

January 11, 2016

President Andrew M. Schwarz
Industrial Economics, Incorporated (IEc)
ams@indecon.com

Dear President Schwarz,

I greatly appreciate your January 7, 2016 response to my January 4, 2016 request to IEc Co-Founder Michael T. Huguenin regarding my December 15, 2015 letter to IEc Principal Henry A. Roman (<http://scientificintegrityinstitute.org/Roman121515.pdf>). However, regarding your sentence “I am informed by SCAQMD that as of January 6, 2016, the District had not received any comments from you on this matter,” you have been given DELIBERATELY FALSE information by SCAQMD. I submitted November 16, 2015 comments to Mr. Joseph C. Cassmassi (<http://scientificintegrityinstitute.org/Cassmassi111615.pdf>) and July 31, 2015 comments to Dr. Jean J. Ospital (<http://scientificintegrityinstitute.org/Ospital073115.pdf>). In addition, I have submitted relevant public comments and research findings to SCAQMD for more than a decade and they have ALL been IGNORED or DISMISSED. This is the primary reason why I have contacted IEc and I consider my contact with IEc to be quite appropriate.

My November and July comments make substantive points on health effects, measurements, exposures, sources, and CHSC requirements that are directly relevant to the IEc documents that have been prepared for the 2016 SCAQMD AQMP Socioeconomic Analysis. I have not received an acknowledgement or response from any of the numerous SCAQMD staff members who received my comments, all of whom have been copied on this message. Thus, I request that the SCAQMD staff members below respond to you and me after reading all of my comments.

Also, I request that you obtain from George D. Thurston, D.Sc., the COMPLETE files for the 2007-2013 SCAQMD Agreement No. R06-337 Project “Spatiotemporal Analysis of Air Pollution and Mortality in California Based on the American Cancer Society Cohort” and the 2009-2015 NIH-AARP STaRs Project Number 200903-0012 “Long-Term Air Pollution Exposure and Mortality.” Dr. Thurston was a key investigator on these projects and both of them found NO relationship between PM_{2.5} and total mortality in California or the SCAB. Dr. Thurston must reveal to you and me the underlying documents and COMPLETE results for these two projects, without FOIA requests. Please examine my November 22, 2015 Table of detailed evidence of NO relationship (RR = 1.00) between PM_{2.5} and total mortality in California. In spite of overwhelming NULL evidence, the SCAQMD leadership makes this alarmist, unsubstantiated, and false claim (<http://scientificintegrityinstitute.org/TRTB102111.mov>): “The fact is that according to the best estimates nearly five thousand Southern Californians die prematurely each year due to air pollution.”

All final IEc documents prepared for the 2016 SCAQMD AQMP must properly summarize the overwhelming evidence, which is shown in my Table, that there are NO premature deaths in the SCAB or California *caused* by PM_{2.5} or ozone. As per the stated IEc values (“the most intellectually honest basis for decision making is to let the evidence speak”), the IEc documents must base the health benefits and socioeconomic assessments in the SCAB on NO premature

deaths. Also, the IEc documents should state that there is NO established etiologic mechanism by which about one teaspoon of PM2.5 inhaled over a lifetime can *cause* premature deaths. Furthermore, the IEc documents should state that the SCAB has an age-adjusted total death rate that is lower than the rate in 49 states, which makes it totally implausible that the SCAB experiences premature or excess deaths *caused* by PM2.5 or ozone!

Finally, the IEc documents should be consistent with the findings in the 2016 AQMP that are required by CHSC Section 40471(b): “On or before December 31, 2001, and every three years thereafter [i.e., 2016], as part of the preparation of the air quality management plan revisions, the south coast district board, in conjunction with a public health organization or agency, shall prepare a report on the health impacts of particulate matter air pollution in the South Coast Air Basin. The south coast district board shall submit its report to the advisory council appointed pursuant to Section 40428 for review and comment. The advisory council shall undertake peer review concerning the report prior to its finalization and public release. The south coast district board shall hold public hearings concerning the report and the peer review, and shall append to the report any additional material or information that results from the peer review and public hearings.” (<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=40001-41000&file=40460-40471>).

We will soon learn if either of us get a substantive response from SCAQMD staff regarding this message. I will contact you after January 15, 2016 to discuss this matter further.

Thank you very much for your professionalism and cooperation.

