April 22, 2008

California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812
http://www.arb.ca.gov/

Re: Agenda Item #08-4-7: Update the Board on Implementation of the Emission Reduction Plan for Ports and Goods Movement (GMERP) (http://www.arb.ca.gov/board/ma/2008/ma042408.htm)

Dear Board Members:

I am writing as a UCLA epidemiologist with 35 years of experience publishing high quality peer reviewed research, including important research on air pollution and mortality in California. Below I present evidence on three major points that are directly relevant to Agenda Item #08-4-7. I request that this evidence be thoroughly and objectively evaluated by all members of the Board before there is further implementation of the GMERP.

1) Exaggerated "Premature Mortality" Calculation in March 21, 2006 GMERP Appendix A "Quantification of the Health Impacts and Economic Valuation of Air Pollution from Ports and Goods Movement in California" (http://www.arb.ca.gov/planning/gmerp/march21plan/appendix_a.pdf)

My December 15, 2005 paper, "Fine particulate air pollution and total mortality among elderly Californians, 1973-2002" (*Inhalation Toxicology* 2005;17:803-816), along with a cover letter, was submitted to CARB on January 9, 2006 for consideration regarding the GMERP (http://www.arb.ca.gov/planning/gmerp/dec1plan/gmerp_comments/enstrom.pdf). My paper, which found no relationship between fine particulate matter ($PM_{2.5}$) and mortality in elderly Californians after 1982, is directly relevant to the "PM-related Mortality" calculation described on pages A-29 and A-30 of Appendix A. Although it represents the most detailed and comprehensive analysis of $PM_{2.5}$ and mortality ever published on a California cohort, my paper (Enstrom, 2005) was not included in the calculation of premature deaths, largely because of the claim that "this study has generated a great deal of controversy . . . ." However, the nature of the controversy was not specified and no specific justification for exclusion was given. Instead, primary emphasis was given to the November 1, 2005 paper "Spatial Analysis of Air Pollution and Mortality in Los Angeles" by Michael Jerrett et al. (*Epidemiology* 2005;16:727-736), which found an unusually large relationship between $PM_{2.5}$ and mortality in the Los Angeles basin after 1982. This led to the Appendix A estimate that particulate matter is responsible for 2,400 premature California deaths per year (page A-6). However, the Jerrett results are inconsistent with both my 2005 results and the 2000 US map of "fine particles and mortality risk" by Daniel Krewski et al. (http://pubs.healtheffects.org/view.php?id=6, Part II, page 197). The 2000 US map, which is shown at the end of this letter, indicates only "medium mortality" risk in the Los Angeles basin associated with fine particles. The inconsistencies between the results in my paper, the 2000 US map, and the Jerrett paper must be resolved before definitive conclusions can be drawn about the number of premature deaths in California that might be due to particulate matter.

To further illustrate how my results have not been given proper consideration by CARB staff or CARB, the March 23, 2006 Staff Presentation to CARB made absolutely no mention of my study (ftp://ftp.arb.ca.gov/carbis/board/books/2006/032306/06-3-1pres.pdf). In particular, slide 14 of the presentation, "Stronger Relationship Between Particulate Matter (PM) and Premature Death," cites eight major studies, including the Jerrett study, but omitted my study entirely. Then slides 15-23 described only the Jerrett study, with no mention any contrary evidence. Inclusion of all relevant evidence, particularly California-specific evidence, is critical because the estimation of premature deaths involves great uncertainty. For instance, the November 2005 GMERP Appendix A did not rely on the Jerrett study and calculated that there were only 750 premature deaths per year (see pages A-5, A-40, and A-41). The November 2005 GMERP Appendix A is no longer posted, but can be found on my website (http://www.scientificintegrityinstitute.org/GMERPAppA120205.pdf). CARB must exercise appropriate reservations regarding the Appendix A analyses, because they represent the assessment of the CARB staff and they have not been subjected to the same kind of independent critical evaluation that the peer reviewed Enstrom and Jerrett papers have received.

2) Controversial History Regarding Declaration of Diesel Exhaust as a Toxic Air Contaminant

After about 10 years of intense controversy, diesel exhaust was declared to be a toxic air contaminant (TAC) by the CARB Scientific Review Panel (SRP) on Toxic Air Contaminants on April 22, 1998 (http://www.arb.ca.gov/srp/mt042298.htm) . A summary of the controversy was given in the April 23, 1998 Los Angeles Times article "Diesel Exhaust Found to Pose Strong Cancer Risk; State must decide whether to declare fumes a toxic threat requiring safeguards. Business leaders attack report" (http://proquest.umi.com/pqdweb?did=28940780&sid=1&Fmt=3&clie%20ntId=1564&RQT=309&VName=PQD). Then, on August 27, 1998 the CARB declared diesel exhaust particulate matter to be a TAC. This action was taken after industry groups, including trucking and oil companies, agreed to end years of intense opposition to CARB action on diesel as long as only diesel exhaust particulate matter, not diesel exhaust as a whole, was identified as a TAC. This action was described in an August 28, 1998 Los Angeles Times article "Board Declares Diesel Soot a Cancer-Causing Pollutant" (http://proquest.umi.com/pqdweb?did=33480494&sid=1&Fmt=3&clie%20ntId=1564&RQT=309&VName=PQD).

