United States
Environmental Protection Agency
Before the Administrator
EPA Docket ID Number EPA-HQ-OAR-2009-0171

IN RE:
PROPOSED ENDANGERMENT AND
CAUSE OR CONTRIBUTE FINDINGS FOR
GREENHOUSE GASES UNDER SECTION 202(a)
OF THE CLEAN AIR ACT; PROPOSED RULE,
74 FED. REG. 18,886 (APR. 24, 2009)

Petition of the Chamber of Commerce of the United States of America for EPA to Conduct Its Endangerment Finding Proceeding On The Record Using Administrative Procedure Act §§ 556 and 557

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INTRODUCTION

"[*P*]*romoting science isn't just about providing resources—it's about protecting free and open inquiry. It's about ensuring that facts and evidence are never twisted or obscured by politics or ideology.* ***It's about listening to what our scientists have to say, even when it's inconvenient—especially when its inconvenient****."*

—President Obama (Dec. 17, 2008)

*"****The public must be able to trust the science and scientific process informing public policy decisions****.... To the extent permitted by law, there should be transparency in the preparation, identification, and use of scientific and technological information in policymaking."*

—President Obama (Mar. 9, 2009)

"As Administrator, I will ensure EPA's efforts to address the environmental crises of today are rooted in three fundamental values: science-based policies and programs, adherence to the rule of law, and ***overwhelming transparency****."*

—EPA Administrator Jackson (Jan. 23, 2009)[1]

* * *

The statements above (and dozens like them collected herein), pledging commitment to transparency, public participation, and the elevation of unbiased scientific inquiry over raw political calculus, are said to be the foundation of the Obama Administration's approach to environmental policymaking. Now that the United States Environmental Protection Agency ("EPA") is on the cusp of making a decision that will "result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land," *Regulating Greenhouse Gas Emissions Under the Clean Air Act* 73 Fed. Reg. 44,354-55 (July 30, 2008), EPA should match reality to rhetoric. In short, EPA should require that this proceeding to resolve its *Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Proposed*

[1] In each of these three quotations emphasis has been added.

Rule, 74 Fed. Reg. 18,886 (Apr. 24, 2009) (hereinafter "Proposed Endangerment Finding") be conducted on the record, in accord with the procedures described in APA sections 556-557.

To date, EPA's informal rulemaking process has not matched its rhetoric, has not been based on the record, and has not been a transparent scientific process. Instead, we have a scientific issue of historic and economically massive consequence, as to which EPA itself admits extraordinary "uncertainty," but proposes a rule based entirely on untested scientific sources—mostly a U.N. report. We have essential scientific issues that are hugely controverted, but regulated parties have no opportunity to question their proponents to ensure the validity of the science. And we have political actions starkly at odds with the promises of transparency, extending not only to last week's belated White House report on the effects of global warming that was not provided with the Proposed Endangerment Finding, but also to revelations that the proposal the Administrator signed contains scientific assertions that are contrary to those reported by EPA's own staff in April 2009 with regard to the impact of global warming on ozone.

Only by converting EPA's "endangerment" determination to one based on the record can this situation be corrected to match the Administrator's promises of transparency and scientific integrity. Holding on-the-record proceedings would enable EPA to hear and resolve conflicting scientific observations, allow for live testimony under oath subject to cross-examination, and result in a decision that could be fairly evaluated by the public without any concern about the politics and legitimacy of its conclusions. Indeed, given the inadequacy of the current record and the magnitude of the issues presented, EPA would be irresponsible (not to mention in derogation of the Administration's repeated pledges) if it were to refuse to use readily available on-the-record procedures to evaluate the proposed endangerment finding.

EPA has the legal authority to resolve this scientific issue based on the record, using formal proceedings as an informed exercise of its discretion. And the respected Administrative Conference of the United States has said that such authority should be exercised precisely where, as here: (1) the scientific, technical or other data relevant to the proposed rule are "complex"; (2) the problem posed is so "open-ended" that diverse views should be fully heard; and (3) the costs that errors may impose are "significant." 1 C.F.R. § 305.76-3(1) (1993). As shown below, it is hard to imagine a situation where each part of this test is more easily met.

If EPA is truly committed to scientific integrity and transparency, then now is the time to prove it. In the circumstances here, those principles require the Agency to agree to resolve the Proposed Endangerment Finding on the record, rather than by an informal policy and political process. The Agency, and the Nation, would be better served by doing so.

Accordingly, the Chamber hereby petitions the United States Environmental Protection Agency ("EPA"), pursuant to Administrative Procedure Act ("APA") §§ 553(e) and 555(e),[2] to resolve its Proposed Endangerment Finding solely on the record of the scientific evidence, utilizing the procedures of APA sections 556-557.

INTEREST OF PETITIONER

The Chamber of Commerce of the United States of America (the "Chamber") is the world's largest business federation. The Chamber represents an underlying membership of more than three million companies and professional organizations of every size, in every industry sector, and from every region of the country. An important function of the Chamber is to

[2] APA section 553(e) creates a procedural right to petition for rulemaking, which the Chamber invokes because EPA decided to use Clean Air Act section 307(d) rulemaking procedures for the Proposed Endangerment Finding. APA section 555(e) (emphasis added) provides as follows: "Prompt notice shall be given of the denial in whole or in part of a ***written application, petition***, ***or other request of an interested person made in connection with any agency*** (Continued…)

represent the interests of its members in matters before Congress, the Executive Branch, and the courts. The Environmental Protection Agency's Proposed Endangerment Finding, if adopted, will have far reaching consequences for every one of its members, likely subjecting them to a swath of new regulations and untold costs.

LEGAL AND PROCEDURAL BACKGROUND

A. Clean Air Act Section 202(a)(1)

Under section 202(a)(1) of the Clean Air Act, if the Administrator makes a finding that "the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," then the Administrator must by regulation prescribe emission standards for new motor vehicles or engines that emit the pollutant(s) of concern.

As consequential as such a finding may be, its effects could go much further. Numerous other provisions of the Clean Air Act also premise regulation on an endangerment finding by the Administrator. According to EPA, "similar" endangerment language is found in sections 108 (NAAQS), 111 (NSPS), 112 (hazardous air pollution),[3] 115 (international air pollution), 211 (fuels), 213 (nonroad engines and vehicles), 231 (aircraft) and 615 (ozone protection). *Id.* "While no two endangerment tests are precisely the same," 73 Fed. 44,354, 44,419 (July 30,

proceeding. Except in affirming a prior denial or when the denial is self-explanatory, the notice shall be accompanied by a brief statement of the grounds for denial."

[3] The number of regulated facilities balloons if carbon dioxide is designated a Hazardous Air Pollutant ("HAP"), since the threshold for HAP regulation is 10 tons per year of a single pollutant or 25 tons per year of a combination of pollutants. Many homes easily cross the 10 ton-per-year threshold. CAA § 112(a)(1), 42 U.S.C. § 7412(a)(1). This Petition does not focus on the possibility that carbon dioxide could be named a HAP, since HAP regulation under Clean Air Act regulation is not available if carbon dioxide is made subject to the NAAQS program. *See* CAA § 112(b)(2), 42 U.S.C. § 7412(b)(2).

2008), they generally call for similar elements: whether the emissions cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. It is likely that, if the Proposed Endangerment Finding is finalized, it will lead to NAAQS and NSPS being set for carbon dioxide, as well as the trigger of PSD and Title V permit obligations for hundreds of thousands of previously-unregulated businesses. *See below* at pp. 25-32. Environmental advocacy groups can be expected to put relentless pressure on EPA to invoke its authority to the maximum extent possible once an endangerment finding is made. As but one example, consider the following:

> One Earthjustice attorney says that if the endangerment finding is limited to motor vehicles, activists will immediately send a letter to EPA urging an expanded determination that finds ships and airplanes also cause or contribute to climate change, in an effort to speed the agency's regulation of the sectors …. Another key environmentalist is urging EPA to act quickly to regulate GHGs from power plants. Although the source does not suggest that the agency should broaden the upcoming endangerment finding to include the sector, the source believes that EPA should move to regulate power plants later this year.

Kate Winston & Jenny Johnson, *Activists Vow to Push EPA to Expand Climate Rules Beyond Automobiles*, INSIDE EPA (Apr. 10, 2009).

B. *Massachusetts v. EPA*

The Proposed Endangerment Finding grows out of litigation. The case that was to become *Massachusetts v. EPA* essentially began on October 20, 1999, when the International Center for Technology Assessment ("ICTA") and 19 other groups filed a petition with EPA seeking regulation of greenhouse gases ("GHGs") from new motor vehicles under section 202(a)(1) of the Clean Air Act.[4] The Clinton Administration never acted on the ICTA petition, though it eventually did put it out for public comment days before that Administration came to a

[4] *See* Petition for Rulemaking and Collateral Relief Seeking the Regulation of Greenhouse Gas Emissions from New Motor Vehicles Under § 202 of the Clean Air Act, available at http://www.icta.org/doc/ghgpet2.pdf.

close. *See* 66 Fed. Reg. 7,486 (Jan. 23, 2001) (signed Jan. 12, 2001). Instead, in a series of letters and congressional hearings, the Clinton Administration took the position that it had the legal power to regulate carbon dioxide and other GHGs, but, as a matter of policy, it did not intend to use such authority.[5]

EPA denied the ICTA petition on August 8, 2003. EPA provided the following reasons for its denial:

1. Based on the legislative history of the Clean Air Act, as well as congressional action and Supreme Court precedent, EPA did not believe the Clean Air Act authorized regulation to address global climate change; and

2. Even if EPA had statutory authority to regulate GHGs, it would be unwise to do so because:

    a. Clean Air Act regulation of GHGs emitted by light-duty vehicles would interfere with fuel economy standards issued by the Department of Transportation;

    b. There is significant scientific uncertainty over the cause, extent and effects of climate change;[6] and

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[5] *See, e.g.*, Letter EPA General Counsel Gary Guzy to Representative McIntosh (July 12, 2000); Letter EPA General Counsel Gary Guzy to Representative McIntosh (Dec. 1, 1999); House Government Reform Committee, Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs and House Science Committee, Energy and Environment Subcommittee Joint Hearing, *Is CO_2 a Pollutant and Does EPA Have the Power to Regulate It?*, summary available at http://www.agiweb.org/gap/legis106/climate_hearings.html.

[6] For instance, EPA noted:

- While atmospheric concentrations of CO_2 are fairly consistent globally, the potential for either adverse or beneficial effects in the U.S. from these concentrations depends on complicated interaction of many variables on the land, in the oceans, and in the atmosphere, occurring around the world and over long periods of time. Characterization and assessment of such effects and the relation of such effects to atmospheric concentration of the CO_2 in the U.S. would present scientific issues of unprecedented complexity in the NAAQS context. The long-lived nature of the CO_2 global pool would also make it extremely difficult to evaluate the extent over time to which effects in the U.S. would be related to anthropogenic emissions in the U.S.

* * *

- Reducing the wide range of uncertainty inherent in current model predictions will require major advances in understanding and modeling of the factors that determine atmospheric concentrations of greenhouse gases and aerosols, and the processes that determine the sensitivity of the climate system. Specifically, this will involve reducing uncertainty regarding:

(Continued…)

c. Regulation would be inappropriate given the President's ongoing policies to address global climate change and hence would undermine international negotiations on the issue.

68 Fed. Reg. 52,922 (Sept. 8, 2003).

Several States led by Massachusetts joined with ICTA to seek review of EPA's denial decision in the D.C. Circuit. A divided panel of that Court affirmed EPA's position. Two Judges (Randolph and Sentelle) held that EPA had properly exercised its discretion to deny the ICTA petition, though Judge Sentelle expressed his preferred view that no party possessed standing to bring the petition denial into an Article III court. Judge Tatel dissented, and would have found that standing existed, EPA had the authority to grant the petition, and EPA had abused its discretion in denying it. *See generally Massachusetts v. EPA*, 415 F.3d 50 (D.C. Cir.), *en banc denied*, 433 F.3d 66 (D.C. Cir. 2005), *overruled by* 549 U.S. 497 (2007).

After taking the case, the Supreme Court handed down *Massachusetts v. EPA*, 549 U.S. 497, on April 2, 2007. In a 5-4 decision, the Court held that (1) GHGs fit within the Clean Air Act's extremely broad definition of "air pollutant," and therefore EPA does have the statutory

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- The future global use of fossil fuels and future global emissions of methane,
- The fraction of fossil fuel carbon that will remain in the atmosphere and contribute to radiative forcing versus exchange with the oceans or with the land biosphere,
- The impacts (either positive or negative) of climate change on regional and local systems,
- The nature and causes of the natural variability of climate and its interactions with human-induced changes, and
- The direct and indirect effects of the changing distribution of aerosols.
- Knowledge of the climate system and of projections about the future climate is derived from fundamental physics, chemistry and observations. Data are then incorporated in global circulation models. However, model projections are limited by the paucity of data available to evaluate the ability of coupled models to simulate important aspects of climate. The U.S. and other countries are attempting to overcome these limitations by developing a more comprehensive long-term observation system, by making more extensive regional measurements of greenhouse gases, and by increasing the computing power required to handle these expanded data sets.

(Continued…)

authority to regulate those emissions; and (2) because it has the authority to regulate, EPA's policy judgment was not sufficient to refuse to do so, and instead the Agency must confront the scientific question of endangerment on remand. The dissenters penned two separate opinions (each joined by all four dissenting Justices): one would have held that no party possessed standing, and the other would have held that EPA lacked the authority to grant the petition and, in the alternative, properly exercised its discretion to deny it.

As the dissent on the merits issues summarized matters (and which the majority did not dispute), the case was resolved to give EPA a trio of responses from which to select:

> 1. Find, based on the science, that greenhouse gas emissions from new motor vehicles or new motor vehicle engines contribute to air pollution that may reasonably be anticipated to endanger public health or welfare;
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> 2. Find, based on the science, that greenhouse gas emissions from new motor vehicles or new motor vehicle engines do not contribute to air pollution that may reasonably be anticipated to endanger public health or welfare; or
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> 3. Provide "some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether" greenhouse gas emissions from new motor vehicles or new motor vehicle engines endanger public health or welfare.

Massachusetts, 549 U.S. at 532-33; 550 (Scalia, J., dissenting).

The majority in *Massachusetts* emphasized that if EPA does not select the third option, but instead decides to make an up-or-down endangerment finding, then its inquiry would have to be premised on a close examination of the ***science***:

> While the statute does condition the exercise of EPA's authority on its formation of a "judgment," 42 U.S.C. § 7521(a)(1), that judgment must relate to whether an air pollutant "cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare," *ibid*.
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68 Fed. Reg. at 52,927, 52,930.

> Although we have neither the expertise nor the authority to evaluate these policy judgments, it is evident they have nothing to do with whether greenhouse gas emissions contribute to climate change. Still less do they amount to a reasoned justification for declining to form a scientific judgment.
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> * * *
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> Nor can EPA avoid its statutory obligation by noting the uncertainty surrounding various features of climate change and concluding that it would therefore be better not to regulate at this time. *See* 68 Fed. Reg. 52930-52931. If the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming, EPA must say so. That EPA would prefer not to regulate greenhouse gases because of some residual uncertainty—which, contrary to Justice SCALIA's apparent belief, *post*, at 1466-1468, is in fact all that it said, *see* 68 Fed. Reg. 52929 ("We do not believe … that it would be either effective or appropriate for EPA to establish [greenhouse gas] standards for motor vehicles at this time" (emphasis added))—is irrelevant. The statutory question is whether sufficient information exists to make an endangerment finding.[7]

Id. at 532-34.

C. Post-Remand History of *Massachusetts*

Following the Supreme Court's decision in *Massachusetts*, then-President Bush issued an Executive Order addressing coordination among the various agencies in the regulation of GHGs. Exec. Order No. 13,432, 72 Fed. Reg. 27,717, 27,717, § 1. (May 14, 2007). That Executive Order, which remains in effect, set out as the policy of the United States to ensure coordination in exercising the authorities to protect the environment and "in a manner consistent with sound science, analysis of benefits and costs, public safety, and economic growth." *Id.*

After the case returned to the D.C. Circuit, the state and environmental petitioners filed a petition for a writ of mandamus on April 2, 2008 to compel EPA to issue an endangerment

[7] In this passage and certainly in the full context of Justice Stevens's opinion for the Court, it is clear that EPA was not being precluded from holding a proceeding to assess endangerment and deciding that scientific uncertainty prevents it from making an affirmative endangerment finding. Instead, the Court was stating that uncertainty could not be invoked to support a policy preference to deny the ICTA rulemaking petition because EPA would rather not regulate.

finding within 60 days. Such relief was plainly beyond the power of the court because the Supreme Court had not ordered that an endangerment finding be made (let alone that it be made on any particular timetable). On June 26, 2008, the D.C. Circuit denied that motion in a *per curiam* order. Judge Tatel filed a separate opinion concurring in part and dissenting in part. Judge Tatel expressed his view that there was no requirement that EPA act on any specific deadline, based on the Supreme Court's decision in *Massachusetts v. EPA* or any other source of law. He dissented only because he would have held the petition for mandamus in abeyance rather than deny it outright. The denial of that mandamus petition means that EPA is free to take the time it needs to decide whether to exercise the third option granted to it in *Massachusetts v. EPA* regarding the existence of profound scientific uncertainty, or, if it wishes to make an up-or-down endangerment finding, to proceed carefully on the science and technical facts to get them right.

D. EPA's Advance Notice of Proposed Rulemaking

On July 30, 2008, EPA issued an ANPR. 73 Fed. Reg. 44,354. The ANPR: (1) discussed the Supreme Court's decision in *Massachusetts v. EPA* and solicited public comment regarding how EPA should respond; (2) described and solicited comment on petitions EPA had received to regulate greenhouse gas emissions from various sources; and (3) discussed "several other actions concerning stationary sources for which EPA has received comment regarding the regulation of GHG emissions." 73 Fed. Reg. at 44,354. The ANPR went on to discuss at length climate change, the Clean Air Act, and various legislative and regulatory proposals for regulating greenhouse gas emissions. 73 Fed. Reg. at 44,396-520.

Preceding the ANPR's EPA staff analysis, however, were 42 pages of contrary views from other federal agencies, including from the Departments of Agriculture, Commerce,

Transportation, and Energy, and from the EPA Administrator himself. In a special Preface, the EPA Administrator explained his own disagreement with the legislative and regulatory proposals in the ANPR. First, the Administrator noted that the proposals in the ANPR "could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land." 73 Fed. Reg. at 44,354-55. Moreover, this "profound effect" would not be a positive one: the Clean Air Act "is ill-suited for the task of regulating global greenhouse gas emissions," and "pursuing this course of action would inevitably result in a very complicated, time-consuming and, likely, convoluted set of regulations," which would "be relatively ineffective at reducing greenhouse gas concentrations given the potentially damaging effect on jobs and the U.S. economy." *Id.* at 44,355.

The Administrator's Preface was followed, in turn, by 40 pages of detailed, withering criticism of the ANPR (i) from the Office of Information and Regulatory Affairs in the Office of Management and Budget ("OIRA"), *id.* at 44,356-58; (ii) from the Secretaries of the Departments of Agriculture, Commerce, Transportation, and Energy, *id.* at 44,359-78; (iii) from the President's Council of Economic Advisers and Office of Science and Technology Policy, *id.* at 44,379-84; (iv) from the President's Council on Environmental Quality ("CEQ"), *id.* at 44,385-89; and (v) from the U.S. Small Business Association's Office of Advocacy. *Id.* at 44,390-96. OIRA's letter to the Administrator explained that the other agencies held "strong disagreement with many of the legal, analytical, economic, science, and policy interpretations in the draft," and that "[i]nteragency reviewers concluded upon reading the draft that trying to address greenhouse gas emissions through the existing provisions of the Clean Air Act will not only harm the U.S. economy, but will fail to provide an effective response to the global challenge of climate change." 73 Fed. Reg. at 44,356.

