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EPA's Response to the Petitions to Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act

Volume 3: Process Issues Raised by Petitioners

U.S. Environmental Protection Agency
Office of Atmospheric Programs
Climate Change Division
Washington, D.C.

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ACRONYMS

AGU	American Geophysical Union
AIC	Akaike information criterion
ANPR	Advance Notice of Proposed Rulemaking
AOCGCM	atmosphere-ocean coupled general circulation model
APA	Administrative Procedure Act
AR	autoregressive
AR4	IPCC Fourth Assessment Report
BIC	Bayesian information criterion
CAA	Clean Air Act
CCSP	Climate Change Science Program
CO_2	carbon dioxide
CR	Climate Research
CRCES	Center for Research on the Changing Earth System
CRU	Climatic Research Unit
DCPS07	Douglass, Christy, Pearson, and Singer, 2007
E.O.	Executive Order
FCC	Federal Communications Commission
FOI	Freedom of Information
FOIA	Freedom of Information Act
GHG	greenhouse gas
GRL	Geophysical Research Letters
HadCRUT	Climatic Research Unit temperature record
ICO	Information Commissioner's Office
IJC	International Journal of Climatology
IPCC	Intergovernmental Panel on Climate Change
IQA	Information Quality Act
NRC	National Research Council
LIA	Little Ice Age
MBH	Mann, Bradley, and Hughes
MIT	Massachusetts Institute of Technology
MM	McIntyre and McKitrick
NASA	National Aeronautics and Space Administration
NH	Northern Hemisphere
QSR	Quaternary Science Reviews
RCS	regional curve standardized
RMS	Royal Meteorological Society
RSC	Royal Society of Chemistry
RSS	Royal Statistical Society
RTC	Response to Comments
RTP	Response to Petitions
SAB	Science Advisory Board
TSD	Technical Support Document
UEA	University of East Anglia
UHI	urban heat island

USGCRP	U.S. Global Change Research Program
WMO	World Meteorological Organization

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3.0 Process Issues Raised by Petitioners

3.1 Approaches and Processes Used to Develop the Scientific Support for the Findings

3.1.1 Overview

Several petitioners (the Coalition for Responsible Regulation, the Commonwealth of Virginia, the Ohio Coal Association, Peabody Energy, the State of Texas, the Southeastern Legal Foundation, and Arthur Randol) take issue with the process and approach EPA used in developing the scientific support for the Endangerment Finding. Many of these arguments are a repetition of arguments submitted during the public comment period for the Proposed Findings. These include claims that EPA did not independently judge the underlying science, violated the Information Quality Act (IQA, also referred to as the Data Quality Act), violated the law by failing to post the underlying data and scientific studies in the docket, and did not convene a truly independent external peer review.

The sole arguably new argument made by some petitioners (the Ohio Coal Association, the Pacific Legal Foundation, and Peabody Energy) is the claim that EPA ignored public concerns about the implications of the e-mails involving scientists at the Climatic Research Unit (CRU) at the University of East Anglia in the United Kingdom. The petitioners claim that statements made in the CRU e-mails cast doubt on the validity of underlying data relied on by EPA's Endangerment Finding, and argue that EPA's response to this issue is inadequate in the record for the Endangerment Finding.

Based on our review, petitioners' claims regarding the implications of the CRU e-mails are wrong. In late 2009, EPA carefully reviewed many of the e-mails and responded to the issues that were presented to us shortly before the Endangerment Finding was completed. Since that time, we have reviewed all of the e-mails in light of additional issues raised by petitioners. Based on this review, we reaffirm that petitioners' claims and the information they submit do not change or undermine our understanding of how anthropogenic emissions of greenhouse gases cause climate change and how human-induced climate change generates risks and impacts to public health and welfare. The information provided by petitioners does not change any of the scientific conclusions that underlie the Administrator's Findings, nor do the petitions lower the degrees of confidence associated with each of these major scientific conclusions. The science issues raised by petitioners, which we respond to in Volume 1 of this document, do not undermine the core understanding of climate change, which is based on multiple lines of evidence from independent sources. For example, petitioners allege that the surface temperature record produced by CRU is flawed, but our review indicates that the surface data is sound and that the surface temperature record trends are corroborated by satellite temperature records and the impacts we see on the ground, such as glacier retreat and lengthening of the growing season.

With respect to the arguments already raised during the rulemaking leading to the Endangerment Finding, the petitioners do not provide any new information to bolster arguments previously submitted. For reasons elaborated below, we conclude that the responses provided in the Findings and the Response to Comments (RTC) document are still robust.

In this section, we summarize and respond to the new argument being raised by the petitioners regarding EPA's initial response to comments about the implications of the CRU e-mails. We then review the petitioners' resubmitted arguments (originally addressed in Volume 1 of the RTC document) in light of any new evidence provided in the petitions for reconsideration.

3.1.2 Issues Regarding Consideration of the CRU E-mails

Comment (3-1):
A few petitioners (the Coalition for Responsible Regulation, the Ohio Coal Association, the Pacific Legal Foundation, and Peabody Energy) allege that EPA did not properly consider the implications of the CRU e-mails on the validity of the underlying data on which the Findings rest and that EPA did not provide an adequate response to the late comments that were raised concerning the e-mails. The Ohio Coal Association states that although allegations about problems with the CRU data had come to light prior to the Administrator signing the Findings, EPA did not consider the implications and instead "plowed ahead with compromised data, undermining its core conclusions in the process." The Pacific Legal Foundation and Peabody Energy state that EPA could not have thoroughly examined the thousands of e-mails and documents released from CRU in the five-day period between the Competitive Enterprise Institute's petition supplement and the signing of the Endangerment Finding. Peabody Energy concludes that EPA's brief discussion of the CRU material in its RTC document "cannot substitute for the searching re-analysis of the Endangerment Finding that the CRU material demands." The Pacific Legal Foundation states that "EPA has dismissed public concerns over the CRU e-mails and documents by its single, abbreviated response to a comment made by the Competitive Enterprise Institute." The Pacific Legal Foundation argues that because the CRU e-mails and documentation were not available to be included in the record during the public comment period, neither the general public nor the EPA Science Advisory Board (SAB) have had the opportunity to comment on the new information therein.

Response (3-1):
The petitioners identify several issues in the e-mails that they consider to be "smoking guns," evidence of scientific misconduct, and fatal blows to the "theory of anthropogenic global warming." Although petitioners claim that the e-mails introduce new information, they concern many of the same scientific issues on which the public commented during notice and comment for the proposed findings. Prior to finalizing the Endangerment Finding, EPA carefully reviewed many of the e-mails, and through this review, we determined that many of the issues raised therein had also been raised through the public comments and were responded to at the time (see, for example, Volume 2 of the RTC document). Based on that initial review, we concluded that the scientific conclusions of the assessment literature remained sound as to the state of the science on GHGs and climate change. We did not inappropriately "plow ahead," as one petitioner claims. Rather, we assessed the issues raised by commenters and the CRU e-mails in light of our comprehensive review of climate science, and in light of all of the objections to the science that were raised by commenters, and concluded that our review of the science and the conclusions based on it were sound. As explained in more detail in the other volumes of this Response to Petitions (RTP) document, the petitioners make unfounded leaps regarding implication of the CRU e-mails to the overall state of climate change science.

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Following issuance of the Endangerment Finding, petitioners raised more specific concerns with respect to the CRU e-mails. EPA has reviewed all of the e-mails in light of the petitioners' assertions, and our substantive responses on the science are provided in the Decision and the three volumes of the RTP document. On the basis of our analysis of the scientific issues raised, and our thorough review of the contents of the e-mails, we disagree with the petitioners' contention that additional "searching reanalysis" of the Endangerment Finding is required. Our examination of the CRU e-mails in light of the current science shows that the petitioners routinely misunderstand or mischaracterize the scientific issues they are raising, and draw faulty conclusions on the state of the science. We show throughout this RTP document multiple examples where petitioners have resorted to hyperbole, broadly impugned the ethics and scientific integrity of climate scientists in general, and characterized actions as "falsification" and "manipulation" with no basis or support. As we reviewed the many footnotes in their documents, we found an inordinate reliance on blogs, news stories, and literature that is neither peer-reviewed nor accurately summarized in their petitions.

Nothing has been presented that challenges the current understanding of climate change science and the causal linkage between human-caused GHG emissions and warming of the climate system. Indeed, EPA finds that petitioners most often rely on "cherry-picked" language from select e-mails that creates the suggestion or appearance of impropriety, without looking deeper into the issues or providing corroborating evidence that improper action actually occurred. Throughout the three volumes of this document, we have provided detailed and specific responses to petitioners' assertions based on the CRU e-mails.

3.1.3 Assessment of Issues Raised in Public Comments and Re-Raised in Petitions for Reconsideration

The Administrator Exercised Her Judgment in Reviewing the Science and Making the Findings

Comment (3-2):
Several petitioners (the Coalition for Responsible Regulation, the Commonwealth of Virginia, the Ohio Coal Association, Peabody Energy, the State of Texas, the Southeastern Legal Foundation, and Arthur Randol) argue that the Administrator did not independently judge the primary scientific literature and data. Instead, they claim that she improperly relied on summary scientific reports produced by third parties or "foreign entities." They argue this is a violation of Clean Air Act (CAA) Section 202(a)'s requirement that the Administrator exercise her own expert judgment. EPA responded to similar arguments during notice and comment on the Findings. More recently, petitioners re-raise this argument in light of new information that they claim calls into greater question EPA's reliance on the assessment literature. For example, the Southeastern Legal Foundation argues that "the Administrator cannot possibly exercise the form of 'judgment' required by the Clean Air Act based on data or procedures from other agencies that are potentially faulty, manipulated, contrived, or otherwise subject to the kinds of irregularities that have been alleged with respect to current climate information." The Coalition for Responsible Regulation and the Commonwealth of Virginia argue that in relying on the assessment reports of the IPCC, EPA ceded or sub-delegated its responsibility for independent judgment to the IPCC, which the petitioners characterize as "an international body not subject to

U.S. data quality and transparency standards and whose reports were prepared in total disregard to those standards," and whose processes are politically motivated and advance "policy objectives masquerading as science."

Several petitioners (the Coalition for Responsible Regulation, the State of Texas, Arthur Randol, the Pacific Legal Foundation, and Peabody Energy) make the related argument that EPA violated the IQA and Administrative Procedure Act (APA) because it "did not independently investigate and confirm the quality and transparency of the information cited in the 'assessment literature,' relying instead on its review of the written procedures of the organizations preparing that literature to conclude that those organizations had ensured quality and transparency." Finally, the Coalition for Responsible Regulation and Peabody Energy argue that EPA cannot rely on the IPCC because the CRU e-mails demonstrate that influential IPCC scientists failed to meet EPA's data quality and transparency obligations under the IQA.

Response (3-2):

As noted previously, we find that these issues raised by petitioners are not new, and were, in fact, raised and responded to through the notice and comment process. Thus, objections based on EPA's general reliance on assessment reports, rather than EPA's undertaking a separate assessment itself, were not impracticable to raise during the public comment period and the reasons for the objection did not arise between June 24, 2009, and February 16, 2010.

To the extent petitioners argue that new information in the CRU e-mails calls into question the reasoning behind EPA's position on the use of assessment reports in the final Findings, the petitioners do not demonstrate that additional information has become available that merits reconsideration of the Findings, or EPA's use of the assessment literature. Nonetheless, we have carefully reviewed the new concerns raised regarding the implications of the CRU e-mails. Here, we focus specifically on the issue of whether information in the CRU e-mails requires us to undertake additional procedural steps with respect to the Endangerment Finding. Our response to each of the issues raised by petitioners follows. Note that we respond to petitioners' allegations on substantive science issues elsewhere in this RTP document.

