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**Hearings Before the House Committee on Science, Space, and Technology
*Climate Change: Examining the Processes Used to Create Science and Policy***

March 31, 2011

Analytical and Process Flaws in EPA's Greenhouse Gas Endangerment Finding

INTRODUCTION

My testimony¹ addresses analytical and process flaws in the finding of the U.S. Environmental Protection Agency (EPA or the Agency) that anthropogenic emissions of greenhouse gases (GHGs) “may reasonably be anticipated to endanger the public health and welfare” within the meaning of Section 202(a) of the Clean Air Act (CAA).² This finding is commonly referred to as the Endangerment Finding.

In my view, EPA failed to observe basic requirements set forth in applicable law as to how a regulatory determination such as the Endangerment Finding should be made. These flaws are not technical. They go to the fundamental fairness and transparency of the way EPA arrived at its Endangerment Finding and the quality of the information on which EPA relied. The procedures EPA failed to observe are designed to ensure the integrity both of the decision-making process and the ultimate result an agency reaches. EPA's failure to observe these basic requirements therefore undermines confidence in the substantive scientific conclusions in the Endangerment Finding.

¹ Although I represent clients in the case now pending before the United States Court of Appeals for the D.C. Circuit in which the Endangerment Finding is on appeal, *Coalition for Responsible Regulation v. EPA*, No. 09-1322, I am not appearing before this subcommittee on behalf of those or any other clients. The views I present here are my own and do not necessarily represent those of my clients, and I am not being compensated by them for this testimony.

² *Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act* published at 74 Fed. Reg. 66,496 (Dec. 15, 2009).

One particular analytical flaw in the Endangerment Finding stands out, which is that EPA only examined the danger to public health and welfare from GHGs emissions as they accumulate in the atmosphere and did not examine the danger to public health and welfare that would occur if society did not emit GHGs. As I discuss, EPA's one-sided analytical approach caused the Agency to miss an obvious fact—that *over the last century, as anthropogenic greenhouse emissions have increased, every relevant indicator of public health and welfare has improved dramatically rather than deteriorated*. A new report by the Centers for Disease Control (CDC) finds that the U.S. death rate (number of deaths per 100,000 population) fell for the tenth straight year and is now at an all-time low, continuing a decade-over-decade pattern of improved mortality rates over the 20th century.³

This relationship between increasing GHG emissions and improved public health and welfare is not an accident. As I will discuss, the direct cause of both the increased emissions and the improvements in health and welfare is society's use of energy, particularly electricity, which has inevitably produced GHGs. A complete analysis of whether society's emissions of GHGs endanger public health and welfare, as EPA should have conducted, would include not only whether the accumulation of anthropogenic GHGs in the atmosphere may be causing deleterious climate change but also whether the processes that produce those GHGs produce countervailing public health and welfare benefits.

My testimony is divided into two sections. I first discuss EPA's one-sided analytical approach in more depth. I then describe the process EPA used to formulate the Endangerment Finding and discuss how that process violated fundamental obligations EPA has under the Administrative Procedure Act, the rulemaking provisions of the CAA, the Information Quality Act, and other applicable authority. I further contrast the highly expedited and abbreviated

³ CDC, *Deaths: Preliminary Data for 2009* (March 16, 2011).

Endangerment Finding process with the much more deliberative and open process that EPA uses when it formulates a National Ambient Air Quality Standard (NAAQS).

DISCUSSION

I. One-Sided Analytical Approach

The question that the Endangerment Finding attempts to answer is whether society's emission of GHGs endangers the public health or welfare. But EPA's answer only addresses one side of that question—the effect of the emissions on health and welfare once they enter the atmosphere. There is another side of the question, however—the effect on public health and welfare of the activity that produces those emissions.

Obviously, the emission of GHGs does not occur in a vacuum. GHGs are emitted across the economy for many reasons, the principal of which is that various residential, commercial and industrial processes utilize fossil fuels for energy and because CO₂, the most ubiquitous GHG, is the inevitable byproduct of combusting such fuels. These processes produce fundamental health and welfare benefits without which modern life would be impossible. As stated above, a new report by the Centers for Disease Control (CDC) finds that the U.S. death rate (number of deaths per 100,000 population) fell for the “10th straight year” and is now at “a record low.”⁴ The chief reason is a decline in mortality rates related to heart disease, stroke, malignant tumors, Alzheimer's disease, diabetes, pneumonia/influenza, and other illnesses. As the CDC report and related publications clearly show, U.S. death rates have declined, decade by decade, since 1900, even as GHG emissions have increased.

This relationship between increasing GHG emissions and improved public health and welfare is not an accident. The direct cause of both the increased emissions and the improvements in health and welfare is society's use of energy, particularly electricity, as has

⁴ CDC, *Deaths: Preliminary Data for 2009* at 5.

been shown by a variety of publications. As the National Academy of Engineers noted in 2000 in naming electrification as the number one engineering achievement of the 20th century:

One hundred years ago, life was a constant struggle against disease, pollution, deforestation, treacherous working conditions, and enormous cultural divides unbreachable with current communications technologies. By the end of the 20th century, the world had become a healthier, safer, and more productive place, primarily because of engineering achievements.⁵

EPA's decision to limit its analysis to the perceived detrimental impact of emissions after they enter the atmosphere—as opposed to the positive impacts of the processes that create the emissions—is based on EPA's overly narrow interpretation of its mandate under Section 202(a) (and in other endangerment finding provisions in other parts of the CAA) and the intent of these provisions. Logically, when EPA assesses whether the emission of GHGs endanger public health and welfare, EPA must assess the dangers and benefits on both sides of the point where the emissions occur: in the atmosphere where the emissions lodge and, on the other side of the emitting stack or structure, in the processes that create the emissions. Otherwise, EPA will not be able to accurately assess whether the fact that society emits GHGs is a benefit or a detriment.