In a joint letter, the Secretaries of the Departments of Agriculture, Commerce, Transportation, and Energy agreed that (1) "the Clean Air Act is fundamentally ill-suited to the effective regulation of GHG emissions"; (2) the regulatory proposals in the ANPR would "harm America's international competitiveness"; (3) the legal theories offered in the draft were untested and uncertain and raise the inference that EPA had "prejudge[d] the question of endangerment"; (4) the ANPR was based on incorrect assumptions about the costs and benefits of regulation; and (5) the suggested approaches in the ANPR "would needlessly duplicate newly passed laws and effectively ignore regulatory initiatives currently underway." 73 Fed. Reg. 44,359-61. Each individual Department offered more detailed criticism of the ANPR, questioning the scientific, legal, and economic analysis of the EPA staff, explaining how the proposals in the ANPR would be ineffective and interfere with other laws and policies aimed at reducing greenhouse gas emissions, and detailing the negative effects that regulating GHGs under the Clean Air Act would have on the Nation's economy, security and energy policy. *Id.* at 44,361-5 (Department of Transportation), 44,365-71 (Department of Energy), 44,371-76 (Department of Commerce), 44,376-78 (Department of Agriculture). Letters from the President's Council of Economic Advisers and Office of Science and Technology Policy, CEQ, and from the U.S. Small Business Association's Office of Advocacy each offered similarly detailed and forceful criticisms of the ANPR's premises, analysis, and likely consequences. Among those forceful critiques is the statement by CEQ that "the staff draft does not provide a full and meaningful discussion of the broader policy and economic context in which it is considering, in the event of an endangerment finding, triggering the prospect of essentially automatic and immediate regulation over a vast range of community and business activity and an equally vast range of potentially discretionary

findings." 73 Fed. Reg. at 44,385. Instead, CEQ noted, the ANPR "myopically focuses on the Clean Air Act and ignores or understates major intended and unintended consequences."

EPA itself acknowledged in the staff's ANPR Summary that "the implications of a decision to regulate GHGs under the Act are so far-reaching that a number of other federal agencies have offered critical comments and raised serious questions during interagency review of EPA's ANPR," 73 Fed. Reg. at 44,354. At various points in the ANPR, the EPA staff acknowledged the profound scale of the uncertainty involved in the process of attempting to address climate change through regulation of greenhouse gas emissions. For example, in a section titled "Uncertainty in Benefits and Costs," the ANPR notes:

> In the case of climate change, the uncertainly [sic] inherent in most economic analyses of environmental regulations is magnified by the long-term and global scale of the problem and the resulting uncertainties regarding socio-economic futures, corresponding GHG emissions, climate responses to emissions changes, the bio-physical and economic impacts associated with changes in climate, and the costs of reducing GHG emissions.
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> Given the substantial uncertainties in quantifying many aspects of climate change mitigation and impacts, it is difficult to apply economic efficiency criteria, or even positive net benefit criteria… As a result, it is difficult to both identify the efficient policy and assess net benefits.

73 Fed. Reg. at 44,415. The ANPR notes that even the degree of uncertainty involved is itself uncertain. *Id.* ("EPA solicits comment on how to handle the uncertainty in benefits and costs calculations and application, given the quantified and unquantified uncertainties.").

E. Claimed Legal Basis for the Proposed Endangerment Finding

Nonetheless, the Administrator now proposes to find that six gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—constitute an "air pollutant" that contributes to air pollution that endangers the public welfare

within the meaning of Section 202(a) of the Clean Air Act. *See* 74 Fed. Reg. 18,886, 18,888 (Apr. 24, 2009). In an unprecedented move, EPA has elected to decouple this proposed finding of endangerment from the proposal of any emissions standards, including emissions standards under Section 202(a) itself, that a finding of endangerment would directly require it to promulgate. *See* 74 Fed. Reg. at 18,888; *see also* § 202(a) ("The Administrator ***shall*** by regulation prescribe … standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.") (emphasis added). As the Administrator states, "in the past the requisite contribution findings have been proposed concurrently with proposing emission standards for the relevant mobile source category." 74 Fed. Reg. at 18,905.[8]

Proceeding in this novel and non-transparent manner that disconnects scientific findings from regulatory consequences, the Administrator has also ignored her duty under Section 317(b) of the Clean Air Act to prepare an economic impact assessment of the Proposed Endangerment Finding. And, with more far-reaching consequences obviously in mind but not expressly set forth, she has elected to propose that the collection of ***six*** gases constitutes an air pollutant requiring regulation under Section 202—which applies only to motor vehicles—even though she expressly acknowledges that motor vehicles emit only ***four*** of the gases in the collection. *See* 74 Fed. Reg. at 18,905 ("Sources covered by section 202(a) of the Act emit four of the six

[8] *See also id*. ("Typically, the endangerment and cause or contribute findings have been proposed concurrently with proposed standards under various sections of the Clean Air Act, including section 202(a). Comment has been taken on these proposed findings as part of the notice and comment process for the emission standards.") (citing Rulemaking for non-road compression-ignition engines under section 213(a)(4) of the Clean Air Act, Proposed Rule, 58 Fed. Reg. 28,809, 28,813-14 (May 17, 1993), Final Rule, 59 Fed. Reg. 31,306, 31,318 (June 17, 1994); Rulemaking for highway heavy duty diesel engines and diesel sulfur fuel under sections 202(a) and 211(c) of the Clean Air Act, Proposed Rule, 65 Fed. Reg. 35,430 (June 2, 2000), Final Rule, 66 Fed. Reg. 5002 (Jan. 18, 2001)).

greenhouse gases that in combination comprise the air pollutant being considered in the cause or contribute analysis.").

The Administrator has thus far chosen to invoke her authority under Section 307(d)(1)(K) and 307(d)(1)(V) of the Clean Air Act to make the finding via informal notice-and-comment rulemaking governed by the procedures of Section 307(d), rather than through a formal, on-the-record process that would be more transparent and better at testing scientific data. *See* 74 Fed. Reg. at 1889 n.4.

In the Proposed Endangerment Finding, the Administrator admits that EPA's decision is supposed to be based on science, and not speculation. *Id*. Regarding treatment of uncertainty, the Administrator states, "the Administrator must exercise reasoned decision making, and avoid speculative or crystal ball inquiries." *Id*. at 18,890. Nonetheless, in proposing to resolve the endangerment issue, the Administrator expresses uncertainty with respect to numerous scientific points in contention throughout the Proposed Endangerment Finding, without addressing whether an on-the-record process might better enable their resolution. For example:

- "[T]he scientific literature does not provide definitive data or conclusions on how climate change might impact aeroallergens and subsequently the prevalence of allergenic illnesses in the U.S." *Id*. at 18,901.

- "The Administrator also acknowledges that warming temperatures may bring about some health benefits. Both extremely cold days and extremely hot days are dangerous to human health. But at least in the short run, modest temperature increases may produce health benefits in the U.S. [and elsewhere]. Although the IPCC projects reduced human mortality from cold exposure through 2100, ***it is currently difficult to ascertain the balance between increased heat-related mortality and decreased cold-related mortality***. With respect to health, different regions will be affected in different ways. ***The Administrator does not believe that it is now possible to quantify the various effects.***" *Id*. (emphasis added).

- "***There are many inherent uncertainties associated with characterizing both the observed and projected risks and impacts to public health and welfare due to current and projected greenhouse gas concentrations.*** Both probability and severity are not easy to specify. It is difficult to attribute any single past event (hurricane, flood, drought, or heat wave) to elevated greenhouse gas concentrations even if it is understood that anthropogenic climate change has already made such events more likely or more extreme. ***The precise rate and***

magnitude of future climate change, for both the globe and for the U.S., remain uncertain …. Projecting the exact magnitude of a particular impact due to climate change is difficult due to what are often long time frames to consider, the uncertain nature of how the system or sector will be affected by climate change, and uncertainties about how other factors (*e.g.*, income levels, technologies, demographics) will change over time which can in turn affect the vulnerability of the system or sector to climate change." *Id*. at 18,903 (emphasis added).

- "***Many uncertainties could push in the direction of either greater or lesser risks as they become understood.*** EPA has acknowledged the possibility of beneficial effects on both health and welfare. Other possibilities include catastrophic events. Examples of such key uncertainties involve how the frequency of hurricanes and other extreme weather events may change in a changing climate, the potential to trigger thresholds for abrupt climate change …, and how responsive the climate ultimately will be to the heating effect being caused by anthropogenic greenhouse gases…. ***These uncertainties will be with us for the foreseeable future.***" *Id*. (emphasis added)

And the web-based technical support document ("TSD") on which EPA relies reveals even greater uncertainty than disclosed by the Proposed Endangerment Finding published in the *Federal Register*:

- "[C]learly attributing specific regional changes in climate to emissions of greenhouse gases from human activities is difficult, especially for precipitation." ES-3.

- Increased hurricane intensity is "likely," but changes in frequency of hurricanes "are currently too uncertain for confident projections." ES-4.

- "Carbon dioxide can have stimulatory or fertilization effects on plant growth. There is debate and uncertainty about the sensitivity of crop yields to the direct effects of elevated CO_2 levels. However, the IPCC … concluded that elevated CO_2 levels are expected to result in small beneficial impacts on crop yields." *Id*. at 17.

- Identifying the global average net effect of human activities on temperature, with "very high confidence," but with a large uncertainty range: 0.6 - 2.4 Watts per square meter. *Id.* at 19. Much of this variability in the estimate of anthropogenic contribution to global warming is due to a large range of uncertainty in the magnitude of the cooling effect of human-emitted aerosols. *Id.* at 21.

- For long-term modeling of historical temperatures, EPA expresses high confidence in temperature estimates post-1600, "[l]ess confidence" in estimates for the period A.D. 900-1600, and "[v]ery little confidence" in estimates prior to A.D. 900. *Id*. at 26-27.

- EPA's various scenarios for future emissions reveal large variability in expected emissions: "Total ***cumulative*** (1990 to 2100) CO_2 emissions across the SRES scenarios range from 2,826 gigatonnes of CO_2 … to approximately 9,322 [gigatonnes of CO_2]." *Id.* at 47. As mentioned above, these scenarios all assume "no explicit GHG mitigation policies beyond

those currently enacted." *Id.* at 45. Likewise, the average level of global warming from 1990-2100 across all the scenarios widely ranges from 1.1-6.4 degrees Celsius. *Id*. at 53.

- EPA notes that the CCSP "cautions that projections of precipitation in some cases remain 'problematic' (especially at the regional scale) and that 'uncertainties in the climatic effects of manmade aerosols (liquid and solid particles suspended in the atmosphere) constitute a major stumbling block' in certain modeling experiments. It adds "uncertainties related to clouds increase the difficulty in simulating the climatic effects of aerosols, since these aerosols are known to interact with clouds and potentially can change cloud radiative properties and cloud cover.'" *Id*. at 52-53.

- "[P]rojections in frequency changes in tropical cyclones are currently too uncertain for confident projections. Some modeling studies have projected a decrease in the number of tropical cyclones globally due to increased stability of the tropical atmosphere in a warmer climate, characterized by fewer weak storms and greater numbers of intense storms …." *Id*. at 62.

- "Changes in the forcing and propagation of planetary waves in the polar winter are a major source of uncertainty for predicting future levels of Arctic ozone loss …." *Id*. at 66.

- "The projected warming is expected to result in fewer deaths due to reduced exposure to the cold. It is not clear whether reduced mortality from cold will be greater or less than increased heat-related mortality in the U.S. due to climate change …." *Id.* at 70. "The IPCC (2007) does not explicitly assess studies since the TAR which analyze changes in *both* heat- and cold-related mortality in the U.S. in the observed climate or for different future climate scenarios. … Given the paucity of recent literature on the subject and the challenges in estimating and projecting weather-related mortality, IPCC concludes additional research is needed to understand how the balance of heat-and [sic] cold-related deaths might change globally under different climate scenarios …." *Id*. at 71

- EPA identifies a potentially questionable assumption that many of its studies rely upon: "[M]ost studies to date that have examined potential future climate change impacts on air quality isolate the climate effect by holding precursor air pollutant emissions constant over time." *Id*. at 78.

- "Changes in precipitation patterns will play a large role in determining the net impacts of climate change at the national and sub-national scales, where uncertainties about precipitation changes remain very large." *Id*. at 84

- "There is still uncertainty about the sensitivity of crop yields in the U.S. and other world regions to the direct effects of elevated CO_2 levels. The IPCC … concluded that elevated CO_2 levels are expected to contribute to small beneficial impacts on crop yields." *Id*.

- "Several yet unresolved questions prevent a definitive assessment of the effect of elevated CO_2 on other components of the carbon cycle in forest ecosystems (Ryan, *et al.*, 2008). *Id*. at 90.

- "Erosion and ecosystem loss is affecting many parts of the U.S. coastline, but it remains unclear to what extent these losses result from climate change instead of land loss associated with relative sea-level rise due to subsidence and other human drivers …." *Id*. at 101.

- "Existing studies do not agree on whether there would be a net increase or decrease in energy consumption with changed climate because a variety of methodologies have been used (CCSP, 2007a)." *Id*. at 105.

- "Significant uncertainty exists about the potential impacts of climate change on energy production and distribution, in part because the timing and magnitude of climate impacts are uncertain." *Id*. at 106.

- And, in the brief appendix on adaptation to climate change, EPA notes that "[t]here is a long record of practices to adapt to the impacts of weather as well as natural climate variability." *Id.* 140. Furthermore, "[c]urrent scientific information does not provide sufficient information to assess how effective current and future adaptation options will be at reducing vulnerability to the impacts of climate change." *Id*. at 141.

The Proposed Endangerment Finding, which is not based on an on-the-record transparent approach under APA §§ 556-57, does not disclose the weight the Administrator believes should be accorded to the various positive and negative impacts of global warming discussed throughout the document, nor the balance of their relative uncertainties, and the Proposed Endangerment Finding reflects no cost-benefit analysis whatsoever despite the obviously massive impact on the U.S. economy.

F. EPA Has Repeatedly Promised the Use of Sound Science and Transparent Decisionmaking in Decisions Like This One.

Though, to date, this proceeding has not been on the record, this Administration—including the EPA Administrator—has repeatedly and publicly pledged that scientific issues, including the issues present here, will be addressed with transparency and openness, so that science is decisive, not politics or ideology. To that end, President Obama has promised:

- "But let's be clear: promoting science isn't just about providing resources—it is also about protecting free and open inquiry. It is about letting scientists like those here today do their jobs … and listening to what they tell us, even when it's inconvenient—especially when it's inconvenient. ***It is about ensuring that scientific data is never distorted or concealed to serve a political agenda—and that we make scientific decisions based on facts, not ideology.***" Remarks of President Barack Obama—As

Prepared for Delivery, Signing of Stem Cell Executive Order and Scientific Integrity Presidential Memorandum (Mar. 9, 2009) (emphasis added).[9]

- "Science and the scientific process must inform and guide decisions of my Administration on a wide range of issues, including … mitigation of the threat of climate change." Scientific Integrity, Mem. for the Heads of Executive Dep'ts & Agencies, 74 Fed. Reg. 10671, 10671 (Mar. 9, 2009) (emphasis added).

- "***The public must be able to trust the science and scientific process informing public policy decisions.*** Political officials should not suppress or alter scientific or technological findings and conclusions." *Id.* (emphasis added).

- "To the extent permitted by law, there should be transparency in the preparation, identification, and use of scientific and technological information in policymaking." *Id.*

- "Our progress as a nation—and our values as a nation—are rooted in free and open inquiry. To undermine scientific integrity is to undermine our democracy. It is contrary to our way of life." President Obama, Remarks By the President at the National Academy of Sciences Annual Meeting (Apr. 27, 2009).[10]

- "I want to be sure that facts are driving scientific decisions—and not the other way around." *Id.*

- "My administration will not deny facts, we will be guided by them." President Barack Obama, Remarks by the President on Jobs, Energy Independence, and Climate Change (Jan. 26, 2009).[11]

- "My Administration is committed to creating an unprecedented level of openness in Government. … Openness will strengthen our democracy and promote efficiency and effectiveness in Government…. ***Executive departments and agencies should offer Americans increased opportunities to participate in policymaking and to provide their Government with the benefits of their collective expertise and information.***" President Obama, Mem. for the Heads of Executive Departments and Agencies, "Transparency and Open Government" (Jan. 21, 2009) (emphasis added).[12]

- "Because the truth is that promoting science isn't just about providing resources—it's about protecting free and open inquiry. ***It's about ensuring that facts and evidence are***

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[9] Available at http://www.whitehouse.gov/the_press_office/Remarks-of-the-President-As-Prepared-for-Delivery-Signing-of-Stem-Cell-Executive-Order-and-Scientific-Integrity-Presidential-Memorandum/.

[10] Available at http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-at-the-National-Academy-of-Sciences-Annual-Meeting/.

[11] Available at http://www.whitehouse.gov/blog_post/Fromperiltoprogress/.

[12] Available at http://www.whitehouse.gov/the_press_office/Transparency_and_Open_Government/.

never twisted or obscured by politics or ideology. It's about listening to what our scientists have to say, even when it's inconvenient—especially when it's inconvenient. Because the highest purpose of science is the search for knowledge, truth and a greater understanding of the world around us." Barack Obama, Science Team Rollout Radio Address (Dec. 17, 2008) (emphasis added).[13]

Moreover, President Obama took the step of directing the heads of Executive Branch Agencies that:

- "When scientific or technological information is considered in policy decisions, the information should be subject to well-established scientific processes, including peer review where appropriate." 74 Fed. Reg. 10671 at § 1(c).

- "Each agency should have in place procedures to identify and address instances in which the scientific process or the integrity of scientific and technological information may be compromised." *Id.* at § 1(e).

- **"Each agency should adopt such additional procedures … as are necessary to ensure the integrity of scientific and technological information and processes on which the agency relies in its decisionmaking or otherwise uses or prepares.** *Id.* at 10,671-72, § 1(f).

Members of President Obama's Cabinet have echoed these promises. For example:

- Secretary of Interior Salazar has "vow[ed] to lead with openness in decision making, high ethical standards, and respect for scientific integrity." Mem. to Dep't of Interior Employees, "Ethical Responsibilities" (Jan. 26, 2009);[14] *see also* Confirmation Statement of Ken Salazar (Jan. 15, 2009) ("If confirmed, my first priority will be to lead the Interior Department with openness in decision-making, high ethical standards, and respect for scientific integrity.");[15] DOI Press Release, "Secretary Salazar Announces Interior's Economic Stimulus Projects in Arizona" (May 4, 2009) ("As the steward of America's resources, our Department has a unique responsibility to carry out its mission in a transparent, open manner by arriving at policy decisions based on public input and 'best science' practices").[16]

- Secretary of Agriculture Vilsack has stated: "As we work to achieve these goals, we will be guided by the values that President Obama has outlined for his Administration:

[13] Available at http://my.barackobama.com/page/community/post/time%20for%20you/gGx8F7.

[14] Available at http://www.blm.gov/wo/st/en/info/newsroom/2009/january/nr_01_29_2009.print.html.

[15] Available at http://www.doi.gov/ocl/2006/SalazarConfirmation_011509.htm.