Sincerely yours,

James E. Enstrom, Ph.D., M.P.H.
UCLA and Scientific Integrity Institute
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(310) 472-4274

cc:

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SCAQMD Experts on SCAB Air Pollution Health Effects:
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Date: Tuesday 12/15/2015 10:08 AM
To: Henry A. Roman <har@indecon.com>
From: James E. Enstrom <jenstrom@ucla.edu>
CC: George D. Thurston <George.Thurston@nyumc.org>;
Lisa A. Robinson <robinson@hsph.harvard.edu>; Eric D. Ruder <er@indecon.com>
Re: Request to Modify IEc Documents re 2016 SCAQMD AQMP

December 15, 2015

Henry A. Roman, M.S. (HSPH)
Principal
Industrial Economics, Incorporated (IEc)
har@indecon.com

Dear Mr. Roman,

This email letter is a follow-up to my unanswered December 11, 2015 telephone message to you regarding your December 10, 2015 SCAQMD STM RP Socioeconomic Session Presentation “Recommendation for Health Effects C-R and Valuation Function”

(<http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=STM RP Socio 121015>). I have overwhelming evidence that your draft IEc documents misrepresent and exaggerate the relationship of PM_{2.5} and ozone to total mortality in the South Coast Air Basin (SCAB) and California.

I am particularly concerned about the “IEc Literature Review of Air Pollution-Related Health Endpoints and Concentration-Response Functions for Particulate Matter: Results and Recommendations Draft Report December 4, 2015” (http://www.aqmd.gov/docs/default-source/Agendas/STM RP-Advisory-Group/december-2015/3a_draft_pm.pdf?sfvrsn=4) and the PPT “IEc Review of Health Endpoints and Economic Valuation for Socioeconomic Report on 2016 South Coast AQMP” (http://www.aqmd.gov/docs/default-source/Agendas/STM RP-Advisory-Group/december-2015/3f_stm pr presentation 121015.pdf?sfvrsn=4).

In 2012 I and other doctoral-level scientists submitted detailed public comments to SCAQMD, which are shown on pages 213-254 of the 2012 AQMP Appendix I Health Effects Document (<http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-carb-epa-sip-dec2012/2012-aqmp-carb-epa-sip-submittal-appendix-i.pdf>). These comments provide overwhelming evidence as of 2012 that there is NO relationship between PM_{2.5} and total mortality in California. The evidence that “Particulate Matter Does Not Cause Premature Deaths” is now even stronger, as summarized in my August 17, 2015 submission to *Science* (<https://www.nas.org/images/documents/PM2.5.pdf>).

You cited some of this NULL evidence in the September 21, 2006 IEc EPA Expert Elicitation Report (http://www3.epa.gov/ttnecas1/regdata/Uncertainty/pm_ee_report.pdf) and Dr. George Thurston has been well aware of this NULL evidence ever since he and I attended the February

26, 2010 CARB Symposium “Estimating Premature Deaths from Long-term Exposure to PM2.5” (http://www.arb.ca.gov/research/health/pm-mort/pm-mort-ws_02-26-10.htm). Furthermore, the September 15, 2015 *EHP* paper by Thurston, et al., found NO relationship between PM2.5 and total mortality during 2000-2009 in the publicly available NIH-AARP Diet and Health cohort (<http://ehp.niehs.nih.gov/1509676/>).

Thus, I request that you and/or Dr. Thurston notify me by December 21, 2015 that all final IEC documents prepared for the 2016 SCAQMD AQMP will cite the overwhelming NULL evidence described above and will state that PM2.5 and ozone have NO relationship to total mortality in the SCAB or California. If I do not receive such a notification by December 21, 2015, I will immediately thereafter begin explaining the deliberate misrepresentations and exaggerations contained in the draft IEC documents to SCAQMD Board Members, certain SCAQMD staff members, impacted SCAB business leaders, the U.S. House Science Committee, scientific colleagues, the press, and others who are interested in having regulatory policy in the SCAB and California based on the truth.

Thank you for your prompt attention to this important request.

