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U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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November 15, 2011

The Honorable Cass R. Sunstein
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Eisenhower Executive Office Building
1650 Pennsylvania Avenue, N.W.
Washington, D.C. 20403

Dear Administrator Sunstein:

As Chairmen of the Energy and Environment and Investigations and Oversight Subcommittees of the Committee on Science, Space, and Technology, we have growing concerns with troubling scientific and economic accounting practices in the Environmental Protection Agency's (EPA) crafting of Regulatory Impact Analyses (RIAs) used to justify numerous Clean Air Act (CAA) rules. In many cases, these required cost-benefit analyses appear designed to provide political cover for a more stringent regulatory agenda rather than to objectively inform policy decisions.

There is further evidence that these RIAs are based on flawed and sometimes nontransparent science, and highly-questionable economics that violate the spirit and letter of (1) executive orders governing regulatory reform, (2) EPA and Office of Management and Budget (OMB) standards for peer review and regulatory analysis, and (3) your own previous recommendations for both Office of Information and Regulatory Affairs (OIRA) and EPA cost-benefit analyses. Our concerns with these issues are exacerbated by several recent baseless and irresponsible statements from senior administration officials that illustrate the "press release science" advanced by EPA, particularly with regard to the overestimation of regulatory health benefits and underestimation of actual economic costs.

Accordingly, with EPA regulatory proposals costing tens of billions of dollars now awaiting your review, we implore you to follow the President's instructions to "give careful scrutiny to all regulations that impose significant costs on the private sector or on state, local, or tribal governments,"[1] and your comment from a recent speech that this scrutiny is "especially important in a period of economic difficulty."[2]

We fully agree with your statement that scrutiny of regulatory costs and benefits is especially important during a weak economy, and we hope and expect you to apply this scrutiny to EPA RIAs, which serve as the foundation used to justify the myriad of pending EPA rules that threaten to further damage our already weak economy. As you have previously noted, "the most informative document" in the rulemaking

[1] http://www.whitehouse.gov/sites/default/files/ozone_national_ambient_air_quality_standards_letter.pdf.
[2] Cass Sunstein, "Humanizing Cost-Benefit Analysis," February 17, 2010, http://www.whitehouse.gov/omb/oira_speech_02172010/.

process is the RIA.[3] In particular, we are concerned about the tendency of RIAs to understate economic costs and inflate health benefits through double-counting and other means, and we ask your assistance in clarifying and responding to questions associated with these concerns.

Detailed below are troubling examples of questionable scientific and economic assertions involved in EPA's approach to RIAs. We ask you to respond to these specific questions by December 6, 2011:

I. Press Release Science

In an effort to portray its CAA regulations as generating more benefits than costs, EPA has massively inflated health benefit estimates in the last several years without any change in the underlying scientific understanding. There have been numerous examples of EPA officials citing benefit figures that test credibility. To provide a few examples:

- On September 22, EPA Administrator Lisa Jackson stated that "if we could reduce particulate matter to healthy levels, it would have the same impact as finding a cure for cancer."[4] This claim would mean that reducing fine particulate matter ($PM_{2.5}$) could prevent nearly 600,000 deaths a year, or roughly 20 percent of all deaths in the U.S. It is baseless and unsupported by science, and ignores dramatic improvements in air quality, including the fact that $PM_{2.5}$ levels have declined almost 30 percent over the last two decades.[5]
- During a recent hearing before our Committee, EPA Assistant Administrator Gina McCarthy presented OMB-approved testimony that the Agency's Cross-State Air Pollution Rule (CSAPR) would prevent "up to 34,000 premature deaths" per year.[6] Ms. McCarthy could not explain the cause of these premature deaths, did not account for any uncertainty in this and other statements, and has subsequently failed to provide the underlying data behind such claims.[7]
- As you noted in your review of the National Ambient Air Quality Standards (NAAQS) in the late 1990s, at that time EPA found that lowering the $PM_{2.5}$ standard in 1997 would prevent 350 annual mortalities, and that a lower ozone standard would prevent 0 to 80 premature deaths annually.[8] EPA's current presumption attributes 320,000 deaths in 2005 (roughly 13 percent of all deaths in the U.S.) as "due to $PM_{2.5}$."[9] Similarly, EPA's recent proposal to reconsider the 2008 ozone standard claimed that it would prevent up to 12,000 premature deaths (with more than 90 percent of these deaths actually associated with $PM_{2.5}$ and not ozone).
- Based on a single calculating trick devised in 2009, EPA began counting benefits associated with $PM_{2.5}$ down to the lowest measurable level, including well below the ambient standard that had been deemed adequate to protect public health with an adequate margin of safety for susceptible populations. This simple change allowed the Agency to claim that $PM_{2.5}$ levels resulted in 320,000 premature deaths in 2005, compared to the previous total of 88,000 under the old method.[10]

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[3] Sunstein, "Is the Clean Air Act Unconstitutional?" Chicago Public Law and Legal Theory Working Paper No. 03, 1999, pg. 26.
[4] Video available at: http://www.c-span.org/Events/EPA-Regulations-Discussed-at-House-Energy-Committee/10737424255/.
[5] http://www.epa.gov/airtrends/aqtrends.html.
[6] http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/091511_McCarthy.pdf.
[7] http://science.house.gov/press-release/chairman-harris-calls-transparency-epa-health-data.
[8] Sunstein, "Clean Air Act," pg. 27.
[9] Testimony of Dr. Anne Smith, October 4, 2011, http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/100411_smith_0.pdf.
[10] Ibid.