With respect to the petitioners' claims that EPA should have conducted its own independent assessment of the primary scientific literature and not relied on scientific reports produced by third parties or "foreign entities," we note that the Administrator provided a detailed discussion of her position in Section III.A of the Findings (see "The Science on Which the Decisions Are Based"). In other sections of this RTP document, we have already explained why the CRU e-mails and the nature and number of reported errors in the IPCC report, as well as arguments or objections over the scientific conclusions EPA reached in the Findings, do not lead EPA to change its scientific conclusions and do not necessitate the reconsideration of the Findings. We find that the issues raised by petitioners do not lead us to change our decision regarding our approach and do not demonstrate that an additional or separate review is either required or appropriate.

For the same reasons, these claims do not warrant revisiting EPA's approach to analyzing that science. We note that the IPCC reports are a primary but not the only source of scientific information underlying the Findings. As is clearly stated in the Findings, the Administrator

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relied on numerous other assessment reports prepared by the U.S. Global Change Research Program (USGCRP), the National Research Council (NRC), and others. In addition, the Administrator tested her approach and proposed conclusions by subjecting them to notice and comment, and in reaching final conclusions drew on the wealth of information submitted through public comments to inform her decision. Many commenters provided additional scientific literature, which we carefully reviewed, considered, and responded to. A cursory examination of the detailed discussions in the multi-volume RTC document demonstrates the care and rigor with which EPA approached the underlying science. Therefore, we reject Peabody Energy's allegation that EPA "used a rulemaking process that effectively permits no replies and no rebuttals" to the science that formed the technical basis for the Findings. In addition, in May 2010 the NRC issued another major climate change assessment report that further solidifies the science supporting the Administrator's decision and supports that decision. This recent NRC report is discussed further in the Denial and Volume 1 of the RTP document.

In responding to petitioners' objections that the Administrator failed to exercise her own judgment in reaching the Endangerment Finding, we note that this issue is not new and petitioners have not raised new arguments calling into question the process for the Endangerment Finding. Nonetheless, it is useful to describe the process EPA followed in compiling and analyzing the science to support the Administrator's Endangerment Finding. Contrary to petitioners' assertions, EPA did not passively accept a scientific judgment or conclusion supplied to it by outsiders. Instead, EPA evaluated all of the scientific information before it, and determined from this information the current state of the science on climate change and the degree of scientific consensus on this science. The Administrator then considered this information in light of the legal criteria for determining endangerment. This process included EPA presenting its scientific views and judgments for public comment and then evaluating and considering all such comments received. The Administrator properly and carefully exercised her judgment in all matters related to the Endangerment Finding.

The following is an outline of the actions taken that evidence EPA's comprehensive and in-depth exercise of judgment:

1. EPA has a strong scientific background and understanding in global climate change science. EPA scientists have worked for years in this area, and many EPA scientists have been part of the development of the Intergovernmental Panel on Climate Change (IPCC) and USGCRP assessment reports. EPA has strong in-house science expertise in this area, while recognizing that no one organization will have experts or expertise in all of the variety of areas involved. However, EPA has a solid grounding in the core areas of science involved in climate change. Many EPA scientists were part of the development of the various assessment reports.

2. EPA's goal was to evaluate the current state of the science for all of the relevant areas at issue for the Endangerment Finding, and to evaluate the degree of scientific consensus in these areas. EPA performed a detailed review of all elements of the various assessment reports as part of evaluating this.

3. EPA evaluated the assessment reports and their conclusions in several ways:

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- EPA reviewed the process employed to develop the reports, relying in part on its own experience and involvement in various parts of the process for the IPCC and USGCRP reports. EPA concluded that the lengthy, comprehensive process was very robust, with checks and steps included to produce high-quality, unbiased reports.

- EPA reviewed the content of the reports in light of its in-house science expertise. EPA found the reports' contents to be comprehensive, balanced, carefully caveated with respect to certainty, clearly identifying supporting as well as non-supporting evidence, with conclusions drawn based on the entire body of the evidence, not just one part of it.

- EPA took into consideration the depth of scientific consensus the reports represented. They reflect a very strong consensus of the scientific community across the world. EPA has never claimed that there is unanimity on all aspects of the science, but there is a very broad scientific consensus on the multiple lines of evidence on which the Findings are based (as described in Section III.B of the Denial). This consensus includes concurrence and clearance within the U.S. government science community, on many of the major assessment reports.

- EPA took into consideration the trends in the science. Over the last 30-plus years, as we study more, learn more, and advance our understanding, the general trend is toward more certainty that warming is occurring, that it is caused by anthropogenic emissions, and that we are currently on a path to future increases in warming.

4. After conducting this review of the state of the science, EPA reached an initial conclusion that the assessment reports provide a reliable and credible assessment of the current state of the science, reflecting the many areas of consensus across the science community, and also documenting those areas that are less settled and where uncertainty remains.

5. EPA then provided an opportunity for public comment on EPA's initial conclusions and judgments on the science and the question of endangerment, with a detailed explanation of the basis for these conclusions and judgments. The public and all of the petitioners had the opportunity to present their views, agreeing or disagreeing, and why. EPA did this twice—on the Advance Notice of Proposed Rulemaking (ANPR) and on the Proposed Findings.

   This public process was designed to provide a full opportunity to test EPA's initial conclusions and judgments and allow anyone to present scientific evidence or argument showing that EPA's judgments on the science were inaccurate.

6. EPA carefully reviewed all of the comments submitted on the science and its judgments.

   - In general, people who opposed EPA's initial conclusion presented evidence and argument on one side or one part of an issue, discussing a limited number of old or

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- EPA reviewed the studies, arguments, and evidence presented by commenters, assessed them in light of the entire body of evidence, and responded to the comments. These responses can be found in the Findings and the 11 volumes of the RTC document.

- Commenters who opposed EPA's initial conclusion on the science did not provide a comprehensive peer-reviewed alternative assessment of the science showing how the body of evidence as a whole supports their conclusion and does not support EPA's initial conclusion. We note that some commenters (who are also petitioners) submitted a non-peer reviewed assessment report by the Nongovernmental International Panel on Climate Change during notice and comment and recommended it as an alternative to the assessment reports prepared by the IPCC, USGCRP, and NRC. Response 1-12 in Volume 1 of the RTC document explains that we reviewed the process for preparing this report, as well as its content, and found that it lacked the depth, breadth, and rigor of the assessment reports on which the Findings rely.

7. After reviewing and considering all of the comments and arguments, EPA reached final conclusions on the state of the science. EPA generally confirmed its initial view, while making a variety of changes and modifications in various places of the TSD where it was warranted.

8. The Administrator carefully evaluated the scope of her legal discretion under section 202(a) in making a decision on endangerment, after providing notice of her initial legal views and receiving comments on that initial view.

9. In making the decision on endangerment, the Administrator exercised her own judgment by applying the science to the legal framework provided in section 202(a).

The core of petitioners' objection is that they do not agree with important parts of the scientific information on which the Endangerment Finding is based. They frame this as a failure of EPA or the Administrator to exercise independent judgment, or as EPA ceding to an outside body its responsibility to exercise independent judgment. The above makes it clear that neither EPA nor the Administrator did such a thing. EPA exercised its own judgment when reviewing the assessment reports, and did not cede or sub-delegate its authority or judgment to anyone. The petitioners disagree with the information EPA relied on and the conclusions EPA drew, and EPA addresses those objections throughout this document and the record for the Endangerment Finding. However, a disagreement over whether a source of information is useful or credible is not evidence of a lack of exercise of discretion or judgment.

There has been considerable criticism of EPA's use of the IPCC as a source for the TSD (U.S. EPA, 2009a), with some petitioners going so far as to refer to it as "an overt scientific organization with a covert political agenda of making the science conform to the desired result." A high level of vitriol has been directed at the IPCC, and gross misstatements have been made

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regarding the quality and integrity of their processes and reports. We strongly disagree with these mischaracterizations. The Findings, Volume 1 of the RTC document, and Volume 2 of the RTP document rebut petitioners' allegations that the IPCC is a political, not scientific, organization and that it does not adhere to U.S. standards of transparency and data quality.

We respond to petitioners' argument regarding the existence of errors in the IPCC Fourth Assessment Report (AR4) in Volume 2, Section 2.1, of this document and find that the errors are minimal, mischaracterized and inconsequential to the Findings. We respond to petitioners' arguments that the IPCC is a biased organization that advances a policy agenda in Volume 2, Section 2.2 of this RTP document, and we find that petitioners provide no evidence to support their claims that IPCC authors supported or promoted a unified policy agenda. Throughout Volume 1 of this RTP document, we also respond to petitioners' scientific arguments that the IPCC and other assessment reports presented the body of science in a biased or incomplete manner or reached inappropriate scientific conclusions. On issue after issue, we review the scientific evidence provided by petitioners and find that they misunderstand or mischaracterize the issues and the evidence.

The petitioners' arguments that the Agency violated the IQA and APA are also not new, and EPA provided a detailed response in Volume 1 of the RTC document. Several commenters previously raised specific scientific concerns, which they claimed demonstrated that EPA violated the IQA and APA. These were addressed in both Volume 1 and the accompanying scientific volumes of the RTC. The petitioners now make essentially the same general argument that EPA's use of third-party assessment reports violates the IQA and APA. As noted in Volume 1 of the RTC, the IQA requires that an agency issue guidelines regarding data quality and ensure their implementation. EPA complied with the IQA by issuing its *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by the Environmental Protection Agency* (U.S. EPA, 2002) and has acted consistently with these guidelines in developing the Findings. As stated in Volume 1 of the RTC, EPA's use of the assessment literature as a basis for the Endangerment Finding "is consistent with these guidelines because we thoroughly reviewed and evaluated the author selection, report preparation, expert review, public review, information quality, and approval procedures of IPCC, USGCRP/CCSP, and NRC to ensure the information adhered to a basic standard of quality, including objectivity, utility, and integrity." The CRU e-mails do not undermine this view. Our detailed responses on the science issues raised by petitioners concerning these e-mails are provided in several other sections of this RTP document, and show that petitioners' science claims do not support the view that the IPCC or other assessment reports were biased, inaccurate, or scientifically incorrect. Likewise, the few scientific or technical errors identified by petitioners in the IPCC report, such as the amount of land in the Netherlands that is below sea level, are all minor errors that are irrelevant in the context of EPA's Endangerment Finding. See Volume 2 of this RTP document for more detail regarding our response to this specific issue. Given the vast number of factual and scientific issues addressed by these comprehensive assessment reports, the existence of only a very limited number of these kinds of errors does not show a failure to employ and implement a high degree of control on the scientific quality of the report.

Comment (3-3):

In support of its argument to Comment 3-2, the Southeastern Legal Foundation provides the announcement that the InterAcademy Council would conduct an independent review of the IPCC and its assessment report development process. The petitioner argues that "the IPCC itself is reconsidering its own work," and claims that this investigation "impeach[es] the reporting" of the IPCC and undermines the science used in developing the Endangerment Finding.