Sincerely yours,

James E. Enstrom, Ph.D. (Stanford), M.P.H. (UCLA)
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cc: George D. Thurston, D.Sc. (HSPH) <George.Thurston@nyumc.org>
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From: James E. Enstrom [mailto:jenstrom@ucla.edu]
Sent: Monday, November 16, 2015 9:46 AM
To: 'Joe Cassmassi' <jcassmassi@aqmd.gov>
Cc: 'Xinqiu Zhang' <xzhang@aqmd.gov>; 'Kalam Cheung' <kcheung@aqmd.gov>;
'Sang-Mi Lee' <slee@aqmd.gov>; 'Chung Liu' <cliu@aqmd.gov>; 'Yifang Zhu' <yifang@ucla.edu>
Subject: Important Request re November 17 SCAQMD STMPR AG Agenda

November 16, 2015

Joe Cassmassi
Planning and Rules Director
SCAQMD 2016 Air Quality Management Plan (AQMP)
Scientific, Technical & Modeling Peer Review (STMPR) Advisory Group
jcassmassi@aqmd.gov

Dear Mr. Cassmassi,

I am submitting these written public comments to the STMPR Advisory Group and to the SCAQMD staff members who are presenting at the November 17, 2015 Modeling Session Meeting. I make four basic points that are highly relevant to the preparation of the 2016 AQMP, although none of these points are on the Modeling Session Agenda. I request that all four of my points be addressed by the STMPR Advisory Group and SCAQMD staff as soon as possible.

1) There is overwhelming evidence that the ambient levels of 8-hour ozone and 24-hour fine particulate matter (PM_{2.5}) throughout the South Coast Air Basin (SCAB), as measured by SCAQMD (<http://www.aqmd.gov/home/library/air-quality-data-studies>), are substantially below the current USEPA NAAQS of 75 ppb for 8-hour ozone and of 35 µg/m³ for 24-hour PM_{2.5} (<http://www3.epa.gov/ttn/naaqs/criteria.html>). For instance, on November 15, 2015, the entire SCAB had an ambient 8-hour maximum ozone exposure of 53 ppb. The November 15, 2015 forecast for ambient 24-hour PM_{2.5} exposure at 38 monitoring stations throughout the SCAB ranged from 10 to 21 µg/m³, with an average of 12.9 µg/m³.

2) There is overwhelming evidence that personal exposure to ozone and PM_{2.5} among the residents of the SCAB is much lower than the ambient exposure levels cited above. For instance, from June 1995 to May 1996 the average personal exposure of school children was 11.4 ppb in Upland and 13.9 ppb in mountain towns between Crestline and Running Springs (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1637960/pdf/envhper00304-0121.pdf>).

3) There is strong evidence that China is the source of a significant portion of the ozone (<http://news.sciencemag.org/earth/2014/09/china-blamed-u-s-ozone>) and PM_{2.5} (<http://blogs.wsj.com/chinarealtime/2010/12/01/california-pollution-made-in-china/>) in the SCAB and throughout California. Sources of ozone and PM_{2.5} that are outside of the SCAB need to be addressed in the 2016 AQMP.

4) Public hearings need to be held as soon as possible before the SCAQMD Board regarding the latest report and peer review on “the health impacts of particulate matter air pollution in the South Coast Air Basin,” in accordance with California Health and Safety Code Section 40471(b)

<http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=40001-41000&file=40460-40471>). Such hearings have been mandated every three years since 2001, but they have never been held before the SCAQMD Board Members. There is strong evidence that the health impacts of particulate matter in the SCAB are very minimal, as I have repeatedly stated to SCAQMD during the past decade.

In order to understand the importance of my request, please read recent comments critical of EPA, CARB, and SCAQMD (<http://www.scientificintegrityinstitute.org/BC110115091215.pdf>). These comments address both ozone and PM2.5 and have been published in the Wall Street Journal, the Los Angeles Daily News, the Bakersfield Californian, and the San Bernardino Sun. They include an op-ed by an SCAQMD Board Member and statements of concern by San Joaquin Valley Air Pollution Control Officer Seyed Sadredin.

Thank you very much for your prompt attention to my request.