[16] Available at http://www.blm.gov/az/st/en/info/newsroom/2009/may/may_4__2009_-_secretary.html.

transparency, participation, and collaboration. We have an obligation to the public to make our programs as open as possible so that everyone can participate." Mem. to Dep't of Agriculture Employees (Feb. 12, 2009).[17]

Top officials at EPA have made similar pledges. EPA Administrator Jackson has promised that "[a]s administrator, I will ensure EPA's efforts to address the environmental crises of today are rooted in three fundamental values: science-based policies and programs, adherence to the rule of law, and overwhelming transparency." Available at http://www.epa.gov/administrator/. She also stated:

- On transparency:
  - "The success of our efforts depends on earning and maintaining the trust of the public we serve by upholding values of transparency and openness in conducting EPA operations." Testimony of Lisa Jackson Before the House Appropriations Committee (May 19, 2009).[18]
  - "Public trust in the Agency demands that we … fully disclose the information that forms the bases for our decisions. I pledge that we will carry out the work of the Agency ***in public view so that the door is open to all interested parties*** and that there is no doubt why we are acting and how we arrived at our decisions." Mem. to EPA Employees (Jan. 23, 2009) (emphasis added).[19]
  - "Consistent with this principle and my commitment to transparency, I believe that the methodologies and guidelines that EPA uses for scientific analyses should be shared fully with the public." Mem. to EPA Employees, "Scientific Integrity: Our Compass for Environmental Protection" (May 9, 2009).[20]
  - "Our regulatory decisions should include a full explanation of the science issues addressed by the Agency, the data relevant to those issues, and the interpretations and judgments underlying the Agency's scientific findings and conclusions." *Id*.[21]

[17] Available at http://www.usda.gov/documents/VilsackLetter.pdf.

[18] Available at http://www.epa.gov/ocir/hearings/testimony/111_2009_2010/2009_0519_lpj.pdf.

[19] Available at http://www.epa.gov/administrator/memotoemployees.html.

[20] Available at http://www.epa.gov/administrator/scientificmemo.html.

[21] Available at http://www.epa.gov/administrator/scientificmemo.html.

- "In all its programs, EPA will provide for the ***fullest possible public participation*** in decision-making." Mem. to EPA Employees, "Transparency in EPA's Operations" (Apr. 23, 2009) (emphasis added).[22]

- "EPA [will] remain ***open and accessible to those representing all points of view***, [and] EPA offices responsible for decisions [will] take affirmative steps to solicit the views of those who will be affected by these decisions." *Id*.[23]

- "EPA will not accord privileged status to any special interest." *Id.*[24]

- "Public participation in Agency rulemaking proceedings may take a variety of forms…. ***I encourage our staff to be creative and innovative in the tools we use to engage the public in our decision-making***." *Id* .[25]

- "In short, we will let more sunlight into our Agency." *Id.* [26]

- "***EPA remains committed to maintaining an open and transparent rulemaking process on all of our efforts.***" Ltr. from L. Jackson, Administrator, EPA, to Hon. Darrell Issa, Ranking Member, Committee on Oversight and Government Reform, U.S. House of Representatives (June 17, 2009) (emphasis added).

- On scientific integrity:

  - "Public trust in the Agency demands that we … consider the views and data presented carefully and objectively." Mem. to EPA Employees (Jan. 23, 2009). [27]

  - "The public health and environmental laws that Congress has enacted depend on ***rigorous adherence to the best available science***. That is why, when I became Administrator, I pledged to uphold values of scientific integrity every day." Mem. to EPA Employees, "Scientific Integrity: Our Compass for Environmental Protection" (May 9, 2009).[28]

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[22] Available at http://www.epa.gov/administrator/operationsmemo.html.

[23] Available at http://www.epa.gov/administrator/operationsmemo.html.

[24] Available at http://www.epa.gov/administrator/operationsmemo.html.

[25] Available at http://www.epa.gov/administrator/operationsmemo.html.

[26] Available at http://www.epa.gov/administrator/operationsmemo.html.

[27] Available at http://www.epa.gov/administrator/memotoemployees.html.

[28] Available at http://www.epa.gov/administrator/scientificmemo.html.

- "It is my promise that ***scientific integrity will be the backbone*** of my leadership of the Agency." Mem. to EPA Employees, "Scientific Integrity: Our Compass for Environmental Protection" (May 9, 2009) (emphasis added).[29]

- "[P]olicymakers must … insist[] that the Agency's scientific processes meet the highest standards of rigor, quality, and integrity." Mem. to EPA Employees, "Scientific Integrity: Our Compass for Environmental Protection" (May 9, 2009).[30]

- "[N]or will [EPA] accept any recommendation or proposal without careful, critical, and independent examination." Mem. to EPA Employees, "Transparency in EPA's Operations" (Apr. 23, 2009).[31]

Regina McCarthy, Assistant Administrator of the Office of Air and Radiation, has followed the rhetoric of the President and the Administrator:

- On transparency:

  - "Like Administrator Jackson, I am committed to transparency in the development of agency regulations." Env't & Public Works Committee Hr'g, Follow-Up Questions for Written Submission 14 (Apr. 2, 2009); *see id.* at 15 ("I have pledged that, if I am confirmed, my actions as Assistant Administrator will be also conducted with a high degree of transparency.").

  - "I strongly support transparency in the government's conduct of the nation's business, and if confirmed, I will work with Agency's experts and the Administrator to ensure that OAR provides the public ***with meaningful opportunities to participate in the Office's regulatory process***." Env't & Public Works Committee Hr'g, Follow-Up Questions for Written Submission 14-15 (Apr. 2, 2009) (emphasis added).

  - "President Obama and Administrator Jackson have made transparency a cornerstone of their decision-making efforts. I will ensure that my actions are consistent with their overall commitment." Env't & Public Works Committee Hr'g, Follow-Up Questions for Written Submission 15 (Apr. 2, 2009).

  - "Administrator Jackson has made a promise that ***her EPA will be transparent*** in its decision-making, and ***that is what I will deliver***." Hr'g on Nominations, Committee on Env't & Public Works 3 (Apr. 2, 2009).[32]

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[29] Available at http://www.epa.gov/administrator/scientificmemo.html.

[30] Available at http://www.epa.gov/administrator/scientificmemo.html.

[31] Available at http://www.epa.gov/administrator/operationsmemo.html.

- "If confirmed, I will work tirelessly to reach out, listen and learn both inside and outside the agency, on behalf of Administrator Jackson." Hr'g on Nominations, Committee on Env't & Public Works 4 (Apr. 2, 2009).[33]

- "***EPA remains committed to maintaining an open and transparent rulemaking process on all of our efforts.*** We are maintaining an open door policy on this rulemaking." Ltr. from G. McCarthy, Assistant Administrator, EPA to B. Brendle, Director, Energy and Resources Policy, The National Association of Manufacturers (June 11, 2009) (emphasis added).

- On scientific integrity:

  - "The Administrator has expressed her commitment to decisions that are based on sound science and I will do everything I can to ensure that my recommendations meet her stated expectations." Env't & Public Works Committee Hr'g, Follow-Up Questions for Written Submission 13 (Apr. 2, 2009).

  - With regard to the regulation of greenhouse gases, "If I am confirmed, I look forward to working with the staff and leadership of EPA and NHTSA ***to ensure that our respective programs are based on the best scientific, technical, and economic information available***, and are developed in close coordination with our stakeholders, including the states and the vehicle manufacturers." Env't & Public Works Committee Hr'g, Follow-Up Questions for Written Submission 29 (Apr. 2, 2009).

  - "I intend to leave the science to the scientists." Hr'g on Nominations, Committee on Env't & Public Works 2 (Apr. 2, 2009).[34]

  - "***Science will be the backbone of our decision-making process***. That is what Administrator Jackson has promised, and ***that is what I will deliver***." Hr'g on Nominations, Committee on Env't & Public Works 3 (Apr. 2, 2009).[35]

The Administration and EPA must deliver on these promises that science will prevail in decisionmaking and that it will prevail in a public and open way. It is not enough to "talk the

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[32] Available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=90de7f90-1c8f-40b3-b287-bac245986216.

[33] Available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=90de7f90-1c8f-40b3-b287-bac245986216.

[34] Available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=90de7f90-1c8f-40b3-b287-bac245986216

[35] Available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=90de7f90-1c8f-40b3-b287-bac245986216.

talk"; a genuine commitment to transparency and scientific integrity requires EPA to "walk the walk" in this proceeding by adopting a process that is on the record.

ARGUMENT

I. FINALIZING AN AFFIRMATIVE ENDANGERMENT FINDING WOULD UNLEASH A REGULATORY CASCADE OF UNEQUALED PROPORTION, WARRANTING AN ON-THE-RECORD PROCEEDING.

As various Cabinet Officers noted in the ANPR, the consequences of the Proposed Endangerment Finding, if it is finalized in something like its present form, are enormous and unprecedented. If the Proposed Endangerment Finding determines that GHGs endanger the public health or welfare, then a regulatory torrent that is unmatched in the history of American government would be unleashed. The current informal proceeding, which arises from the remand in *Massachusetts v. EPA* and has not been conducted on the record, involves the seemingly focused question of endangerment as caused by new motor vehicles or engines. But an endangerment finding ostensibly addressed to motor vehicles would lead to an inevitable regulatory cascade, potentially triggering obligations to promulgate National Ambient Air Quality Standards ("NAAQS"), New Source Performance Standards ("NSPS") and other requirements such as the Prevention of Significant Deterioration ("PSD") and Title V operating permits. The result could lead to the regulation of various stationary sources, construction activities and more. In short, the Proposed Endangerment Finding could lead ineluctably to regulation of the entire national economy, turning EPA into a National Zoning Board, without such a mandate from Congress, or awareness of the American people.

A. National Ambient Air Quality Standards ("NAAQS").

NAAQS are predicated on a finding of endangerment under Clean Air Act section 108, 42 U.S.C. § 7408, but once that finding is made, EPA has no choice but to begin the NAAQS

process. The process of establishing a NAAQS begins under Section 108 with EPA's publication of a "criteria document" describing the public health and welfare effects of the pollutant at issue. Section 108(a) obligates the EPA Administrator to issue such a document for pollutants (a) which may reasonably be anticipated to cause or contribute to air pollution that endangers public health or welfare; (b) which are emitted by "numerous or diverse mobile or stationary sources;" and (c) for which air quality criteria had not been issued prior to the date of enactment of the 1970 CAA, but for which EPA plans to issue air quality criteria. Elements (b)-(c) are easily satisfied for carbon dioxide. And once carbon dioxide becomes a criteria pollutant, the issuance of NAAQS must follow. Clean Air Act section 109, 42 U.S.C. § 7409, states that EPA shall publish regulations prescribing NAAQS for every criteria pollutant, and section 110, 42 U.S.C. § 7410, states that each State shall adopt and submit to EPA the so-called SIPs (State implementation plans).

The key problem created by an endangerment finding triggering NAAQS is that the nature of GHGs is that they quickly mix evenly throughout the atmosphere, meaning that the ostensible harms of climate change are not localized pollution problems. Hence, a NAAQS set for carbon dioxide inherently turns into an all-or-nothing affair. For, depending on the level at which a NAAQS would be fixed, the entire country is either in or out of compliance with such a NAAQS. Given that the aim of any rational pollution-control policy would be reductions in the substance of concern, it is hard to imagine that EPA would set a NAAQS at a level that placed the whole country in compliance. Hence, the only logical outcome if EPA makes an endangerment finding is that soon ***the entire Nation would be placed in noncompliance***.[36]

[36] The notion that EPA could set a NAAQS that would place the whole Nation in compliance is obviously a non-option in the scenario imagined (*i.e.*, a mobile source endangerment finding under CAA § 202(a)) because if it were, then there would be no need to make an endangerment finding in the first place.

Given that there is no rational plan by which each individual State can chart a path to compliance (either for itself or for the Nation), the entire system of SIP regulation on which Clean Air Act sections 108-110 is based turns into a complete regulatory mismatch—an unworkable nightmare system that would, under the logic of the NAAQS program, have to lead to a federal takeover of compliance dictates under federal implementation plans ("FIPs").[37]

B. New Source Performance Standards ("NSPS").

NSPS controls could also be triggered by a finding of endangerment. Clean Air Act section 111, 42 U.S.C. § 7411, states that EPA shall include a category of sources on the NSPS list if it endangers public health or welfare. One year after the source category is listed, EPA must publish regulations establishing federal standards of performance for new sources within any such category. Current NSPS categories include boilers, landfills, petroleum refineries and turbines; there are 70 categories and sub-categories in all. A "standard of performance" is defined in pertinent part as "a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction." This standard is better known as "best demonstrated technology." What follows is a SIP-like process wherein each State must submit to the agency a procedure for implementing and enforcing such standards for new or modified sources in that State.

Overall then, there is a significant possibility that an endangerment finding would force

[37] As part of or in addition to SIPs, the States would need to (i) adhere to reasonably available control measures ("RACT"); (ii) set areas for interim progress toward attainment; (iii) establish an emissions inventory; (iv) devise plans for issuing NSR/PSD permits; and (v) design contingency measures to be implemented if the area could not meet the NAAQS by the attainment deadline. The reason the SIP system would represent such a nightmare for States when imposed on a system requiring the entire Nation to be placed in and remain in noncompliance for a significant period of time is that it would force sanctions against every single State. The federal government may only provide financial assistance, issue a permit or approve an activity in a nonattainment area to the extent it conforms with an approved SIP. Transportation projects in States would be particularly grind to a halt, since all transportation plans, programs, and projects must conform to an approved SIP. Typical sanctions include cutting off federal highway funds and setting more stringent pollution offsets for certain emitters.

EPA to issue plant-by-plant standards of performance for carbon dioxide, and businesses would have to install best demonstrated technologies pursuant to NSPS.[38] If GHGs were regulated, the categories would be limitless.[39] The federal government and States may be forced to create a new NSPS "police force" to handle all the new categories.

C. Prevention of Significant Deterioration ("PSD").

PSD is triggered the moment carbon dioxide becomes a "regulated pollutant" under the Clean Air Act. It happens instantaneously—sooner, even, than a NAAQS or NSPS.[40] And it may have the greatest impact. Under the Clean Air Act, should carbon dioxide be deemed regulated under the Act—even if the regulation is for vehicles or fuels and is specifically not directed at stationary sources—no new or existing "major" stationary source of carbon dioxide can be built or modified (if the modification increases net emissions) without first obtaining a

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[38] As EPA is aware, environmental advocacy groups have already advanced this argument:

> It would be wholly inconsistent with the mandatory tenor of the statutory scheme if EPA could find that a category of sources significantly contributes to air pollution, but then refuse to issue standards of performance limiting the emissions of one or more of the pollutants that such sources emit in amounts sufficient to significantly contribute to air pollution. Rather, if a category of sources emit any air pollutant in such amounts that those emissions significantly contribute to "air pollution which may reasonably be anticipated to endanger public health or welfare," then EPA is legally required to issue standards of performance limiting the emissions of that air pollutant from the source category at issue.

Environmental Integrity Project and the Sierra Club, Comments on Proposed Amendments to the Current Standards of Performance for Petroleum Refineries, Docket No. EPA-HQ-OAR-2007-0011 (Aug. 27, 2005), available at http://www.earthjustice.org/library/legal_docs/epa-must-limit-carbon-dioxide-from-petroleum-refineries.pdf

[39] EPA attempted to suggest that the problem of source category overload is surmountable: "An alternative, or complementary, scenario would be to create larger 'super-categories' covering major groupings of stationary sources of GHG emissions. For example, it might be possible to create process-based categories (i.e., all sources emitting CO_2 through a stack as a result of combustion processes) or vertically integrated categories which take more of a life-cycle approach to the control of GHG emissions and reduce the possibility of leakage of GHG reductions to other parts of the economy or other geographic regions." 73 Fed. Reg. at 44,488 n.244. It is not clear whether such super-categories would withstand judicial review. Says EPA itself: "We recognize that the Court in *Asarco Inc. v. EPA*, 578 F.2d 326 (D.C. Cir. 1978) struck down an NSPS provision that allowed netting." *Id.*

[40] The Chamber does not believe an endangerment alone would trigger PSD. However, because so many provisions in the CAA are tied to endangerment, the moment regulation occurs through one of those programs, PSD applies.

PSD permit. This is because the PSD program is triggered the moment that a particular pollutant is "subject to regulation under this [Act.]" Clean Air Act § 65(a), 42 U.S.C. § 7545(a).

Major sources under the PSD program are defined as either a source in one of 28 listed categories (mostly industrial manufacturers and energy producers) that emits at least 100 tons per year (tpy) of an air pollutant, or any other source with the potential to emit 250 tpy of an air pollutant.[41] According to a report released by the U.S. Chamber of Commerce entitled "A Regulatory Burden: The Compliance Dimension of Regulating CO_2 as a Pollutant," ***over one million businesses*** will be exposed to PSD for carbon dioxide.[42] Many of these are previously-unregulated establishments, such as: (1) 260,000 office buildings; (2) 150,000 warehouses; (3) 92,000 health care facilities; (4) 71,000 hotels and motels; (5) 51,000 food service facilities; (6) 37,000 churches and other places of worship; and (7) 17,000 farms.

The PSD process is far from simplistic and easy to satisfy. Often it requires a determination of best available control technologies ("BACT"), performed on a case-by-case

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[41] Clean Air Act section 169(1), 42 U.S.C. § 7479, defines the extent of the PSD program. It is an understatement to say that it is capacious:

> The term "major emitting facility" means any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant.

[42] Available at http://www.uschamber.com/environment.

basis that places considerable cost and burden on the applicant.[43] For sources covered for other pollutants, PSD can take months or even years, and can cost hundreds of thousands or even millions of dollars. State agencies will be crippled by the weight of these many new permit applications.

PSD is a preconstruction requirement, and applies to new construction or modifications. EPA estimates that it currently issues two to three hundred PSD permits annually. EPA does not process a large number of PSD permits because, at present, few facilities emit enough of a regulated pollutant to cross the 100/250 tpy threshold. Expanding the PSD program to carbon dioxide will dwarf EPA's existing PSD permitting activity. That will have the effect of dramatically changing how the agency will need to allocate its resources. If the PSD burden is too great and the queue for permit applications is intolerably long, many businesses will simply not undertake new construction projects or modifications. This would itself create adverse health effects as the citizens of the Nation are denied the benefits of economic growth.

Moreover, once a source is classified as a major source for one pollutant, it is considered a major source for all other regulated pollutants under the Clean Air Act. As a result, the tens of thousands of actual regulated parties under PSD may now have to install BACT not only for carbon dioxide, but also potentially for nitrous oxide, particulate matter, lead, mercury, sulfur dioxide, and other pollutants prior to any new construction. The regulatory burden is so enormous, it could bring American economic activity to a near-standstill.

D. Title V

Title V (operating permits) poses a similar problem to PSD, although the permit process

[43] The existing BACT determination process under the CAA for covered pollutants typically involves a lengthy five-step process (each with numerous sub-steps), with a great deal of the burden imposed by the regulated source.

itself is not as onerous as PSD. However, Title V reaches an even broader segment of society, because it applies to all sources that emit over 100 tons per year of an air pollutant, regardless of source categories. And Title V includes a citizen suit provision that, if exploited, could have severe litigation consequences, and the attendant drag on economic activity. *See* Clean Air Act §§ 502(b)(6) & 505(b)(2), 42 U.S.C. §§ 7661a(b)(6) & 7661d(b)(2).

A Title V source generally may not operate without a permit. When a source becomes subject to Title V, it must apply for a permit within one year of the date it became subject. EPA estimates there are 15,000 to 16,000 Title V sources in the U.S. Because the threshold for Title V is 100-tpy across the board, well over 1.2 million new sources would be subject to Title V permitting.[44] EPA estimated in the ANPR that 550,000 new permits will be required under Title V, but gave no support for this calculation. EPA admits that "[t]he sheer volume of new permits would heavily strain the resources of state and local Title V programs."