- In 2009, the National Research Council released an analysis of the underlying price per ton for emissions of $PM_{2.5}$ (including health effects) and found that their mean estimate was $9,500.[11] However, EPA used a figure of $280,000 benefit per ton for $PM_{2.5}$ in conducting its nitrogen oxide NAAQS RIA.[12]

Repeated Double-Counting of Health Benefits

The Committee recently received testimony noting that EPA has relied almost exclusively on coincidental $PM_{2.5}$ co-benefits to justify a variety of CAA regulations. For example:

- According to testimony on EPA's ozone reconsideration RIA: "...up to 91% of EPA's benefits estimate for its preferred standard was due to EPA's predictions of coincidental $PM_{2.5}$ reductions rather than to reductions in ozone risks that were the target of the rule. Not a single one of EPA's benefits estimates in that RIA exceeded its costs unless $PM_{2.5}$-mortality co-benefits were added in."[13]
- In analyzing claims that EPA's Maximum Achievable Control Technology Standards for Hazardous Air Pollutants from Electric Utility Generating Units (Utility MACT) would save up to 17,000 lives per year and generate significant health benefits, testimony noted that: "...all of those purported health benefits are due to EPA's predictions of coincidental reductions of $PM_{2.5}$ – which is not an air toxic. Of all the air toxics targeted by this rule, EPA has estimated benefits for only one – mercury – and EPA's highest estimate of those mercury benefits is only $6 million per year, compared to EPA's estimate of $10.9 billion in costs per year. In the Utility MACT's RIA, over 99.99% of the benefits that EPA has attributed to the rule are due to $PM_{2.5}$ co-benefits rather than to the air toxics that are its purpose."[14]
- Over 90 percent of the benefits from the CSAPR rule come from $PM_{2.5}$-related estimates.

These examples demonstrate a broader trend in EPA cost-benefit analysis: EPA has justified nearly all CAA rules on the basis of particulate matter co-benefits, raising significant concerns about double-counting of alleged $PM_{2.5}$ benefits as well OIRA's oversight of the RIA process. Even OIRA recognized this phenomenon in its 2011 *Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities* ("OIRA Report to Congress"), which stated that, "It is important to emphasize that the large estimated benefits of EPA rules are mostly attributable to the reduction in public exposure to a single air pollutant: fine particulate matter."[15]

Appendix A illustrates the extent of this problem in a Congressional Research Service chart showing that, of the 28 CAA RIAs for rules proposed or finalized since 2004 that monetized benefits, 25 of them claimed more than 50 percent of total benefits from $PM_{2.5}$-related benefits.[16] In nearly all of these cases, fine particulate matter was not being regulated and these benefits are coincidental "co-benefits." Most of these rules would not have passed a basic cost-benefit test if they had not incorporated $PM_{2.5}$ co-benefits. Justifying disparate rules on the basis of these co-benefits compounds issues with the Agency's process of prioritization. As you stated in 2002, "EPA's own studies suggest that it is not devoting resources to the most serious problems and indeed that inadequate priority-setting is a particular problem for clear [sic] air

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[11] National Research Council, *Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use*, 2009, Washington, DC: National Academies Press.

[12] Arthur G. Fraas and Nathan Richardson, "Public Interest Comment on the Environmental Protection Agency's Proposed Clean Air Transport Rule," EPA-HQ-OAR-2009-0491-2573, September 28, 2010, pg. 38.

[13] Smith testimony.

[14] Ibid.

[15] http://www.whitehouse.gov/sites/default/files/omb/inforeg/2011_cb/2011_cba_report.pdf.

[16] In three cases, this includes rules in which the range of $PM_{2.5}$ -related benefits extend above 50 percent.

regulation."[17]

1. Do you believe it is appropriate, accurate, or intellectually defensible to assert economic benefits already claimed in concurrent and prior rulemakings to justify the economics of an individual regulation?

2. How does relying on coincidental $PM_{2.5}$ co-benefits for non- $PM_{2.5}$ rules meet Executive Order (E.O.) 12866's requirement that each "agency shall avoid regulations that are...duplicative with its other regulations"?

3. When the $PM_{2.5}$ benefits are removed from the Utility MACT RIA, EPA is asking the American people to pay $3,600 to $4.36 million for every one dollar of benefit. Absent benefits derived from $PM_{2.5}$ reductions, does OIRA believe that the cost-benefit ratio for achieving the Utility MACT's stated purpose – that is, reducing hazardous air pollutants and not fine particulates – satisfies the E.O. 13563 directive to narrowly tailor regulations such that the benefits justify the cost?

4. In 1999, you stated that "If – as seems clear – the risks prevented by the new ozone regulation are far smaller than the risks that would be prevented by more stringent regulation of particulates, EPA should explain the apparent anomaly in terms of statutorily relevant factors. A chief advantage of this approach is that it should ensure inter-regulation consistency, in such a way as to combat, simultaneously, interest-group power, public torpor, and public over-reaction with respect to certain pollutants."[18] You also stated that "The question is whether EPA can defend apparent interregulation inconsistency in statutorily relevant terms.... If it cannot, it has acted unlawfully."[19]

   How does relying on coincidental $PM_{2.5}$ co-benefits for dozens of non-$PM_{2.5}$ rules achieve inter-regulation consistency as you have defined it?