Response (3-3):
On February 27, 2010, the IPCC announced that the InterAcademy Council is conducting an independent review of the policies and procedures of the IPCC (IPCC, 2010). Upon completion, the InterAcademy Council will issue a report with recommended measures and actions to strengthen the IPCC's processes and procedures to better respond to future challenges and ensure the ongoing quality of its reports (InterAcademy Council, 2010). The IPCC's (2010) announcement stated that:

> The IPCC strives to ensure that its procedures for use of published material in the preparation of its assessment reports are followed in all respects. But we recognize the criticism that has been leveled at us and the need to respond. While embarking on the preparation of its Fifth Assessment Report it was the intention of the IPCC that an independent committee of distinguished experts evaluate means by which IPCC procedures must be implemented fully and that they should also examine any changes in procedure that may be required.

The petitioner improperly assumes that the IPCC is discredited because it has announced an evaluation of its report development process. In fact, the IPCC's announcement also stated that:

> We stand firmly behind the rigour and robustness of the 4th Assessment Report's conclusions, and are encouraged by the support demonstrated recently by scientists and governments around the world. The 4th Assessment Report's key conclusions are based on an overwhelming body of evidence from thousands of peer-reviewed and independent scientific studies. Most significantly, they rest on multiple lines of analysis and datasets.

The evidence provided by the petitioner does not show that the InterAcademy Council's review was initiated based on a presumption of wrongdoing. EPA's review of available information clearly reveals that the petitioner is wrong to assert that the IPCC is "reconsidering" its conclusions. We have addressed the specific scientific arguments raised by the petitions in the RTP document and find that the scientific evidence supporting the Endangerment Finding remains strong. Thus, as stated in the Findings, these reports continue to "represent the best reference materials for determining the general state of knowledge on the scientific and technical issues before the agency in making an endangerment decision," and the petitioner has not provided evidence to suggest that EPA's judgment was anything less than credible, objective, and robust.

Comment (3-4):
As evidence to support its argument that EPA delegated its duty and instead relied on the flawed IPCC assessment reports, the State of Texas states that "Dr. William Sprigg, who oversaw the IPCC's first assessment report, recently commented at a climate change conference: 'The IPCC is biased, conflicted, [and] pushing political agendas. We need to stick to our scientific

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principles. We need to improve our peer review process, and expand the stakeholders' role to keep us all honest.'"

Response (3-4):
See Response 3-2 for our conclusion that we did not delegate our duty and that the petitioners are incorrect in alleging that the Administrator failed to exercise her own judgment in reaching the Endangerment Finding.

In response to this specific evidence, the petitioner mischaracterizes who William Sprigg is and what his role was in the IPCC. The petitioner claims that Sprigg oversaw development of the IPCC's First Assessment Report. However, after reviewing the reports of these Working Groups, there is no indication that Sprigg was involved in overseeing the development of any part of the entire report. The following people oversaw the development of the report: John Houghton, Chair of Working Group I; Yuri A. Izrael, Chair of Working Group II; and Frederick Bernthal, Chair of Working Group III. Sprigg is only mentioned as having been a contributing author on Chapter 6 ("World Oceans and Coastal Zones") of the Working Group II report on impacts for the First Assessment, which was released in 1990. Clearly the petitioner did not take the time to determine Sprigg's actual role in developing the IPCC's First Assessment Report, and significantly overstated his involvement.

Although the petitioner did not provide a transcript of Sprigg's statement or a citation for it, the evidence provided indicates merely that Sprigg does not approve of the IPCC's report development process. The petitioner provides this conclusion but provides no details about the basis for Sprigg's concerns, nor any evidence to support them. Throughout this document and the overall record, we have responded to both general and specific comments and find that Sprigg's comments do not provide any new information or evidence. The conclusory, unsupported statements of one former IPCC author, who has not been involved with the organization for almost two decades, do not provide evidence that the IPCC does not develop objective, sound, and unbiased assessments of climate change science.

EPA Provided Sufficient Opportunities for Public Comment

Comment (3-5):
Peabody Energy describes that "a number of commenters sought an extension of the 60-day comment period for the Endangerment Finding, complaining that 60 days was insufficient to review and comment on the complex climatological and policy issues raised in the proposed finding." The petitioner goes on to argue that in the Technical Support Document (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 effectively permits no replies and no rebuttals." Peabody Energy argues that "EPA's use of the public comment periods in the processes that led to development of the 'assessment literature' as justification for the short comment period here [of the proposed findings] is further evidence of EPA's near total reliance on that literature."

Response (3-5):
EPA received several requests to extend the 60-day public comment period for the Proposed Findings. The main justification for these requests was that the record for this rulemaking,

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which was made up of the assessment literature that EPA relied on in developing the TSD, was extensive and that additional time was needed to fully review all of the materials. In its denial of these requests, EPA noted, among other things, that a large majority of the underlying information and analysis supporting the Proposed Findings, and EPA's intension of using this information, had been in the public domain for almost one year prior to publishing the Proposed Findings. This was because a very large part of the underlying information and analysis for the Proposed Findings were previously released for a public comment period of 120 days on July 11, 2008, as part of the *Advance Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act* (73 FR 44353). EPA also noted that the major recent scientific assessments on which the Agency relied all had their own public review processes, and had been publicly available for some time. Under these circumstances, EPA determined that the 60-day comment period provided adequate opportunity for the public to review and comment on the Proposed Findings. We maintain that the 60-day comment period was reasonable and we note that the petitioner is not asking that EPA reconsider the Findings based on the length of the comment period.

Instead, Peabody Energy alleges that EPA's justification for the length of the comment period on the Proposed Findings "is further evidence of EPA's total reliance on that literature," and that the Agency "did not independently judge the science and instead relied primarily on summary scientific reports produced by third parties." The fact that EPA acknowledged the prior opportunity for public comment on the assessment reports does not evidence that EPA did not exercise independent scientific judgment. Rather, the evidence shows, as clearly stated in the proposed and final Findings, that EPA reviewed the major assessments of the USGCRP, the IPCC, and the NRC as the primary scientific and technical basis for the Administrator's endangerment decision. As described in Response 3-2, EPA and the Administrator properly and carefully exercised our own judgment in all matters related to the Endangerment Finding.

Finally, we note that was not impracticable to raise the objection during the public comment period and the reasons for the objection did not arise between June 24, 2009, and February 16, 2010. In making their argument, the petitioners have provided no new evidence and have not shown why it would have been impracticable for them to raise this issue during the public comment period, especially given the fact that the public has been aware that EPA relied, in part, on the IPCC assessments since the July 2008 ANPR.

EPA Complied With the Information Quality Act

Comment (3-6):
The Coalition for Responsible Regulation, the State of Texas, and Peabody Energy allege that EPA violated the IQA and APA by failing to make underlying data and studies relied on by the assessment literature available for public review by placing them in the docket. Peabody Energy concludes that EPA's approach to the science meant "there could be no genuine interchange between an open-minded EPA and the public on what EPA's scientific judgment should be because the Agency did not intend to exercise any such judgment."

Response (3-6):

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First, we note that the petitioners are re-raising this issue in the petitions for reconsideration because they believe that the CRU e-mails show that "IPCC authors deleted information and hid behind foreign laws to avoid disclosure of key data" (from petition of the Coalition for Responsible Regulation). EPA responds to allegations involving the behavior of CRU scientists, including the allegation that data were destroyed, in Volume 1 and also in Sections 3.3 and 3.4 of this Volume of the RTP document. As stated in these sections, the evidence submitted by the petitioners in the form of the CRU e-mails does not support their allegation that data were destroyed. Therefore, the "new" information presented by the petitioners does not call into question the overall integrity of the science, nor does it call into question the process EPA used in developing the Findings.

As noted in Volume 1 of the RTC document, EPA is required to docket the information on which it relies, and, as explained in Section III.A of the Findings and in Volume 1 of the RTC document, the Administrator reasonably relied on the major assessments of the USGCRP, the IPCC, and the NRC as the primary scientific and technical basis of her endangerment decision.[1] Where EPA used or described any data in the TSD, the source of the data is listed, including where it can be accessed and downloaded. Further, each report, study, or dataset we relied on was clearly identified in the TSD bibliography and was placed in the docket. Information regarding the underlying data, models, and studies used by the IPCC, the USGCRP, the U.S. Climate Change Science Program (CCSP), and the NRC in developing their assessment reports can be accessed by consulting these reports. EPA also made available all studies and other information submitted by commenters. Given that some of these reports relied on thousands of underlying studies, docketing every underlying study and the data that were used in their development would be unreasonable and unnecessary, and it is not required by the IQA or any other law.

Cases cited by the petitioner do not indicate otherwise. In *American Relay Radio League, Inc. v. FCC*, 524 F.3d 227 (D.C. Cir. 2008), the D.C. Circuit held that the Federal Communications Commission (FCC) did not provide appropriate notice and comment when it redacted FCC staff-produced data integral to the basis for the rule. That is not the case for the Findings. EPA has provided and made available all studies relied on by the agency. *American Relay Radio League* also indicates that failure to provide data must be "prejudicial" to the commenter (*American Relay Radio League*, 524 F.3d at 237-238). Petitioners have had multiple opportunities to engage in this process, and the Agency has fully addressed this issue throughout. The D.C. Circuit itself noted the "narrowness" of its holding in *American Relay Radio League*, indicating that agencies are free to choose which studies they credit, as long as the Agency itself does not "redact parts of those studies" necessary to support the Agency's conclusion. EPA has provided and made available for comment all studies relied on for its final conclusion.[2]

[1] See, for example, *American Trucking Ass'n v. EPA*, 293 F.3d 355, 372 (D.C. Cir. 2002). (EPA is not required to obtain and publicize the data underlying all the studies on which it relies.); *Coalition of Battery Recyclers Assn. v. EPA*, 604 F.3d 613, 622-24 (D.C. Cir. 2010) (same).

[2] Petitioners cite a case, *Solite Corp. v. EPA*, 952 F.2d 473 (D.C. Cir. 1991), where the court *rejected* a claim that EPA did not appropriately disclose data. In fact, this case holds that courts will only strike down agency action based on lack of disclosure of data when the agency hides or disguises "the information it used, or otherwise conducted the rulemaking in bad faith" (*Solite Corp.*, 952 F.2d at 484). That is certainly not the case here.

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The public was able to review all documents used by EPA in developing the TSD, including copyrighted material, by requesting a copy or visiting EPA's Air Docket. There was a full opportunity to review and comment on every piece of data relied on by EPA.

EPA's Review Process for the TSD Was Appropriate

Comment (3-7):
Several petitioners (the Coalition for Responsible Regulation, the Pacific Legal Foundation, and Peabody Energy) make the overarching argument that EPA's TSD did not go through a truly independent peer-review process. The petitioners argue that past EPA peer review of the science is now insufficient in light of new information in the CRU e-mails, and that the SAB must be given an opportunity to conduct an independent review of the Findings. They argue that the "SAB has not been able to perform its statutory function as an independent scientific review panel." More specifically, one petitioner states that review by the SAB is required under 42 U.S.C. § 4365(c)(1), because the substantial uncertainty surrounding EPA's scientific determination warrants reopening of the comment period. The Pacific Legal Foundation states that Section 4365(c) requires EPA to submit relevant technical information and data to the SAB for their review whenever the public comment period is open.