The Title V permitting authority must take final action on permit applications within 18 months of receipt. EPA has 45 days from receipt of a proposed permit to object to its issuance, and citizens have 60 days to petition EPA to object. Clean Air Act § 505(b)(2), 42 U.S.C. § 7661d(b)(2). It is therefore conceivable that nongovernmental interest groups could challenge every Title V permit and bring nationwide industry to a screeching halt. Again, like PSD, Title V is triggered the moment carbon dioxide becomes a regulated pollutant under the Clean Air Act.

Notwithstanding the massive consequences of the regulatory cascade that would flow from an Endangerment Finding, the Administrator's Proposed Endangerment Finding would not

[44] The Chamber estimates 1.2 million new buildings will be exposed to PSD, when the threshold is 100 tpy for 28 specific industries and 250 tpy for everyone else. Because the threshold for Title V is 100 tpy regardless of source category, the number of Title V permittees will be at least 1.2 million, and will very likely be much greater.

currently be made transparently and on the record with scientific testimony. But given these truly unique and historic consequences, and EPA's promises of transparency and scientific integrity, this proceeding ought to be resolved on the record, with a full process.

II. THE SCIENCE ON WHICH EPA PROPOSES TO RELY RAISES QUESTIONS OF UNPRECEDENTED CONTROVERSY IN AN ENDANGERMENT ANALYSIS THAT ONLY AN ON-THE-RECORD PROCEEDING CAN RESOLVE.

Thus far, even the critical scientific sources that underlie the Proposed Endangerment Finding have not been on the record, and they are contained, in almost every case, in untested secondary sources, subject to much controversy. The Agency's Proposed Endangerment Finding is based on a TSD that contains two main parts that are material to the proposed finding. The first important part of the TSD addresses the basic scientific issue of causation—namely, whether the undisputed increases in U.S. and global greenhouse gas emissions from anthropogenic sources in the modern industrial era are causing climate change—and, if so, to what extent those emissions are causing and will in the future affect the global climate.[45] The other important part of the TSD—and the section of EPA's scientific analysis of primary concern to the Chamber—examines the question whether climate change is affecting human health and welfare in the United States and, if so, in what ways.[46]

The proposed finding and the TSD on which it is based do not report the results of any report or analysis prepared by EPA specifically for the purpose of the *Massachusetts* remand.

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[45] *See* U.S. Environmental Protection Agency, Technical Support Document for Endangerment Analysis for Greenhouse Gas Emissions under the Clean Air Act, Sixth Order Draft, June 21, 2008 ("TSD") Part III, available at http://www.regulations.gov.

[46] *See* TSD, Part IV. The TSD contains five Parts. Part I of the TSD is an Introduction, Part II reports data on concentrations of GHGs in the biosphere, and Part V examines international and transnational (*i.e.*, national security) health and welfare effects. The Administrator has stated that she is not basing her proposed finding on the types of international and transnational effects discussed in Part V of the TSD. *See* 74 Fed. Reg. at 18,903; *see also* id. at 18,888 n.1.

Instead, the TSD is essentially a literature survey that relies in the main on selected portions of the Fourth Report by the United Nation's International Panel on Climate Change ("the IPCC") and various reports sponsored by the U.S. Climate Change Science Program ("the CCSP"), augmented in some places with references to other literature.[47] Both the IPCC Fourth Report and the work of the CCSP—which the TSD calls "core references"[48]—are themselves largely confined to literature reviews. This means that participants in the current proceeding who want to understand the scientific basis for the Proposed Endangerment Finding, or a reviewing court, would be required to track through multiple, extensive layers of secondary treatments to reach the underlying scientific evidence and analysis.

In its simplest terms, EPA relies on attribution studies examined by the IPCC to try to demonstrate that observed temperature changes in the period since 1900 cannot be explained solely by what the TSD calls "natural" radiative forcings.[49] It then relies on the United Nation's IPCC summary of the outputs of a number of simulation models to predict future temperature trends under a variety of assumptions.[50] Since GHGs have no direct adverse effect on humans, those predicted changes in temperature provide the basis for the predicted effects on human health and welfare. The first two stages of the analysis—the use of attribution studies to discard hypotheses to explain climate change that are not heavily reliant on anthropogenic emissions,

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[47] Also relied upon in the TSD, but of less importance to the issues examined here, are reports by the National Research Council and the Arctic Climate Impact Assessment. The only two EPA reports listed among the "core references" are the 2008 inventory of U.S. GHGs and greenhouse gas sinks and a 2009 interim assessment of the impact of climate change on air quality. As to the impact of climate change on air quality, *see* pp. 41-44 below.

[48] *See* TSD at 4.

[49] *See* TSD at 39-44.

[50] *See* TSD at 45-56.

and the use of the models to estimate future temperatures—are particularly dependent on the TSD's references to the IPPC Fourth Report and to reports prepared for the CCSP.

As explained in an accompanying Declaration by Dr. George T. Wolff ("Wolff Decl."), the TSD cannot be considered a thorough or a critical review of climate science, or of the health- and welfare-related issues that are important to the Administrator's Proposed Endangerment Finding.[51] The entire discussion on the critical issues of causation and the estimation of future temperature changes occupies less than 20 pages in the TSD. For reasons not explained in any portion of the current docket before the Agency, the eleven listed expert reviewers of the TSD are all employees of the federal government who also participated in the IPCC and CCSP processes, rather than independent peer reviewers. (*See* Wolff Decl. ¶ 6.) Of the 29 listed authors of the TSD, "nine played some role in the IPCC process and at least 13 in the CCSP process." (*Id.*)

None of this derived from a transparent, on-the-record proceeding. To the contrary, because it relies so heavily on the IPCC and the work of the CCSP, the Agency has exposed itself unnecessarily to the concerns of many in the scientific community that the IPCC and CCSP reports reflect some elements of bias, and were not consistently and thoroughly peer-reviewed.[52] The upshot is that the TSD is in many critical respects little more than an extended type of executive-level summary for two other secondary works, whose level of scientific rigor has been questioned by academics and other professionals unaffiliated with any governmental body, environmental-advocacy group, or industry association. (*See id*.) The Administrator appears to

[51] Dr. Wolff is a former Chairman of the Clean Air Act Science Advisory Committee and the author of more than 100 peer-reviewed papers and chapters in books on climate science, meteorology, and related subjects.

[52] *See* Wolff Decl. ¶ 5.

be proposing to endorse methodologies that are the subject of serious and ongoing scientific debates, without taking any explicit account of, or much less trying to address in any clear manner, the issues in those scientific debates.

In addition, the Administrator's approach to the endangerment issues takes no careful account of important issues about the degree and magnitude of the possible effects of climate change on human health and welfare, if one assumes (as does this Petition) that climate change is to some extent influenced by anthropogenic GHG emissions. This Part of the Petition explains why the Administrator's Proposed Endangerment Finding and the TSD do not adequately address the technical literature on the health and welfare effects of climate change. The Chamber urges that those and other health- and welfare-related issues warrant on-the-record proceedings. In addition, many other stakeholders and professional participants in other agency matters and congressional oversight hearings consider a number of the fundamental issues of causation and future trends also to be unresolved. Given the level of controversy surrounding those issues and their importance to the proposed endangerment finding, those issues also warrant a scientific determination derived from an on-the-record process.

A. Transparency Is Absent.

The health- and welfare-related issues presented by the Proposed Endangerment Finding are the subject of an extensive peer-reviewed literature that is largely ignored in any explicit manner in the TSD and the Administrator's Proposed Endangerment Finding. It is therefore unclear how the Administrator's proposed endangerment finding can be said to be "based on weighing the scientific evidence, considering the uncertainties, and balancing any benefits to human health, society and the environment that may also occur in the atmosphere." 74 Fed. Reg. at 18,904. Although the Administrator notes generally that there exists a mix of risks and

benefits from warming and indicates that the Administrator somehow weighed and balanced the various adverse and beneficial impacts, the Proposed Endangerment Finding also avoids any explicit attempt to weigh or compare the benefits and risks.

For weather-related mortality, for example, the Proposed Endangerment Finding indicates that "[i]t is currently difficult to ascertain the balance between increased heat-related mortality and decreased cold-related mortality." 74 Fed. Reg. at 18,901. But to determine or select a level of GHG gas concentrations that could properly be considered as endangering to the public health and welfare, the Agency has elsewhere conceded that it must deal more explicitly with the balancing of risks and benefits of warming. In one 2008 draft Endangerment Technical Support Document for the Mobile-Source Advance Notice of Proposed Rulemaking (the "ANPRM"), in Table ES-3, EPA listed the major projected climate change impacts in the United States.[53] For each category or sector of impact except "sea level rise and coastal resources," the table listed either positive or uncertain impacts as well as negative impacts. Indeed, the title of Table ES-3 was "Balance of Projected Climate Change Impacts in the United States." The current endangerment TSD omits this table and does not contain any explicit discussion of how the various factors were weighed and compared. It is remarkable that EPA has eschewed, on the brink of making the most significant endangerment finding in the Agency's history, a level of detail and analysis that it previously believed was appropriate for an ***Advance*** Notice of Proposed Rulemaking.

The only conclusions one can draw from the Proposed Endangerment Finding and the accompanying TSD are (i) that the Administrator has been persuaded that all the open issues involving health and welfare that were presented to the Agency in last year's ANPRM process

[53] *See* TSD at ES-3.

were spurious; or (ii) that the informal process she has relied upon to date has not permitted her to address those issues and related health and welfare issues. The first alternative is improbable. The second, which seems only plausible given the complexity of the issues and the scope of the relevant literature, argues strongly for properly focused on-the-record proceedings. Below, the Chamber identifies some of the numerous open issues that warrant careful examination through the type of open and fair dialogue that only an on-the-record proceeding can provide here.

B. Temperature Effects on Mortality and Illness

The Administrator's Proposed Endangerment Finding indicates that warmer temperatures will lead to more heat-related deaths but fewer cold-related deaths, but then claims that it is not currently possible to quantify the balance between these effects. *See* 74 Fed. Reg. at 18,901. The TSD refers to an IPCC conclusion that "given the paucity of recent literature on the subject and the challenges in estimating and projecting weather-related mortality," additional research is needed to understand the balance of heat-and cold-related deaths. *See* TSD at 71.

The Administrator's failure to use an on-the-record process to assess this issue has led her to overlook the numerous analyses in the literature that show that cold-related mortality is greater than heat-related mortality so that a warming would, on balance, be beneficial to humans. Such a net effect is intuitive because, for a given temperature change, the reduction of wintertime mortality/morbidity would be several times larger than the increase in summertime heat stress-related mortality/morbidity.[54] The major impacts of changing temperature on public health are reduced deaths and illness from cold, and increased death and illness from heat waves. These

[54] *See* Keatinge, W.R. *et al.* (2000), "Heat related mortality in warm and cold regions of Europe: observational study," *Brit. Med. J.*, **321**, 670-673; Laaidi, M. *et al.* (2006), "Temperature related mortality in France, a comparison between regions with different climates from the perspective of global warming," *Int. J. Biometeorology*, **51**, 145-153; The EuroWinter Group (1997), "Cold exposure and winter mortality from ischaemic heart diseases,

(Continued…)

impacts are anticipated because death and illness rates have clear maxima in the winter and secondary maxima in the summer in temperate regions. While the secondary (summer) maxima are more pronounced in areas with warmer summer climates, such as the southern U.S., the secondary maxima are still smaller than the winter maxima in such areas.

The Administrator has thus ignored analyses that show that a warming of even 3ºC in the next 100 years would, on balance, be beneficial to humans because the reduction of wintertime mortality/morbidity would be several times larger than the increase in summertime heat stress-related mortality/morbidity. They include, for example, the analysis by Bosello, Roson, and Tol[55] that evaluates and calculates health impacts in the United States and in other regions of the world, as well as estimates of the impacts of vector-borne diseases such as malaria and water-borne diseases such as diarrhea. Bosello *et al.* calculated that, in 2050, there would be, on balance, 169,000 ***fewer*** deaths in the United States and 850,000 ***fewer*** deaths worldwide under the assumptions in their study. They calculated a net positive impact of climate change on the number of deaths because of an estimated 1.8 million fewer deaths worldwide due to fewer cold-related deaths.

A detailed report by the Center for the Study of Carbon Dioxide and Global Change placed in the ANPR docket[56] reviewed numerous studies that document similar relationships to those found in Bosello *et al.* in many locations in the United States and around the world. The Center provided 20 references to temperature effects on cardiovascular mortality, six on

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cerebrovascular disease, respiratory disease, and all causes in warm and cold regions of Europe," *The Lancet*, **349**, 1341-1346.

[55] Bosello, F., Roson, R., and Tol, R. (2006), "Economy-wide estimates of the implications of climate change: Human health," *Ecological Economics*, **58**, 579-591.

[56] Idso, C., Center for the Study of Carbon Dioxide and Climate Change, document EPA-HQ-OAR-2008-0318-1763[1].1 at Chapter 9.

respiratory mortality, and thirteen on all-cause mortality. As indicated in that literature, cold temperature mortality effects persist for days, but the effect of high temperatures was restricted to the day of death or the day before, with the hot-day effects for all cardiovascular deaths five times smaller than cold-day effects in the Braga *et al.* (2002) study of twelve U.S. cities. Braga *et al.* (2002) also note that temperature variability was an important factor, raising concerns that climate change may increase temperature variability.[57] Robeson (2002) has shown, in a study of 50-years of daily temperature data at over 1,000 U. S. weather stations, that temperature variability tends to decline with warming.[58] The Administrator should take on-the-record evidence on whether there will be reductions in temperature-related deaths at both the high and low ends of the temperature spectrum in a warmer world.

In addition to those studies, it is important to note that the docket reflects that OMB asked EPA specifically to include a 2007 paper by Deschenes and Moretti[59] that demonstrated extremely cold days are more dangerous to human health than extremely hot days.[60] But, since EPA has not to date proceeded on the record, and that paper does not appear in the references in the TSD, its scientific findings—although highly relevant—are not discussed in the Proposed Endangerment Finding. Deschenes and Moretti note that the increase in mortality following extreme heat appears entirely driven by temporal displacement, while the increase in mortality following extreme cold is long lasting. They also estimate that eight to fifteen percent of the

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[57] Braga, A., Zanobetti, A., and Schwartz, J. (2002), "The effect of weather on respiratory and cardiovascular deaths in 12 U. S. cities," *Environmental Health Perspectives*, **110**, 859-863.

[58] Robeson, S. (2002), "Relationships between mean and standard deviation of air temperature: implications for global warming," *Climate Research*, **22**, 205-213.

[59] Deschenes, O. and Moretti, E. 2007, "Extreme Weather Events, Mortality and Migration," NBER Working Paper Series, Vol. w13227, pp. -, 2007. Available at SSRN: http://ssrn.com/abstract=998010.

[60] Comments by the Office of Management and Budget, document EPA-HQ-OAR-2009-0171- 0124.

total gains in life expectancy experienced by the U.S. population over the past thirty years may be because of ongoing migration from the cold Northeastern states to the warmer Southern states, and estimate that every year, 5,400 deaths are delayed by changes in exposure to cold temperature induced by migration. In addition, there is strong evidence that the impact of high temperatures and heat waves has lessened in the U. S. in recent decades as air conditioning and other physical and public health educational measures have been put in place.[61]

In sum, the Administrator's proposed characterization of the balance between cold and warm temperature effects is inconsistent with the substantial evidence that cold-temperature effects are substantially greater than the warm-temperature effects to which the Agency refers in order to propose "endangerment." The Chamber is prepared to present the relevant evidence contradicting the proposed finding on the net effects on human health at the on-the-record proceeding that it seeks here.

C. Air Quality Effects

The Proposed Endangerment Finding says that the United Nations' IPCC projects with virtual certainty declining air quality in cities with warming. The TSD indicates that climate change is expected to lead to increases in regional ozone pollution, but climate change effects on ambient particulate matter are less certain. *See* 74 Fed. Reg. at 18,901; TSD at 74, 79. These assertions reflect the problem of EPA not proceeding on the record. The Administration's proposal also cannot be squared with other work by EPA's own career scientists that directly address this issue and reaches the opposite conclusion.

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[61] Davis, R.E., P.C. Knappenberger, P.J. Michaels, and W.M. Novicoff (2003a). Changing Heat-related Mortality in the United States. *Environmental Health Perspectives,* **111**, 1712-1718 (doi:10.1289/ehp.6336).

In a report dated April 2009, and in contrast to the claims in the Proposed Endangerment Finding and the TSD, EPA itself found that ozone predictions from GHG warming are highly uncertain and variable.[62] The April 2009 report found that various integrated modeling systems all predict regimes of ozone increase and areas of ozone decrease with climate change, but the regimes were not consistent across different modeling systems. The April 2009 report by EPA's own staff candidly acknowledges that there are broad disagreements in the spatial patterns of change with the various integrated modeling systems. The contrary position that the Administrator attributes to the IPCC deserves to be tested in an on-the-record proceeding. This would also permit the Agency and the public to consider properly the numerous other studies that bear on this question.

In addition, and as more fully explained in other submissions by Petitioner to the docket, there are additional studies on the important issue of air quality impacts that the Agency does not address in the Proposed Endangerment Finding or the TSD.[63] Those omissions are entirely unexplained and give a strong basis for concern that the endangerment analysis to date has not benefited from all the available and current studies funded by EPA and other government sources and is therefore biased. At this juncture, the only effective means of addressing this concern is an on-the-record proceeding at which all the available government-funded studies can be assessed.

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[62] *See* U.S Environmental Protection Agency, "Assessment of the Impacts of Global Change on Regional U.S. Air Quality: A Preliminary Synthesis of Climate Change Impacts on Ground-Level Ozone: An Interim Report of the U.S. EPA Global Change Research Program," EPA/600/R-07/094F, April 2009.

[63] *See* Comments by United States Chamber of Commerce Re: Proposed Endangerment and Cause and Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act Docket ID: EPA-HQ-OAR-2009-0171 at 20-23, 46-54 (June 23, 2009).

Other independent studies, which are well-known in the scientific community but not adequately addressed in the TSD, also deserve a full analysis in an on-the-record proceeding. For example, Racherla and Adams report that with current emissions an increase in temperature and precipitation accompanied by a decrease in specific humidity will result in ***decreased*** global burdens of ozone and fine particulate matter (PM) with a mix of ozone increases and decreases in polluted areas.[64] They ascribe the reduction in global ozone burden to increased ozone loss rates through ozone photolysis in the presence of water vapor, which on a global scale, could more than compensate for the increased ozone chemical production. They ascribe the reduced levels of fine particulate matter to increased scavenging by precipitation. Warming will also reduce the atmospheric concentrations of semi-volatile components of fine PM.

In addition to taking evidence and allowing the issues outline above to be fully examined on the record, the Agency should permit Petitioner and other parties to put before EPA, and allow to be tested, additional evidence on several related issues that are ignored in the current record. The Chamber lists three such issues below, which, because of their complexity, are best addressed in a well-focused and transparent on-the-record proceeding.

- *Future criteria pollutant baselines.* The Agency needs to take evidence that takes account of the fact that air quality is improving in the United States. To date, EPA has reported the impact of predicted warming on ozone and particulate matter, but only at current emission levels. Since the nation has air quality standards and extensive regulatory programs to implement those standards, the amount of man-made ozone and particulate matter is decreasing so that as air quality in the United States approaches the national standards, the "climate penalty" associated with climate change will be substantially smaller than that estimated from current emissions. The only efficient way to address this issue is through proceedings on the record, in which a variety of future baseline ozone and PM reduction scenarios can be fully examined.