Without belaboring EPA's legal interpretation of its responsibilities here, I would simply note that a full analysis of the dangers to the public health and welfare posed both by emitting GHGs and not emitting GHGs makes sense from a policy perspective. And EPA admitted that policy played a role in its Endangerment Finding. As EPA stated:

[t]hroughout this Notice the judgments on endangerment and cause or contribute are described as a finding or findings. This is for ease of reference and is not intended to imply that the Administrator's exercise of judgment in applying the scientific information to the statutory criteria is solely a factual finding;

⁵ <http://www.nationalacademies.org/greatachievements/Feb22Release.PDF>.

while grounded squarely in the science of climate change, *these judgments also embody policy considerations*.⁶

The necessity for exercising policy judgment in acting in a precautionary fashion reflects the fact that determining the proper quantum of precaution in a particular case requires a balancing of risks and benefits in a broad sense. Obviously, over-caution creates its own health and welfare risks. As Justice Breyer stated in his concurring opinion in *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 495-496 (2001) (Breyer, concurring), “a world that is free of all risk – [would be] an impossible and undesirable objective.” And as the Endangerment Finding Proposal preamble states, the purpose of such a finding is to review “the totality of the circumstances” to determine “whether the emissions ‘*justify regulation*’ under the CAA.”⁷

If, as EPA says, the basic purpose of the Endangerment Finding is to assess all risks and benefits of emissions in order to arrive at a policy judgment of the proper amount of precaution that justifies regulation in a particular case, that purpose cannot be fulfilled if EPA only looks at the atmospheric impacts of emissions, and ignores the health and welfare reasons why the emissions occur in the first place. Without a full view of the balance of health and welfare factors that relate to emissions, EPA could find that society would be better off without GHG emissions, when a balanced analysis might yield the opposite conclusion.

The GHG regulation that EPA has already undertaken and further GHG regulation that EPA is likely to undertake in the future provides a particularly compelling illustration of the need for a balanced approach in assessing possible endangerment. As the regulatory preamble to the Endangerment Finding proposal stated, in somewhat of an understatement, “[t]he Administrator

⁶ Endangerment Finding, 74 Fed. Reg. at 18,892, n.10 (emphasis supplied).

⁷ *Id.* at 18,892/3 (emphasis supplied).

recognizes that the context for this action is unique.”⁸ As the IPCC has noted, “[e]missions of GHGs are associated with an extraordinary array of human activities.”⁹ Eighty-five percent of energy in the United States is derived from the combustion of fossil fuel. As a result, according to EPA, “[v]irtually every sector of the U.S. economy is either directly or indirectly a source of GHG emissions.”¹⁰

Because GHG emissions, particularly CO₂ emissions, are so closely tied with all facets of modern life, a finding that GHG emissions endanger public health and welfare is akin to saying that modern life endangers public health or welfare. That may be true in some sense, but the necessary rejoinder is: compared to what? Certainly not as compared with pre-industrial society with pre-industrial levels of atmospheric GHG concentrations. To again quote Justice Breyer’s concurring opinion in *Am. Trucking Ass’n*s, “[p]reindustrial society was not a very healthy society; hence a standard demanding the return of the Stone Age would not prove ‘requisite to protect the public health.’”¹¹ Thus, although EPA would presumably conclude that pre-industrial society would not pose a health and welfare danger in terms of GHG emissions, the lack of industrial activity that causes GHG emissions would pose other, almost certainly more serious health and welfare consequences.

Finally, the broader assessment of health and welfare impacts that I discuss here does not mean that EPA is without power to conduct a full assessment of the health and welfare impacts caused by potential climate change. To the contrary, such an assessment is a fundamental part of endangerment analysis. Nor do I maintain that, on balance, EPA could not find that GHG emissions endanger the public health or welfare. EPA, for instance, might find that the risks of

⁸ *Id.* at 18,890/3.

⁹ IPCC, *Climate Change 2001: Mitigation* (“IPCC 2001”), at 608, available at <http://www.ipcc.ch/>.

¹⁰ *Proposed Consent Decree, Clean Air Act Citizens Suit*, 68 Fed. Reg. 52,922, 52,928 (Sep. 8, 2003).

¹¹ 531 U.S. at 496.

what EPA might see as potentially catastrophic climate change outweigh the benefits accruing from energy production and other processes that result in the emission of GHGs. Or EPA might find that the risks to society of unabated GHG emissions outweigh the risks to society of some level of abated GHG emissions.

But what EPA cannot do is to ignore the public health and welfare benefits that cause society to emit GHGs—to, in effect, pretend that a possible scenario exists where GHGs are not emitted at all and modern life continues. Such a scenario does not exist, and to assume that it does is to ignore the purpose for which EPA is called on to assess endangerment, which is to duly protect society against real-world risk.