Response (3-7):
The general issue raised by petitioners regarding review of the TSD is not new and, in fact, was raised and responded to through the public comment process (see Volume 1 of the RTC document). Thus, it was not impracticable to raise the objection during the public comment period and the reasons for the objection did not arise between June 24, 2009, and February 16, 2010. To the extent petitioners argue that new information in the CRU e-mails calls into question the reasoning behind EPA's position on this issue in the final Findings, the petitioners do not demonstrate that additional information has become available that merits reconsideration of the Findings. We have carefully reviewed the issue raised regarding the implications of the CRU e-mails, and considered whether information in the CRU e-mails calls for EPA to reconsider the procedural steps with respect to the scientific and technical information used as basis for the endangerment determination. We find nothing in the CRU e-mails that relates to EPA's decision regarding peer review of the TSD. Also, and as explained in detail elsewhere in this document and the Denial, the e-mails and other "new" information provided by petitioners do not call into question the underlying science of climate change, nor the validity of the assessment reports.

As stated in Volume 1 of the RTC document, the purpose of the federal expert review was to ensure that the TSD accurately summarized the conclusions and associated uncertainties from the assessment reports. This is reasonable given our approach to the scientific literature (described in Section III.A of the Findings and Volume 1 of the RTC document). We also note that the federal expert review was only one part of a much larger process of developing the TSD from 2007 until the present. In addition to the three rounds of technical review by the 12 federal experts, the TSD has also gone through two rounds of public comment. The scope and depth of the record on the Endangerment Finding—including an 11-volume RTC document responding to comments on all aspects of the science, law, and procedure—demonstrate both the volume of information the Administrator considered in developing the Findings and the seriousness with

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which the task of assessing the science was approached. Based on this, EPA rejects the Pacific Legal Foundation's allegation that the peer-review process EPA employed was insufficient in light of new information in the CRU e-mails. See other sections of this RTP document for our response to petitioner arguments regarding the implications of the CRU e-mails.

The petitioner's argument regarding the SAB is somewhat unclear. To the extent the petitioner is claiming that EPA was required to submit the proposed Endangerment Finding to the SAB when it was proposed, the petitioner clearly could have raised this objection during the comment period, and thus this objection is not a basis for reconsideration of the Endangerment Finding. To the extent that the petitioner is claiming that EPA is required to submit the Endangerment Finding to the SAB for review at this time, because the various other grounds raised in the petitions to reconsider warrant reopening of the public comment period, EPA interprets this as a claim that SAB review will be required under this provision if EPA grants the petition to reconsider and reopens the comment period. For all of the reasons discussed elsewhere in the Decision and the RTP document, EPA is not granting the petitions to reconsider and is not reopening the comment period. Thus, there is no reopening of the comment period to trigger the SAB review claimed by the petitioner.

In addition, this statutory provision did not require EPA to submit the proposed Endangerment Finding to SAB for review. Under its terms, the provision calls for EPA to make a "proposed criteria document, standard, limitation, or regulation" available to the SAB for review. The proposed Endangerment Finding is not a criteria document, standard, limitation, or regulation, and is thus not in the scope of this provision. In addition, the requirement to submit the proposed document to the SAB applies when "any proposed criteria document, standard, limitation, or regulation … is provided to any other Federal agency for formal review and comment." It is not clear whether this includes the kind of informal interagency review conducted pursuant to Executive Order (E.O.) 12866, as compared to the more formal agency review envisioned in statutory provisions such as 49 U.S.C. 32902(j).

Finally, the objection does not provide substantial support for the argument that the Endangerment Finding should be revised. In the Endangerment Finding the Administrator determined that the body of scientific evidence compellingly supports a positive endangerment finding. The major assessments by the USGCRP, the IPCC, and the NRC (published before 2010) served as the primary scientific basis supporting the Administrator's Endangerment Finding. The objections raised by the various petitioners have not changed EPA's view of the science. In May 2010, the NRC of the U.S. National Academies published its comprehensive assessment, "Advancing the Science of Climate Change." It concluded that "climate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is already affecting—a broad range of human and natural systems." Furthermore, the NRC stated that this conclusion is based on findings that are "consistent with the conclusions of recent assessments by the U.S. Global Change Research Program, the Intergovernmental Panel on Climate Change's Fourth Assessment Report, and other assessments of the state of scientific knowledge on climate change." These are the same assessments that served as the primary scientific references underlying the Administrator's Endangerment Finding. Importantly, this recent NRC assessment represents another independent and critical scientific inquiry into the state of climate change science, separate and apart from the previous IPCC and USGCRP

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assessments. The NRC assessment is a clear affirmation that the scientific underpinnings of the Administrator's Endangerment Finding are robust, credible, and appropriately characterized by EPA. Petitioners provide no basis to suggest that lack of review by the SAB undermines this scientific basis in any way.

EPA Did Consider Positive Impacts of Elevated Carbon Dioxide Concentrations

Comment (3-8):
Peabody Energy argues that "EPA fails to come to grips with the fact that CO_2 [carbon dioxide] is a benign, naturally-occurring gas that is necessary for life on earth" and that the Administrator's finding of endangerment to public health fails to recognize this fact. The petitioner goes on to describe that in making the endangerment determination, EPA did not account for the "wide variety of positive impacts for plant life, including agricultural crops." Finally, referring to the IPCC reports, the petitioner argues that "EPA's attempt to transform the benign naturally-occurring substance into a danger air pollutant is based on evidence it should never have used in the first place."

Response (3-8):
First, we note that the issue raised by petitioner is not at all new and was raised and responded to at length through the public comment process after the Proposed Findings and very directly within the Endangerment Finding itself (see Sections I and IV of the Findings and Volume 1, Section 4, of the RTC document). Second, the petitioner is simply incorrect in claiming that EPA did not account for some of the beneficial effects of CO_2, such as the fertilization effect on agricultural crops; these issues have been addressed at length by EPA in the RTC document and in the Findings. Thus, it was not impracticable to raise the objection during the public comment period and the reasons for the objection did not arise between June 24, 2009, and February 16, 2010.

To the extent petitioners argue that new information in the CRU e-mails calls into question the reasoning behind EPA's position on this issue in the final Findings, the petitioners do not demonstrate that additional information has become available that merits reconsideration of the Findings. Based on our review of the CRU e-mails, we find that they do not contain information that should cause us to question the conclusions of the assessment literature as to the state of the science on GHGs, climate change, and the associated risks and impacts to public health and welfare. In the context of the allegation by Peabody Energy, the CRU e-mails also do not cause us to reconsider our consideration of net (adverse and beneficial) effects. We note that the petitioner did not provide any new information (e.g., peer-reviewed, published scientific studies) to support their argument regarding the CO_2 fertilization issue. Rather, the petitioner refers to the comments they submitted on the Proposed Findings, which, as stated above, we have already responded to at length in the RTC document.

3.1.4 Summary

After reviewing the petitioners' arguments, EPA finds that many of them are based on a either a mischaracterization of or a fundamental disagreement with our approach to the scientific literature in developing the TSD for the final Findings, or the Administrator's consideration of

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that science in her Findings. Almost all of their arguments are not new, and we responded to them in the Findings and RTC document. None of the petitioners' arguments regarding the approaches and processes EPA used to develop the scientific support for the Findings justifies reconsideration.

EPA reasonably chose to rely on the existing assessment reports of the USGCRP, the IPCC, and the NRC as the primary sources for determining the current state of the science relating to climate change, and for determining the degree of scientific consensus on these issues, based on: 1) the goals of these reports to provide such information, in the context of the broad scope and complexity of the climate science that would be considered in an Endangerment Finding; 2) EPA's review of the rigorous and transparent procedures for development of the various assessment reports; 3) EPA's review of the contents of these reports; and 4) EPA's use of the public comment process to test and evaluate its initial scientific conclusions and judgments based primarily on the assessment literature. It is our conclusion that by placing primary reliance on the major assessment reports, EPA ensured that the endangerment determinations are based on reports that have considered and weighed all views. Our review of the objections raised by petitioners to the process and the substance of the various assessment reports does not support changing this view. EPA fully exercised its judgment and discretion under section 202(a), as evidenced throughout the comprehensive and robust record supporting the Endangerment Finding.

The petitioners appear to believe that there is a substantial likelihood that EPA would have drawn different conclusions had it conducted its own separate assessment instead of relying on the conclusions of the assessment literature. They further claim that the CRU e-mails and other new information prove that such separate assessment is absolutely necessary. After examining the breadth and quality of the USGCRP, IPCC, and NRC assessments, as well as the new information provided by petitioners, we disagree. Overall scientific understanding is not shaped by any single study; one must look across a range of studies that together serve to advance scientific knowledge. These assessment reports already reflect significant input from EPA's scientists and the scientists of many other government agencies. They have been reviewed and formally accepted, commissioned, or in some cases authored by U.S. government agencies and individual government scientists. By relying on the assessment literature, EPA is benefitting from the confidence and strength of an entire federal research enterprise and a robust process involving the scientists from around the world, and we find no reason, for reasons described throughout this RTP document, to believe that these reports do not represent the best primary source material to determine the state of science on the issues central to making an Endangerment Finding for GHGs.

3.2 Response to Claims That the Assessments by the USGCRP and NRC Are Not Separate and Independent Assessments

3.2.1 Overview

Two petitioners (the Competitive Enterprise Institute and the State of Texas) argue that EPA misled the public into thinking that the Agency relied on three separate and independent assessment reports when in reality, they contend, the assessment reports developed by two of the

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groups (USGCRP and NRC) are not separate and independent assessments of the available science because the USGCRP and NRC "regularly cite and rely on data, resources and conclusions in the IPCC reports." These petitioners further argue that since the IPCC reports are unreliable, the USGCRP and NRC reports are also unreliable, and thus all of the assessment literature EPA relied on is flawed. Following this logic, the petitioners argue that the Endangerment Finding must thus be reconsidered.

First, as explained in detail in this document and the Denial, the IPCC reports are not unreliable, and continue to provide a robust foundation for the Findings. Moreover, the IPCC, USGCRP, and NRC assessments are separate and independent of each other. The organizational and personnel differences, and the detailed and robust report development procedures employed by the IPCC, USGCRP, and NRC, demonstrate that these assessment reports are separate and independent, and petitioners' claims to the contrary are insufficient and unsubstantiated. EPA's reliance on these three sets of assessment reports was and is reasonable. The fact that different assessments, developed by different organizations using different report development procedures, refer to each other's work and arrive at similar conclusions does not imply flawed work. To the contrary, when multiple independent sources arrive at similar conclusions, those findings are strengthened.

3.2.2 EPA's Response to Petitioners' Arguments

Comment (3-9):
Both the Competitive Enterprise Institute and the State of Texas note that EPA relied on the findings of the assessment literature to serve as a basis for the Endangerment Finding. They argue that EPA misled the public into believing that the Agency relied on assessments from three independent climate science entities, when in fact the TSD discusses and references findings from IPCC assessment reports far more frequently and in greater depth than those of the USGCRP and NRC. For example, the State of Texas argues that "the Administrator attempts to justify outsourcing her scientific assessment by purporting to rely on three outside organizations – which creates the appearance of a more thorough review." In discussing this issue, the Competitive Enterprise Institute claims that the USGCRP and NRC assessments "are actually extensions of the IPCC findings, incorporating its faults and errors. Contrary to EPA claims, they do not provide any independent scientific support whatsoever." The petitioners argue that the Endangerment Finding must be reconsidered because the USGCRP and NRC assessments are as flawed as the IPCC reports because they are not separate and independent from the IPCC reports.