[64] Racherla, P.N., and P.J. Adams (2006), "Sensitivity of global tropospheric ozone and fine particulate matter concentrations to climate change," *J. Geophys. Res.*, **111**, D24103, doi:10.1029/2005JD006939.

- *Isoprene.* The Center for the Study of Carbon Dioxide and Global Change[65] provided EPA with experimental evidence that the increased levels of CO_2 in the atmosphere may actually reduce the emission of isoprene per unit of biomass. Since isoprene is a highly-reactive biogenic hydrocarbon that is emitted in copious amounts by vegetation and is a major source of ozone in the atmosphere, EPA should permit testimony on how increased levels of CO_2 in the atmosphere would affect isoprene levels.

- *Fine particulate matter.* There are several processes by which projected climate change will reduce fine PM concentrations. Those processes are complex and warrant proceedings on the record. Two important factors are (i) increased precipitation that reduces PM, inasmuch as precipitation scavenging and wet deposition are the main removal process for particles in the air, and (ii) increased temperatures that reduce PM, as semi-volatile components such as nitrate and organic carbon shift from the particle phase to the gas phase. Several important studies document fine PM air quality benefits from climate change. In addition to Racherla and Adams (*see* note 64 above), Tagaris *et al.* 2007 modeled ozone and fine PM over the United States for a 2001 baseline and a 2050 case which included both projected emission reductions and projected climate change.[66] They reported that both ozone and fine PM were substantially ***reduced*** in the 2050 case. This confirms that the nation's air quality will continue to improve in spite of projected climate change.[67]

In sum, there are numerous important and complex issues that EPA has simply ignored by its reliance on the generalities contained in the United Nations' IPCC report and its other "core references" on the issue of air-quality effects. The technical literature does not support the Proposed Endangerment Finding's conclusion on the impact of warming on ozone and PM, as the Chamber is prepared to demonstrate at a hearing on the record.

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[65] Idso, C., Center for the Study of Carbon Dioxide and Climate Change, document EPA-HQ-OAR-2008-0318-1763[1].1 at Section 6.7.1

[66] Tagaris, E., K. Manomaiphiboon, K.-J. Liao, L. R. Leung, J.-H. Woo, S. He, P. Amar, and A. G. Russell (2007), Impacts of global climate change and emissions on regional ozone and fine particulate matter concentrations over the United States, J. Geophys. Res., 112, D14312, doi:10.1029/2006JD008262.

[67] Tagaris *et al.* also included a model simulation in which the projected climate change in 2050 was combined with the 2001 emissions. While this is an unrealistic simulation of the future, it is a direct way to separate out the impact of climate change. They found that summer ozone over the entire United States was essentially unchanged with climate change, although five individual regions had ozone increases or decreases ranging up to 3 percent. Summer fine PM was reduced by about 10 percent overall with reductions from 2 to 18 percent in the five regions

D. Current and Past Impacts on Weather.

The Proposed Endangerment Finding claims that climate change is already having a number of effects on weather and sea level, and that those effects warrant an endangerment finding. *See, e.g.*, 74 Fed. Reg. at 18,898-18,899. Here again, the scientific literature does not support the proposed finding—and in this instance, the refutation comes from the CCSP itself, in its June 2008 report.[68] As the CCSP reported, over the long-term, U.S. hurricane land-falls have not increased at a statistically-significant level;[69] there is no indication in the "observational record" of a long-term increase in drought;[70] and, despite increases in some measures of precipitation, there have not been corresponding increases in peak streamflows.[71] The CCSP also reported that there is "no evidence for a change in the severity of tornadoes and severe thunderstorms" as a result of climate trends,[72] and there has been no change in the frequency of strong East Coast winter storms (commonly known as "Nor-easters").[73] Transparency and scientific integrity demand that these data be taken into account on the record. Petitioner submits that on the issue of weather impacts, as on so many other issues, the appropriate course is to decide the issues through proceedings on the record, based on the scientific evidence.

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[68] Thomas R. Karl, Gerald A. Meehl, Christopher D. Miller, Susan J. Hassol, Anne M. Waple, and William L. Murray, Weather and Climate Extremes in a Changing Climate Regions of Focus: North America, Hawaii, Caribbean, and U.S. Pacific Islands, Synthesis and Assessment Product 3.3, a Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research, June 2008 ("CCSP 2008").

[69] CCSP 2008 at 132

[70] CCSP 2008 at 5

[71] CCSP at 53

[72] CCSP at 77

[73] CCSP at 68

E. Temperature Measurements and Temperature Records

An equally important set of issues is presented by the TSD's treatment of the temperature data. The TSD indicates that U.S. temperatures increased during the Twentieth Century by 0.7°C with an increased rate in the last 30 years due to elevated greenhouse gas concentrations. TSD at ES-2. The U.S. Historical Climate Network (the "USHCN") meteorological stations comprise a nationwide network overseen by the National Weather Service for the purpose of creating a high quality data base that can be used for climatological studies and for establishing reliable trends. In 2003, the National Climate Data Center (the "NCDC") established the following siting criteria to evaluate the quality of the station characteristics:[74]

> **Class 1** – Flat and horizontal ground surrounded by a clear surface with a slope below 1/3(<19º). Grass/low vegetation ground cover <10 centimeters high. Sensors located at least 100 meters from artificial heating or reflecting surfaces, such as buildings, concrete surfaces, and parking lots. Far from large bodies of water, except if it is representative of the area, and then located at least 100 meters away. No shading when the sun elevation>3 degrees.
>
> **Class 2** – Same as Class 1 with the following differences: Surrounding Vegetation <25 centimeters. Artificial heating sources within 30m. No shading for a sun elevation >5º.
>
> **Class 3** (error 1ºC) – Same as Class 2, except no artificial heating sources within 10 meters. **Class 4** (error ≥2ºC) – Artificial heating sources <10 meters.
>
> **Class 5** (error ≥5ºC) – Temperature sensor located next to/above an artificial heating source, such a building, roof top, parking lot, or concrete surface.

Although NCDC established these criteria, it did not make any effort to systematically evaluate the 1,222 existing USHCN stations. In the summer of 2007, an independent meteorologist, Anthony Watts, and some 650 volunteers began such a project.[75] The objective

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[74] Climate Reference Network Site Information Handbook (2003), http://www1.ncdc.noaa.gov/pub/data/uscrn/documentation/program/X030FullDocumentD0.pdf

[75] Watts, A., "Is the U.S. Surface Temperature Record Reliable?," The Heartland Institute, Chicago, IL, 2009.

was to survey all 1,222 sites, evaluate them and photograph them and post all of the information on SurfaceStations.org for all to view. With 70 percent of the stations surveyed, only 11 percent of the stations qualified for a Class 1 or 2 rating. The other 89 percent of the sites were contaminated by local heat sources that would cause the station to experience temperature biases of $\geq 1^{o}C$ ($1.8^{o}F$). Even worse, 69 percent experienced a bias of $\geq 3.6^{o}F$ and 11% a bias of $\geq 9^{o}F$. These are enormous errors considering that the average U.S. temperature trend over the last century is only $0.7^{o}C$ ($1.3^{o}F$).

In addition, Watts also investigated the correction factors NCDC applies to the raw data that are supposed to account for station relocations, missing data, instrumentation changes, and other factors. Watts noted that, despite pervasive evidence that recent changes in technology and location have introduced an upward bias in the temperature record over time, "NOAA has been making adjustments that ***increase*** the warming trend." From 1940 to 1999, this has resulted in a positive adjustment of $0.5^{o}F$. In other words, $0.5^{o}F$ of the $1.3^{o}F$ observed U.S. temperature trend over the last century is due to NCDC's adjustments. Since the USHCN is considered to be the best network in the world, this raises questions concerning the degree of contamination in the global surface data sets. Before the Administrator decides to rely on data from such questionable sources, it is only right that the public be given a full opportunity to demonstrate in a focused manner why measurements taken from lower-grade facilities using the NCDC rankings should be excluded or adjusted, to ensure scientific integrity. This is most appropriately done through an on-the-record proceeding.

F. Sea Levels, Arctic Ice and Sea Ice

The TSD claims that sea-level rose in the twentieth century and is currently rising at an increased rate, with the implication being that this results from increases in anthropogenic GHG

emissions. Again, the drawbacks of a proposal that is not an on-the-record proceeding are apparent. For example, Idso has shown that, although there has been short term fluctuation in sea level rise, sea level has risen at a nearly steady, linear rate since about 1860 (corresponding to the end of the Little Ice Age) until 2000.[76] The most recent trend derived from satellite measurements is shown in Figure 2 of Dr. Wolff's Declaration.[77] A nearly constant rate of 3.2 ±0.4 mm/year continues to persist, with one important caveat noted by Dr. Wolff—the oceans have been losing heat since about 2003. (Wolff Decl. ¶ 7.) Consequently, thermal expansion of the ocean has ceased, and the rate of sea level rise has slowed to about 2.5 mm/yr.[78] Thus, the observations do not support EPA's theory of accelerating sea level rise. The public should be entitled to consider scientific data on this, and be entitled to test that demonstration at a hearing on the record, to ensure transparency and scientific integrity before any final decision is made.

According to the TSD, Arctic temperatures have been rising about twice as fast as the global average temperatures and that the aerial extent of Arctic sea ice has been shrinking by 2.7 percent per decade on an annual basis and 7.4 percent per decade during the summer reaching a record low in the satellite record (since 1979) in September 2007. The time series for Arctic surface temperature from Polyakov *et al.*, (2002)[79] is presented in Figure 3 of Dr. Wolff's Declaration. (*See* Wolff Decl. ¶ 8.) As indicated in Figure 3, the temperature has risen more than 1°C since the mid 1960s, which is greater than the global value. However, there was a

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[76] Idso, C., Center for the Study of Carbon Dioxide and Climate Change, document EPA-HQ-OAR-2008-0318-1763[1].1 at Section 6.7.1.

[77] http://sealevel.colorado.edu/current/sl_ib_global.pdf; *see* Wolff Decl. ¶ 7 & Fig. 2.

[78] Cazenave, A., Dominh, K., Guinehut, S., Berthier, E., Llovel, W., Ablain, M. and Larnicol, G., 2009, "Sea level budget over 2003-2008: a reevaluation from GRACE space gravimetry, satellite altimetry and Argo," *Global & Planetary Change*, **65**:83-88.

comparable warming rate earlier resulting in a period in the late 1930s that had temperatures comparable to the temperatures in the late 1990s. The recent USCCSP Arctic report states, "Thus far, human influence does not stand out relative to other natural causes of climate change…. The data clearly show that strong natural variability has been characteristic of the Arctic at all time scales considered."[80] The TSD's position on the issue of Arctic ice and sea levels also warrants testing though a proceeding on the record, so that the public can be confident in any final determination of the science.

G. Ocean Acidification

The TSD asserts that since pre-industrial times, the pH of the oceans has decreased 0.1 pH units due to the enhanced absorption of CO_2 by the oceans, and predicts that by 2100 the pH will decrease another 0.3-0.4 units. *See* TSD at 57. Acidification lowers the saturation of calcium carbonate ($CaCO_3$) in sea water, making it more difficult for marine calcifiers to build and maintain shells and skeletons. TSD cites the following potential effects, based on the IPCC report:

- The biological production of corals, as well as calcifying phytoplankton and zooplankton within the water column, may be inhibited or slowed down as a result of ocean acidification;
- Cold-water corals are likely to show large reductions in geographic range this century;
- The dissolution of $CaCO_3$ at the ocean floor will be enhanced, making it difficult for benthic calcifiers to develop protective structures;
- Acidification can influence the marine food web at higher trophic levels.

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[79] Polyakov, I., V., *et al.*, 2002, "Observationally based assessment of polar amplification of global warming," *Geophys. Res. Lett*, doi:10.1029/2001GL0111111.

[80] *See* U.S. Climate Change Science Program, 2009, "Past Climate Variability and Change in the Arctic and at High Latitudes," Final Report, Synthesis and Assessment Product 1.2, U.S. Geological Survey, January 2009 at 230.

See TSD at 118 (Box 14.1). There are several scientific reasons why the Administrator should not accept the United Nations' view that was adopted in the TSD.

As an initial matter, it should be noted that that all of projected pH changes (both for the past and the future) are model based. Actual ocean-wide pH measurements of pre-industrial pH levels do not exist, and so they have been estimated from a physical-chemical models that do not contain biological processes.[81] Nevertheless, techniques have been developed to infer past pHs by determining the concentration of boron-11 in the ocean sediments. Using this technique, Pelejero *et al.* reconstructed the ocean pH for the past 300 years near Flinders Reef in the South Pacific, as shown in Figure 10 of Dr. Wolff's Declaration.[82] Figure 10 illustrates two important points. First, there are no long term trends apparent from the time series. Second, there is a cyclic, natural variability that is on the order 0.35 pH units which is greater than 0.1 units claimed by the TSD to have occurred before CO_2 started increasing. Pelejero *et al.* attribute the natural variations to shifts in ocean currents associated with the naturally occurring Pacific Decadal Oscillation. In addition, there are a number of other studies that have measured the diurnal fluctuations of pH near coral reefs and found them all to range from 0.15 pH units to 1.0 pH units.[83,84,85,86] Consequently, there are both short term and long term natural fluctuations that

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[81] Caldeira, K. and Wickett, M.E., 2005, "Anthropogenic carbon and ocean pH," *Nature,* **425**:365.

[82] Pelejero, C. *et al.*, 2005, "Preindustrial to modern interdecadal variability in Coral Reef pH", *Science*, **309**–2204-2207.

[83] Yates, K.K. and Halley, R.B., 2006, *Biogeosciences Discussions*, **3**:123.

[84] Ohde, R. and van Woesik, 1999, *Bull. Marine Sci.*, **65**:559.

[85] Suzuki, A., Nakamori, T.,Kayanne, H., 1995, *Sediment.Geol.*, **99**:259.

[86] Schmalz, R.F. and Swanson, F.J., 1969, *J. Sediment. Petrol.*, **39**:255.

are observed that are larger than the pH changes that concern EPA and these variations do not appear to be having adverse effects on the coral reefs and other marine calcifiers.

Based on the physical-chemical modeling results, the TSD expresses concerns that the increasing CO_2 concentrations will interfere with calcification rates in marine microorganisms. But a recent scientific paper has come to the opposite conclusion.[87] Iglesias-Rodriguez examined coccolithophores, which are one of the most abundant marine calcifiers to a range of pH. They adjusted the pH of the sea water by varying the concentration of CO_2 (280 ppm to 750 ppm) and discovered that the biological productivity of the organism increased with increasing CO_2 concentration. At the highest CO_2 concentration, the pH deceased to 7.7, but the degree of $CaCO_3$ saturation remained well above levels of concern. They also point out that previous controlled exposure studies that did not find an enhancement in biological productivity adjusted the pH in an unrealistic manner by adding acids without the addition of inorganic carbon. To compliment their controlled exposure study, they also examined sediment cores from the North Atlantic and found that since 1950, the mass of coccolithophores in the sediment continually increased. Thus, this and other studies[88] indicate that increasing CO_2 enhances biological productivity and increases biomass.

The physical-chemical models also do not include a newly discovered source of oceanic carbonate that accounts for up to 15 percent of the total.[89] Fish ingest dissolved CO_2 which reacts with calcium and magnesium in the sea water and precipitates as a calcium-magnesium carbonate complex within the fish intestines, and this is excreted at high rates. Since this

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[87] Iglesias-Rodriguez, M.D. *et. al.*, 2008, "Phytoplankton calcification in a high-CO_2 world," *Science*, **320**:336-340.

[88] Idso, C.D., 2009, *CO_2, Global Warming and Coral Reefs: Prospects for the Future*, Center for the Study of Carbon Dioxide and Global Change, Tempe, AZ.

complex is more soluble than pure $CaCO_3$, it rapidly dissolves in the ocean creating an additional source of carbonate which helps buffer the sea water. Finally, it is important to note that that corals evolved between 200 to 500 millions of years ago, and coccolithophores evolved about 150 million years ago when the atmosphere contained much a higher concentration of CO_2 than it does today.[90]

For all those reasons, it is appropriate to permit Petitioner and others to submit evidence on the record, which can then be fully tested, on the TSD's theory of acidification.

H. Food Production, Agriculture and Forestry

Plants use CO_2 to produce the organic matter out of which they construct their tissues. Higher concentrations of CO_2 enable plants to grow larger, produce more branches and leaves, expand their root systems, and produce more flowers and fruit.[91] As acknowledged in the Proposed Endangerment Finding, increased levels of CO_2 will increase agricultural yields substantially. Although the Proposed Endangerment Finding raises the possibility that other secondary impacts will reduce the benefit, this is not likely. Higher concentrations of CO_2 also cause plants to produce fewer stomatal pores per unit area of leaf surface, and to open those pores less widely.[92] Both of these changes tend to reduce most plants' rates of water loss by transpiration, making them better able to withstand drought conditions, among other effects.[93]

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[89] Wilson, R.W. et al., 2009, "Contribution of fish to the marine inorganic carbon cycle," *Science*, **323**:359-362.

[90] *See* Wolff Decl. ¶ 9, Figure 5.

[91] Idso, C., document EPA-HQ-OAR-2008-0318-1763[1].1

[92] Woodward, F.I. (1987), "Stomatal numbers are sensitive to increases in CO_2 from pre-industrial levels," *Nature*, **327**, 617-18; Morison, J.L. (1987), "Intercellular CO_2 concentration and stomatal response to CO_2," *Stomatal Function* (Zeiger, E., Farquhar, G.D., and Cowan, I.R. eds), Stanford University Press, Stanford, CA, 229-251.

[93] Tuba *et al.* (1998), "Carbon gains by desiccation-tolerant plants at elevated CO_2," *Functional Ecology*, **12**, 39-44.

Higher CO_2 levels also help plants cope with the negative effects of a number of other environmental stresses, including high soil salinity, high air temperature, low light intensity, low levels of soil fertility,[94] low temperature stress,[95] oxidative stress,[96] and the stress of herbivory (insect and animal grazing).[97] These effects of CO_2 not only increase the yield on existing agricultural land, but also tend to expand the area suitable for agriculture.[98] The direct effects of CO_2 on food production and agriculture are, therefore, a major benefit to the public welfare. The Center for the Study of Carbon Dioxide and Global Change has provided extensive documentation of these benefits.[99]

Without the benefit of any on-the-record evidence, the Administrator indicates concern that ozone increases as a result of temperature increases will have significant effects on crop yields, pasture and forest growth, and species composition. However, as discussed above (*see* pp. 42), climate change may actually ***decrease*** background ozone, which has a substantial role in aggregate ozone concentrations in rural, agricultural areas. In addition, the studies of the impact

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[94] Idso, K.E, Idso, S.B. (1994), "Plant responses to atmospheric CO_2 enrichment in the face of environmental constraints: A review of the past 10 years' research," *Agricultural and Forest Meteorology* **69**, 153-203.

[95] Boese, S.R., Wolfe, D.W., and J.J. Melkonian (1997), "Elevated CO_2 mitigates chilling-induced water stress and photosynthetic reduction during chilling," *Plant, Cell and Environment*, **20**, 625-632.

[96] Badiani M. *et al.* (1998), "Foliar antioxidant status of plants from naturally high-CO_2 sites," *Physiologia Plantarum*, **104**, 765-71.

[97] Gleadow, R.M., Foley, W.J., and Woodrow, I.E. (1998), "Enhanced CO_2 alters the relationship between photosynthesis and defence in cyanogenic *Eucalyptus cladocalyx* F. Muell," *Plant, Cell and Environment*, **21**, 12-22.