II. Process Flaws

A. Process that Led to Endangerment Finding

Proposed Endangerment Finding

When the current Administration took office in January 2009, it brought with it a firm conviction that a scientific consensus existed that anthropogenic GHG emissions were the cause of significant deleterious global climate change and that continued emissions would make the situation far worse. A central plank of President Obama’s campaign position on energy and environmental issues was the need to reduce GHG emissions by 80 percent by 2050.¹² And considerable frustration was felt over what was believed to be the Bush Administration’s failure to pursue GHG regulation under the CAA following the Supreme Court’s decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007). Indeed, Carol A. Browner, who would become director of the White House Office of Energy and Climate Change Policy, testified in hearings immediately following the Court decision that EPA should begin regulating GHG emissions from motor vehicles and powerplants at once and that “climate change is real, it is caused by

¹² http://my.barackobama.com/page/content/newenergy_more.

human activities, it is rapidly getting worse, and it will transform both our planet and humanity if action is not taken now.”¹³

The new Administration did not wait long before taking action. In one of her first acts, EPA Administrator Lisa P. Jackson issued a January 23, 2009 “Opening Memo to EPA employees” discussing her overall views on environmental regulation that set forth “five priorities that will receive my personal attention.” Her first priority was “[r]educing greenhouse gas emissions,” including through regulation under the CAA:

*The President has pledged to make responding to the threat of climate change a high priority of his administration. He is confident that we can transition to a low-carbon economy while creating jobs and making the investment we need to emerge from the current recession and create a strong foundation for future growth. I share this vision. EPA will stand ready to help Congress craft strong, science-based climate legislation that fulfills the vision of the President. As Congress does its work, we will move ahead to comply with the Supreme Court’s decision recognizing EPA’s obligation to address climate change under the Clean Air Act.*¹⁴

Consistent with this view, EPA proposed the Endangerment Finding on April 17, 2009, less than three months after the Administration took office. Although the proposed Endangerment Finding was ostensibly issued as a formal rulemaking document on which public comment was sought on all issues, including whether the Administration should make the Endangerment Finding at all, there was little doubt that the Administrator had already pre-judged that issue. Apart from her previous public statements on climate science and those of others senior to her in the Administration, the President announced in May 2009, just one month after the proposed Endangerment Finding was published in the Federal Register and before the

¹³ Testimony of Carol A. Browner in hearings before the Senate Environment and Public Works Committee (Apr. 27, 2007).

¹⁴ (Emphasis supplied.) The memorandum can be found at <http://blog.epa.gov/administrator/2009/01/26/opening-memo-to-epa-employees/>.

comment period even closed, that he had committed EPA to issuing motor vehicle GHG regulations that were premised on EPA making the Endangerment Finding.¹⁵ The President’s announcement was based on an agreement that resulted from private negotiations among the Administration, automakers, environmental parties, and representatives of the State of California, and these negotiations had commenced before EPA had even proposed the Endangerment Finding.

Despite the Administration’s commitment to unparalleled transparency in Agency decision-making—the Administrator had issued an April 23, 2009 memorandum on “Transparency in EPA’s Operations” that promised that EPA would operate “in a fishbowl” and declared that “[i]t is crucial that we apply the principles of transparency and openness to the rulemaking process”—no public record of these negotiations exist. Press reports, including in The New York Times, quoted the senior California representative in the negotiations as saying that she and Carol Browner, who coordinated the negotiations, specifically required that no written records of the negotiations be kept by any party.¹⁶

The agreement provided for imposition of GHG standards for model year 2012 automobiles and light duty trucks. In order to provide the automakers sufficient lead time to comply with the new standards, EPA needed to propose and then finalize the standards by the Spring of 2010. (It was also decided to coordinate the EPA GHG standards with Corporate Average Fuel Economy (CAFE) standards to be issued by the National Highway Traffic Safety Administration (NHTSA), and NHTSA is statutorily obligated to provide certain defined advance notice of new CAFE standards.) Given the agreement to put these new standards in

¹⁵ *President Obama Announces New Fuel Efficiency Policy*, http://www.whitehouse.gov/the_press_office/President-Obama-Announces-National-Fuel-Efficiency-Policy/.

¹⁶ Colin Sullivan, *Vow of Silence Key to White House-Calif. Fuel Economy Talks*, THE NEW YORK TIMES, May 20, 2009.

place by model year 2012, there was now no doubt that the Endangerment Finding, without which the EPA standards could not be promulgated, would need to be issued soon.

Final Endangerment Finding and the Administrator's Failure to Exercise Her Own Judgment

The final Endangerment Finding was issued on December 7, 2009 and published in the Federal Register shortly thereafter. Despite the requirement of Section 202(a) that the Administrator exercise her own judgment as to whether GHGs endanger public health and welfare, the Endangerment Finding was not the product of the Administrator's or her Agency's independent review of climate science. Instead, as the Administrator readily conceded, the Endangerment Finding was based almost exclusively on reports produced by third parties summarizing their views of global climate change science, reports that the Endangerment Finding referred to as "assessment literature."¹⁷ As the Endangerment Finding stated, "... the Administrator is relying on the major assessments of the USGCRP, the IPCC, and the NRC as the primary scientific and technical basis of her endangerment decision."¹⁸ The Administrator's statement of her primary reliance on these reports is repeated throughout the Endangerment Finding, the Technical Support Document (TSD) (which was the detailed document prepared by EPA in connection with the Endangerment Finding that discussed climate science), and the document EPA prepared to respond to rulemaking comments (the Response to Public

¹⁷ See, e.g., Endangerment Finding, 74 Fed. Reg. at 66,498/2.

¹⁸ Endangerment Finding, 74 Fed. Reg. at 66,510. The USGCRP refers to the United States Global Change Research Program. USGCRP subsumed the work of the U.S. Climate Change Science Program ("CCSP"), which had previously coordinated such research. As of January 16, 2009, the CCSP had produced 21 synthesis and assessment reports ("SAPs"), and these reports, along with the IPCC reports, became the principal basis for the June USGCRP report GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES. The IPCC is a body that was established by the United Nations Environment Programme and the World Meteorological Organization to "provide the world with a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences." Among other things, the IPCC releases Assessment Reports. The NRC is National Research Council.