Response (3-9):
The issues of EPA's reliance on the assessment literature and whether the assessments by IPCC, USGCRP, and NRC are independent are not new and not only could have been, but were, the subject of comment during the public comment period. Thus, it was not impracticable to raise the objection during the public comment period and the reasons for the objection did not arise between June 24, 2009, and February 16, 2010. As such, they do not justify reconsideration of the Findings. The Administrator's rationale for relying on the major assessments of the USGCRP, IPCC, and NRC as the primary scientific and technical basis for making the endangerment decision is explained in detail in the Findings, and our responses on this issue are

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included in Section 1.1 of Volume 1 of the RTC document, as well as Section 3.1 of this volume and Section 2.2 of Volume 2 of this RTP document.

To the extent petitioners are arguing that new evidence casts further doubt on a practice they already criticized during the public comment period, we disagree. As discussed in Volume 2 and the Denial, it is abundantly clear that the issues raised in the CRU e-mails and errors found in the IPCC report do not cast doubt on the EPA's reliance on the IPCC and other assessment literature relied for the Endangerment Finding.

Moreover, contrary to the arguments of the petitioners, the USGCRP, IPCC, and NRC are separate and independent of each other. Although we thoroughly addressed this issue previously in Volume 1 of the RTC document, we will respond again here.

There can be no doubt that the USGCRP, the IPCC, and the NRC are distinct organizations, with separate report development procedures. Below, we summarize the differences in the organizations, the groups of scientists who developed the assessments, and scope of the assessments produced by each body.

- The IPCC, created in 1988 by the United Nations Environment Programme and the World Meteorological Organization (WMO), is open to all member countries of the United Nations and the WMO. At regular intervals, the IPCC prepares comprehensive assessments of scientific, technical, and socio-economic information relevant for the understanding of human induced climate change, potential impacts of climate change, and options for mitigation and adaptation all at global and regional scales. The most recent assessment—the AR4—included thousands of scientists from all over the world, who participated on a voluntary basis as authors, contributors, and reviewers (IPCC, 2007a). While many federal and nonfederal scientists from the United States were involved in the development of the AR4, the United States is just one of 194 countries that contribute to the assessments.

- The USGCRP is part of the United States Executive Branch. Thirteen departments and agencies participate in the USGCRP, including EPA. A critical role of the interagency program is to coordinate research and integrate and synthesize information to achieve results that no single agency, or small group of agencies, could attain. Between 2004 and 2009, the USGCRP produced 21 synthesis and assessment reports on a wide range of topics (e.g., temperature trends in the lower atmosphere; weather and climate extremes in a changing climate; and the effects of climate change on agriculture, land resources, water resources, and biodiversity). The USGCRP assessment reports are developed to enhance understanding of natural and human-induced changes in the Earth's global environmental system; to monitor, understand, and predict global change in the United States; and to provide a sound scientific basis for national and international decision-making. Each of these reports had a unique team of authors, drawn from relevant disciplines. Many authors were federal scientists, and in some cases, nonfederal scientists contribute their expertise to the process. While some of the USGCRP authors participated in the development of the IPCC AR4, most did not.

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- The NRC is an independent scientific organization that is not affiliated with either the IPCC or USGCRP. As described in Appendix C of Volume 1 of the RTC document, the NRC:

> "enlist(s) the nation's foremost scientists, engineers, health professionals, and other experts to address the scientific and technical aspects of society's most pressing problems. Each year, more than 6,000 of these experts are selected to serve on hundreds of study committees that are convened to answer specific sets of questions. All serve without pay. Federal agencies are the primary financial sponsors of the Academies' work. Additional studies are funded by state agencies, foundations, other private sponsors, and the National Academies endowment. The Academies provide independent advice; the external sponsors have no control over the conduct of a study once the statement of task and budget are finalized. Study committees gather information from many sources in public meetings but they carry out their deliberations in private in order to avoid political, special interest, and sponsor influence."

  Ten NRC reports are cited in the Endangerment Finding and TSD. Each of these reports has a unique author committee, selected based on their areas of expertise. While some of the NRC study committee members have participated in either the IPCC or USGCRP report development processes, many have not.

With this background on the three organizations and their report development processes, the flaws of the petitioners' allegations become clear. Not only are the three organizations separate and distinct, but there is additional independence among the multiple reports that they each produce. Within the IPCC, each chapter has a unique, dedicated team of authors, and the same is true for each NRC and USGCRP report. It should be no surprise that some scientists participate in reports produced by more than one organization, but petitioners have provided no evidence that any scientists exerted influence on a number of the reports produced by these three organizations. Moreover, there is no overlap in the personnel at the IPCC, NRC, and USGCRP who supervised the review and preparation of the final reports.

Finally, the petitioners state that EPA cited and referenced the IPCC AR4 more frequently and in more depth than the USGCRP and NRC assessment reports in the Findings and the TSD. While this is accurate, the TSD also references many of the USGCRP and NRC assessment conclusions. For example, the Chapter 15 of the TSD on "U.S. Regional Climate Change Impacts" primarily cited and referenced the USGCRP's 2009 assessment (Karl et al., 2009) for its focus on impacts in the United States. Regardless, counting references is a misguided and trivial criterion to apply. As described in the Endangerment Finding, we relied on the IPCC AR4 because it is a comprehensive synthesis of the latest science on: "(1) the amount of greenhouse gases being emitted by human activities; (2) how greenhouse gases have been and continue to accumulate in the atmosphere as a result of human activities; (3) changes to the Earth's energy balance as a result of the buildup of atmospheric greenhouse gases; (4) observed temperature and other climatic changes at the global and regional scales; (5) observed changes in other climate-sensitive sectors and systems of the human and natural environment; (6) the extent to which observed climate change and other changes in climate-sensitive systems can be attributed to the human-induced buildup of atmospheric greenhouse gases; (7) future projected climate change under a range of different scenarios of changing greenhouse gas emission rates; and (8) the

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projected risks and impacts to human health, society and the environment." As discussed throughout this document, this statement still holds true.

Our reliance on the IPCC is entirely reasonable given the breadth of the issues covered and the credibility and quality of the information presented in the AR4. As discussed in Volume 2 of this RTP document, the recent revelations about a small number of specific factual errors in the IPCC AR4 do not call into question the overall credibility of the report such that it would render EPA's reliance on it unreasonable. Nor do the CRU e-mails call into question the scientific integrity of the IPCC report or the underlying studies considered therein. Importantly, during the public comment period, we received many comments on specific scientific issues and conclusions of the IPCC AR4 and the other reports on which we relied. These comments were fully responded to in the multiple volumes of the RTC document, and insights from the comments were reflected in the Administrator's final determination. The scope and depth of the record on the Endangerment Finding—including an 11-volume RTC document responding to comments on all aspects of the science, law, and procedure—demonstrates both the volume of information the Administrator considered in developing the Findings and the seriousness with which EPA approached the task of assessing the science. The general claims by the petitioners that the IPCC is "unreliable" or "flawed" are not valid because, as discussed in Volume 2, Section 2.1, of the RTP document, they are not backed by specific evidence or credible scientific studies that support their views.

Comment (3-10):
The Competitive Enterprise Institute and the State of Texas argue that EPA misled the public into believing that the Agency relied on assessments from three independent climate science entities, when in fact the USGCRP and NRC reports regularly cite and rely on data, resources, and conclusions in the IPCC reports, thereby contradicting arguments that all three of the assessments are separate and independent.

Response (3-10):
These allegations are not new and not only could have been, but were, the subject of comment during the public comment period. It was not impracticable to raise the objection during the public comment period and the reasons for the objection did not arise between June 24, 2009, and February 16, 2010.

In their recent assessment reports, the USGCRP and NRC relied on and referenced many conclusions from the IPCC AR4 chapters. All three bodies are tasked with identifying the best available scientific information on which to base their assessments. Therefore it is reasonable and expected that the NRC and USGCRP would cite the IPCC; this is a reflection of the confidence that the NRC and USGCRP place in the work of the IPCC, not evidence that there is a lack of separation and independence. We disagree with the petitioners' conclusion that since the reports produced by the different organizations referenced many of the same studies, or each other, or arrived at consistent conclusions this means that these reports are not independent assessments of the available science related to climate change. Given the clear separation and independence in the organizations, the personnel performing supervision and review, and the differences in the groups of scientists working on the assessment, the appropriate conclusion to

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draw is that the consistency in the conclusions reached by multiple reports of the three organizations provides more, not less, weight and confidence in these conclusions.

Petitioners appear to believe that EPA should conclude, from the fact that subsequent assessments of climate change science have reaffirmed and strengthened the core conclusions of previous reports, that the assessments are not separate and independent. However, the test of separation and independence is not whether one reaches a different result or conclusion, but rather whether independent discretion and judgment was exercised. For example, it is routine in science for different researchers to perform similar or related analyses or assessments. Reaching a similar result provides increased confidence in the entire set of results. The similarity in results does not prove, nor should it even suggest, that the researchers failed to be separate and independent. Petitioners' logic fails, as it is driven by an inappropriate results-oriented criterion. The fact that each successive assessment report, performed by a different organization and group of scientists and reviewers, reexamines the work of previous reports in light of new scientific information, and in many cases cites them, results in greater confidence in the reliability and objectivity of the scientific conclusions on which the Endangerment Finding relies. In this manner, the USGCRP, the IPCC, and the NRC have all taken a fresh look at the literature and existing assessments and reached similar, consistent, and compelling conclusions regarding the threat of climate change.

It is also reasonable and scientifically credible that the USGCRP and NRC would reference the IPCC AR4. Despite the allegations of petitioners, we have found no evidence that the IPCC processes do not produce credible reports or that the IPCC has reached flawed conclusions on specific scientific issues. Our response to petitioners' claims regarding the IPCC processes are detailed in Volume 2, and our response on the science issues are in Volume 1 of this RTP document. Petitioners' evidence does not support their claim that the USGCRP and NRC blindly accept the conclusions and assessments reports of the IPCC. To the contrary, the evidence shows that they independently reviewed the conclusions of the assessment reports, including in some cases the literature underlying the assessments, and also reviewed the more recent literature to determine the current state of the science. In some cases, USGCRP reviewed the underlying science and referenced the IPCC where they agreed with the conclusions and how they were developed. For example, in their assessments the USGCRP referenced IPCC findings for many context-setting issues such as global observations, attribution, and radiative forcing. In other cases, USGCRP reviewed the available literature, including any studies reviewed or referenced in the AR4, and made their own key conclusions regarding the state of the science. The USGCRP predominantly employed this approach in describing observed and projected impacts in the United States (Karl et al., 2009). A very similar approach was used by the NRC in their assessments (NRC, 2008). As a result, USGCRP's and NRC's assessments contain both references for the AR4 chapters and individual studies.

The USCGRP and NRC also give the public opportunities to provide input and comment during report development (see Volume 1 of the RTC document for more information on USGCRP's and NRC's report development processes). Specifically, the USGCRP holds public comment periods when developing the prospectus for each assessment and again once the report has been drafted. The NRC employs a different, yet entirely robust and reasonable process. Information-gathering meetings of the NRC study committees are open to the public, and any written

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materials provided to the committee by individuals are maintained in a public access file that is available for examination. In developing the draft findings and recommendations for each report, the study committees deliberate in meetings closed to the public in order to maintain independence from outside influences. Finally, the NRC reports undergo a rigorous, independent external review by experts whose comments are provided anonymously to the committee members.

Comment (3-11):
Peabody Energy contends that the principal authority for EPA's central conclusion that anthropogenic GHG emissions are causing deleterious climate change is the IPCC, rather than other "assessment literature" or any other studies. They note that of the 67 citations in the attribution section of the TSD (Section 5) that discusses the linkage between observed climate change and GHGs, 47 are from the IPCC. Additionally, Peabody Energy is critical of the fact that "only eight pages" of the TSD are devoted to this issue.