[98] The same mechanisms that increase agricultural production enhance growth of forests. There are numerous experiments with trees and other woody plants that report substantial growth enhancement with increased CO_2 concentrations. The TSD acknowledges that overall forest growth in the U.S. will increase over the next century with projected CO_2 concentrations. The residual land sink that the IPCC estimates to be 2.6 ± 1.7 GtC/yr in the 1990s is strong evidence for the substantial ability of the biosphere to sequester man-made carbon emissions and thus provide benefits to the forest products industry and society in general through enhanced recreational opportunities and additional food for humans and animals. *See* AR4, Table 7.1.

[99] Idso, EPA-HQ-OAR-2008-0318-1763[1].1.

of climate change on ozone discussed above show a mix of areas of ozone increase and decrease, with many of the decreases in rural, agricultural areas. Because crop yields have been increasing at current ozone levels, there is no reason to believe that the lower, future ozone levels will have significant effects compared to the fertilization effect of CO_2 even with climate change. This is another issue on which a hearing on-the-record would be appropriate.

I. Water Resources

The Proposed Endangerment Finding and the TSD raise concerns over future flooding, low flows, drought, high water levels, and low water levels based on the argument that water systems will be outside the historic range of variability. This in turn raises concerns over water availability, water quality, and water infrastructure. It is generally understood that precipitation increases will enhance water availability in some areas; but the concern is raised that reductions in snow pack and earlier melting will provide less reliable supplies of water in other areas and that increases in drought will adversely impact water supply and quality. If scientific integrity and transparency matter at all to the Administrator, this is another area in which it is important to permit on-the-record proceedings, because the weight of the evidence does not support the pessimism of the Proposed Endangerment Finding and the TSD.

Various United Nations' IPCC model projections of the future all predict precipitation increases of around 5 percent for a doubling of atmospheric CO_2, with smaller increases in the models with lower climate sensitivities.[100] Thus, a warmer future can be predicted to ***enhance*** water availability in most areas.[101] The claim of increased drought is based on model predictions

[100] *See* AR4 at 800, Fig. 10.25b.

[101] The current changes in snow pack and water supplies being experienced in the West are a regional phenomenon that is not being observed throughout the U.S. Thus, it is likely caused by variations in natural climate cycles such

(Continued…)

that are highly uncertain due to the highly variable and highly parameterized treatment of clouds in the models. In contrast, there is substantial observational evidence that the increased concentrations of atmospheric CO_2 have led to hardier growth and better water-use efficiency of vegetation in and around desert areas.[102] Concerns regarding water quality in the United States are also likely overstated and speculative. Developed countries like the U.S. maintain high-quality municipal water systems from the tropics to polar latitudes. Obviously, the technologies are already in existence to cope with higher temperatures in the United States. In addition, any changes would be very slow compared to the changes in infrastructure required to keep up with population growth and movement. Since the temperature rise associated with increasing GHGs will be dramatically lower than thought based on the flawed models, any changes to aquatic ecosystems would also be slow and well within the capability of those ecosystems to adapt. Again, the best way to assure the public that this will be decided based on science is to resolve it on-the-record, and not by ideology or policy preferences.

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as the Pacific Decadal Oscillation, rather than the current rise in ambient CO_2. *See* Michaels, P., Davis, R., and P. Knappenberger, EPA-HQ-OAR-2008-0318-1388.1.

[102] Cheddadi, R., Guiot, J., and Jolly, D. (2001), "The Mediterranean vegetation: what if the atmospheric CO_2 increased?" *Landscape Ecology*, **16**, 667-675; Eklundh, L. and Olsson, L. (2003), "Vegetation index trends for the African Sahel 1982-1999," *Geophys. Res. Let.* **30**, 10.1029/2002GL016772; Feng, X. (1999), "Trends in intrinsic water-use efficiency of natural trees for the past 100-200 years: A response to atmospheric CO_2 concentration," *Geochimica et Cosmochimica Acta* **63**, 1891-1903; Grunzweig, J.M. and Korner, C. (2001), "Growth, water and nitrogen relations in grassland model ecosystems of the semi-arid Negev of Israel exposed to elevated CO_2," *Oecologia*, **128**, 251-262; Grunzweig, J.M. *et al.* (2003), "Carbon sequestration in arid-land forest," *Global Change Biology*, **9**, 791-799; Nicholson, S.E. (2001), "Climatic and environmental change in Africa during the last two centuries," *Climate Research* **17**, 123-144; Nicholson, S.E., Tucker, C.J., and Ba, M.B. (1998), "Desertification, drought, and surface vegetation: An example from the West African Sahel," *Bull. Amer. Meteorol. Soc.* **79**, 815-829; Prince, S.D., Brown De Colstoun, E., and Kravitz, L.L. (1998), "Evidence from rain-use efficiencies does not indicate extensive Sahelian desertification," *Global Change Biology*, **4**, 359-374.

III. EPA'S CURRENT PROCESS IS DEEPLY FLAWED BECAUSE IT HAS NOT BEEN AN ON-THE-RECORD PROCEEDING.

As noted above, a wide gulf exists between the Agency's promise of transparency and scientific integrity and the reality of the proceedings to date for the Proposed Endangerment Finding. The President promised to "ensur[e] that scientific data is never distorted or concealed to serve a political agenda—and that we make scientific decisions based on facts not ideology." Remarks of President Barack Obama—As Prepared for Delivery, Signing of Stem Cell Executive Order and Scientific Integrity Presidential Memorandum (Mar. 9, 2009) (emphasis added).[103] He pledged "transparency in the preparation, identification, and use of scientific and technological information in policymaking." Scientific Integrity, Mem. for the Heads of Executive Dep'ts & Agencies, 74 Fed. Reg. 10671, 10671 (Mar. 9, 2009). Likewise, Administrator Jackson has repeatedly and publicly emphasized the importance of the integrity of science and transparency, declaring that scientific integrity would be "the backbone of [her] leadership at the Agency"[104] and that she would ensure "overwhelming transparency."[105] To that end, the Administrator promised that "[i]n all its programs, EPA will provide for the fullest possible public participation in decision-making." Administrator Jackson, Mem. to EPA Employees, "Transparency in EPA's Operations" (Apr. 23, 2009).[106] Such openness, the Administrator explained, meant "taking affirmative steps to solicit the views of those who will be affected by these decisions" and creating various opportunities for public involvement in

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[103] Available at http://www.whitehouse.gov/the_press_office/Remarks-of-the-President-As-Prepared-for-Delivery-Signing-of-Stem-Cell-Executive-Order-and-Scientific-Integrity-Presidential-Memorandum/.

[104] Mem. to EPA Employees, "Scientific Integrity: Our Compass for Environmental Protection" (May 9, 2009), available at http://www.epa.gov/administrator/scientificmemo.html.

[105] Available at http://www.epa.gov/administrator/.

[106] Available at http://www.epa.gov/administrator/operationsmemo.html.

rulemaking, exhorting EPA staff "***to be creative and innovative in the tools we use to engage the public in our decision-making***." *Id.* (emphasis added). To date, this proceeding has fallen far short of those promises, and it can only be rectified at this juncture by a resolution resulting from an on-the-record proceeding.

In addition to the many factual controversies and uncertainties that cry out for an on-the-record proceeding, EPA has taken several steps that raise concerns about transparency and scientific integrity. Those are:

1. Rather than hold true public hearings commensurate with an issue of this importance and of this complexity, EPA held only two townhall meetings, just days apart. EPA billed these townhalls as an "opportunity to present data, views, or arguments concerning the proposed findings." *Proposed Endangerment and Cause or Contribute Finding for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Proposed Rule*, 74 Fed. Reg. 18,885, 18,887 (Apr. 24, 2009). Yet, for presenting data, views or arguments on scientific matters for which the Administrator explicitly recognized "there are varying degrees of uncertainty," *id.* at 18,891, and on a matter of this magnitude of importance, EPA chose to limit each speaker to ***five minutes***. It is hard to know what substance could have been gathered from any one speaker with such a time limit. As a result, most of the statements received were not scientific presentations and EPA did not respond to them, or even permit questioning of the presenters by others. Indeed, the transcript from only one of those townhalls has even been released to the public, frustrating the ability of commenters to demonstrate such facts and reveal the perfunctory public hearings for what they were. The opportunity to speak was simply a show and thus a meaningless endeavor for EPA and the speakers alike. Indeed, perhaps recognizing the futility of trying to speak within such constraints, these townhalls were not well-attended by the interested public and citizenry.

2. Despite the enormity of what the Agency is doing, it has unjustifiably refused to extend for just another 60 days the short 60-day comment period it allotted for the Proposed Endangerment Finding.[107] Even though EPA has not done its own economic analysis as required by section 317 of the Clean Air Act, it has refused to extend the deadline for organizations who are submitting scientific data from virtually every sector of our economy (or even for Members of Congress).[108] The most important and far-reaching determination ever undertaken by EPA—and probably by any agency anywhere—is being rushed and those desiring to prepare the best possible comments are being jammed for no valid reason. The reasons EPA gave were nonsensical: According to EPA, there has been enough time because commenters could review the ANPR, but, of course, EPA did not respond to the ANPR comments and expressly said it would not address them in this proceeding unless commenters resubmitted them. 74 Fed. Reg. at 18,886. Even more incongruous with its claim 60 days is sufficient is EPA's own recognition "that the proposed findings and the associated Technical Support Document … take adequate time to review" given "the importance of this proposed action."[109]

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[107] *See* Ltr. from L. Jackson, Administrator EPA, to Hon. Darrell Issa, Ranking Member, Committee on Oversight and Government Reform, U.S. House of Representatives (June 17, 2009); Ltr. from G. McCarthy, Assistant Administrator, EPA to B. Brendle, Director, Energy and Resources Policy, The National Association of Manufacturers (June 11, 2009). EPA's rush to judgment here must be contrasted with the more deliberate four-year process chosen to create a NAAQS for lead, which had a longer comment period, extended the time, and allowed additional input thereafter. The lead proceeding was comparatively simple and uncontroversial compared to this one, and yet greater process and transparency were afforded there.

[108] *See* Ltr. from L. Jackson, Administrator EPA, to Hon. Darrell Issa, Ranking Member, Committee on Oversight and Government Reform, U.S. House of Representatives (June 17, 2009); Ltr. from G. McCarthy, Assistant Administrator, EPA to B. Brendle, Director, Energy and Resources Policy, The National Association of Manufacturers (June 11, 2009).

[109] Ltr. from L. Jackson, Administrator, EPA, to Hon. Darrell Issa, Ranking Member, Committee on Oversight and Government Reform, U.S. House of Representatives (June 17, 2009); *see* Ltr. from G. McCarthy, Assistant Administrator, EPA to B. Brendle, Director, Energy and Resources Policy, The National Association of Manufacturers (June 11, 2009).

3. The theatrical townhalls and the Agency's mercurial refusals to extend the comment period are not the only way that EPA has effectively curtailed debate. The fullness of the consideration of the impacts resulting from the Proposed Endangerment Finding have been cut short by EPA's decision to decouple them from a specific rulemaking. EPA has never before issued an endangerment finding divorced from a proposed regulation. In addition, EPA's *Federal Register* notice included an incorrect email address for submitting comments—and not simply a misdirection of comments to the wrong EPA official, but an e-mail address that does not even work. Potential commenters may end up having their comments simply not considered because they will submit them to the incorrect, non-functional email address. Inevitably, some commenters will fail to resubmit their comments and thereby miss the deadline, in many cases unknowingly. Although EPA is fully aware of this mistake, it has done ***nothing*** to correct it.

4. Moreover, with only days to go before the comment deadline and just days after denying requests to extend that deadline, the Administration released a report on GHGs at a White House press event. *See* GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES (2009).[110] That report, paid for out of the public fisc, was apparently written by a private public relations writer and screenwriter of an HBO "documentary" with a decided ideological position on the subject of climate change, and was not available in the EPA docket to enable public comment.[111] Its timing and absence from the docket impaired the opportunity for interested parties to respond. Of course, it, too, suffered from flaws in its science. One of the scientists on

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[110] The White House information on this event is available here: http://www.whitehouse.gov/blog/Streaming-Now-Climate-Change-Impacts-Across-America-Renewed-Focus-for-Decisions/. The report itself can be accessed here: http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/download-the-report.

[111] *Compare* GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES (authorship page, crediting Climate Communication, LLC as the "Senior Science Writer") with Climate Communication, LLC's website, available at http://www.climatecommunication.org/about_susan.html ("[Climate Communication, LLC's Director] Susan [Hassol] wrote HBO's global warming documentary, *Too Hot Not To Handle*, which premiered in April 2006.").

which the Report relied has complained publicly that the report misrepresented his work, leading to serious errors. *See* http://tierneylab.blogs.nytimes.com/2009/06/18/us-climate-report-assailed/ (last visited June 21, 2009).

5. EPA's own docket shows that other federal agencies recognized many of the shortcomings in the Proposed Endangerment Finding. OMB identified many defects in the scientific endangerment finding proposed by EPA. ***First***, and perhaps most important, OMB flagged that the Proposed Endangerment Finding over-relies on the "precautionary principle."[112] "The finding rests heavily on the precautionary principle, but the amount of acknowledged lack of understanding about basic facts surrounding GHGs ***seem to stretch*** the precautionary principle to providing for regulation in the face of unprecedented uncertainty." OMB, First (1st) Round of OMB Comments to USEPA on the Proposed Findings, available at http://www.regulations.gov/fdmspublic/component/main?main=DocumentDetail&o=0900006480965abd, at 1 (last visited June 22, 2009) [hereafter "OMB Comments on Proposed Endangerment Finding"] (emphasis added). This is not an insignificant matter. OMB called EPA to task for "applying a ***dramatically expanded precautionary principle***." *Id.* at 2 (emphasis added).

OMB's statement on this subject should not be surprising given the analytical scholarship of the President's own pick to be Administrator of OMB's Office of Information and Regulatory Affairs ("OIRA"), Harvard Law Professor Cass Sunstein. Sunstein has severely criticized use of the precautionary principle in any fashion:

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[112] Cass Sunstein has defined the precautionary principle as follows: "In case of doubt, follow the precautionary principle. Avoid steps that will create a risk of harm. Until safety is established, be cautious; do not require unambiguous evidence. In a catchphrase: better safe than sorry." Cass R. Sunstein, *Beyond the Precautionary Principle*, 151 U. PA. L. REV. 1003, 1003-04 (2003) [hereafter "Sunstein, *Precautionary Principle*."].

> Taken in this strong form, ***the precautionary principle should be rejected***, not because it leads in bad directions, but because it leads in no direction at all. The principle is literally paralyzing—forbidding inaction, stringent regulation, and everything in between. The reason is that in the relevant cases, every step, including inaction, creates a risk to health, the environment, or both. This point raises a further puzzle: Why is the precautionary principle widely seen to offer real guidance? The answer lies in identifiable cognitive mechanisms emphasized by behavioral economists. In many cases, loss aversion plays a large role, accompanied by a false belief that nature is benign. Sometimes the availability heuristic is at work. Probability neglect plays a role as well. Most often, those who use the precautionary principle fall victim to what might be called "system neglect," which involves a ***failure to attend to the systemic effects of regulation. Examples are given from numerous areas, involving arsenic regulation, global warming and the Kyoto Protocol***, nuclear power, pharmaceutical regulation, cloning, pesticide regulation, and genetic modification of food. The salutary moral and political goals of the precautionary principle should be promoted through other, more effective methods.

Sunstein, *Precautionary Principle*, U. PA. L. REV. at 1003 (emphasis added). These kinds of heuristic effects are supposed to influence only the failure of individuals to properly assess risk, not an entire body of supposedly expert regulators. Yet, OMB stated that EPA had fallen prey to the same kind of biases associated with the "failure to attend to the systemic effects of regulation." *Id.* *Compare* OMB Comments on Proposed Endangerment Finding, at 2 ("The Finding should also acknowledge that EPA has not undertaken a ***systematic risk analysis*** or cost-benefit analysis.") (emphasis added).

Second, OMB noted that EPA's public health analysis failed to account for the fact that "the impact of climate-sensitive diseases may be minimal in a rich country like the US." OMB Comments on Proposed Endangerment Finding, at 1. ***Third***, OMB questioned why EPA was focusing so heavily on ostensible ozone effects from climate change when EPA already had existing Clean Air Act regulations designed to regulate ozone. *See id*. ***Fourth***, OMB noted that EPA had failed to explain why Title VI of the Clean Air Act (the international program that is part of the Montreal Protocol) was not the superior policy device to deal with GHG regulation, particularly given the differing properties and characteristics of GHGs other than carbon dioxide.

See id. at 2. ***Fifth***, as the Chamber has repeatedly called to EPA's attention, OMB expressed the view that the Proposed Endangerment Finding could create a regulatory cascade. *See id.* at 2-3. ***Sixth***, OMB criticized EPA for doing a static analysis that did not take account of the fact that people, especially in America, would take steps to adapt and even migrate in response to any climate change that might occur. The foregoing six problems just scratch the surface of problems communicated by OMB with regards to EPA's Proposed Endangerment Finding, which ought to be considered and resolved on-the-record.

6. EPA's peer review process for the TSD was not transparent or open to public participation. And what is known is troubling. As detailed in Section III above, the TSD that forms the basis of EPA's Proposed Endangerment Finding "relies most heavily" on the reports of the UN's IPCC and USCCP. 74 Fed. Reg. 18,886, 18,894 (Apr. 24, 2009); TSD at 4-5 & tbl 1 ("Core reference relied upon most heavily in this document" consist almost exclusively of IPCC and CCSP reports"). In fact, EPA explains it took this shortcut "rather than conduct[] a new assessment of the scientific literature." 74 Fed. Reg. at 18,894. In doing so, EPA used the very people involved in generating those reports as the expert reviewers of the TSD and as the TSD's authors and contributors. EPA effectively had people review themselves. This self-review, rather than peer-review, is particularly dangerous here where those sources have mistakes. Indeed, as set forth separately in the Chamber's comments to the EPA docket, the poor quality of the evidence on which EPA relies likely violates the Data Quality Act. Pub. L. 106-554. This hardly accords with the Administrator's adamant statement that EPA would not "accept any recommendation or proposal without careful, critical, and independent examination," Mem. to EPA Employees, "Transparency in EPA's Operations" (Apr. 23, 2009),[113] let alone describes a

[113] Available at http://www.epa.gov/administrator/operationsmemo.html.

scientific process that "meet[s] the highest standards of rigor, quality, and integrity" as the Administrator elsewhere promised to ensure. Mem. to EPA Employees, "Scientific Integrity: Our Compass for Environmental Protection" (May 9, 2009).[114]

7. There are indications that the Agency's TSD, signed by the Administrator, contains statements that were not consistent with information put before EPA's own staff. In the Proposed Endangerment Finding, the Administrator stated as follows: "The effects of climate change on public health include sickness and death …. And, according to the scientific evidence relied upon in making this finding, the probability of the consequences is shown to range from likely to virtually certain to occur." 74 Fed. Reg. at 18,904. The Administrator was specifically claiming that climate change would cause sickness and death in the United States with a probability ranging from 66 to 99 percent.[115] But EPA has itself commissioned studies showing much greater uncertainty, which its own staff had available in advance of the TSD. For example, recent ozone studies commissioned by EPA cast serious doubt on that conclusion with regard to the TSD's conclusion that greenhouse gases harmed the ozone and increased particulate matter.[116] This work, overseen by EPA's own staff, was excluded from the TSD and the Proposed Endangerment Finding.

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[114] Available at http://www.epa.gov/administrator/scientificmemo.html.

[115] Earlier, EPA had adopted the IPCC's probability terminology: "According to [the] … IPCC … terminology, 'very likely' conveys a 90 to 99 percent probability of occurrence. 'Virtually certain' conveys a greater than 99 percent probability, 'likely' conveys a 66 to 90 percent probability, and 'about as likely as not' conveys a 33 to 66 percent probability." *Id.* at 18,888 n.2.