5. The draft OIRA Report to Congress for 2011 discussed revisions to prevent the double-counting of $PM_{2.5}$ benefits, stating that "...to prevent double-counting, the estimates for the $PM_{2.5}$ NAAQS will be adjusted, and estimates associated with the implementing rules promulgated in subsequent years will be used appropriately. The benefit and cost estimates for lead NAAQS and SO2 NAAQS may also be adjusted in future reports to avoid double-counting...."[20]

   a. Why was this language and other references to revising EPA estimates to prevent $PM_{2.5}$ benefit double-counting deleted from the final OIRA Report to Congress?

   b. Please outline all steps that OIRA has taken to prevent the double-counting of $PM_{2.5}$ benefits for individual CAA rules listed in Appendix A.

   c. Please also outline the steps that will be taken by OIRA to prevent EPA from taking credit for already-counted $PM_{2.5}$ benefits in upcoming $PM_{2.5}$ NAAQS from the Agency.

6. For the Utility MACT and CSAPR, please quantify the aggregate costs and benefits without double-counting (i.e. ensure that both benefits and costs are unique).

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[17] Sunstein, *Risk and Reason: Safety, Law, and the Environment* (Cambridge University Press, 2002), pg. 239.
[18] Sunstein, "Clean Air Act," pg. 67.
[19] Sunstein, *Risk and Reason*, pg. 247-248.
[20] http://www.whitehouse.gov/sites/default/files/omb/legislative/reports/Draft_2011_CBA_Report_AllSections.pdf.

7. You have also stated in the past that "[a] projection of benefits must depend on a baseline about what would have happened without regulation."[21]

   Please provide a list of all examples for EPA CAA RIAs in which the Agency has clearly removed $PM_{2.5}$ benefits that were already counted in providing a baseline for new rules.

8. As noted above, an accounting change in 2009 allowed EPA to inflate health benefit estimates associated with $PM_{2.5}$ reductions by counting benefits down to the lowest measurable level with no change in the underlying science.

   a. Did OIRA approve this change in benefits calculation?

   b. Has EPA used this same public health benefit assumption in any of the risk analyses regarding its current review of the $PM_{2.5}$ NAAQS? If not, please explain the different treatment of the same air pollutant and why EPA's approach is not the same.

II. Dismal Science

A. Understating Compliance Costs

In estimating regulatory costs for CAA rules, we are concerned that EPA has adopted practices that are inconsistent with OMB guidelines and prevailing economic accounting practices. An enormous disparity exists between EPA's compliance cost estimates and those projected by well-respected nongovernmental economists. While the more-sophisticated nongovernmental analyses project the net present value of multi-year cost streams, EPA instead estimates the annual cost for a single year. EPA's failure to incorporate net present value calculations ignores all up-front capital expenditures that would be needed to comply and allows for another accounting trick to let CAA rules pass a cost-benefit test.[22]

However, OMB Circular A-94 (which applies specifically to all RIAs) states: "The standard criterion for deciding whether a government program can be justified on economic principles is net present value.... Programs with negative net present value should generally be avoided."

How is EPA's practice of estimating single-year compliance costs instead of net present value consistent with OMB Circular A-94? Why has OIRA approved RIAs and agency communications that do not use net present value? What steps has OIRA taken to revise EPA's approach to compliance costs?

B. Ignoring Negative Health Impacts of Regulatory Economic Burdens

You have made several statements indicating the need for RIAs to incorporate potential health-related economic costs associated with regulations:

- "In general, it is right to say that agencies should be required to take account of the health problems produced by regulation designed to reduce health problems."[23]
- "Regulations cost money – sometimes a great deal of money – and private expenditures on regulatory compliance may produce less employment and more poverty. People who are unemployed or poor tend to be in worse health and to live shorter lives."[24]

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[21] Sunstein, "Clean Air Act," pg. 68.
[22] Garrett Vaughn, "The EPA's Benefit/Cost Jihad on U.S. Electric Utilities," October 10, 2011, http://www.masterresource.org/2011/10/epa-benefit-cost-jihad-utilities/.
[23] Sunstein, "Clean Air Act," pg. 78

- "A great deal of evidence suggests the possibility that an expensive regulation can have adverse effects on life and health."[25]
- "If poor people are paying a significant amount for modest environmental benefits, their health might be made worse rather than better."[26]

As a corollary, you have noted that environmental regulations are more likely to cause economic harm than good: "To be sure, some environmental regulations do increase employment and decrease prices. But as a general rule, there is no reason to believe that regulatory imposition of high costs will benefit workers and consumers; the opposite is more likely to be true."[27]

These statements are not merely academic, as you specifically cited the essential role of OIRA in ensuring these regulatory health disbenefits are incorporated in CAA RIAs:

- "OIRA should see, as one of its central assignments, the task of overcoming governmental tunnel vision, by ensuring that aggregate risks are reduced and that agency focus on particular risks does not mean that ancillary risks are ignored or increased."[28]
- "The Clean Air Act… is permitted to consider the effects of regulation in causing risks to life and health through poverty and unemployment."[29]

1. If, as you have stated, "expensive regulation can have adverse effects on life and health," why have none of the EPA CAA RIAs listed in Appendix A included a single dollar of cost associated with the health effects from regulatory expenditures and accompanying economic outcomes?