Since 1998, diesel exhaust and diesel exhaust particulate matter levels in California and the US have declined substantially. These improved air quality trends are documented in the January 2008 book "Air Quality in America" by Joel M. Schwartz and Steven F. Hayward (http://www.aei.org/books/bookID.918/book_detail.asp). Indeed, tremendous progress has been made in improving overall air quality during the past 50 years and that this progress must be acknowledged in current assessments by CARB. In addition, there is substantial new epidemiologic evidence relevant to the health effects of diesel exhaust that was not considered when the 1998 TAC declaration was made. For instance, the 2007 paper on mortality in the unionized U.S. trucking industry by Francine Laden et al. (*Environ Health Perspect* 2007;115:1192-1196), found that 36,000 diesel truck drivers had death rates from all causes and all cancer that were substantially below the rates among US males, as might be expected in a working population, likely due to the "healthy worker effect." Furthermore, unlike some earlier evidence, the lung cancer death rate was not elevated among these truckers (http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1940099&blobtype=pdf). This new evidence must be fully evaluated and included in the assessment of the current health effects of diesel exhaust.

3) The California Health and Safety Code and Appointments to the Scientific Review Panel (http://caselaw.lp.findlaw.com/cacodes/hsc/39670-39671.html)

California Health and Safety Code (CHSC) Sections 39670-39671 define the CARB Scientific Review Panel on Toxic Air Contaminants and the specific way in which the nine members of the panel are to be appointed (http://caselaw.lp.findlaw.com/cacodes/hsc/39670-39671.html). In particular, each panel member is appointed "for a term of three years" and "the terms of three members expire each year." However, although I have been receiving CARB listserv messages continuously since 2005, I have never seen any announcement requesting nominations or applications for new panel members. Indeed, based on a comparison of the April 22, 1998 SRP transcript (http://www.arb.ca.gov/srp/mt042298.htm) with the CARB list of current SRP members (http://www.arb.ca.gov/srp/public.htm), five SRP members have served for at least ten years. I believe that the intent of the CHSC is timely turnover on the SRP, not repeated reappointment of the same panel members.

On June 13, 2005 I submitted eight pages of detailed evidence to CARB questioning the fitness and objectivity of a particular SRP member who has made unwarranted and unprofessional attacks on me and my epidemiologic research since 2003. According to CARB policy, my submission was supposed to have been shown to all SRP members well before they took an important vote on June 24, 2005. However, based on the June 24, 2005 SRP transcript, my "communication" was not distributed to all SRP members until after the vote was taken (http://www.arb.ca.gov/srp/srp0624.pdf). Instead of having the SRP members decide, CARB legal staff somehow decided that the panel member in question could "fairly and objectively" participate in the panel deliberations. My "communication" was not included as part of the SRP transcript and has never been posted as a public comment.

Furthermore, this panel member was recently reappointed to another three-year term, in spite of my detailed evidence questioning his fitness and in spite of the fact that he has served on the SRP since 1986. Lack of turnover, as clearly specified in the CHSC, has denied many other qualified California scientists an opportunity to be on the SRP and to provide new perspective and expertise on the important issues related to TAC assessment. I request that CARB now post my June 13, 2005 "communication" among the public comments. If necessary, I can resubmit my "communication."

Conclusions and Requests to CARB

As a California epidemiologist who has spend the past 35 years conducting research on risk factors related to the health of Californians, I believe that the mortality effects of diesel exhaust on the general public have been exaggerated by the April 22, 1998 SRP decision and by the March 21, 2006 GMERP Appendix A. Furthermore, I believe that the GMERP is having an adverse impact on the California economy, is driving essential business out of California, and is generating unwarranted lawsuits. To illustrate impacts of the GMERP, read about recent efforts to establish a new port in Baja California because of the environmental regulations and constraints on development associated with the existing ports in Southern California (http://articles.latimes.com/2008/03/25/news/fi-mexport25) and recent threats by environmental activists to sue the Port of Long Beach over diesel emissions (http://www.latimes.com/news/science/environment/la-me-port7feb07,0,3674984.story). In response to my concerns, CARB should promptly post announcements soliciting new candidates for the three SRP positions that expire at the end of 2008. Furthermore, CARB should undertake fully updated

assessments of the relationship between fine particles and mortality in California and of the overall health effects of diesel exhaust in California. At a time when the California economy is facing major challenges and the state budget has a large deficit, the focus should not be on implementing the GMERP but on accurately and objectively assessing its health and economic consequences.