Sincerely yours,

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Date: Fri, 31 Jul 2015 14:20:44 -0700
To: Jean J. Ospital <jospital@aqmd.gov>
From: "James E. Enstrom" <jenstrom@ucla.edu>
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Cc: Philip M. Fine <pfine@aqmd.gov>,Mohsen Nazemi <mnazemi@aqmd.gov>,
Ian MacMillan <imacmillan@aqmd.gov>,C. Arden Pope III <cap3@byu.edu>,
Jane V. Hall <jhall@fullerton.edu>

July 31, 2015

Jean J. Ospital, Dr.P.H.
SCAQMD Health Effects Officer
jospital@aqmd.gov

Dear Dr. Ospital,

I understand that you are retiring from SCAQMD today. I am going to make every effort to see that the next SCAQMD Health Effects Officer is a doctoral level epidemiologist or statistician who honestly and objectively evaluates and summarizes air pollution health effects evidence, particularly the evidence that applies to the South Coast Air Basin (SCAB). I plan to continue my efforts to correct the false and out of context health effects evidence contained in the 2003, 2007, and 2012 AQMPs and the 2008 MATES III and 2015 MATES IV. You are personally responsible for the inaccurate and exaggerated health effects contained in all of these documents. This faulty evidence has been used as the basis for countless SCAQMD regulations that are not justified on a scientific, public health, or economic basis. These SCAQMD regulations have had a severe adverse impact on the Exide Battery Recycling Plant in Vernon, the Exxon Mobil Refinery in Torrance, the World Logistics Center in Moreno Valley, thousands of truckers at the Ports of Los Angeles and Long Beach, and thousands of manufacturers throughout the SCAB.

The SCAB has age-adjusted total death rates and total cancer death rates that are lower than the corresponding rates in almost all of the 50 states. Furthermore, it has been known since the 2000 HEI Reanalysis Report, particularly by PM2.5 experts like Dr. Pope, that Los Angeles area residents have a relatively low absolute PM2.5 mortality risk. You have been fully aware of my concerns at least since our April 29, 2011 and July 6, 2011 personal meetings at UCLA and SCAQMD. In spite of this, you have continued to make exaggerated claims about the health effects of PM2.5, diesel PM, and ozone in the SCAB. Furthermore, you have never complied with California Health and Safety Code Section 40471 (b), which requires that before an AQMP is finalized and approved, the SCAQMD Governing Board must hold a public hearing on "the report and the peer review" regarding "the health impacts of particulate matter air pollution in the South Coast Air Basin."

Eventually, you and the others who have exaggerated the health effects of PM2.5, diesel PM, and ozone will be held accountable. Part of this accounting will come through the U.S. Congress, particularly by use of the Secret Science Reform Act, which has been approved by the House of Representatives and is awaiting a vote by the Senate. More details are provided in my June 11, 2015 Tenth International Conference on Climate Change Panel 8 presentation (<http://www.ustream.tv/recorded/63542583>).

Sincerely yours,

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Jane V. Hall, SCAQMD PM2.5 Premature Deaths Expert jhall@fullerton.edu

Table 1. Epidemiologic cohort studies of PM2.5 and total mortality in California, 2000-2015
Relative risk of death from all causes (RR and 95% CI) associated with increase of 10 µg/m³ in PM2.5