2. Please provide a list of all health disbenefits identified by EPA in the RIAs for the ozone NAAQS reconsideration, the Utility MACT, or CSAPR.

3. In the context of the Utility MACT, please explain how the estimated $10.9 billion estimate in compliance costs and subsequent increases in electricity rates will not affect the health of a single American.

C. *Failing to Analyze and Communicate Uncertainties*

We are concerned that EPA has failed to adequately report uncertainty in its analysis of costs and benefits for CAA rules, including the Agency displaying RIA health benefits without ranges of potential effects. As you have noted, "…without the range, it is hard to compare the options not chosen."[30] OMB Circular A-94, which governs RIAs, says that because "uncertainty is basic to many analyses, its effects should be analyzed and reported."

1. Why did OMB approve EPA Assistant Administrator Gina McCarthy's September 15, 2011 testimony[31] before the Committee on Science, Space, and Technology in which she stated that CSAPR would avoid "Up to 34,000 premature deaths; 15,000 heart attacks; 400,000 cases of aggravated asthma; 19,000 cases of acute bronchitis; 19,000 hospital and emergency room visits"?

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[24] Sunstein, "Health-Health Tradeoffs," University of Chicago Law and Economics Working Paper No. 42, 1996, pg. 7.
[25] Sunstein, "Cost-Benefit Analysis and the Environment," *Ethics*, Vol. 115, No. 2 (January 2005), pg. 366.
[26] Ibid. pg. 367.
[27] Ibid. pg. 368.
[28] Sunstein, "Health- Health Tradeoffs," pg. 30
[29] Ibid., pg. 24.
[30] Sunstein, "Clean Air Act," pg. 29.
[31] http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/091511_McCarthy.pdf.

a. Is this treatment of uncertainty consistent with OMB Circular A-94?

b. What steps does OMB take to ensure that EPA's characterizations of RIAs are consistent with the guidelines for these analyses?

2. Former OIRA Administrator John Graham wrote in a December 2001 letter to then-EPA Administrator Christine Todd Whitman that "it is clear that we need to understand better which sources of PM in our economy are responsible for the PM-related health effects."[32] Similarly, you have stated that upon finding the need to lower ambient $PM_{2.5}$ levels, "....EPA will have to decide what, exactly, to regulate; and to do this, it will have to decide what fine particulates consist of."[33]

   Does OIRA continue to hold this view about PM speciation? If so, why has OIRA approved several regulations that are being justified from associations based on PM mass alone?

3. The OIRA Report to Congress indicates that "[t]he wide range of benefits estimates for particle control does not capture the full extent of the scientific uncertainty in measuring the health effects associated with exposure to fine particulate matter and its constituent elements." The Report further identifies six key assumptions that demonstrate the significant uncertainty in making these associations in RIAs.[34]

   Please explain how EPA's CAA RIAs incorporate an uncertainty analysis that accounts for these six key assumptions.

4. There were also significant changes made to the section on $PM_{2.5}$ uncertainties between the draft and final OIRA Report to Congress for 2011:

   The draft reported stated that: "Although biological mechanisms for this effect have **not been established definitively** yet, the weight of the available epidemiological evidence supports an **assumption of causality**." (emphasis added)

   In the final report, this passage was changed to: "The weight of available epidemiological evidence supports a **determination of causality**. Biological mechanisms for this effect, while not completely understood, are **supportive of this determination**." (emphasis added)

   Why did OIRA alter this section to reflect more certainty in this association? What was the scientific basis for making this change?

5. EPA has acknowledged that its RIAs assume a causal association between $PM_{2.5}$ exposure and premature mortality and that "[i]f the PM/mortality relationship is not causal, it would lead to a significant overestimation of net benefits."[35]

   a. What steps have been taken by EPA in RIAs to reflect uncertainty in making this assumption of causality?

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[32] http://georgewbush-whitehouse.archives.gov/omb/inforeg/epa_pm_research_prompt120401.html.
[33] Sunstein, *The Cost-Benefit State: The Future of Regulatory Protection* (American Bar Association, 2002), pg. 126.
[34] OIRA Report to Congress, see footnote 19 of the report, pg. 16-17.
[35] EPA, *The Benefits and Costs of the Clean Air Act from 1990 to 2020*, March 2011, pg. 5-40.

b. EPA typically relies on only two studies to extrapolate $PM_{2.5}$ -mortality associations,[36] ignoring a large body of peer-review literature that indicates different results.[37] Is this practice consistent with the President's requirement to develop regulations based on the best available science? In reviewing EPA assertions regarding $PM_{2.5}$ and mortality, does OIRA consider the best available peer-reviewed science? If not, why not? If so, what is this body of science and what does it conclude regarding $PM_{2.5}$ and mortality?

c. What is the appropriate threshold for an assumption of causality between a pollutant and an individual health outcome?

D. Questionable "Value of a Statistical Life" Assumptions

EPA bases its economic benefit estimates on the "Value of a Statistical Life" (VSL), which is generated from willingness to pay surveys conducted decades ago. You have described these willingness to pay surveys as an "especially crude" proxy for welfare.[38]

1. Is EPA's VSL identical to the figure used by other federal agencies? If not, how is it different, and why?

2. As commentators on the CSAPR rule noted: "EPA's estimate for the value of a reduction in the risk of premature mortality was developed in the 1990s based on… literature available circa 1990."[39] You characterized the proposed reconsideration of the 2008 ozone NAAQS as being "based on evidence that is no longer the most current" in violation of E.O. 13563.[40] Is EPA's calculation subject to your interpretation of "evidence that is no longer the most current" in violation of E.O. 13563?

