb.ca.gov/html/org/orgrd.htm>), most citations of Tran in documents and meetings on the CARB website identify him as Mr. Hien Tran (<http://www.arb.ca.gov/db/search/search.htm>). It is very important to have Tran clarify the actual status and nature of his alleged Ph.D. degree. This issue has direct relevance to the honesty of Tran and to the scientific integrity of the draft and final reports on which he is the lead author.

Example 2: Review Process for CARB Staff Report

Paragraph from Executive Summary:

"The methodologies and results presented in this report have been endorsed by our scientific advisors, Dr. Jonathan Levy of Harvard University, Dr. Bart Ostro of the Office of Environmental Health Hazard Assessment, and Dr. Arden Pope of Brigham Young University. This report underwent an external peer review by experts selected through an independent process involving the University of California at Berkeley, Institute of the Environment. The results of the peer review process have been incorporated into this report. In addition, all public comments received on the May 22, 2008 draft version of the report have been incorporated into this staff report. Specific responses to individual comments are addressed in Appendix 5."

Response:

Based on my November 12, 2008, 11 AM telephone conversation with Hien Tran, only the CARB Draft Staff Report underwent external peer review. This agrees with the posted CARB Peer Review Committee Background (<http://www.arb.ca.gov/research/health/pm-mort/prc.htm>). The final CARB Staff Report and the 148 pages of public comments were never shown to the external peer reviewers. Consequently, the final report does not contain all the changes that are warranted based on the public comments. Note that the Executive Summary of the final report is virtually identical to the Executive Summary of the draft report. I do not believe that the external peer reviewers would have approved the final report as written if they had seen the public comments. The final report should be sent to and fully evaluated by the external peer reviewers before it is used by CARB as public health justification for new diesel truck regulations.

CONTINUED ON PAGE 8

Example 3: Geographic Variation of Relationship Between PM 2.5 and Deaths in Cohort Studies

Paragraph from pages 25-26:

"Other important screening criteria include a desire for geographic appropriateness. This does not necessarily mean that only studies in California can be used for risk evaluations in California, but it means that significant factors that vary geographically should be addressed. This can occur at multiple levels. For example, a study in a developing country may not be directly applicable to the U.S., due to differences in age distributions, underlying disease patterns, pollutant composition, standard of health care, and many other factors. Within the U.S., regional differences could occur if the composition of PM2.5 differed significantly and more/less toxic agents could be identified, or if concentration-exposure relationships differed significantly (i.e., due to differences in air conditioning prevalence). While there are some noticeable differences between California and other states in terms of climate and concentrations of PM constituents, there is little evidence for California's relative risk to be differentiated from the U.S. average. More explicitly, there is not adequate evidence at present regarding the quantitative differential toxicity of different particle constituents, and national and regional information about exposure-concentration differentials, to make any formal adjustments."

Response:

There is substantial evidence from six different sources that there is substantial geographic variation in the relationship between PM2.5 and deaths within the United States and/or that there is little or no current relationship between PM2.5 and deaths in California:

1) Figure 21 "Fine Particles and Mortality Risk" on page 197 of the 2000 HEI Reanalysis Report by Krewski et al. shows "medium mortality" in California: "0.711<relative risk of mortality<0.919". This finding is based the HEI analysis of 1982-1989 deaths in the ACS 1982 Cancer Prevention Study (CPS II) cohort. Figure 21 has been discussed in my April 22, 2008, July 11, 2008, and October 1, 2008 public comments cited above and in my June 1, 2006 *Inhalation Toxicology* response (<http://www.scientificintegrityinstitute.org/IT060106.pdf>).

2) Pages 6-265 and 6-266 of March 2001 US EPA Second External Review Draft Air Quality Criteria for Particulate Matter Volume II (EPA 600/P-99/002bB) (<http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=20810>) contain the following sentences: "The overlay of mortality with air pollution patterns is also of much interest. The spatial overlay of long-term PM2.5 and mortality (Krewski et al., 2000; Figure 21) is highest from southern Ohio to northeastern Kentucky/West Virginia, but also includes a significant association over most of the industrial midwest from Illinois to the eastern non-coastal parts of North Carolina, Virginia, Pennsylvania, and New York. . . . The apparently substantial differences in PM10 and/or PM2.5 effect sizes across different regions should not be attributed merely to possible variations in measurement error or other statistical artifact(s). Some of these differences may reflect: real regional differences in particle composition or co-pollutant mix; differences in relative human exposures to ambient particles or other gaseous pollutants; sociodemographic differences (e.g., percent of infants or elderly in regional population); or other important, as of yet unidentified PM effect modifiers."

3) Slide 46 in the July 23, 2001 EPA CASAC presentation by Dr. Lester D. Grant shows no relationship between PM2.5 and deaths in the "West" based on the 2000 HEI Reanalysis (ACS CPS II cohort). For further details read pages S-10 and S-11 of the July 11, 2008 public comments by Jon M. Heuss (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf and <http://www.scientificintegrityinstitute.org/Heuss071108.pdf>) and

examine the full EPA CASAC presentation by Grant (<http://www.scientificintegrityinstitute.org/Grant072301.pdf>).