Response (3-11):
Section 5 of the TSD addresses attributing observed changes in climate to anthropogenic GHGs, and the IPCC does serve as a core reference to the assessment literature for Section 5. The IPCC's findings on attribution, as summarized in the TSD, draw from modeling experiments using 14 atmosphere-ocean general circulation models and scores of simulations, as well as literally hundreds of studies. The IPCC's chapter on attribution is 80 pages long. It is therefore the most comprehensive resource on attribution available in the scientific literature on this subject. Peabody Energy provides no substantive comment on its content.

While we reference the IPCC for large parts of our discussion of attribution, we also reviewed and cited several USGCRP assessments that cover attribution issues. These include:

- CCSP 1.3: Reanalysis of Historical Climate Data for Key Atmospheric Features: Implications for Attribution of Causes of Observed Change (CCSP, 2008a)

- Subsections on attribution in CCSP 3.3: Weather and Climate Extremes in a Changing Climate (CCSP, 2008b)

- Global Change Impacts in the United States (Karl et al., 2009)

While Peabody Energy's points to the length in pages of the TSD discussion, it does not identify any general or specific issues that were omitted or inappropriately handled. Peabody Energy's focus on counting references and pages is not a credible, science-based argument against the scientific information that supports the Endangerment Finding. We did receive many public comments on attribution, and our responses are provided in Volume 3 of the RTC document. Furthermore, the National Academy of Sciences recent report "Advancing the Science of Climate Change" (NRC, 2010) supports and reaffirms the conclusions from the earlier assessment literature synthesized in the TSD pertaining to attribution as mentioned in Section 1.1.2.4 of this RTP document.

EPA's evaluation of the attribution issue relies on appropriate assessment literature, as well as any information or studies provided in the public comment process. EPA's evaluation, and it's

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responses to comments on the issue of attribution, provide a comprehensive and appropriate evaluation of this issue. Peabody Energy's comment on citations and pages provides no scientific basis to believe otherwise.

3.2.3 Summary

The evidence provided by the petitioners does not support their allegations that the IPCC, USGCRP, and NRC assessments are not separate and independent, and the alleged flaws with the IPCC attach to the USGCRP and NRC reports as well. The organizational and personnel differences, and the detailed and robust report development procedures employed by the IPCC, USGCRP, and NRC, demonstrate that these assessment reports are separate and independent, and petitioners' claims to the contrary are insufficient and unsubstantiated. Thus, the petitioners' claims that EPA misled the public regarding the breadth and independence of the information relied on by the Administrator are unfounded. Contrary to petitioners' allegation, the USGCRP and NRC are independent and separate assessments. Furthermore, the similarity of the conclusions among the assessment reports from the three bodies provides evidence of the strength of the underlying science and does not represent a lack of independence, as alleged by the petitioners. The evidence does not support changing EPA's use of those assessments, or justify the reconsideration of the Findings.

Separate and apart from the issue of the independence of these assessment reports, the petitioners provide no information to demonstrate that the scientific conclusions of the IPCC, USGCRP, and NRC are wrong or that EPA erred in relying on them. The specific science issues raised by petitioners are discussed in Volumes 1 and 2. Thus, whether or not the various assessment reports are separate and independent, EPA reasonably relied on them as reflecting the current state of the science and the degree of broad consensus within the science community on these issues.

3.3 Issues Concerning the Integrity of Peer-Reviewed Literature

3.3.1 Overview

Several petitioners (the Coalition for Responsible Regulation, the Ohio Coal Association, the Pacific Legal Foundation, Peabody Energy, the Southeastern Legal Foundation, the State of Texas) argue that leading climate scientists associated with the CRU e-mails conspired to keep dissenting views of anthropogenic climate change out of the peer-reviewed literature. Specifically, petitioners claim that these scientists unfairly gave favorable reviews of each other's manuscripts while providing negative reviews of manuscripts authored by those with opposing views, made efforts to unfairly expedite publication of their responses to papers by with opposing views, conspired to remove editors of prominent journals that had published dissenting views of climate change, and boycotted certain journals in reprisal for publication of articles with which they disagreed. The petitioners conclude that all of these actions advantaged the positions of the climate scientists associated with the CRU e-mails in getting their views published and legitimized, while making it very difficult if not impossible for dissenting views to

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be published. Thus, petitioners argue that the peer-reviewed climate change literature is unbalanced and reflects an artificial consensus about anthropogenic climate change.

Our review of the petitioners' claims and the evidence they rely upon shows many cases in which the petitioners make overly broad generalizations based on suggestions of inappropriate actions that are not supported by the information they provided. Most of the quotes from the e-mails that petitioners allege shows impropriety are taken out of context from the e-mails. Further, petitioners do not provide corroborating evidence that improper action actually occurred, let alone evidence that any alleged improper action led to biased or inaccurate science that was ultimately used by EPA to support the Findings. In addition, the petitioners make broad leaps in logic to impugn the overall integrity of the peer-reviewed climate change literature based on very limited examples and largely speculative assertions. Based on our review, the e-mails do not contain information that causes us to question the integrity of the assessment literature or its conclusions as to the state of the science on GHGs, climate change, and the associated risks and impacts to public health and welfare.

The following sections provide our responses to the arguments made by petitioners regarding the integrity of peer-reviewed literature. Section 3.3.2 responds to allegations regarding reviews of manuscripts. Section 3.3.3 responds to allegations of unfair journal publications practices. Section 3.3.4 responds to allegations of efforts to remove editors and boycott journals. Section 3.3.5 responds to allegations of intimidating junior scientists and those with opposing views. Finally, Section 3.3.6 summarizes our responses.

3.3.2 Allegations Regarding Reviews of Manuscripts

Comment (3-12):
Peabody Energy cites one example from the CRU e-mails that it claims demonstrates that the scientists "bent the rules to ensure publication of papers that supported their position regardless of quality." Specifically, the petitioner argues that Michael Mann (a professor at Pennsylvania State University and former editor for the *Journal of Climate*) inappropriately recommended that Phil Jones of CRU should review a manuscript submitted for publication by Ben Santer of Lawrence Livermore National Laboratory and Tom Wigley of the University Corporation for Atmospheric Research. Peabody Energy argues that Jones' close association with the authors limited his ability to act as an impartial reviewer. In addition, Peabody Energy cites an e-mail written by Tom Wigley from September 22, 2000, on which Jones was copied and which shows Santer and Wigley discussing their submitted manuscript:

> Ben (or, really, everybody else),
>
> I don't know whether you have all seen the paper analyzing the observed data that Ben and I sent to J. Climate ?? This is where the JGR [*Journal of Geophysical Research*] paper began, and it is useful to compare both papers. In the J. Climate paper we assessed the best fits using a subjective balance of raw and lowpass filtered results. The reason for this was because of the difficulty of setting up an automated procedure -- which is the problem that Ben is currently having to deal with. In the next iteration of the JGR paper, the reason for moving to a more automated procedure will be explained. Both the subjective and automated procedures have their advantages and disadvantages. The latter

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> procedure, of course, is in no way 'objective'. Many subjective choices have to be made in setting up the procedure. This is why the word 'automated' is used above, rather than 'objective'.
>
> If you have not seen the J. Climate paper, let me know and I will send you a copy. There is a companion paper that has been accepted by GRL [*Geophysical Research Letters*] that I will send at the same time.[3]

Peabody Energy argues that this e-mail gave Jones advance knowledge of the paper's content and thus limited his ability to act as an impartial reviewer of their manuscript. The petitioner states that on October 24, 2000, Jones wrote a positive review with minimal comments:

> Dear Brendaw,
> My review of the paper JCL [*Journal of Climate*] 3435 is attached. My recommendation is to accept the paper subject to minor changes. I don't wish to see it again. If there are any problems with the attachment, let me know and I can fax the 2 pages.[4]

Peabody Energy asserts that Jones did not act as an impartial, objective reviewer because he clearly had problems with the manuscript, but recommended the paper for publication anyway. As evidence of Jones' problems with the manuscript, the petitioner cites the following excerpt of an e-mail written by Jones on October 25, 2000, to Santer:

> Also just sent back comments to Mike Mann on the paper by Tom and you factoring out ENSO [the El Niño Southern Oscillation] and Volcanoes. Felt like writing red ink all over it, but sent back a short publish subject to minor revision to Mike.[5]

Peabody Energy concludes that this exchange is evidence that "peer-review publication rules" were manipulated, and that "the peer-review process was tainted in favor of desired papers." Peabody Energy argues that the Endangerment Finding should be reconsidered because it relies on biased peer-reviewed literature that published papers supporting anthropogenic climate change regardless of their scientific quality.

Response (3-12):

The emails do not support the petitioner's arguments because the petitioner provides no evidence to support its claim that past collaborations among these climate researchers led Jones to skew his review. The petitioner makes much of Jones' statement that he "felt like writing red ink all over it," but the meaning of this statement is unclear from the e-mail. Jones does not say that he disagreed with the paper's conclusions, and it is equally plausible the he thought the paper was poorly written or that he believed the conclusions could have been improved. The fact that he wanted to edit the paper (for an unknown reason) does not support the view that he should have rejected it for publication.

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[3] E-mail file 969652057.txt, (September 22, 2000), page 285, line 42 of PDF version entitled: CRU Emails 1996-2009.pdf

[4] E-mail file 972415204.txt, (October 24, 2000), page 295, line 33 of PDF version entitled: CRU Emails 1996-2009.pdf

[5] E-mail file 972499087.txt, (October 25, 2000), page 296, line 9 of PDF version entitled: CRU Emails 1996-2009.pdf

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Petitioner alleges that Mann inappropriately asked Jones to review the paper and that Jones should have declined because he knew the authors and may have had prior knowledge of the paper's content. Neither of these events is uncommon in scientific publishing; however, in a small field like paleoclimate research, there is often substantial interaction of this type. In order to demonstrate manipulation, petitioners need to prove that the paper was flawed, which they fail to do. In fact, they do not provide any discussion of the scientific merits of the paper. In addition, all peer-reviewed publications have multiple reviewers, so Jones was not in position to determine whether or not it would be approved for publication.

In addition, this incident, even if it supported the claim petitioner alleges, does not support petitioners allegations of broad ranging efforts by multiple scientists to manipulate the entire spectrum of peer-reviewed literature. All this incident could possibly prove, if the petitioner's claims were substantiated (which they are not) is that Phil Jones gave a favorable review to one paper published by people he interacted with professionally.

These e-mails do not support the claim that Jones or others "bent the rules" on the peer review process for this specific paper, and they present no other evidence to support the petitioner's claim of a broader effort by many scientists that affected an unknown number of other journal articles. Even if the allegations were corroborated for this one paper, they deal with only one of thousands of papers that make up the body of scientific literature on climate change. To claim, as the petitioner does, that one paper or the actions of one scientist could somehow bias the vast wealth of climate change studies or call into question the overall conclusions reached from those thousands of papers is unwarranted and unsupported. Finally, the petitioner fails to make any arguments as to why the paper at issue was scientifically flawed and should have been rejected for publication. Instead of arguing about the scientific merits of the paper, the petitioner relies upon speculation.