Comments). For instance, the TSD stated that it “relies most heavily” on this “assessment literature.”¹⁹ The Response to Comments stated:

The endangerment analysis for greenhouse gases under the CAA requires that EPA examine the extent to which the GHGs constitute the air pollution that may be reasonably anticipated to endanger public health or welfare The Findings discuss in detail the information that is relevant to the determination and how the Administrator has interpreted it in deciding whether the air pollution is reasonably anticipated to endanger public health or welfare. The scientific literature as synthesized in the TSD provides exactly the kind of information that can help inform these issues. For example, *the TSD summarizes the conclusions of the assessment reports* with respect to: 1) current emissions of GHG emissions; 2) how these emissions are changing the composition of the atmosphere; 3) how such changes in the atmosphere are affecting the global and regional climate; and 4) the potential impacts of such changes in climate on human health and welfare, for current and future generations. *In its scope and quality, the assessment literature is relevant and appropriate for addressing the scientific issues under the CAA.*²⁰

Similarly, EPA stated that:

EPA disagrees that review of the scientific and technical information contained in the TSD was inadequate. *EPA did not develop new science as part of this action and instead summarized the existing peer-reviewed assessment literature.*²¹

Importantly, although EPA says it relied on reports of the USGCRP, the IPCC, and the NRC, EPA relied almost exclusively on the work of the IPCC on the critical “attribution” issue: whether changes to the climate system that EPA says are occurring and will accelerate in the future can be attributed to anthropogenic GHG emissions and not natural forces. Most of the TSD examines observed and projected climate and the effect on public health and welfare. Only eight pages of the TSD are devoted to the attribution issue.²² I count 67 citations in this section,

¹⁹ TSD at 4.

²⁰ Endangerment Finding Response to Public Comments, Vol. 1 at 5 (emphasis supplied.)

²¹ *Id.* at 7 (emphasis supplied).

²² TSD at 47-54.

with 47 to the IPCC. All the graphics in this section are taken from the IPCC, as is the introduction. Plainly, the principal authority for EPA's central conclusion that anthropogenic GHG emissions are causing deleterious climate change is the IPCC.

Limited Comment Period

EPA allowed only a sixty-day comment period on the Endangerment Finding, a period that was not sufficient to address the vast volume of material cited in the “assessment literature” on which EPA was relying—as well as the voluminous material that such literature ignored or which had been published after the “assessment literature” itself was published. Nevertheless, given the time pressure to make the Endangerment Finding that resulted from the Administration's agreement to promulgate GHG standards for model year 2012, requests to EPA to extend the sixty-day comment deadline were denied.

EPA's publicly-stated rationale for denying requests for more time to comment on the proposed Endangerment Finding is interesting because it amounts to a further admission that the Administrator did not exercise her own judgment in making that finding and instead relied on the “assessment literature.” She said that:

the major scientific assessments that the EPA relied upon in the TSD released with the ANPR had previously each gone through their own public review processes and have been publicly available for some time. In other words, EPA has provided ample time for review, particularly with regard to the technical support for the Findings.²³

Thus, according to EPA, the ability of the public to comment on the “assessment literature” during the processes in which that literature was developed guided EPA's decision in determining how much time the public should be given to comment on the proposed

²³ Endangerment Finding, 74 Fed. Reg. at 66,503.

Endangerment Finding.²⁴ EPA's logic makes sense only if one accepts that the Administrator has authority to essentially delegate her obligation to exercise her own judgment to third party institutions and that comments to these third party institutions as they exercise their judgment are tantamount to comments to EPA. But Section 202(a) does not permit the Administrator to delegate her obligation to exercise judgment to third parties, and the public has a right to comment on her exercise of judgment *to EPA*.

Lack of Independent and Objective Peer Review

The Administrator's near-total reliance on the third-party assessments is also shown in EPA's failure to provide for objective peer review of the Endangerment Finding. EPA's Information Quality Act (IQA) guidelines,²⁵ which are discussed in more detail below, incorporate a "Peer Review Policy" that "provides that major scientifically and technically based work products (including scientific, engineering, economic, or statistical documents) related to Agency decisions should be peer-reviewed." During the Endangerment Finding comment period, a number of commenters questioned the independence and objectivity of the personnel EPA selected to peer review the Endangerment Finding, which is plainly a major scientifically based work product requiring peer review under EPA's IQA guidelines. As these comments pointed

²⁴ In denying the extension requests, EPA also said that it had provided a 120-day comment period in the Advance Notice of Proposed Rulemaking ("ANPR") regarding potential GHG regulation (*Advance Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act*, 73 Fed. Reg. 44,353 (Jul. 30, 2008) (ANPR). The ANPR, however, did not contain any proposed Endangerment Finding or indeed any meaningful discussion of conclusions that might be drawn from the draft TSD that was included with the ANPR. Moreover, although the TSD in the ANPR was similar to the TSD in the proposed Endangerment Finding, there were important differences between the two. Additionally, a number of the CCSP assessment reports on which the ANPR TSD relied had not been through the public comment period for those reports and were not final at the time of the ANPR comment period. Thus, the 120-day comment period on the ANPR did not provide an opportunity for the public to comment on these reports *to EPA*.