3. EPA's VSL has not been updated or discounted in light of our ongoing economic problems. As you noted in 2003, "[w]illingness to pay is dependent on ability to pay,"[41] suggesting that economic issues could substantially diminish EPA's estimated health-based benefits. Has OIRA recommended that EPA or other agencies evaluate VSL in light of economic conditions? If not, why not?

4. You have stated that "it makes a great deal of sense to focus on statistical life-years rather than statistical lives."[42] In spite of the fact that most mortality associated with $PM_{2.5}$ happens in the population over 65 years of age, EPA puts the same value on mortality for all ages.[43] In your view, is this practice appropriate?

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[36] Laden, et al., "Reduction in Fine Particulate Air Pollution and Mortality," *American Journal of Respiratory and Critical Care Medicine*, 2006; Pope, et al., "Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution," *Journal of the American Medical Association*, 2002.

[37] See: James Enstrom et al., "Fine particulate matter air pollution and total mortality among elderly Californians, 1973-2002," Inhalation Toxicology, 2005; Fred Lipfert et al., "$PM_{2.5}$ constituents and related air quality variables as predictors of survival in a cohort of U.S. military veterans," Inhalation Toxicology, 2006; Beelen et al., "Long-term effects of traffic-related air pollution on morality in a Dutch cohort (NLCS-Air Study)," Environmental Health Perspectives, 2008.

[38] Sunstein, "Lives, Life-Years, and Willingness to Pay," University of Chicago Law and Economics Working Paper No. 191, July 2003, pg. 13.

[39] Fraas, pg. 30.

[40] http://www.whitehouse.gov/sites/default/files/ozone_national_ambient_air_quality_standards_letter.pdf.

[41] Sunstein, "Lives, Life-Years, and Willingness to Pay," pg. 21.

[42] Ibid., pg. 30.

[43] Fraas, pg. 30.

III. Secret Science

A. Lack of Transparency

RIAs for EPA's proposed ozone reconsideration, Utility MACT, CSAPR, and other major CAA rules have relied heavily on two studies to find a correlation between $PM_{2.5}$ and premature death.[44] In turn, these analyses, which were funded by EPA and the National Institute of Environmental Health Scientists, rely exclusively on data sets that are not transparent and not available to other researchers. To be clear, these studies are often the only sources for health effects offered by EPA staff in CAA RIAs, and it is only with the inclusion of these $PM_{2.5}$-related premature death estimates that many of these rules pass a basic cost-benefit test.

1. Is this practice consistent with:

   a. E.O. 13563, which requires that regulations "must be based on the best **available** science"?

   b. The goals of Public Law 105-277, which sought to require that "all data produced under an award will be made available to the public…"?

   c. OMB Circular A-4 on Regulatory Analysis, which states that "[a] good analysis is transparent and your results must be reproducible"?

2. You recently cited the President's approach to data transparency and stated: "In these ways, the President suggested that transparency can serve as a **disinfectant**; provide **data** for citizens to find and use; and ensure that institutions benefit from the **dispersed knowledge** of Americans. Taken as a whole, these points suggest that if regulation is to be empirically informed, it must be in large part because of the knowledge and participation of the American people."[45] (emphasis in original).

   Is EPA's practice of justifying numerous multi-billion dollar regulations on data that is not publicly available consistent with the President's approach to data transparency?

3. EPA has failed to respond to Chairman Harris' September 22 request for data transparency in EPA's benefits analyses. As OIRA oversees E.O. 13563 (which requires that regulations "must be based on the best available science") and the enforcement of OMB guidelines resulting from P.L. 105-277, please provide (or require EPA to provide) all original data and analysis for the following studies that are used to justify EPA's CAA rules:

   a. The Cancer Prevention Study I compiled by the American Cancer Society.
   b. The Cancer Prevention Study II compiled by the American Cancer Society.
   c. The Harvard Six Cities Study.
   d. The Nurses' Health Study and Nurses' Health Study II.

[44] See Appendix A for a complete list of recent of CAA rules that rely primarily on $PM_{2.5}$ co-benefits.
[45] Sunstein, "Humanizing Cost-Benefit Analysis."

B. Peer Review

As a result of the recently-released report from EPA's Inspector General, "Procedural Review of EPA's Greenhouse Gases Endangerment Finding Data Quality Processes,"[46] important questions have been raised about EPA's approach to peer review and its consistency with both OMB's Final Information Quality Bulletin for Peer Review ("OMB Bulletin")[47] and the third edition of EPA's Peer Review Handbook.

1. Do you agree with the IG conclusion that EPA's "review did not meet all OMB requirements for peer review"? If not, why not? If so, what guidance, oversight, and enforcement is OIRA providing EPA with respect to its compliance with OMB peer review requirements?

2. The OMB Bulletin requires that "Each agency shall prepare an annual report that summarizes key decisions made pursuant to this Bulletin." However, EPA has not made public an Annual Peer Review Report since fiscal year 2009.[48] What steps has OIRA taken to ensure timely compliance with the transparency requirements of the OMB Bulletin?