Krewski 2000 & 2010	CA CPS II Cohort	N=40,408	RR = 0.872 (0.805-0.944)	1982-1989
(N=[18,000 M + 22,408 F]; 4 MSAs; 1979-1983 PM2.5; 44 covariates)				
McDonnell 2000	CA AHSMOG Cohort	N~3,800	RR ~ 1.00 (0.95 – 1.05)	1977-1992
(N~[1,347 M + 2,422 F]; SC&SD&SF AB; M RR=1.09(0.98-1.21) & F RR~0.98(0.92-1.03))				
Jerrett 2005	CPS II Cohort in LA Basin	N=22,905	RR = 1.11 (0.99 - 1.25)	1982-2000
(N=22,905 M & F; 267 zip code areas; 1999-2000 PM2.5; 44 cov + max confounders)				
Enstrom 2005	CA CPS I Cohort	N=35,783	RR = 1.039 (1.010-1.069)	1973-1982
(N=[15,573 M + 20,210 F]; 11 counties; 1979-1983 PM2.5)				
			RR = 0.997 (0.978-1.016)	1983-2002
Enstrom 2006	CA CPS I Cohort	N=35,783	RR = 1.061 (1.017-1.106)	1973-1982
(11 counties; 1979-1983 & 1999-2001 PM2.5)				
			RR = 0.995 (0.968-1.024)	1983-2002
Zeger 2008	MCAPS Cohort “West”	N=3,100,000	RR = 0.989 (0.970-1.008)	2000-2005
(N=[1.5 M M + 1.6 M F]; Medicare enrollees in CA+OR+WA (CA=73%); 2000-2005 PM2.5)				
Jerrett 2010	CA CPS II Cohort	N=77,767	RR ~ 0.994 (0.965-1.025)	1982-2000
(N=[34,367 M + 43,400 F]; 54 counties; 2000 PM2.5; KRG ZIP; 20 ind cov+7 eco var; Slide 12)				
Krewski 2010	CA CPS II Cohort			
(4 MSAs; 1979-1983 PM2.5; 44 cov)		N=40,408	RR = 0.960 (0.920-1.002)	1982-2000
(7 MSAs; 1999-2000 PM2.5; 44 cov)		N=50,930	RR = 0.968 (0.916-1.022)	1982-2000
Jerrett 2011	CA CPS II Cohort	N=73,609	RR = 0.994 (0.965-1.024)	1982-2000
(N=[32,509 M + 41,100 F]; 54 counties; 2000 PM2.5; KRG ZIP Model; 20 ind cov+7 eco var; Table 28)				
Jerrett 2011	CA CPS II Cohort	N=73,609	RR = 1.002 (0.992-1.012)	1982-2000
(N=[32,509 M + 41,100 F]; 54 counties; 2000 PM2.5; Nine Model Ave; 20 ic+7 ev; Fig 22 & Tab 27-32)				
Lipsett 2011	CA Teachers Cohort	N=73,489	RR = 1.01 (0.95 – 1.09)	2000-2005
(N=[73,489 F]; 2000-2005 PM2.5)				
Ostro 2011	CA Teachers Cohort	N=43,220	RR = 1.06 (0.96 – 1.16)	2002-2007
(N=[43,220 F]; 2002-2007 PM2.5)				
Jerrett 2013	CA CPS II Cohort	N=73,711	RR = 1.060 (1.003–1.120)	1982-2000
(N=[~32,550 M + ~41,161 F]; 54 counties; 2000 PM2.5; LUR Conurb Model; 42 ind cov+7 eco var+5 metro; Table 6)				
Jerrett 2013	CA CPS II Cohort	N=73,711	RR = 1.028 (0.957-1.104)	1982-2000
(same parameters and model as above, except including co-pollutants NO2 and Ozone; Table 5)				
Thurston 2015	CA NIH-AARP Cohort	N=160,209	RR = 1.02 (0.99 -1.04)	2000-2009
(N=[~95,965 M + ~64,245 F]; full baseline model: PM2.5 by zip code; Table 3)				
Enstrom 2015 unpub	CA NIH-AARP Cohort	N=160,368	RR = 1.001 (0.949-1.055)	2000-2009
(N=[~96,059 M + ~64,309 F]; full baseline model: 2000 PM2.5 by county)				

References for Table 1

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(http://www.arb.ca.gov/planning/gmerp/dec1plan/gmerp_comments/enstrom.pdf) and
(<http://www.scientificintegrityinstitute.org/IT121505.pdf>)

Enstrom JE (2006). Response to “A Critique of 'Fine Particulate Air Pollution and Total Mortality Among Elderly Californians, 1973-2002’ by Bert Brunekreef, PhD, and Gerard Hoek, PhD’, *Inhal Toxicol* 2006;18:509-514
(<http://www.scientificintegrityinstitute.org/IT060106.pdf>) and
(<http://www.scientificintegrityinstitute.org/ITBH060106.pdf>)

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Jerrett M, Burnett RT, Ma R, Pope CA III, Krewski D, Newbold KB, Thurston G, Shi Y, Finkelstein N, Calle EE, Thun MJ (2005). Spatial Analysis of Air Pollution and Mortality in Los Angeles. *Epidemiology* 2005;16:727–736 (<http://www.scientificintegrityinstitute.org/Jerrett110105.pdf>)

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(<http://www.scientificintegrityinstitute.org/CARBJerrett022610.pdf>)

Jerrett M (2011). October 28, 2011 Revised Final Report for Contract No. 06-332 to CARB Research Screening Committee, Principal Investigator Michael Jerrett, “Spatiotemporal Analysis of Air Pollution and Mortality in California Based on the American Cancer Society Cohort” Co-Investigators: Burnett RT, Pope CA III, Krewski D, Thurston G, Christakos G, Hughes E, Ross Z, Shi Y, Thun M
(<http://www.arb.ca.gov/research/rsc/10-28-11/item1dfr06-332.pdf>) and
(<http://www.scientificintegrityinstitute.org/Jerrett012510.pdf>) and
(<http://www.scientificintegrityinstitute.org/JerrettCriticism102811.pdf>)