²⁵ The IQA was enacted as Section 515 of the Consolidated Appropriations Act, 2001 (Pub.L. 106-554). EPA's IQA Guidelines are *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* (Oct. 2002), http://epa.gov/quality/informationguidelines/documents/EPA_InfoQualityGuidelines.pdf.

out, all of the peer reviewers were government scientists and many had worked directly on the “assessment literature” on which EPA relied.²⁶

In responding to this comment, the Administrator recognized that she was obligated to provide for independent peer review. She nevertheless maintained that her near complete reliance on the “assessment literature” meant that she was justified in selecting peer reviewers not on the basis of their independence from EPA or the “assessment literature” but on the basis of their familiarity with that literature. As she stated, “[g]iven our approach to the scientific literature ... the purpose of the federal expert review was to ensure that the TSD accurately summarized the conclusions and associated uncertainties from the assessment reports.”²⁷ In other words, it was not important to the Administrator that she receive an independent critique of her own Endangerment Finding; her concern was merely to ensure that she had accurately summarized the conclusions of the “assessment literature” on which she was relying.

Failure to Docket Information Relied On

Another example of the Administrator’s near total reliance on the “assessment literature” in lieu of making her own judgment is EPA’s failure to include in the official Endangerment Finding record the publications and scientific information relied on by the “assessment literature.” Docketing all of the information on which the Administrator relies is not a procedural formality. It is the key way in which the public is informed of the basis of the Agency’s decision and therefore is a critical part of the public’s ability to comment on the action the Agency is taking. As explained in the Administrator’s April 23, 2009 “Memo to EPA Employees” cited above, EPA can only ensure that the principles of transparency and openness are observed in the rulemaking process “if EPA clearly explains the basis for its decisions and

²⁶ See comments responded to at Endangerment Finding Response to Public Comments, Vol. 1 at 7.

²⁷ *Id.* at 7.

the information considered by the Agency appears in the rulemaking record.” (Emphasis supplied.)

Recognizing that she was required to include in the Endangerment Finding record the information on which she relied,²⁸ the Administrator nevertheless maintained that since she is “reasonably relying on the major assessments of the USGCRP, IPCC, and NRC as the primary scientific and technical basis of her endangerment decision,” she is not required to docket material that these reports themselves relied on.²⁹ She took the position that “[i]nformation regarding the underlying data, models, and studies used by the IPCC, USGCRP, CCSP, and NRC in developing their assessment reports can be accessed by consulting these reports.”³⁰ Similarly, the Administrator stated that she “did not conduct new research or modeling in developing the TSD, and instead relied upon the findings of the assessment literature, including data and modeling studies presented in those reports. The information mentioned by the Commenter can be accessed by consulting these assessment reports and the underlying studies.”³¹ She went on to say that “[o]ur comprehensive referencing of the assessment literature ensures transparency regarding the source of the data used....”³²

The Administrator’s rationale, however, is wrong in at least two respects. In the first place, if (as she admitted) she relied on the “assessment literature,” then presumably Agency personnel read the studies and data cited in that literature and were persuaded that the conclusions reached by that literature are correct. If that is the case, then those underlying studies and data must be included in EPA’s record, since ultimately it is that information that forms the basis of the Administrator’s conclusion that anthropogenic GHGs endanger public

²⁸ Endangerment Finding Response to Comments, Vol. 1 at 54.

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² *Id.*

health and welfare. Additionally, as the so-called “climategate” revelations showed (see below), the data underlying the IPCC conclusions, in fact, were not made publicly available by the IPCC or by the authors of the IPCC reports and indeed were withheld even when asked for under freedom of information law. Thus, the Administrator was incorrect in saying that the information cited in the “assessment literature” can be “accessed by consulting these assessment reports and the underlying studies.”

Refusal to Allow the Public to Comment on Climategate

Just weeks before EPA issued its Endangerment Finding, a considerable body of email and other information from the University of East Anglia (UEA) Climatic Research Unit (CRU) became available on the Internet. The emails are primarily those of American and British scientists who had critical roles in writing the IPCC reports.

The CRU information undermines a number of the central pillars on which the Endangerment Finding rests, particularly the work of the IPCC. The CRU information reveals that many of the principal scientists who authored key chapters of the IPCC scientific assessments were driven by a policy agenda that caused them to cross the line from neutral science to advocacy. They went far beyond even what is acceptable as advocacy, as they actively suppressed information that was contrary to, in their words, the “nice, tidy story” that they wished to present, they refused to disclose underlying data concerning the studies in which they were involved to third parties who might use the information to critique those studies—even when asked for that information in freedom of information requests and even to the extent of deleting emails—, they engaged in a wide variety of improper and indeed unethical tactics to manipulate the type of scientific information that appeared both in the IPCC reports and in the peer-reviewed scientific journals upon which the IPCC largely relied, and they relied on

inaccurate and unverified information from secondary source material that was produced by advocacy groups, information that the authors apparently knew was unverified but included anyway to advance the authors' advocacy agenda. A comprehensive discussion of the climategate material can be found in the attached Petition for Reconsideration.³³

The climategate revelations (at least) created significant doubt as to the heavy reliance the Administrator had placed in the IPCC reports. As discussed below, the IQA obligates EPA to ensure the reliability and transparency of the information on which it relies for important decisions. In responding to comments on the proposed Endangerment Finding, however, the Administrator stated that she had not made her own expert determination as to the quality and transparency of the information used in the "assessment literature" despite her relying so much on that literature. Instead, she said that she had satisfied her obligations to ensure the reliability and transparency of the information underlying the "assessment literature" by reviewing the procedures used by the entities that prepared the that literature to confirm that those entities, in her view, had adequately taken steps to ensure information quality and transparency. She stated that "[o]ur approach is consistent with these [EPA's IQA] guidelines because we thoroughly reviewed and evaluated the author selection, report preparation, expert review, public review, information quality, and approval procedures of IPCC, USGCRP/CCSP, and NRC to ensure the information adhered "to a basic standard of quality, including objectivity, utility and integrity."³⁴

There are at least two problems with the Administrator's rationale in this regard. In the first place, it is by no means certain that the Administrator can satisfy her IQA obligations as to information quality and transparency without examining the transparency and quality of the

³³ Petition for Reconsideration of Peabody Energy Company (Feb. 11, 2010). I am submitting both the Petition and the Executive Summary of the Petition for the record. If the Petition is considered too long to be included in the record, I ask that the Executive Summary be included instead.