4) My December 15, 2005 *Inhalation Toxicology* paper, "Fine Particulate Air Pollution and Total Mortality Among Elderly Californians, 1973-2002," showed no relationship between PM2.5 and deaths in 11 California counties in the California Cancer Prevention Study (CA CPS I) cohort during 1983-1992 and 1993-2002 (<http://www.scientificintegrityinstitute.org/IT121505.pdf>).

5) The August 12, 2008 *Environmental Health Perspectives* paper by Drs. Scott L. Zeger, Francesca Dominici, Aidan McDermott, and Jonathan M. Samet, "Mortality in the Medicare Population and Chronic Exposure to Fine Particulate Air Pollution in Urban Centers (2000-2005)" (<http://www.ehponline.org/members/2008/11449/11449.pdf>). Page 1617 of this paper states: "A provocative finding is that the MCAPS data show no evidence of a positive association between ZIP code-level PM2.5 and mortality rates for the 640 urban ZIP codes in the western region. This lack of association is largely because the Los Angeles basin counties (California) have higher PM levels than other West Coast urban centers, but not higher adjusted mortality rates." The results for the western region [California, Oregon, and Washington] are dominated by those for California, since 468 (73%) of the 640 zip codes for the western region are in California. This paper is the published version of the January 2007 Johns Hopkins University Biostatistics Working Paper 133 (<http://www.bepress.com/jhubiostat/paper133/>), which has similar findings based on 2000-2002 Medicare Cohort Air Pollution Study (MCAPS) data.

6) Additional results are found in the U.S. Centers for Disease Control (CDC) WONDER data base for U.S. mortality during 2000-2005 (<http://wonder.cdc.gov/cmf-icd10.html>). This interactive national mortality data base shows that, compared with the 2000-2005 United States total ageadjusted death rate, the California rate is 9% lower and the Los Angeles County rate is 11% lower. These results are consistent with the finding in the 2008 *EHP* paper that total death rates are not higher in the Los Angeles basin counties. In addition, the relatively low total death rate for California does not support the notion that diesel particulate matter or fine particulate matter causes premature deaths in California. California has the fourth lowest total age-adjusted death rate among all states.

Example 4: Geographic Variation of Relationship Between PM 2.5 and Deaths in Time Series Studies

Paragraph from page 26:

"National-scale epidemiological studies addressing short-term effects of PM exposure using time-series analyses do not demonstrate an appreciable difference between California and other states or regions in relative risks. For example, in a publication on 91 U.S. cities addressed by the National Mortality Morbidity Air Pollution Study, Dominici et al. (2005) showed that the southern California relative risk was slightly higher than the national average, while that of the Northwest (which included northern California as well as Oregon, Washington) was slightly lower than the national average. A simple average of the southern California and Northwest relative risks gives a value almost identical to the national average. A recent publication investigating PM2.5 mortality in 27 large communities around the U.S. (Franklin et al. 2007) found that the C-R function was above the national average for San Diego and Sacramento but below the national average and insignificant for Riverside and Los Angeles. It should be noted that the cohort study by Jerrett et al. (2005a) did find a statistically significant effect for the Los Angeles metropolitan area, once exposure was estimated with more geographic precision. Thus, the available evidence does not provide any rationale for excluding relative risks derived from studies across the U.S. to California."



Response:

The results of the two time series studies cited are inaccurately described. Dominici et al. (2005) presented only PM10 results and made no mention of PM2.5 in California or elsewhere in the U.S. (<http://www.scientificintegrityinstitute.org/JTEH2005.pdf>). It is entirely inappropriate and misleading to cite this study as being relevant to PM2.5 relationships throughout the U.S. The Franklin et al. (2007) relative risks (RR) are described inappropriately. A properly weighted average of results for the 5 counties in California yields RR = 1.0009 (0.9972-1.0046), where as the results for all 27 U.S. counties analyzed in the paper showed RR=1.0121 (1.0029-1.0214) (<http://www.scientificintegrityinstitute.org/JESE2005.pdf>). Thus, the results of Franklin et al (2007) support the above evidence of geographic variation in the relationship between PM2.5 and deaths in the U.S., with no current relationship in California.

Example 5: Misrepresentation of July 11, 2008 CARB Teleconference Organized by Hien Tran

Pages A-95 and A-96 of
"Appendix 5 (Public Comments and Staff Responses)

In this appendix, we summarize the key comments received from the public on the May 22, 2008 draft report, and our responses to them."

"1. Choice of studies for draft report - Draft report emphasized positive studies and omits consideration of negative chronic mortality studies (i.e. Veteran's study and Enstrom (2005)). In addition, many of the studies chosen were not California-centric. . . .

Some commenters suggested that CARB put greater emphasis on the Enstrom (2006) study. CARB staff convened a teleconference with Dr. Enstrom and several prominent epidemiologists to discuss his findings. We amended that portion of the report to reflect the discussion, which focused on two main issues: the time of follow-up since initial enrollment of the cohort, and the age of the cohort."