3. The OMB Bulletin "establishes minimum standards for when peer review is required for scientific information" and "covers original data and formal analytic models used by agencies in Regulatory Impact Analyses." The OMB Bulletin also deems scientific assessments associated with regulations that could have a potential impact of more than $500 million in any one year as "highly influential" and thus subject to rigorous peer review requirements. However, the Administration has refused to categorize the scientific assessments associated with its endangerment finding and $PM_{2.5}$–mortality conclusions—which are directly being used to justify regulations costing into the many billions of dollars—as "influential" or "highly influential." Please explain how this categorization is compliant with the OMB Bulletin, and describe specific OIRA guidance, oversight, and enforcement efforts in support of its peer review requirements.

4. The IG Report highlighted that "EPA's guidance for assessing the quality of externally generated information does not provide procedures or steps for assessing outside data or requirements for documenting such analysis." In light of these concerns about EPA's inability to incorporate externally-generated information, what peer review guidelines has the Agency followed in utilizing these outside assessments of non-peer reviewed data for $PM_{2.5}$-mortality associations?

C. Lessons from the Ozone Reconsideration

1. You urged Administrator Jackson to drop her reconsideration of the 2008 ozone NAAQS because the new standard would be "based on evidence that is no longer the most current" and in violation of E.O. 13563.

   The data underlying $PM_{2.5}$ -premature mortality associations is primarily based on surveys conducted in the 1980s, while several more recent cohort studies go uncited in EPA's RIAs. Why have the Utility MACT and other $PM_{2.5}$ -dependent rules not been held to the same interpretation of E.O. 13563 by OIRA?

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[46] EPA Inspector General, "Procedural Review of EPA's Greenhouse Gases Endangerment Finding Data Quality Processes," Report No. 11-P-0702, September 26, 2011, http://www.epa.gov/oig/reports/2011/20110926-11-P-0702.pdf.

[47] http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2005/m05-03.pdf.

[48] Available at: http://cfpub.epa.gov/si/si_public_pr_agenda.cfm.

2. In your letter to Administrator Jackson, you also stated that "issuing a final rule in late 2011 would be problematic in view of the fact that a new assessment, and potentially new standards, will be developed in the relatively near future."

   CSAPR attempts to achieve existing particulate matter and ozone standards. These standards will soon be changed, resulting in the need for a new transport rule in the relatively near future. Please explain how the final Cross-State rule (which, despite initial compliance requirements on January 1, 2012, is undergoing a series of "technical adjustments" by EPA to state emissions budgets) was not required to meet the same standard that OIRA applied to the ozone reconsideration.

Please provide written responses by December 6, 2011. If you have any questions regarding this request, please contact Clint Woods of the Subcommittee on Energy and Environment staff at (202) 225-8844.

Sincerely,

Rep. Andy Harris, MD
Chairman
Energy & Environment Subcommittee

Rep. Paul Broun, MD
Chairman
Investigations & Oversight Subcommittee

cc: Rep. Ralph Hall
Chairman

Rep. Eddie Bernice Johnson
Ranking Member

Rep. Brad Miller
Ranking Member
Subcommittee on Energy and Environment

Rep. Paul Tonko
Ranking Member
Subcommittee on Investigations and Oversight

Administrator Lisa Jackson
U.S. Environmental Protection Agency

Enclosure: CRS Memorandum

Appendix A

Congressional Research Service

MEMORANDUM October 5, 2011

To: House Committee on Science, Space, and Technology
Subcommittee on Energy and Environment
Attention: Clint Woods

From: James E. McCarthy
Specialist in Environmental Policy
7-7225, jmccarthy@crs.loc.gov

Subject: **Benefits of Clean Air Act Regulations**

This memorandum responds to your request that CRS review EPA Clean Air Act regulations proposed or promulgated since 2004. You asked us to provide a list of the rules within that time period for which the Regulatory Impact Analysis claimed that a majority of the monetized benefits were related to health effects or premature mortality associated with reductions of particulate matter.

According to the Office of Management and Budget, EPA proposed or promulgated 75 economically significant Clean Air Act rules from January 2004 through August 2011. Many of these rules were duplicates (e.g., a proposed version and final version of the same rule) or represented procedural steps in implementing rules already promulgated (e.g., the 2004 implementation rule for the 1997 National Ambient Air Quality Standard for ozone). After eliminating such rules, CRS identified 31 distinct Clean Air Act rules that were proposed or promulgated in the relevant period (**Table 1**). There is still some duplication: as you requested, if a rule promulgated since 2004 was vacated and/or remanded to EPA by a court, we included both the original rule and any subsequent proposal or promulgation of a replacement.