Comment (3-13):

Petitioners claim that the CRU e-mails indicate that certain scientists unfairly wrote negative reviews of manuscripts authored by "climate skeptics" in order to keep opposing views out of the peer-reviewed literature. Peabody Energy argues that:

> As leading scientists in the climate field, several of the authors involved in AR4 were in a position to affect the types of papers that were published in the peer-reviewed literature…They abused their positions of influence, however, by manipulating the peer-review publication process to prevent publication of papers at odds with their own views and even to oust editors who had published such papers.

More specifically, Peabody Energy claims that Tom Wigley of the University Corporation for Atmospheric Research unfairly reviewed and recommended rejecting a manuscript by Patrick Michaels of the University of Virginia. The petitioner suggests that Wigley was motivated by a desire to keep dissenting views out of the peer-reviewed climate change literature because "other peer reviewers not connected with the Jones et al. group had accepted it in the normal course and the refereeing process had been more rigorous than usual." The petitioner cites an e-mail from Wigley in which he discusses his rejection of the manuscript:

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> Danny Harvey [of the University of Toronto] and I refereed this and said it should be rejected. We questioned the editor (deFreitas again!) and he responded, saying… "The [manuscript] was reviewed initially by five referees…The other three referees, all reputable atmospheric scientists, agreed it should be published subject to minor revision. Even then I used a sixth person to help me decide. I took his advice and that of the three other referees and sent the [manuscript] back for revision. It was later accepted for publication. The refereeing process was more rigorous than usual."
>
> On the surface this looks to be above board—although, as referees who advised rejection, it is clear that Danny and I should have been kept in the loop and seen how our criticisms were responded to.[6]

In a related example, Peabody Energy and the State of Texas quote an excerpt of an e-mail from Phil Jones to Michael Mann on March 31, 2004, in which he discusses his unfavorable reviews of two papers for *Geophysical Research Letters* and the *Journal of Geophysical Research*:

> Recently rejected two papers (one for JGR and for GRL) from people saying CRU has it wrong over Siberia. Went to town in both reviews, hopefully successfully. If either appears I will be very surprised, but you never know with GRL.[7]

The petitioners claim that Jones' negative reviews attempted to "prevent a manuscript from being published that questioned the CRU's research" and were motivated by a desire to keep dissenting views out of the peer-reviewed literature. The petitioner concludes that these examples provide evidence that "peer-review publication rules" were manipulated to suppress dissenting views of anthropogenic climate change. The petitioners argue that the Endangerment Finding should be reconsidered because it relied on biased peer-reviewed literature that does not reflect the true breadth of the science.

Response (3-13):

As part of the peer-review process, scientists are justified in recommending that any given manuscript not be published if, based on their expert scientific judgment, they determine that the manuscript does not meet a certain standard of methodological rigor or its conclusions are questionable, given the evidence presented. The petitioners assume that the papers at issue received *unjustified* unfavorable reviews by Wigley, Harvey, and Jones, and assume the unjustified views were motivated by a desire to suppress dissenting views about climate change. Regarding the paper reviewed by Wigley and Harvey, petitioners neither entertain nor address the most straightforward possibility: that these scientists, based on their expert judgment, concluded that the paper was not up to standards for publication, while the other reviewers simply came to a different conclusion. Disagreement among reviewers is extremely common in scientific publishing. This issue was examined by the Independent Climate-Change E-mail Review, which stated, "There is always the risk of group-think among experts which resists alternative perspectives. Editors try to reduce the risk of group-think by sending papers to

[6] E-mail file 1051156418.txt, (April 23, 2003), page 486, line 27 of PDF version entitled: CRU Emails 1996-2009.pdf

[7] E-mail file 1051156418.txt, (March 31, 2004), page 664, line 1 of PDF version entitled: CRU Emails 1996-2009.pdf

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different and widely dispersed reviewers, deliberately seeking or even provoking critical reviews" (Russell, 2010).

Regarding the Jones review, the petitioners provide no evidence to support their claim that Jones' actions were inappropriate or that his reviews of these two particular papers were not scientifically justified. In addition, all peer-reviewed publications have multiple reviewers, so Jones was not in position to determine whether or not these papers would be approved for publication. Thus, we find that the reviews by Wigley, Harvey, and Jones were completely within the norms of scientific practice.

Beyond these e-mails, Peabody Energy provides no evidence to support their claim that these scientists "bent the rules" of the peer-review process to bias the peer-reviewed process for these papers or for the literature as a whole. Petitioners also provide no evidence that the papers were not in fact published, which would seem to be an important fact if they are concerned that the goals was to "keep opposing views out of the peer-reviewed literature." It appears that at least one paper was published, and there is no information on the other two. So, petitioners fail to show any actual bias in the literature that might have occurred. Even if the allegations were supported for these papers, which they are not, the petitioner's allegations involve only three out of thousands of papers that make up the body of scientific literature on climate change. To claim, as the petitioner does, that a few papers or the actions of a few scientists could somehow bias the vast wealth of climate change studies or call into question the overall conclusions reached from those many papers is unwarranted and unsupported.

Comment (3-14):

In another example, Peabody Energy claims that on June 4, 2003, Keith Briffa of CRU asked Edward Cook of the Lamont-Doherty Earth Observatory at Columbia University to provide evidence for rejecting a manuscript because Briffa disagreed with its authors' views on climate change. According to the petitioner, in making his request, Briffa apparently inappropriately disclosed the identity and recommendation of the other reviewer, Dave Stahle.

> I am really sorry but I have to nag about that review - Confidentially I now need a hard and if required extensive case for rejecting - to support Dave Stahle's and really as soon as you can. Please [8]

According to the petitioner, Cook replied to Briffa the same day to ask for help regarding a manuscript review for the *Journal of Agricultural, Biological, and Environmental Sciences.* Peabody Energy states that rather than providing his own independent analysis of the paper's suitability for publication, Cook enlisted Briffa's help to write an unfavorable review for the paper. The petitioner concludes that this provides evidence that "peer-review publication rules" were manipulated to suppress dissenting views of anthropogenic climate change. Peabody Energy argues that the Endangerment Finding should be reconsidered because it relies on biased peer-reviewed literature that did not reflect the true breadth of the science.

[8] E-mail file 1054748574.txt, (June 4, 2003), page 514, line 1 of PDF version entitled: CRU Emails 1996-2009.pdf

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Response (3-14):

The Independent Climate-Change E-mail Review examined in detail the claims regarding the manuscript review Keith Briffa requested from Edward Cook. Based on the CRU e-mails and additional evidence submitted to the Independent Climate-Change E-mail Review panel, they concluded the following:

> Although much has been made of the e-mail in paragraph 15 as evidence of an unprincipled approach to the role of editor, we see nothing in these exchanges that supports the interpretations of subverting the peer review process that have been placed upon it. It appears to reflect an Editor with a strongly negative review in hand, and who presumably has read the paper, asking for confirmation that the paper should be rejected, possibly to reduce one of the many complications that assail an editor; and in view of the delay in communicating to authors, hoping for a strong decision from the referee. On receiving a second, more equivocal review, he offers the authors the opportunity to re-submit. These exchanges illustrate some of the complications of an Editor's life … They do not provide evidence of subversion of process in rejecting contradictory ideas as has been alleged. (Russell, 2010)

Regarding the claim that Cook enlisted Briffa's help in reviewing a manuscript, the petitioner does not quote Cook's e-mail in its entirety. The full text of the e-mail provides important context:

> Hi Keith,
> Okay, today. Promise! Now something to ask from you. Actually somewhat important too. I got a paper to review (submitted to the Journal of Agricultural, Biological, and Environmental Sciences), written by a Korean guy and someone from Berkeley, that claims that the method of reconstruction that we use in dendroclimatology (reverse regression) is wrong, biased, lousy, horrible, etc. They use your Tornetrask recon as the main whipping boy. I have a file that you gave me in 1993 that comes from your 1992 paper. Below is part of that file. Is this the right one? Also, is it possible to resurrect the column headings? I would like to play with it in an effort to refute their claims. If published as is, this paper could really do some damage. It is also an ugly paper to review because it is rather mathematical, with a lot of Box-Jenkins stuff in it. It won't be easy to dismiss out of hand as the math appears to be correct theoretically, but it suffers from the classic problem of pointing out theoretical deficiencies, without showing that their improved inverse regression method is actually better in a practical sense. So they do lots of monte carlo stuff that shows the superiority of their method and the deficiencies of our way of doing things, but NEVER actually show how their method would change the Tornetrask reconstruction from what you produced. Your assistance here is greatly appreciated. Otherwise, I will let Tornetrask sink into the melting permafrost of northern Sweden (just kidding of course).
> Cheers, Ed [9]

As is clearly stated in the e-mail, Cook only asks Briffa to confirm if a specific dataset was the same as the one Briffa used in an early paper (and which was the focus of the paper Cook was being asked to review) and to provide column headings for the data. Cook does not ask Briffa to

[9] E-mail file 1054756929.txt, (June 4, 2003), page 514, line 44 of PDF version entitled: CRU Emails 1996-2009.pdf

read the manuscript, nor does he ask for Briffa's help in writing the review. These examples do not support the petitioner's arguments that the peer-review process was manipulated.

Comment (3-15):
In another example, Peabody Energy claims that Jones influenced the editor of the *International Journal of Climatology* (IJC) to select reviewers who would be biased against a paper submitted by Stephen McIntyre, editor of the blog ClimateAudit, and Ross McKitrick of the University of Guelph. Peabody cites the following e-mail Jones wrote to Ben Santer on January 29, 2009:

> I've just seen that M+M [McIntyre and McKitrick] have submitted a paper to IJC on your H2 statistic - using more years, up to 2007… Anyway you'll likely get this for review, or poor Francis will. Best if both Francis and Myles did this. If I get an email from Glenn I'll suggest this.[10]

In a related example, the Coalition for Responsible Regulation claims that Jones encouraged his co-authors on a paper "to submit the names of five scientists as recommended peer reviewers because they 'know the sort of things to say'.[11]" The petitioner provides no additional context about the title or content of paper, but asserts that true scientific scrutiny and close review "cannot be expected from hand-picked, wholly-supportive reviewers." The petitioner argues that Jones' actions bias the peer review process and "endors[e] findings that may prove to be scientifically erroneous or unsubstantiated." The petitioners conclude that Jones acted unethically to manipulate the normal peer-review process in order to keep dissenting views out of the peer-reviewed literature, and that the Endangerment Finding should be reconsidered because it relies on biased peer-reviewed literature that did not reflect the true state of the science.

Response (3-15):
It is customary for scientific journal editors to ask authors or associates to provide names of recommended reviewers during the process of submitting a manuscript. Thus, Jones' actions do not appear inappropriate and there is no explanation how this could have biased the peer reviewed literature, as alleged by the petitioners. Regarding the first example, it is clear from the e-mail that Jones had not yet been asked to provide any recommendations; rather, he was simply stating his intentions if the editor decided to contact him. The petitioner does not provide any evidence that Jones was ever contacted by the editor, or if he was, how he responded. Similarly, in the second example, petitioners again provide no evidence that Jones' co-authors submitted names of peer-reviewers, or if they did, that the scientists they suggested were asked to peer review and that they then said "the sorts of things" Jones wanted.