³⁴ Response to Comments, Vol. 1 at 57.

information cited in the “assessment literature” given her heavy reliance on that literature to fulfill her statutory obligations. But even if she could satisfy her IQA obligations solely by examining the procedures used by the authors of the “assessment literature” to ensure reliability and quality, climategate undermined her conclusion that the IPCC’s procedures, in fact, had conformed with U.S. norms for scientific objectivity, integrity, and transparency.

A number of parties asked EPA to reconsider the Endangerment Finding in light of the climategate material and, in particular, to take public comment on this new information since it had not been available at the time comments were submitted on the proposed Endangerment Finding. These reconsideration petitions maintained that the climategate information and its implication for EPA’s reliance on the IPCC was at least important enough that EPA should allow the public an opportunity to comment on the impact of this information on the Endangerment Finding.

EPA, however, refused to even take public comment on climategate, dismissing the new information as essentially irrelevant to whether EPA had properly relied on the IPCC. Oddly, however, the Agency’s decisional documents needed more than five hundred pages to reach the conclusion that the climategate material was not important enough to warrant input from the public.³⁵

B. The Process EPA Conducted to Formulate the Endangerment Finding Failed to Meet Basic Requirements for Fairness and Transparency

The above discussion reveals basic process flaws in the manner in which the Endangerment Finding was developed. American law sets forth a number of procedural requirements that administrative agencies like EPA must observe in rulemaking proceedings and in making scientific determinations like the Endangerment Finding that become the basis for

³⁵ See the Response to Petitions at <http://www.epa.gov/climatechange/endangerment/petitions.html>.

regulatory policy. These include rulemaking requirements set forth in the CAA and the Administrative Procedure Act (APA), information quality and transparency requirements set forth in the IQA, and a number of analytical requirements set forth in various statutes and executive orders, such as the Unfunded Mandates Reform Act and Executive Order 12866 and President Obama's new Executive Order 13563 on "Improving Regulation and Regulatory Review."

As stated above, these process flaws are not mere technicalities that have no relevance to the substance of the Endangerment Finding. The reason that the law sets forth required procedures for administrative decision-making and scientific determinations is to ensure the integrity of the ultimate decision made.

Some of the most important flaws are as follows³⁶:

First, the most basic flaw is the Administrator having prejudged the Endangerment Finding, which is an obvious violation of the Administrative Procedure Act and the rulemaking provisions of the CAA. As discussed, even before the Endangerment Finding was proposed, the President had already undertaken negotiations to commit EPA to regulations that the Agency could not issue unless it made the Endangerment Finding, and these negotiations resulted in an agreement even before the comment period on the proposed Endangerment Finding expired. As to the basic issue of whether or not anthropogenic GHG emissions endanger the public health or welfare, the comment period and indeed the rulemaking process was largely a formality.

Second, in contravention of Section 202(a), the Administrator failed to exercise her own judgment and instead adopted the findings of the "assessment literature." I can think of no

³⁶ This discussion is not intended to be a complete discussion of the process and other flaws of the Endangerment Finding but instead is intended to illustrate some of the flaws.

instance where, on a matter of such overriding national importance, EPA relied so heavily and deferred so much to the judgment of third parties.

Third, apart from the pre-judgment issue, and whether or not limiting the comment period to sixty days is strictly a violation of law, sixty days was wholly insufficient for public input into the Endangerment Finding. This limited comment period contrasts dramatically with the numerous and often lengthy comment periods that inform EPA promulgation of the National Ambient Air Quality Standards (NAAQS), as will be further discussed below. Moreover, the Agency's rationale that the public had an opportunity to submit comments during preparation of the "assessment literature" lacks merit. Public comments were not taken in preparation of the IPCC science reports, and the public could not have been expected to know that comments on the USGCRP reports were necessary on the theory that EPA would later decide to use those reports as the basis for the Endangerment Finding and for the ensuing regulation (and, indeed, in contrast to the numerous public comments on the Endangerment Finding, relatively few public comments were submitted on those reports). More fundamentally, the right to comment on the Endangerment Finding is a right to comment *to EPA*, in order to influence *EPA* action, not a right to comment to third parties.

Fourth, climategate destroyed EPA's basis for concluding that it could rely on the IPCC's procedures for ensuring the quality, integrity and transparency of the information on which the IPCC relied. Climategate showed that either EPA's investigations of the IPCC procedures were wanting or the IPCC had departed from those procedures. Either way, given the climategate revelations, EPA should have (at a minimum) afforded the public an opportunity to comment on whether EPA's reliance on the IPCC was justified.

Moreover, in attempting to show that climategate did not affect the conclusions reached in the Endangerment Finding, EPA relied on studies prepared after the Endangerment Finding was finalized and then placed those studies in the Endangerment Finding docket. EPA thus attempted to shore up the rationale for the Endangerment Finding based on new information, but did not allow the public an opportunity to comment on such information or the conclusions EPA reached from it.