Limitations of the Data

EPA prepared Regulatory Impact Analyses (RIAs) for all of these rules, but often it did not monetize some or any of the benefits. In the 2004 rule setting standards for hazardous air pollutant emissions from the plywood and composite wood products industry, for example, the RIA did not monetize any benefits. The analysis stated: "The Agency is unable to monetize the benefits from the HAP [Hazardous Air Pollutant], VOC [Volatile Organic Compound], and CO [Carbon Monoxide] emissions reductions due to lack of credible data for assigning a benefits value to these reductions."[1]

In other cases, the RIAs do monetize some benefits, but often they don't quantify the benefits of controlling the emissions that were the primary target of the regulation. For example, the RIA that

[1] U.S. EPA, Regulatory Impact Analysis for the Plywood and Composite Wood Products NESHAP, Final Report, February 2004, p. ES-2, at http://www.epa.gov/ttnecas1/regdata/RIAs/pcwp-finalruleRIA.pdf.

accompanied the 2004 National Emission Standards for Hazardous Air Pollutants from Industrial, Commercial, and Institutional Boilers and Process Heaters (the "2004 Boiler MACT") estimated that there would be $16 billion of annual benefits due to reductions in sulfur dioxide and particulate matter. But it also stated:

> This analysis does not quantify the benefits associated with reductions in hazardous air pollutants (HAP). The magnitude of the unquantified benefits associated with omitted categories and pollutants, such as avoided cancer cases, damage to ecosystems, or materials damage to industrial equipment and national monuments, is not known.[2]

There are hundreds of air pollutants regulated by the Clean Air Act. For example, Congress directed EPA to set emission standards for sources of 187 hazardous air pollutants that are listed in the statute. Many of these are categories of pollutants rather than individual substances, so there are more than 187 pollutants to consider. Although there is research indicating that these pollutants are carcinogenic, mutagenic, teratogenic, neurotoxic, cause reproductive dysfunction, or are otherwise acutely or chronically toxic, in most cases, there are not data regarding the concentrations to which populations are exposed, or epidemiological data regarding illness or mortality associated with exposure to the individual pollutant. The agency proceeds with regulation because it was directed by the statute to do so, but it may not be able to quantify or monetize the benefits of regulating emissions of a specific substance.

Why the RIAs Focus on Particulates

The agency does, however, have an established, peer-reviewed methodology for estimating the benefits of reductions in emissions of particulate matter, which have been linked to increased mortality in numerous scientific studies. Most air pollutants are particulates, and most EPA air quality regulations reduce particulate emissions, either as the targeted pollutant, or as a co-benefit of reducing emissions of some other pollutant. As a result, the agency's RIAs have frequently found sizeable benefits associated with reductions in particulate matter emissions.

Defining "Particulates"

Particulate matter (also known as particle pollution, particulates, or PM) is a category of pollutants rather than a specific chemical. EPA identifies PM as "a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles."[3] Hazardous air pollutants, if not particles themselves, often adhere to particles in the emissions. Because PM includes so many different pollutants, many of the regulations targeting hazardous air pollutants rely on technologies that capture PM. Likewise, given the broad nature of particulate emissions, most of the available pollution control technologies

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[2] U.S. EPA, *Regulatory Impact Analysis for the Industrial Boilers and Process Heaters NESHAP*, Final Report, February 2004, p. 10-1, at http://nepis.epa.gov/Exe/ZyNET.exe/P1003ASI.txt?ZyActionD=ZyDocument&Client=EPA&Index=2000%20Thru%202005&Docs=&Query=452R04002%20or%20epa%20or%20boiler%20or%20neshap%20or%20ria&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=pubnumber%5E%22452R04002%22&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=pubnumber&IntQFieldOp=1&ExtQFieldOp=1&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C00THRU05%5CTXT%5C00000019%5CP1003ASI.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=10&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=-1&ZyEntry=1.

[3] U.S. EPA, Office of Air and Radiation, "Particulate Matter," at http://www.epa.gov/pm/.

(scrubbers, fabric filters, electrostatic precipitators, carbon or other sorbent injection, use of catalysts, etc.) capture particulate emissions or PM precursors.[4]

How Benefits Are Monetized

Another reason that particulates play such an important role in RIAs is that they are linked to premature mortality. When premature mortality is avoided, the monetization of that benefit, using what is called "the value of a statistical life," generally overwhelms the value of all other benefits combined.[5]

The value of statistical lives saved is not without controversy. EPA has relied on this method of monetizing benefits for many years. The agency adopted guidelines under President Reagan that, in updated form, have guided its analyses since 1983. The guidelines were most recently updated in September 2000, and have been used in their current form throughout the Bush and Obama Administrations.[6]

Results

Table 1 identifies 31 RIAs conducted by EPA (or its contractors) between January 2004 and September 2011 for rules defined by EPA as economically significant. Of the 31 RIAs, three did not monetize benefits. In 21 of the remaining 28 analyses, reductions in particulate matter or its precursors accounted for more than half the monetized benefits. In four additional RIAs,[7] EPA produced ranges of benefits that showed PM benefits exceeding 50% of total monetized benefits for some or most, but not all combinations. The table identifies the rules, the dates on which they were proposed or promulgated, the estimated benefits, and whether or not PM accounted for more than 50% of the monetized amount.

I hope this information is useful. If I can be of further assistance, please feel free to call on me.

[4] The term "precursor" refers to a pollutant that reacts with other substances in the atmosphere to form another air pollutant. Sulfur dioxide (SO_2), for example, is a precursor of sulfate particles and sulfuric acid, both of which are considered particulates.

[5] Other benefits considered in Regulatory Impact Analyses include health benefits, such as the avoidance of nonfatal heart attacks, hospital and emergency room visits, cases of respiratory symptoms, cases of aggravated asthma, cases of chronic bronchitis, the number of days when people miss work, and the number of days when people must restrict their activities. Environmental effects, including improvements in visibility in national parks, reductions in damage to ecosystems and building materials, and improvements in fishing, agricultural yields, and forest productivity, are also frequently identified as benefits of a rule in RIAs.