Thank you very much for your consideration regarding this important matter.

Sincerely yours,

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Map reprinted from Krewski et al (2000) (http://pubs.healtheffects.org/view.php?id=6, Part II, page 197) or (http://www.scientificintegrityinstitute.org/IT060106.pdf , page 513)

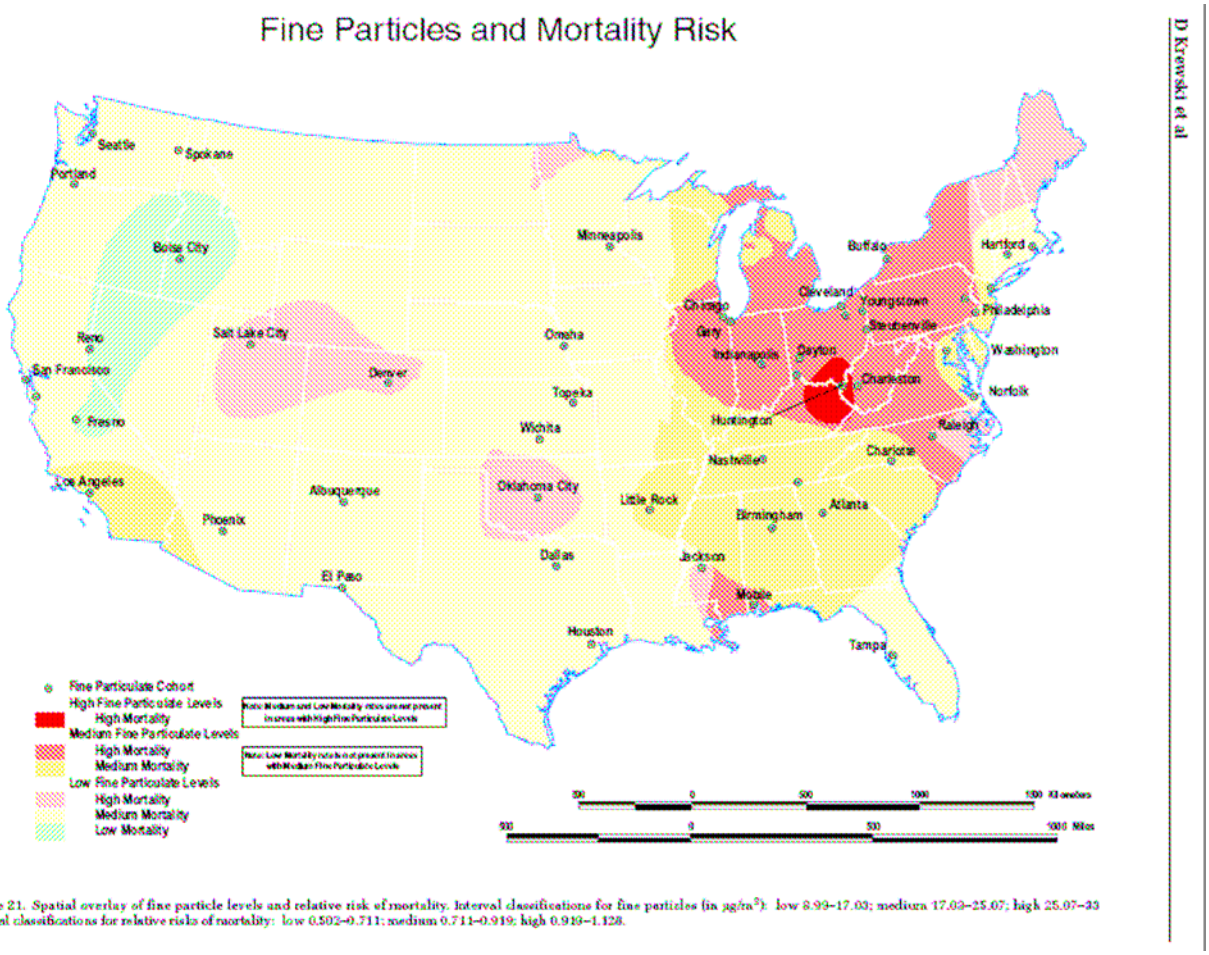

Figure 21. Spatial overlay of fine particle levels and relative risk of mortality. Interval classifications for fine particles (in $\mu g/m^3$): low 8.93–17.03; medium 17.03–25.07; high 25.07–33 Interval classifications for relative risks of mortality: low 0.502–0.711; medium 0.711–0.919; high 0.919–1.128.