Response:

The above statement totally misrepresents the July 11, 2008 teleconference, which focused on the full July 11, 2008 agenda that I prepared in advance of the teleconference (<http://www.scientificintegrityinstitute.org/AgendaFull071108.pdf>). While the age of the CA CPS I cohort used in my 2005 paper was noted during the discussion, the long follow-up period of my study was not discussed. Although my study used an elderly cohort, it is important to note that about 75% of all California deaths occur among residents 65+ years of age. The primary purpose of the teleconference was to correct the mischaracterization by CARB of my 2005 paper, to address the points made in my 2006 response to criticism of my 2005 paper, to address my April 22, 2008 CARB public comments, and to discuss my proposed calculation of California-specific relative risks in ACS CPS II cohort, the cohort used in the studies rated highest in the CARB Staff Report. The full text of my public comments submitted just after the teleconference are available on pages S-139 to S-141 of the complete July 11, 2007 CARB public comments (http://www.arb.ca.gov/research/health/pm-mort/pm-mort_supp.pdf and <http://www.scientificintegrityinstitute.org/PMDeathsEnstrom071108.pdf>).

Example 6: Repeated Failure to Obtain California-specific Results from ACS CPS II Cohort

Page A-104 of "Appendix 5 (Public Comments and Staff Responses)

"12. Pope/American Cancer Society (ACS) study

Some comments are focused on Figure 21, page 197 of Krewski et al. (2000) suggest a misunderstanding of the figure. The figure is a visual overlay of the mortality and the PM2.5 surfaces as spatially modeled in one of the ACS sensitivity analyses. The figure shows that in California, the majority

of the most populous regions have low to medium levels of PM2.5, and medium mortality. The exception is the Fresno area, and moving east into the Sierra Nevada Mountains. The description of the figure is on page 198, and states: "For the medium levels of pollution, intersections exist (referring to the two spatial surfaces) for high and medium mortality rates, but not for low mortality rates. Only the low fine particle category intersects with the low mortality rate category." The point of the figure was to investigate the spatial concordance between high PM2.5 and high mortality areas, not to make a statement as to specific risk in any area of the country.

We appreciate the commenter's suggestion for calculation of California-specific relative risks using the ACS CPS II cohort data. However, CARB staff does not own or have access to this data, and consequently can not perform the requested calculations. While CARB has funded projects that use the CPS II data, the agency has no role in obtaining the necessary data. In terms of studies on the relationship between long-term exposure to PM2.5 and mortality, recent research (Jerrett et al., 2005a) into spatial variability in PM2.5 concentrations across regions, for example the Los Angeles area, shows that exposure assessments based on county level monitoring, as used in Enstrom (2005) and the various Pope et al. papers (1995, 2002, 2004), do not adequately represent population exposure, and introduce a bias toward the null. Consequently, we question the utility of an analysis that relies on what is not currently viewed as the best exposure estimation methodology."

Response:

As discussed points 1-3 in Example 3, there is no "misunderstanding" of Figure 21 from the HEI Reanalysis. Figure 21 shows clear geographic variation with RR below 1.00 in California. Slide 46 in the Grant EPA presentation confirms the geographic variation found in the ACS CPS II cohort, with RR = 0.91 (0.71-1.17) in the West (PM2.5 Excess Risk = -9%) (<http://www.scientificintegrityinstitute.org/Heuss071108.pdf>).

Based information obtained from Hien T. Tran and the July 21, 2008 letter to me by CARB Chair Mary D. Nichols (<http://www.scientificintegrityinstitute.org/Nichols072108.pdf>), CARB has an ongoing contract involving Dr. Michael Jerrett of UC Berkeley, Dr. C. Arden Pope of Brigham Young University, and Dr. Michael J. Thun of ACS to fully analyze the relationship of PM2.5 to deaths in California. The Pope 1995, Pope 2002, and Jerrett 2005 epidemiologic studies are all based on the ACS CPS II cohort and are the primary studies that have been used in the CARB Staff Report to estimate the relationship of PM2.5 to deaths in California. Thus, it is important that the ongoing analyses examine the relationship in several ways, including those that I proposed on July 11, 2008 in my teleconference involving Tran, Jerrett, and Pope (<http://www.scientificintegrityinstitute.org/AgendaFull071108.pdf>).

Unfortunately, Pope has not responded to my August 20, 2008 email request to conduct my proposed analyses and Thun has not responded to my December 1, 2008 request to conduct these analyses. In the best interest of all Californians, particularly those impacted by CARB regulations, CARB should make public its ongoing contract with Jerrett, Pope, and Thun and should require that all analyses of the ACS CPS II cohort data are conducted in a complete and transparent manner. Although "CARB staff does not own or have access to this data," CARB can require that the requested analyses be completed as part of their contract.

The serious errors and misrepresentations that exist in the CARB Staff Report, as illustrated by the six examples above, raise serious doubts about the honesty of the lead author, Hien T. Tran, and the scientific integrity of this report. The major issues described above must be satisfactorily addressed before this report is used as a primary public health justification for the proposed Statewide Truck and Bus Regulations. Given the extensive evidence that

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