Jerrett M, Burnett RT, Beckerman BS, Turner MC, Krewski D, Thurston G, Martin RV, van Donkelaar A, Hughes E, Shi Y, Gapstur SM, Thun MJ, Pope CA 3rd. [Spatial analysis of air pollution and mortality in California](#). *Am J Respir Crit Care Med*. 2013 Sep 1;188(5):593-9. doi: 10.1164/rccm.201303-0609OC. PMID: 23805824

Krewski D (2000). "Reanalysis of the Harvard Six Cities Study and the American Cancer Society Study of Particulate Air Pollution and Mortality: HEI Special Report. July 2000"
(<http://pubs.healtheffects.org/view.php?id=6>). Figure 5 and Figure 21 of Part II: Sensitivity Analyses
(<http://pubs.healtheffects.org/getfile.php?u=275>) and
(<http://www.scientificintegrityinstitute.org/HEIFigure5093010.pdf>)

Krewski D (2009). Krewski D, Jerrett M, Burnett RT, Ma R, Hughes E, Shi Y, Turner MC, Pope CA III, Thurston G, Calle EE, Thun MJ. [Extended Analysis of the American Cancer Society Study of Particulate Air Pollution and Mortality](#). HEI Research Report 140. May 2009
(<http://pubs.healtheffects.org/view.php?id=315>)

Krewski D (2010). August 31, 2010 letter from Krewski to Health Effects Institute and CARB with California-specific PM2.5 mortality results from Table 33 in Krewski 2009 (http://www.arb.ca.gov/research/health/pm-mort/HEI_Correspondence.pdf)

Lipsett MJ, Ostro BD, Reynolds P, Goldberg D, Hertz A, Jerrett M, Smith DF, Garcia C, Chang ET, Bernstein L (2011). Long-term Exposure to Air Pollution and Cardiorespiratory Disease in the California Teachers Study Cohort. *Am J Respir Crit Care Med* 2011;184:828–835 (<http://ajrccm.atsjournals.org/content/184/7/828.full.pdf>)

McDonnell WF; Nishino-Ishikawa N; Petersen FF; Chen LH; Abbey DE (2000). Relationships of mortality with the fine and coarse fractions of long-term ambient PM10 concentrations in nonsmokers. *J Expo Anal Environ Epidemiol* 2000;10:427-436 (<http://www.scientificintegrityinstitute.org/JEAEE090100.pdf>)

Ostro B, Lipsett M, Reynolds P, Goldberg D, Hertz A, Garcia C, Henderson KD, Bernstein L (2010). Long-Term Exposure to Constituents of Fine Particulate Air Pollution and Mortality: Results from the California Teachers Study. *Environ Health Perspect* 2010;118:363-369 with June 2011 Erratum (<http://ehp03.niehs.nih.gov/article/info:doi/10.1289/ehp.0901181>)

Pope CA III, Dockery DW. (2006). Health Effects of Fine Particulate Air Pollution: Lines that Connect. *JAWMA*, Critical Review. 56(6):709-742 (<http://www.scientificintegrityinstitute.org/PopeDockery2006.pdf>) and (<http://www.scientificintegrityinstitute.org/PopePPT2006.pdf>)

U.S. EPA (2012). Regulatory Impact Analysis related to the Proposed Revisions to the National Ambient Air Quality Standards for Particulate Matter EPA-452/R-12-003 (http://www.epa.gov/ttn/ecas/regdata/RIAs/PMRIACombinedFile_Bookmarked.pdf)

Thurston GD, Ahn J, Cromar KR, Shao Y, Reynolds HR, Jerrett M, Lim CC, Shanley R, Park Y, Hayes RB. [Ambient Particulate Matter Air Pollution Exposure and Mortality in the NIH-AARP Diet and Health Cohort](#). *Environ Health Perspect*. 2015 Sep 15. [Epub ahead of print] PMID: 26370657

Zeger SL, Dominici F, McDermott A, Samet JM (2008). Mortality in the Medicare Population and Chronic Exposure to Fine Particulate Air Pollution in Urban Centers (2000-2005). *Environ Health Perspect* 2008;116:1614-1619 (<http://ehp03.niehs.nih.gov/article/info:doi/10.1289/ehp.11449>)