Fifth, EPA held separate rulemaking proceedings for making the Endangerment Finding and for promulgating the motor vehicle regulations triggered by that finding. EPA did not identify any other precedent involving an endangerment finding in which it had bifurcated the endangerment finding proceeding from the proceeding to issue substantive regulations.³⁷ As a result, in considering whether to make the Endangerment Finding, EPA never considered whether the cost of regulating outweighed the benefit. Thus, although EPA took the view that the Endangerment Finding automatically triggered an obligation by EPA to regulate motor vehicle GHG emissions, and that EPA regulation of motor vehicle GHG emissions automatically triggered regulation of GHG emissions from *stationary* facilities under the Prevention of Significant Deterioration (PSD) and Title V permit programs, EPA failed to undertake an assessment of the costs and benefits of GHG regulation of stationary sources.

Instead, EPA took the position during the Endangerment Finding proceeding that it was not required to assess the costs and benefits of the regulation that its Endangerment Finding triggered because the Endangerment Finding itself was non-regulatory.³⁸ But EPA also refused to study the costs and benefits of regulation of stationary source GHG emissions during the

³⁷ According to EPA, “[t]ypically, the endangerment and cause or contribute findings have been proposed concurrently with proposed standards under various sections of the CAA.” *Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 18,886, 18,888/3 (Apr. 24, 2009).

³⁸ Proposed Endangerment Finding, 74 Fed. Reg. at 18,909/1-2.

motor vehicle regulatory proceedings on the ground that such issue was more properly addressed in further proceedings EPA would have on GHG regulation under the PSD and Title V programs.³⁹ Yet EPA again refused to study the impacts of such regulation even during those proceedings.⁴⁰ To this day, EPA still has not conducted any study of the costs and benefits of the stationary source GHG regulation that the Endangerment Finding triggered.

Sixth, in developing the Endangerment Finding, the Administrator did not conform to several provisions of the Agency's own IQA guidelines and those of the Office of Management and Budget (OMB)⁴¹ for the "Utility" and "Quality" of information. The OMB Guidelines define "Utility" as "the usefulness of the information to its intended users, including the public. In assessing the usefulness of information that the agency disseminates to the public, the agency *needs to consider the uses of the information* not only from the perspective of the agency but also from the perspective of the public."⁴² EPA's IQA Guidelines amplify this requirement by providing that the Agency will subject "influential" scientific information to a "rigorous standard of quality."⁴³ "Influential" information is defined to include the following:

Information disseminated in support of top Agency actions (i.e., rules, substantive notices, policy documents, studies, guidance) that demand the ongoing involvement of the Administrator's Office and extensive cross-Agency involvement; issues that have the potential to result in major cross-Agency or cross-media policies, are highly controversial, or provide a significant opportunity to advance the Administrator's priorities. Top Agency actions usually have potentially great or widespread impacts on the private sector, the public or state, local or tribal governments. This

³⁹ *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards EPA Response to Comments Document for Joint Rulemaking* (Apr. 2010) at 7-66 – 7-77.

⁴⁰ *See Prevention of Significant Deterioration and Title V GHG Tailoring Rule: EPA's Response to Public Comments* (May 2010) at 163-65.

⁴¹ OMB's guidelines are set forth in *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies; Notice; Republication*, 67 Fed. Reg. 8,452 (Feb. 22, 2002).

⁴² *Id.* at 8,459/1-2 (emphasis supplied).

⁴³ EPA Information Quality Guidelines at 20.

category may also include precedent-setting or controversial scientific or economic issues.⁴⁴

Plainly, the Endangerment Finding qualifies as “influential” scientific information within the meaning of EPA’s guidelines, since it triggered GHG regulation of automobiles, regulation of all major stationary sources of GHG emissions under the PSD and Title V programs, and likely other far-reaching regulation. As a result, EPA should have, but failed in several respects to, apply a “rigorous standard of quality” in making the Endangerment Finding:

- As discussed in a number of comments in the rulemaking process, EPA failed to discuss a large number of peer-reviewed studies that contradict the Administrator’s conclusions. According to EPA’s Guidelines, EPA must “ensure and maximize the quality of ‘Influential’ scientific risk assessment information” by, among other things, discussing “peer-reviewed studies known to the Administrator that support, are directly relevant to, *or fail to support any estimate of risk and the methodology used to reconcile inconsistencies in the scientific data.*”⁴⁵

- As also discussed in comments, EPA’s discussion did not include a proper context of other peer-reviewed studies that conflict with EPA’s conclusions. OMB’s IQA Guidelines for Objectivity, however, require information to be “presented in an accurate, clear, complete, and unbiased manner,” including presenting the material within its proper context, with dissemination of other information “in order to ensure an accurate, clear, complete, and unbiased presentation.”⁴⁶

- As discussed above, EPA failed to provide for independent and objective peer review of the Endangerment Finding.

- Climategate revealed that the information underlying the IPCC reports on which EPA relied did not conform to IQA standards for transparency. Yet, for the reasons discussed above and in the attached Petition for Reconsideration, the climategate material revealed that the information used in the IPCC reports did not meet these standards regarding transparency as to data sources, assumptions used, analytic methods applied and statistical procedures employed.⁴⁷

⁴⁴ *Id.*

⁴⁵ *Id.* at 22-23 (emphasis supplied).

⁴⁶ OMB IQA Guidelines, 67 Fed. Reg. at 8,459/3.

⁴⁷ According to EPA’s IQA Guidelines, “EPA recognizes that influential scientific, financial, or statistical information should be subject to a higher degree of quality (for example, transparency about data and methods) than information that may not have a clear and substantial impact on important public policies or private sector decisions. A higher degree of transparency about data and methods will facilitate the reproducibility of such information by qualified third parties, to an acceptable degree of imprecision. . . . It is important that analytic results for influential information have a higher degree of transparency regarding (1) the source of the data used, (2) the various assumptions employed, (3) the analytic methods applied, and (4) the statistical procedures employed.” EPA IQA Guidelines at 20-21.