[6] The value of a statistical life used by EPA was nearly $7.9 million in 2009. For additional information, see CRS Report R41140, *How Agencies Monetize "Statistical Lives" Expected to Be Saved By Regulations*, by Curtis W. Copeland.

[7] The four RIAs were those for the 2008 Ozone NAAQS Revision, the 2010 proposed reconsideration of that rule, the 2010 Lead NAAQS Revision, and the 2005 Clean Air Mercury Rule.

Table 1. Clean Air Act Rules and Particulate Matter, 2004-2011

(economically significant rules promulgated or proposed)

Date Proposed or Promulgated	Rule	Status	Estimated Benefits (annual unless noted)	PM Benefits > 50% of Total?
September 15, 2011	Greenhouse Gas Emission Standards for Medium- and Heavy-Duty Trucks	Final	$57 billion over lifetime of vehicles	No
August 23, 2011	Oil and Natural Gas Sector NSPS and NESHAP	Proposed	RIA did not monetize benefits	n.a.
August 8, 2011	Cross-State Air Pollution Rule	Final	$120-280 billion	Yes
May 3, 2011	Mercury and Air Toxics Standards (Utility MACT)	Proposed	$59-140 billion	Yes
March 21, 2011	Boiler MACT	Final, but stayed pending reconsideration	$22-54 billion	Yes
March 21, 2011	Area Source Boiler Rule	Final	$210-520 million	Yes
March 21, 2011	Commercial and Industrial Solid Waste Incinerator (CISWI) Rule	Final, but stayed pending reconsideration	$360-870 million	Yes
September 9, 2010	Portland Cement MACT	Final	$6.7-18 billion	Yes
August 20, 2010	NESHAP for Gasoline-Powered Stationary Engines (RICE Rule)	Final	$510 million - $1.2 billion	Yes
June 22, 2010	Sulfur Dioxide NAAQS Revision	Final	$15-37 billion	Yes
May 7, 2010	Light Duty Motor Vehicle GHG Rule	Final	$240 billion over lifetime of vehicles	No
April 30, 2010	Large Marine Engine Emission Standards	Final	EPA estimated benefits for a coordinated strategy to reduce ship emissions	Yes
March 26, 2010	Changes to Renewable Fuel Standard Program	Final	$13 – 26 billion	No
March 3, 2010	NESHAP for Diesel Stationary Engines (RICE Rule)	Final	$940 million - $2.3 billion	Yes
January 19, 2010	Ozone NAAQS Revision	Proposed (subsequently withdrawn)	$19-100 billion	RIA estimated overlapping ranges for ozone benefits and PM co-benefits

Date Proposed or Promulgated	Rule	Status	Estimated Benefits (annual unless noted)	PM Benefits > 50% of Total?
November 12, 2008	Lead NAAQS Revision	Final	$3.7-6.9 billion	RIA estimated ranges for lead benefits and PM co-benefits. PM benefits would exceed 50% of total benefits in some of the estimated range
October 8, 2008	Nonroad Gasoline Engines and Equipment	Final	$1.2 – 4.0 billion	Yes
May 6, 2008	Locomotives and Marine Diesel Engines	Final	$9.2 – 11 billion	Yes
April 30, 2008	NSPS for Petroleum Refineries	Final	$220 million - $1.9 billion	Yes
March 12, 2008	Ozone NAAQS Revision	Final	$2 – 19 billion	RIA estimated a range of 42% to 99% of benefits due to PM
February 26, 2007	Mobile Source Air Toxics	Final	$6 billion	Yes
September 21, 2006	PM NAAQS Revision	Final	$9 – 76 billion	Yes
July 11, 2006	Stationary Diesel Engine Standards	Final, but later revised due to court decisions	$1.36 billion	Yes
July 26, 2005	Clean Air Visibility Rule	Final	$50 billion	Yes
May 18, 2005	Clean Air Mercury Rule	Final, but later vacated by D.C. Circuit	$1.5 – 44 million	RIA estimated ranges for mercury benefits and PM co-benefits. PM benefits would exceed 50% of total benefits in most of the estimated range
May 12, 2005	Clean Air Interstate Rule (CAIR)	Final, but later remanded by D.C. Circuit	$101 billion	Yes
September 13, 2004	Boiler MACT	Final, but later vacated	$16 billion	Yes
July 30, 2004	Plywood and Composite Wood Products	Final	RIA did not monetize benefits	n.a.

Date Proposed or Promulgated	Rule	Status	Estimated Benefits (annual unless noted)	PM Benefits > 50% of Total?
June 29, 2004	Nonroad Diesel Engines and Fuel	Final	$43 – 81 billion	Yes
June 15, 2004	NESHAP for Stationary Engines	Final, but later revised due to court decisions	$280 million	Yes
April 26, 2004	NESHAP for Surface Coating of Autos and Light Duty Trucks	Final	RIA did not monetize benefits	n.a.

Source: Compiled by CRS from *Federal Register* notices, the Office of Information and Regulatory Affairs (OMB) website, and U.S. EPA RIAs. Listing excludes proposed rules if the rules were finalized during the period, as well as rules that implemented or modified rules already promulgated.

Notes: NESHAP = National Emission Standards for Hazardous Air Pollutants (generally MACT); MACT = Maximum Achievable Control Technology; NSPS = New Source Performance Standards; NAAQS = National Ambient Air Quality Standards