[116] *See* T.W. Tesche, Assessment of the Air Quality/Public Health Component of EPA's 'Endangerment Findings' Technical Support Document (TSD) (June 21, 2009) (submitted with Chamber comments on the Proposed Endangerment Finding). The three studies involved emerged from the following projects: (1) GIT/NESCAUM/MIT Phase I STAR Grant Project; (2) EPA/NCER/NOAA CIRAQ Project; and the EPA/OAQPS/NC State ICAP Project. *See id.* at 1-3.

8. Given the Administration's public announcement that it already intends to regulate greenhouse gas emissions under section 202 of the Clean Air Act, it appears that there is a non-transparent, predetermined outcome here. *See* Remarks By The President On National Fuel Efficiency Standards (May 19, 2009);[117] President Obama Announces National Fuel Efficiency Policy (May 19, 2009).[118] Of course, EPA cannot properly promulgate such regulations under Clean Air Act section 202(a) until (and unless) it makes an endangerment finding. The stated intent to proceed with regulation under 202 presupposes that the Administrator will finalize an endangerment finding.

All of these items raise concern because EPA has not used an on-the-record process. The only way to assure the public of the scientific integrity that is warranted, and the full transparency that is needed, is to conduct this process on-the-record.

IV. TO ENSURE TRANSPARENCY AND SCIENTIFIC INTEGRITY, EPA SHOULD CONDUCT THIS PROCEEDING ON THE RECORD.

Conducting an on-the-record proceeding here is the only way to ensure that the President and EPA fulfill their promises of transparent decisionmaking that puts science ahead of politics and provides interested parties with a meaningful opportunity to be heard. It is only way to rectify the substantial flaws in the current process EPA is employing. EPA has the authority and the capacity to do so.

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[117] Available at http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-national-fuel-efficiency-standards/.

[118] Available at http://www.whitehouse.gov/the_press_office/President-Obama-Announces-National-Fuel-Efficiency-Policy/.

A. EPA Has the Authority to Conduct On-the-Record Proceedings in This Matter and the ACUS Criteria Call for Such Proceedings Here.

EPA has the authority to conduct precisely the type of on-the-recording proceedings the Chamber requests. And the circumstances present here warrant an on-the-record process because the Proposed Endangerment Finding is one especially in need of transparency and scientific integrity, and involves the most important regulatory decision in the EPA's history. The Administrative Conference of the United States ("ACUS")—a well-respected, bipartisan committee responsible for improving agency administration—recommended that agencies afford additional and more formal procedural protections when certain criteria are met. The Proposed Endangerment Finding at issue here presents exactly the circumstances in the ACUS recommendation for when an agency should afford such protections. Following that body's recommendation would ensure the transparency and scientific integrity needed to resolve the Proposed Endangerment Finding.

1. It Is Well Within EPA's Authority to Permit On-the-Record Proceedings.

EPA has the authority to provide the additional procedural protections requested here.[119] As one leading treatise has put it, "Agencies are always free to provide procedural safeguards greater than those required by statute or by the Constitution, and"—as the U.S. Chamber of Commerce urges here—such "additional procedures … provide significant benefits to the public and to the agency by permitting more thorough consideration of the issue before the agency." R.

[119] The Chamber is not asserting that the Clean Air Act expressly requires this. *United States v. Florida East Coast Railway Co.*, 410 U.S. 224 (1973). But neither does the Clean Air Act preclude it. The Agency has the authority to adopt an on-the-record process of its own volition, in accord with its own promises of transparency and scientific integrity. Clean Air Act section 307(d)(1)'s indication that the "provisions of section 553 through 557 and section 706 of Title 5 shall not, except as expressly provided in this subsection, apply to actions to which this subsection applies" cannot be interpreted in referencing sections 553-557 of the APA to mean that EPA is prohibited from voluntarily applying such procedures, but only that EPA does not have a statutory obligation to use such procedures. It does not address EPA's discretion in deciding whether to do so.

Pierce, *et. al*, ADMINISTRATIVE LAW 353 (5th ed. 2009). Indeed, "[v]oluntary agency supplementation … presents no particular controversy." *Id.* And choosing more formal procedures to provide transparency and scientific integrity could enable EPA to avoid the pitfalls of "entirely fail[ing] to consider an important aspect of the problem, offer[ing] an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of expertise"—each of which would be grounds for reversal of an agency decision. *MVMA v. State Farm Auto Ins.*, 463 U.S. 29, 63 (1983).

2. ACUS Criteria—Which EPA Should Follow—Demonstrate That an On-the-Record Proceeding Should Be Used Here.

ACUS is regarded as having issued authoritative guidance on regulatory matters. Many of its recommendations have been adopted by executive agencies. It recommended that agencies provide on-the-record proceedings when three criteria are met. Specifically, it recommended that additional procedural protections be afforded when (1) scientific or technical issues are "complex"; (2) the problem posed is so "open-ended" that the agency would benefit from diverse views; (3) the costs errors may pose are "significant." 1 C.F.R. § 305.76-3(1) (1993). The issues in the Proposed Endangerment Finding undeniably meet these three criteria. First, the vast array of scientific questions involved in the Proposed Endangerment Finding, many of which are controverted as discussed in Section III above, render the matter before EPA so complex that it ought to be resolved through on-the-record proceedings. Second, the problem the Administrator is addressing is open-ended—it is a long term problem and, given the substantial questions concerning the science underpinning the Proposed Endangerment Finding, there is no question that EPA would benefit from a diverse dialogue. Third, the potential costliness of an erroneous endangerment finding is undeniable. With a torrent of additional regulation potentially in the

offing, erring in this finding could harm virtually every aspect of the American economy, which is already struggling.

a. ACUS

Formed in 1964, ACUS is a bipartisan independent agency and advisory committee. Administrative Conference Act, Pub. L. No. 88-499, 78 Stat. 615 (1964). It closed in 1995 because its funding was eliminated, but was reauthorized in 2004, though it awaits funding. *See* 60 Fed. Reg. 56,312 (Nov. 8, 1995); Pub. L. No. 108-401, 118 Stat. 2255. Its principal role was to develop recommendations for improving federal agency procedures for administering their programs, including recommendations for "regulatory activities and other Federal responsibilities may be carried out expeditiously in the public interest. Administrative Conference Act § 2(e); *see also Reauthorization of the Administrative Conference of the United States*: *Hearing Before the Subcomm. on Commercial and Administrative Law of the H. Comm. on the Judiciary*, 108th Cong. 15, 37 (2004) (hereinafter "*Reauthorization Hearing*"). It was composed of a member appointed by each federal agency and the private sector members selected by the conference chairman. Jeffrey Lubbers, *If It Didn't Exist, It Would Have to Be Invented—Reviving the Administrative Conference*, 30 ARIZ. ST. L.J. 147, 148 (1998).

ACUS was highly respected for its independence. *See, e.g.*, *Reauthorization Hearing* at 36 (testimony of Justice Breyer that the importance of preserving ACUS's bipartisan, non-political nature); *id.* at 35 (testimony of Justice Scalia that the "whole value" of ACUS is its independence).[120] That respect translated into results. Of the approximately 200

[120] *See also* Reauthorization of the Administrative Conference of the United States: Hearing Before the Subcomm. on Commercial and Administrative Law of the H. Comm. on the Judiciary, 104th Cong. 38 (1995) ("Since its inception, ACUS has produced a steady stream of law reform analysis of the highest quality … [and] maintained an unblemished reputation for sound, independent, evenhanded judgment in the interests of administrative fairness, efficiency, and effectiveness.") (prepared statement of Peter M. Shane); Gary J. Edles, The Continuing Need for An Administrative Conference, 50 ADMIN. L. REV. 101, 110-133 (1998) (discussing the creation, accomplishments, and

(Continued…)

recommendations and statements adopted by ACUS, over two-thirds were implemented in some form. 60 Fed. Reg. 56,312 (Nov. 8, 1995) (ACUS publication); William Funk, *Rest In Peace A.C.U.S.*, ADMINISTRATIVE & REGULATORY LAW NEWS, (Winter 1996); *see also* Lubbers, 30 Ariz. St. L.J. at 149 ("Due to the consensus-based process used by ACUS, it managed to achieve a high rate of implementation for its (non-binding) recommendations.").

b. ACUS 76-3.

Among its recommendations, ACUS made several concerning when federal agencies should provide additional procedures during the regulatory process. *See* ACUS Recommendation No. 76-3, 1 C.F.R. § 305.76-3 (1993). Although it had previously recommended that Congress never impose trial-type procedures on agencies, it had in that same recommendation nonetheless recognized that, when an agency is tasked with resolving an issue of fact, as EPA is here, further protections for a valid record such as oral argument and trial-type truth-discerning procedures, may be appropriate. *Id.* (discussing ACUS Recommendation 72-5). Having recognized this in a prior recommendation, ACUS studied judicial decisions, particularly those in the Court of Appeals for the District of Columbia Circuit, and devised a recommendation for when agencies should employ those procedural protections. *Id.* As a general matter, it recommended that "[a]gencies should afford interested persons the opportunity to participate as effectively as possible …. [and] to enlarge the opportunity for public participation and increase its effectiveness, agencies in appropriate circumstances should utilize procedures … [that] go beyond a single notice and opportunity comment." 1 C.F.R. § 305.76-3(1) (1993).

closing of the ACUS); William Funk, *Rest In Peace A.C.U.S.*, ADMINISTRATIVE & REGULATORY LAW NEWS, (Winter 1996).

To that end, ACUS offered three criteria for when additional protections, such as on-the-record procedures, are warranted:

> (1) The scientific, technical or other data relevant to the proposed rule are complex; (2) the problem posed is so open-ended that an agency may profit from receiving diverse public views before publishing a proposed rule for final comment; and (3) the costs that errors in the rule may impose, including health, welfare and environmental losses imposed on the public and pecuniary expenses imposed on the affected industries and consumers of their products, are significant.

Id. Where those three criteria were present, ACUS recommended that agencies such as EPA use such procedural protections as: providing for the outset for two cycles of notice of comment; or providing a second cycle of notice and comments present "new and important issues"; including in the notice of a notice and comment cycle the data supporting the agency's position; explaining the tests and procedures the agency followed; as well as public conferences where all interested parties can question one another. *Id.* Most important, it suggested that cross-examination should also be used on fact issues in rulemakings subject to notice-and-comment requirements. 1 C.F.R. § 305.76-3(2) (1993). As former law professor and Judge Carl McGowan of the D.C. Circuit later noted, ACUS's recommendation about an on-the-record process has taken on "even greater significance" after *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, 435 U.S. 519 (1978), where the U.S. Supreme Court limited judicial authority to compel agencies to use additional procedures. Carl McGowan, *The Administrative Conference: Guardian and Guide of the Regulatory Process*, 53 Geo. Wash. U. L. REv. 67, 79 (1984). This is because the ACUS guideline "is virtually the only standard avilable to agencies by which to measure the adequacy of their proceures." *Id.* Of course, ACUS's recommendation that agencies employ additional procedural protections by its very nature makes clear that EPA possesses the discretion to use on-the-record procedures when circumstances demand, as they do here.

c. This Proceeding

The ACUS criteria are easily met here. First, it should be beyond cavil that "the scientific, technical or other data relevant" to the Proposed Endangerment Finding "are complex." Simply the range of scientific issues that must be considered in assessing carbon dioxide (as well as the mix of six gases the Administrator's Proposed Endangerment identifies), their role in climate change and the impacts therefrom is breathtaking. As discussed extensively in Section III above, it means examining mortality and illness effects because of temperature changes, including the impacts that developments like air conditioning and other education might have any effects resulting from warmer temperatures; impact on air quality, including ozone levels, how carbon dioxide interacts with far more serious sources of ozone, and fine particulate matter (which may well be reduced by increased temperatures); impacts on the weather, on the ocean, on arctic temperature, on arctic ice, and on agriculture. These issues barely begin to scratch the surface of the scientific issues embedded in the Proposed Endangerment Finding.

In considering any one of these issues, the Agency must necessarily confront substantial questions concerning the quality of the data on any one of these issues, such as the reliability of the scientific models and measures used to generate the data. For example, in examining ocean acidification, regulators must understand historical levels of acidity. But the necessary historical data is non-existent. *See* Section III, pp. 48-49. Thus, models have been developed to infer what it might have been. *See id.* The future-oriented projections about what it will be are also based on models, not actual measures. *See id.* With respect to temperature measures, the data have to be adjusted for contamination from local heat sources. How best to do that and whether it has been done properly to avoid over or understating the effects is no small question. *See id.* at 45-47. Given all of this, it would be specious to assert that the scientific and technical issues involved in the Proposed Endangerment Finding are anything less than complex.

Similarly, the Proposed Endangerment Finding readily fulfills the second criterion: the problem at issue is "so open-ended that" EPA would "profit from receiving diverse public views" before finalizing the Proposed Endangerment Finding. Moreover, climate change is a long-term issue and no step taken today will resolve it tomorrow, in a year, or in ten years. EPA acknowledged the long-term open-ended nature of issue in the Proposed Endangerment Finding itself. There, EPA stated that it "took the approach that the timeframe under consideration should be consistent with the timeframe over which greenhouse gases may influence the climate (i.e., ***observed effects over the next several decades and indeed at least for the remainder of the century***)." 74 Fed. Reg. at 18,894 (emphasis added); *see id.* at 18,889. In light of the significant deficiencies in the data illustrated in Section III, EPA's complete reliance on a scientific literature survey, and a peer review process that is in fact a self-review process, EPA would greatly benefit from receiving additional scientific input, and, in particular, would benefit from receiving it through an on-the-record proceeding.

Finally, the immediate costs of this Proposed Endangerment Finding are likely to be grave, readily satisfying ACUS's third and final criterion. The Proposed Endangerment Finding, if adopted, will potentially set off a cascade of regulations. *See supra* Section I, pp. 25-32. This is so because a finding of endangerment may well trigger the Administrator's need to promulgate numerous regulations on nearly every sector of the economy, including those previously wholly unregulated, like offices, warehouses, churches, hospitals and farms. *Id.* This is illustrated by extraordinary comments from the Secretaries of Agriculture, Commerce, Transportation and Energy Departments that accompanied the ANPR. Those comments, (along with similar comments from the Council of Economic Advisors, the U.S. Small Business Administration, and OMB) condemned the effort to issue an endangerment finding because the ANPR was based

upon incorrect basic assumptions about the costs and benefits of regulation in this area, and the fact that the regulatory proposals will "harm" this country's competitiveness. 73 Fed. Reg. 44,359-61. Under the weight of all of these regulations, it is no stretch to say that the economy—already in the deepest recession since the Great Depression—could grind to a halt. Indeed, these severe economic effects perhaps explain why the Administrator failed to fulfill her legal obligation to conduct an economic impact assessment for the Proposed Endangerment Finding.[121]

B. Use of On-the-Record Proceedings Would Enhance the Search for Truth and Reduce the Risks of Error.

Using an on-the-record proceeding, rather than merely relying on one round of paper filings as EPA has chosen to employ thus far, would better ensure that results reached by EPA reflect scientific truths. When our judicial system aims to discern factual truths, based on empirical scientific data, it uses adversarial testing of evidence and not paper filings. For example, although a lawsuit can be decided on the papers at summary judgment, a court can only do so ***if no material facts*** are in dispute. *See Celotex Corp. v. Catrett*, 477 U.S. 317 (1986). Where facts pertinent to the resolution of a matter are in dispute, it must be resolved through an on-the-record evidentiary contest—requiring the presentation of evidence and testimony of individuals subjected to cross-examination. This so because our "system is premised on the well-tested principle that truth—as well as fairness—is best discovered by powerful statements on both sides of the question." *Penson v. Ohio*, 488 U.S. 75, 84 (1988) (internal quotations omitted); *see also Rock v. Arkansas*, 483 U.S. 44, 54, (1987) ("[T]he conviction of our time [is]

[121] The Administrator cannot explain her failure to perform an economic impact assessment by claiming that it is unclear what actual regulations will flow from an endangerment finding because she made the unprecedented choice herself to decouple such a finding from any actual regulatory proposal. The uncertainty is a self-inflicted wound.

that the truth is more likely to be arrived at by hearing the testimony of all persons of competent understanding who may seem to have knowledge of the facts involved in a case, leaving the credit and weight of such testimony to be determined by the jury or by the court." (internal quotations and citations omitted)); *Polk County v. Dodson,* 454 U.S. 312, 318 (1981) ("The system assumes that adversarial testing will ultimately advance the public interest in truth and fairness.").

1. Scientific Integrity Requires the Testing of Empirical Data Here.

On-the-record processes, such as those proposed here, better ensure both transparency and scientific integrity. Permitting powerful statements on both sides of a question in real time permits an responsive exchange of information that cuts to the heart of a matter and tests the veracity of views being advanced. Moreover, "cross-examination has always been considered a most effective way to ascertain truth." *Watkins v. Sowders*, 449 U.S. 341, 348 (1981); *see also Kentucky v. Stincer*, 482 U.S. 730, 736 (1987) ("The opportunity for cross-examination, protected by the Confrontation Clause, is critical for ensuring the integrity of the fact-finding process."). Elsewhere the Supreme Court has called it the "greatest legal engine ever invented for the discovery of truth." *California v. Green*, 399 U.S. 149, 158 (1970).

Courts also have recognized the "critical role" the on-the-record process can play in agency decision-making by "clarify[ing] the issues and positions being considered at the agency level." *U.S. Lines, Inc. v. FMC*, 584 F.2d 519, 542 (D.C. Cir. 1978); *People v. United States*, 666 F.2d 1066 (7th Cir. 1981) ("The history of the proceedings before the record was supplemented shows that the opportunity for cross-examination was critical in achieving an accurate determination of the facts.").

There can be no question that the science here would benefit from rigorous testing through cross-examination. Adversarial procedures such as cross-examination have uncovered doubts, weaknesses, and contradictions on these issues, as demonstrated by the following deposition excerpts submitted in another EPA Docket. *See* http://www.regulations.gov/fdmspublic/component/main?main=DocumentDetail&o=090000648024979b (last visited June 20, 2009); Alliance Hr'g Presentation, EPA-HQ-OAR-2006-0173-0412.4 (May 30, 2007), *available at* http://wwww.regulations.gov/fdmspublic/ContentViewer?objectId=090000648024979b&disposition=attachment&contentType=ppt8 (last visited June 20, 2009). As shown in Section II above, there are many uncertainties at issue here, and as shown in Section III above, there are numerous scientific questions as to which assertions in the TSD are controverted. Here, only an adversarial process conducted on the record would enable a true testing of the data at issue and reduce the risk of errors, and assure the public of a decision with scientific integrity.

2. In The Proposed Endangerment Finding, EPA Has Relied On Secondary Sources That Have Not Been Evaluated On The Record.

In its TSD, EPA elected to rely on secondary sources for which it has had no real scientific testing of any kind. It has used a rulemaking process that permits no replies and no rebuttals. This process has thus admitted of no responsive thrust and parry about those secondary sources and the propriety of their methods and use of the data. Yet, there is significant reason to question those sources and data in a number of respects. As discussed extensively in Section III above, EPA's own methodologies and data have been questioned by numerous respected scientists, undermining the legitimacy of the entire EPA proceeding to date, and belying the President's and the Administrator's promises of transparency and scientific integrity. By conducting this process as it as chosen, EPA has not simply opened the door to

errors, it has invited them. And there can be no doubt that errors will be made as a result. Given the cascade of consequences that flow from an endangerment finding, those errors will have grave consequences for this Nation because the entire economy might be regulated in mistaken ways, based on factual errors. This is an irresponsible way to conduct the most important rulemaking in the history of the Clean Air Act. And it is particularly irresponsible when there is no barrier preventing EPA from choosing to use a method that could accord with transparency and scientific integrity, *i.e.*, an on-the-record proceeding.