In sum, the process used by EPA to develop the Endangerment Finding was flawed, and these flaws undermine confidence in the Agency's substantive finding that GHGs may reasonably be anticipated to endanger public health or welfare.

C. EPA's Process for Establishing a NAAQS

The expedited and abbreviated process EPA used to make its Endangerment Finding may be contrasted with the methodical process EPA uses to develop NAAQS, a process that involves numerous opportunities for public comment on successive draft scientific and policy assessments. The example I will use is EPA's promulgation of the NAAQS for particulate matter (PM) in September 2006.⁴⁸

The key scientific documents prepared in connection with a NAAQS review are the Criteria Document (CD) and Staff Paper. The CD is prepared by EPA's Office of Research and Development and is a compilation and evaluation by EPA scientific staff and other expert authors of the latest scientific knowledge relevant to assessing the health and welfare effects of the air pollutant. The Staff Paper is prepared by EPA's Office of Air Quality Planning and Standards. Its purpose is to evaluate the policy implications of the key studies and scientific information contained in the CD and to identify the critical elements that EPA staff believes should be considered in establishing a NAAQS. It is intended to help "bridge the gap" between the scientific review contained in the CD and the judgments required of the EPA Administrator in determining whether it is appropriate to revise the NAAQS. CDs and Staff Reports each run to many hundreds of pages, much longer than the Endangerment Finding TSD.

In October 1997, EPA published its plans for the current periodic review of the PM NAAQS. As part of the process of preparing the PM CD, EPA's National Center for Environmental Assessment (NCEA) hosted a peer review workshop in April 1999 on drafts of

⁴⁸ The information below is taken from EPA's PM NAAQS website.

key chapters of the CD. The first external review draft CD was reviewed by the Clean Air Science Advisory Committee (CASAC) and the public at a meeting held in December 1999. Based on CASAC and public comment, NCEA revised the draft CD and released a second external review draft in March 2001 for review by CASAC and the public at a meeting held in July 2001. A preliminary Draft Staff Paper was released in June 2001 for public comment and for consultation with CASAC at the same public meeting. Taking into account CASAC and public comments, a third external review draft CD was released in May 2002 for review at a meeting held in July 2002. EPA released a fourth external review draft CD in June 2003, which was reviewed by CASAC and the public at a meeting held in August 2003.

The first draft Staff Paper, based on the fourth external review draft CD, was released at the end of August 2003, and was reviewed by CASAC and the public at a meeting held in November 2003. EPA held additional consultations with CASAC at public meetings held in February, July, and September 2004, leading to publication of the final CD in October 2004. This second draft Staff Paper, released for comment in January 2005, was based on the final CD. The Staff Paper was released in June 2005 and then another and final version was released in December 2005 following further consultation with CASAC.

The proposed standard was published in the Federal Register on January 17, 2006.⁴⁹ A ninety-day comment period was provided for. The final PM NAAQS was published in the Federal Register on October 27, 2006.⁵⁰

The 2006 PM NAAQS is now under review for possible revision, and the process is equally as extensive. Without going into detail, just since the new Administration took office, EPA has published 15 notices in the Federal Register of meetings, comment periods and review

⁴⁹ *National Ambient Air Quality Standards for Particulate Matter; Proposed Rule*, 71 Fed. Reg. 2,620 (Jan. 17, 2006).

⁵⁰ *National Ambient Air Quality Standards for Particulate Matter*, 71 Fed. Reg. 61,144 (Oct. 27, 2006).

drafts in connection with this review process. These include: Notice of CASAC Teleconference - August 25, 2010, Notice of Extension of Public Comment Period for Chapter 4 - Second Draft Policy Assessment, Notice of Availability - Quantitative Health Risk Assessment (Final Report) and Urban-Focused Visibility Assessment (Final Report), Notice of Availability and Request for Public Comment - Second Draft Policy Assessment, Notice of CASAC Meeting - July 26-27, 2010, Notice of CASAC Teleconference - May 7, 2010, Notice of Extension of Public Comment Period - First Draft Policy Assessment, Notice of CASAC Meeting March 10-11, 2010 and Upcoming Public Teleconference(s), Notice of CASAC Ambient Air Methods and Monitoring Subcommittee (AAMMS) Meeting - February 24-25, 2010; Public Teleconference - March 26, 2010, Notice of Availability and Public Comment Period for Draft Documents Related to the Review of the PM NAAQS, Notice of Availability - Integrated Science Assessment for PM (Final Report), Notice of Extension of Public Comment Period - Second Draft Integrated Science Assessment, Notice of Extension of Public Comment Period - Draft Assessment Documents, Notice of CASAC Meeting October 5-6, 2009 and Upcoming Public Teleconference(s), Notice of Availability and Public Comment Period for Draft Assessment Documents, Notice of Extension of Public Comment Period - Second Draft Integrated Science Assessment, Notice of Availability and Public Comment Period for PM ISA - Second External Review Draft, Notice of Planning Documents for Public Review and Comment, Notice of CASAC Meeting - April 1-2, 2009.⁵¹

In sum, the process that EPA used to develop the Endangerment Finding was considerably shorter and involved much less intensive review and a far more limited comment period than typifies the process for establishing a NAAQS. Yet GHG regulation is just as

⁵¹ See http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_2007_fr.html.

important, if not more so, that PM regulation, and climate science is considerably more complex than the science behind PM effects on health and welfare.

CONCLUSION

EPA's process for developing the Endangerment Finding was characterized by a number of flaws that undermine confidence in the substantive conclusions reached in that finding.

I appreciate the opportunity to provide this testimony.