If EPA is committed to the principles that have been set for valid resolution of scientific issues, it is time for it to "walk the walk." There is no reason EPA cannot do an on-the-record proceeding here. EPA is fully equipped to do such a proceeding, and does so in a number of contexts under a wide variety of statutes. *See* EPA Consolidated Rules of Practice, 40 C.F.R. § 22.3(a) (defining "hearing" as "an evidentiary hearing on the record").[122] So do other agencies for similar issues. For example, in rulemaking under the Marine Mammal Protection Act, the Department of Commerce uses on-the record proceedings. 16 U.S.C. § 1373(d).[123] Although an on-the-record process is not standard, this is not a standard or routine rulemaking, and a decision derived from on-the-record proceedings is plainly called for in this situation and given EPA's self-proclaimed priorities of transparency and scientific integrity.

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[122] *See* http://www.epa.gov/oalj/index.htm (describing role of EPA administrative law judges); http://www.epa.gov/oalj/statutes.htm (listing statutes administered by EPA administrative law judges, which include the Clean Air Act).

[123] *See also* Proposed Formal Rulemaking Regarding Milk and Cream Products and Yogurt Products; Proposal to Revoke the Standards for Lowfat Yogurt and Nonfat Yogurt and to Amend the Standard for Yogurt, 74 Fed. Reg. 2443 (Jan. 15, 2009) (FDA rulemaking).

V. GIVEN ALL RELEVANT FACTS AND FACTORS HERE, IT WOULD BE AN ABUSE OF EPA'S DISCRETION FOR EPA TO REFUSE TO USE ON-THE-RECORD PROCEDURES TO RESOLVE THE PROPOSED ENDANGERMENT FINDING.

This is not an ordinary rulemaking. Not in any sense. This proceeding involves truly unique issues unlike any in EPA history, and it presents potential consequences to our Nation's economy greater than virtually any other regulation in history. The President and EPA Administrator have promised transparency and scientific integrity, and they are urgently needed here. In light of the circumstances presented here, for EPA to decline to conduct an on-the-record proceeding would appear arbitrary and capricious.

A. Principles of Administrative Law Support an On-The-Record Resolution to Enable Judicial Review.

Because of the procedural path EPA has chosen thus far, the administrative record it creates will likely be inadequate. It is well-settled that it is arbitrary and capricious for an agency to adopt a rule without creating an adequate record. *See, e.g.*, *N.E. Md. Waste Disposal v. EPA*, 358 F.3d 936, 948 (D.C. Cir. 2004); *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 551 (D.C. Cir. 1983) ("A rule without a stated reason is necessarily arbitrary and capricious.").

For one of the most important scientific issues in recent times, judicial review demands the creation of a record with scientific integrity. After all, judicial review requires a court "to engage in a substantial inquiry … [a] probing, thorough, in depth-review." *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 415 (1971); *see also Ackerman v. United States*, 324 F. Supp. 2d 1, 5 (D.D.C. 2004) (applying *Overton Park*); *Gonzalez v. Department of State*, 135 F. Supp. 2d 193, 196 (D.D.C. 2001). And an adequate record of an agency's decisionmaking is necessary to determine "whether the decision was based on a consideration of relevant factors and whether there has been a clear error of judgment." *Overton Park*, 401 U.S. at 416. As the

Court of Appeals for the D.C. Circuit has explained, "With its delicate balance of thorough record scrutiny and deference to agency expertise, judicial review can occur only when agencies explain their decisions with precision, for '[i]t will not do for a court to be compelled to guess at the theory underlying the agency's action.'" *Bluewater Network v. EPA*, 370 F.3d 1, 21 (D.C. Cir 2004) (quoting *Am. Lung Ass'n v. EPA*, 134 F.3d 388, 392 (D.C. Cir. 1998) (further quotation omitted)).

In the context of the Proposed Endangerment Finding, the need for an adequate record for judicial review is analogous to the hearing requirement in cases in which preliminary injunctive relief is sought. There, although "[a] preliminary injunction may be granted based on less formal procedures and on less extensive evidence than in a trial on the merits, [] if there are genuine issues of material fact raised in opposition to a motion for a preliminary injunction, ***an evidentiary hearing is required***." *Cobell v. Norton*, 391 F.3d 251, 261 (D.C. Cir. 2004) (internal citations omitted) (emphasis added); *Professional Plan Examiners of N.J., Inc. v. Lefante*, 750 F.2d 282, 288 (3d Cir. 1984)) ("A district court cannot issue a preliminary injunction that depends upon the resolution of disputed issues of fact unless the court first holds an evidentiary hearing."). This so because "[g]enerally, of course, a judge should not resolve a factual dispute on affidavits or depositions, for then he is merely showing a preference for 'one piece of paper to another.'" *Forts v. Ward*, 566 F.2d 849, 851 (2d Cir. 1977) (internal quotation marks omitted); *see also Mantek Div. of NCH Corp. v. Share Corp.*, 780 F.2d 702, 705 (7th Cir. 1986) (in deciding whether to order preliminary injunction, court cannot ignore evidence supporting defendant's affirmative defense simply because it did not want to decide certain factual issues). Accordingly, rather than determining disputed factual issues by "preferring one piece of paper to

another," EPA should—just as courts do when there are disputed empirical issues—hold an appropriate hearing that permits the testing of evidence on-the-record.

B. An On-The-Record Proceeding Is Uniquely Necessary to Determine "Endangerment."

Even apart from the need for an adequate record for judicial review, EPA's Proposed Endangerment Finding represents the extraordinary circumstance in which additional procedural protections are truly necessary. In *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 524, 543 (1978), the Supreme Court suggested that, despite the inappropriateness of regular judicial intervention, "extremely compelling circumstances" "would [] justify a court in overturning agency action because of a failure to employ procedures beyond those required by statute." *See also People v. United States*, 666 F.2d 1066, 1083 (7th Cir. 1981) (finding extremely compelling circumstances and that, as a result, "the parties should have been afforded the right of cross-examination with regard to the supplementary evidence"); *Nat'l Wildlife Federation v. Marsh*, 721 F.2d 767, 784-86 (11th Cir. 1983) (requiring an agency to follow a procedure that was not required by statute, but that the agency had followed in other cases).

Although the Supreme Court overturned the lower court's imposition of procedures in *Vermont Yankee*, the agency actions at issue there were run-of-the-mine permitting and rulemaking decisions. 435 U.S. at 525-35. The contrast between those proceedings and the extraordinary proceedings at issue here could not be starker. EPA's Proposed Endangerment Finding is an empirical scientific determination that is the predicate for EPA to regulate not just mobile sources, but virtually every aspect of the American economy. There is no industry, business, person, or animal in the United States that EPA will not eventually be challenged to regulate should it finalize this Proposed Endangerment Finding. After all, every living, breathing

creature on land exhales carbon dioxide. It is hard to imagine another agency action in this Nation's history with such far reaching implications. In the proceedings on the lead rule three decades ago, which was up until now arguably the most significant regulatory action EPA had ever taken, EPA gave more time and more process than it has given here. *See Ethyl*, 541 F.2d at 54.[124] These "extremely compelling circumstances" are precisely those in which EPA should afford additional process on-the-record. *Id.* at 543.

Moreover, even if it could be urged that the Proposed Endangerment Finding is not the extremely compelling circumstance *Vermont Yankee* contemplated, subsequent cases have made clear that *Vermont Yankee* did nothing to alter the requirement an agency must use ***adequate*** procedures. As the Supreme Court has made clear in *Motor Vehicles Manufacturers Association v. State Farm Mutual Automobile Insurance Co.*, 463 US. 29, 50 (1983), *Vermont Yankee* is no "talisman under which any agency decision is by definition unimpeachable." Instead, courts must be "assured" that the agency's process "as a whole and in each of its major parts provides a degree of public awareness, understanding, and participation commensurate with the complexity and intrusiveness of the resulting negotiations." *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1024 n.11 (D.C. Cir. 1978); *see also Chicago, Milwaukee, St. Paul & Pac. R.R. Co. v. United States*, 585 F.2d 254, 263 n.15 (1978) (holding summary procedures without adequate notice was arbitrary and capricious and, though leaving the precise procedures to be used to the agency's

[124] The current effort by the Agency stands in sharp contrast to its work on the airborne lead endangerment finding completed in the 1970s, in which EPA and the scientific spent several years—not a few months—examining every facet of the much simpler issues of causation and possible impacts on human health than those presented here. Before making an endangerment finding for airborne lead, EPA held three comment periods spread over a fourth-year period. *See Ethyl*, 541 F.2d at 9-11, 47-48. Consequently, it is nothing to the point for the court of appeals to have determined in *Ethyl* that there was no right to, or need for, proceedings on the record; in that case, unlike the present situation, the affected parties "were afforded a meaningful opportunity to be heard and to controvert evidence," and the circumstances, as they did not implicate nearly every economic activity in the United States, were less compelling. *See id*. at 53 n.124

discretion, "requir[ing] that there be an appropriate exercise of that discretion"); *U.S. Lines, Inc. v. FMC*, 584 F.2d 519, 540-41 (D.C. Cir. 1978) (finding that the agency failed to provide a "hearing" within the meaning of the statute because it allowed *ex parte* contracts without giving the public the opportunity to respond, reasoning that although "members of the public were free to submit arguments, … there was no opportunity for a real dialogue or exchange of views").

C. Even Discretionary Choices as to Regulatory Process Can Constitute an Abuse of Discretion.

Finally, the question of whether to apply an "on the record" process to finalizing the Proposed Endangerment Finding has a ready analogy to the principle that agencies normally possess discretion to select their procedural mode—*i.e.*, to decide whether to express their delegated powers by way of rulemaking or adjudication. *See, e.g., NLRB v. Bell Aerospace Co.*, 416 U.S. 267, 294 (1974) ("The views expressed in *Chenery II* and *Wyman-Gordon* make plain that the Board is not precluded from announcing new principles in an adjudicative proceeding and that the choice between rulemaking and adjudication lies in the first instance within the Board's discretion."); *SEC v. Chenery Corp.*, 332 U.S. 194, 203 (1947) ("[T]he choice made between proceeding by general rule or by individual, *ad hoc* litigation is one that lies primarily in the informed discretion of the administrative agency.").

This principle from *Bell Aerospace* and *Chenery II*, however, is not a license to agencies to make an unfettered or arbitrary choice between rulemaking and adjudication. "[T]here may be situations where the Board's reliance on adjudication would amount to an abuse of discretion or a violation of the Act…." *Bell Aerospace*, 416 U.S. at 294. What an agency's ability to use its informed discretion to proceed way of formal rulemaking means together with the *Chenery* principle is that agencies must select the right procedural tool to use for the precise

administrative problem at hand. Agencies have some discretion in choosing the right tool, but not absolute discretion.

The case of *Ford Motor Company v. FTC* is instructive:

> The narrow issue presented here is whether the F.T.C. should have proceeded by rulemaking in this case rather than by adjudication. The Supreme Court has said that an administrative agency, such as the F.T.C., "is not precluded from announcing new principles in the adjudicative proceeding and that the choice between rulemaking and adjudication lies in the first instance within the (agency's) discretion." *NLRB v. Bell Aerospace Co.,* 416 U.S. 267, 294 (1974). *See also, Securities Comm'n v. Chenery Corp.*, 332 U.S. 194, 202-203 (1947). ***But like all grants of discretion***, "there may be situations where the (agency's) reliance on adjudication would amount to an ***abuse of discretion*** . . . ." *Bell Aerospace Co.*, 416 U.S. at 294. ***The problem is one of drawing the line. On that score the Supreme Court has avoided black-letter rules.*** *See id.* at 294 ("(i)t is doubtful whether any generalized standard could be framed which would have more than marginal utility . . . .") Lower courts have been left, therefore, with the task of dealing with the problem on a case-by-case basis.

673 F.2d 1008, 1009 (9th Cir. 1981) (Kennedy, J., on panel) (emphasis added) (holding that a certain FTC policy concerning automobile possession and resale practices, was an abuse of discretion when not embodied in a rulemaking), *cert. denied*, 459 U.S. 999 (1982). *See also Morton v. Ruiz*, 415 U.S. 199, 232 (1974) ("No matter how rational or consistent with congressional intent a particular decision might be, the determination of eligibility cannot be made on an ad hoc basis by the dispenser of the funds."); *First Bancorporation v. Board of Governors of the Federal Reserve*, 728 F.2d 434 (10th Cir. 1984) (order of the Board of Governors was an abuse of discretion to issue in an adjudicatory form). Just as the *Ford Motor* case undertook that case-by-case analysis as applied to a particular exercise of FTC discretion, so EPA must do so here when faced, as it now is under this Petition, with the choice between using an "on the record" proceeding versus use of an informal rulemaking process in the ordinary course. And EPA must do so with an eye to the fact that its exercise of judicial discretion in this unique context may eventually be scrutinized by the D.C. Circuit (and possibly the Supreme

Court) under Clean Air Act section 307(b). *See Ethyl Corp. v. EPA*, 541 F.2d 1, 53 n.124 (D.C. Cir. 1976).

Formal, on-the-record rulemaking creates a generally applicable agency pronouncement that governs on a prospective basis, but resembles an adjudication in terms of the reticulated adversary process by which the general pronouncement is formulated. In other words, the device is a hybrid that adds important adjudicatory elements to a rulemaking process.[125] Where Congress does not create specific hybrids for agency use, or channel the agency into the exclusive use of one device or the other, agencies like EPA are expected to use their informed discretion to select a device or to fashion a specific procedure appropriate to the issue it is facing, as the Chamber has proposed here.

The Proposed Endangerment Finding will necessarily resolve disputed issues of scientific fact. As such, this proceeding implicates a different dimension of the comparison between the informal and formal devices between which EPA must choose—the ability of formal, on-the-record procedures to ferret out the truth and reduce error costs.

There is little on the balancing scale to set against the on-the-record advantages of avoiding scientific error and fostering transparency. An on-the-record resolution of the Proposed Endangerment Finding would concededly not be a *de minimis* undertaking. But those ancillary process costs seem minimal compared to the primary costs to the economy of making an erroneous endangerment finding. As has been noted, the costs of the rules that would be

[125] In the other direction, there are hybrids that add rulemaking elements to adjudicatory processes. *See, e.g.,* CAA section 209(b), 42 U.S.C. § 7543(b) (predominantly adjudicatory process to which is attached the rulemaking device of notice and comment); CWA section 404(e), 33 U.S.C. § 1344(e) (authorizing the Army Corps of Engineers to issue "general permits," a hybrid between an adjudicatory device (permitting) and rulemaking (because of the "general" nature of the permit, along with use of notice and comment)); *Chocolate Mfrs. Ass'n of United States, Inc. v. FTC*, 617 F.2d 611 (D.C. Cir. 1979) (referring to the Magnuson-Moss Act as "a codification of the hybrid approach between adjudication and rulemaking.").

triggered by actual endangerment finding would be unprecedented. Trillions of dollars to rearrange the American economy is not an exaggeration. The fact that these costs could be inflicted during the deepest national recession since the 1930's is a point that must also be given cautious reflection in EPA's response to this Petition. Given those realities—and the Administration's promises of transparency and scientific integrity—this is a case of "extremely compelling circumstances" in which on-the-record proceedings ought to be employed. *See Vermont Yankee*, 435 U.S. at 543.

RELIEF REQUESTED[126]

Based on the foregoing, the Chamber respectfully requests that this Petition be granted, providing the following specific relief:

1. Publication: Publish the Petition in the *Federal Register* and call for public comment on it.

2. Conduct Proceeding "On the Record": Any and all proceedings to finalize the Proposed Endangerment Finding be ordered by EPA to be conducted "on the record" using the procedures set out in APA sections 556-557;

3. Supplemental Procedures: "On the Record" proceedings to be held by EPA to finalize the Proposed Endangerment Finding can be supplemented by the Consolidated Rules of Practice ("CRP") contained at 40 C.F.R. Part 22, except to the extent that any provisions in the Consolidated Rules of Practice conflict with APA sections 556-557 or a specific request herein differs from the provisions of the CRP. In any case of such conflict, APA sections 556-557 should control;

4. Decisionmaker: EPA shall utilize only one of the following three decisionmakers: (i) the Administrator; (ii) the Deputy Administrator acting pursuant to a delegation from the Administrator to render a final agency decision; (iii) one or more administrative law judges appointed pursuant to the substantive and structural protections including, but not limited to 5 U.S.C. §§ 1305, 3105, 4301, 5335, 5372, 7521 and 5 C.F.R. Part 930, Subpart B (*see Butz v. Economou*, 438 U.S. 478, 513 (1978) (protections for ALJs ensure "process of agency adjudication . . . structured so as to assure that the hearing examiner exercises his independent judgment on the evidence before him, free from pressures by the parties or other officials within the agency.")), with a right of appeal only to the

[126] The Chamber also stands ready to answer any questions about this Petition that EPA might have.

Administrator or the Deputy Administrator (the latter exercising a delegation from the Administrator to issue a final decision for the Agency);

5. Neutral Expertise: The designated decisionmaker shall be empowered to seek advice on any scientific or technical question from the Clean Air Scientific Advisory Committee ("CASAC"), *see* CAA section 109(d)(2), 42 U.S.C. § 109(d)(2). To resolve any question on which its advice is sought, CASAC shall be required to convene all of its members. Any advice provided to the designated decisionmaker shall be in writing. Any consultations with CASAC shall be on the record. No "sidebars" are permissible. This requested procedural relief is in accord with ACUS Recommendation 76-3, *see* 1 C.F.R. § 305.76-3 (1992) ("Paragraph 5 of the Recommendation [72-5] recognized that agencies nevertheless may sometimes appropriately utilize such procedures for resolving issues of specific fact, and it counseled that in rulemaking proceedings of general applicability "each agency should decide in the light of the circumstances of particular proceedings whether or not to provide . . . agency consultation with an advisory committee");

6. CASAC Referral Process: Upon request, any party to the "on the record" proceeding shall be given the opportunity to submit documents, data, and other materials to CASAC, and to make an oral presentation of reasonable length as determined by a vote of CASAC members; **AND**

7. Participating Observers: Each agency other than EPA referenced in Executive Order No. 13,432 shall be entitled to designate a single official to participate in the "on the record" proceeding, ask questions of witnesses, and submit documentary and other evidence. Each official so designated shall also be allowed to participate in any advisory proceedings held by CASAC.

CONCLUSION

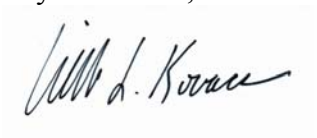
Profound and wide-ranging scientific uncertainties attend both of the core issues at stake in the Proposed Endangerment Finding and its TSD—causation and predicted impacts on health and welfare. These issues are vehemently controverted among scientists and technicians of numerous stripes, and present at every conceivable level of inquiry—from major and minor premises, to methodology, to supporting data. The process used thus far has revealed a serious and widening gap between the aspirations of the Administration, in the words of President Obama, to a "free and open inquiry," and the reality of a cursory and conclusory treatment of contested scientific issues of unprecedented magnitude. Use by EPA of on-the-record proceedings would remove the debate from the realm of a political scrum to a sober adversarial

debate on the record about the merits of the science, while allowing the President to make good on his promise to "listen[] to what our scientists have to say, even when it's inconvenient—especially when its inconvenient."

For all the reasons set forth above, this Petition should be granted.

Date: June 23, 2009

Respectfully submitted,



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