In both examples, the petitioners make an unsubstantiated assumption that the reviewers suggested by Jones would be biased, either against the McIntyre and McKitrick paper, or biased in favor of the paper Jones wrote with his co-authors. There is no evidence to support the petitioners' claims that any reviewers suggested by Jones and selected by the editor would be

[10] E-mail file 1233249393.txt, (January 29, 2009), page 1626, line 33 of PDF version entitled: CRU Emails 1996-2009.pdf
[11] E-mail file 1249503274.txt, (August 5, 2009), page 1722, line 32 of PDF version entitled: CRU Emails 1996-2009.pdf

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unable or unwilling to provide objective critique of a manuscript. In addition, Jones was not in a position to "hand-pick" any reviewers because any decisions regarding the selection of peer reviewers are solely the purview of the journal editor. In sum, these examples do not support the petitioner's arguments that the journal publication process was manipulated.

In summary, the various claims by petitioners of biased peer review processes or bending of rules to achieve this result are not supported by the evidence they present. Their evidence shows only the typical peer review process being followed, with reviewers presenting their views pro or con. There is no evidence that any papers were not published and, if they were not, that the basis was any reason other than scientific inadequacy. There is no evidence or scientific argument that the literature is biased, even for the specific papers at issue, just unsupported allegations of an improper process. Petitioners' claims and evidence do not provide a basis for EPA to question or change its view that the science supporting the Endangerment Finding is robust, is compelling, and has been appropriately characterized by EPA.

3.3.3 Allegations Regarding Journal Publication Practices

Comment (3-16):
Peabody Energy argues that the CRU materials reveal that Ben Santer of Lawrence Livermore National Laboratory and various colleagues exerted improper influence to pressure IJC to delay publication of a paper by David Douglass of University of Rochester and his colleagues—Douglass et al. (2007)—and to expedite publication of their response—Santer et al. (2008). According to Peabody Energy, the overall effect of these actions was to give Santer et al. the "last word" and prevent Douglass et al. from responding according to "customary conventions." Peabody Energy asserts that a number of e-mails[12] reveal inappropriate conduct on the part of the authors and journal editors, including:

> (a) unusual cooperation between authors and editor that undermined the independence of each, (b) misstatement of known facts, (c) outright character assassination, (d) avoidance of traditional scientific give-and-take, (e) use of confidential information, (f) misrepresentation, or at a minimum misunderstanding, of the scientific question posed by Douglass et al. (2007), [and] (g) withholding of material data.

The Southeastern Legal Foundation also argues that the CRU e-mail authors engaged in improper actions with regard to the Douglass et al. paper, quoting an opinion article by David Douglass of the University of Rochester and John Christy of the University of Alabama published in the daily Internet publication *American Thinker*: "The CRU e-mails have revealed how the normal conventions of the peer review process appear to have been compromised by a

[12] E-mail file 1196795844.txt, (December 4, 2007), page 1360, line 4; e-mail file 1196877845.txt, (December 5, 2007), page 1365, line 7; e-mail file 1196956362.txt, (December 6, 2007) page 1370, line 36; e-mail file 1196964260.txt, (December 6, 2007) page 1371, line 22; e-mail file 1197325034.txt, (December 10, 2007) page 1374, line 13; e-mail file 1197507092.txt, (December 12, 2007) page 1376, line 8; e-mail file 1199988028.txt, (January 10, 2008) page 1424, line 3; e-mail file 1199999668.txt, (January 10, 2008), page 1426, line 43 of PDF version entitled: CRU Emails 1996-2009.pdf; e-mail file 1200059003.txt, (January 11, 2008) page 1432, line 8; e-mail file 1200076878.txt, (January 11, 2008) page 1432, line 46; and e-mail file 1215712600.txt, (July 10, 2008),page 1531, line 29 of PDF version entitled: CRU Emails 1996-2009.pdf)

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team of global warming scientists, with the willing cooperation of the editor of the IJC, Glenn McGregor" (Douglass and Christy, 2009).

Prior to submitting the Santer et al. article to IJC, Peabody Energy asserts, Santer strategized to get the study published "in a way that customary conventions are ignored and the authors are prevented from responding." Peabody Energy refers to an e-mail from Santer to Peter Thorne, a climate scientist working at the UK Met Office, on December 5, 2007:

> Peter, I think you've done a nice job capturing some of my concerns about the Douglass et al. paper … I don't think it's a good strategy to submit a response to the Douglass et al. paper to the International Journal of Climatology (IJC). As Phil [Jones] pointed out, IJC has a large backlog, so it might take some time to get a response published. Furthermore, Douglass et al. probably would be given the final word.[13]

Peabody Energy then describes how Tim Osborn, part of IJC's editorial board , "inserted himself into the process" by recommending that Santer submit to the journal and by contacting IJC editor Glenn McGregor to "see what he can do" to ensure a quick turnaround in publishing the Santer et al. submission. Peabody Energy states that McGregor was "clearly not unbiased, and the journal was persuaded to disregard proper peer-review procedures in order to hurry the team's [Santer et al.'s] response into print." Peabody Energy quotes an e-mail from Tim Osborn to Santer and Phil Jones on January 10, 2008:

> I just contacted the editor, Glenn McGregor, to see what he can do. He promises to do everything he can to achieve a quick turn-around time (he didn't quantify this) and he will also "ask (the publishers) for priority in terms of getting the paper online asap after the authors have received proofs." He genuinely seems keen to correct the scientific record as quickly as possible.
>
> He also said (and please treat this in confidence, which is why I e-mailed to you and Phil only) that he may be able to hold back the hardcopy (i.e. the print/paper version) appearance of Douglass et al., possibly so that any accepted Santer et al. comment could appear alongside it. Presumably depends on speed of the review process.
>
> If this does persuade you to go with IJC, Glenn suggested that I could help (because he is in Kathmandu at present) with achieving the quick turn-around time by identifying in advance reviewers who are both suitable and available. Obviously one reviewer could be someone who is already familiar with this discussion, because that would enable a fast review - i.e., someone on the e-mail list you've been using - though I don't know which of these people you will be asking to be co-authors and hence which won't be available as possible reviewers… [14]

[13] E-mail file 11968778451..txt, (December 5, 2007), page 1365, line 23 of PDF version entitled: CRU Emails 1996-2009.pdf

[14] E-mail file 1199999668.txt, (January 10, 2008), page 1426, line 43 of the PDF version entitled: CRU Emails 1996-2009.pdf

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Peabody Energy then cites the following e-mail in which Santer states his conditions for submitting to IJC to Tim Osborn (copying Phil Jones), also in an e-mail from January 10, 2008:

> 1) Our paper should be regarded as an independent contribution, not as a comment on Douglass et al. ...
>
> 2) If IJC agrees to 1), then Douglass et al. should have the opportunity to respond to our contribution, and we should be given the chance to reply. Any response and reply should be published side-by-side, in the same issue of IJC.
>
> I'd be grateful if you and Phil could provide me with some guidance on 1) and 2), and on whether you think we should submit to IJC. Feel free to forward my email to Glenn McGregor.[15]

Peabody Energy subsequently states:

> The final approval of the strategy (Santer's conditions) to deny Douglass and his collaborators an opportunity to respond in the normal way was acknowledged by Osborn to Santer and Jones in that Osborn wrote that McGregor, as editor, is "prepared to treat it as a new submission rather than a comment on Douglass et al." and "[McGregor's] offer of a quick turn around time etc still stands."[16]

Peabody Energy concludes by arguing that the Santer et al. paper was published in print only 36 days after it was published online, while Douglass et al. had waited more than 11 months for their print publication. In addition, the petitioner argues that Douglass and his co-authors were never informed of Santer's intention to publish a response, nor were they contacted for an explanation at any point in the process regarding Santer et al.'s concerns with their paper. Peabody Energy concludes that "The strategy of preventing Douglass and his collaborators from having any opportunity for a simultaneous response to Santer et al. had been achieved. The gamesmanship behind this strategy diverted the process of scientific inquiry from its proper path and tainted the materials on which the Agency now seeks to rely." Peabody Energy concludes that the CRU e-mail authors' improper conduct places Santer et al.'s work on questionable footing and casts doubt on the credibility of their critique of Douglass et al. (2007).

Response (3-16):

As discussed in Volume 1, Section 1.2.1.2 , the petitioners' complaint focuses on the timing of the hardcopy publication of the Douglass et al. (2007) paper (which was previously published on-line), and does not provide any substantive evaluation or analysis of the scientific content of Santer et al. (2008). Petitioner does not explain why the findings presented in Douglass et al. (2007) are correct despite the findings presented in Santer et al. (2008). Peabody Energy also offers no substantive evaluation of any of the assessment literature (i.e., Karl et al., 2009) or other studies relied on by EPA that provide evidence for an anthropogenic fingerprint in the

[15] E-mail file 1200076878.txt, (January 11, 2008), page 1433, line 41 of the PDF version entitled: CRU Emails 1996-2009.pdf

[16] E-mail file 1200076878.txt, (January 11, 2008), page 1433, line 9 of the PDF version entitled: CRU Emails 1996-2009.pdf

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tropics. In addition, Douglass and the other authors of the 2007 study have not provided a scientific response or rebuttal to the scientific position presented in the Santer et al. (2008) paper.

In addition to the petitioner's focus on the timing of the hard copy publication rather than scientific content, we note that Peabody Energy extensively quotes from an article entitled "A Climate Conspiracy" (Douglass and Christy, 2009), published in the daily Internet publication *American Thinker*. In this article, two authors of Douglass et al. (2007) (Douglass and University of Alabama–Huntsville scientist John Christy) discuss the CRU e-mails pertinent to the Santer et al. and Douglass et al. studies, and pose the following challenge to readers:

> We will let the reader judge whether this team effort [of Santer and colleagues], revealed in dozens of e-mails and taking nearly a year, involves inappropriate behavior, including (a) unusual cooperation between authors and editor, (b) misstatement of known facts, (c) character assassination, (d) avoidance of traditional scientific give-and-take, (e) using confidential information, (f) misrepresentation (or misunderstanding) of the scientific question posed by DCPS [the authors of Douglass et al. (2007): Douglass, David; Christy, John; Pearson, Benjamin; Singer, Fred], (g) withholding data, and more. (Douglass and Christy, 2009)

Peabody Energy's allegations of misconduct on the part of Santer and colleagues identically match the examples of "inappropriate behavior" put forward by Douglass and Christy in the *American Thinker* article though Peabody Energy does not cite this article as the underlying source. Peabody Energy has no independent basis for their allegations; they are uncritically repeating the objections of Douglass and Christy.

In February (2010), Santer published lengthy counterarguments to Douglass and Christy (2009) on the blog *RealClimate* (Santer, 2010a) and, separately, in an open letter to the scientific community (Santer, 2010b). The following excerpt from Santer (2010a) describes his counterarguments to the allegations set out in Douglass and Christy (2009) and an article by Fred Pearce in the *Guardian* (Pearce, 2010):

> In December 2009, shortly after the public release of the stolen emails from the University of East Anglia's Climatic Research Unit, Professors David Douglass and John Christy accused me of leading a conspiracy to delay publication of the print version of the Douglass et al. paper. This accusation was based on a selective analysis of the stolen emails. It is false.
>
> In Mr. Pearce's account of this issue, he states that "There is no doubt the (sic) Santer and his colleagues sought to use the power they held to the utmost…" So what are the facts of this matter? What is the "power" Fred Pearce is referring to?
>
> - **Fact 1:** The only "power" that I had was the power to choose which scientific journal to submit our paper to. I chose the International Journal of Climatology. I did this because the International Journal of Climatology had published (in their online edition) the seriously flawed Douglass et al. paper. I wanted to give the journal the opportunity to set the scientific record straight.
> - **Fact 2:** I had never previously submitted a paper to the International Journal of Climatology. I had never met the editor of the journal (Professor Glenn McGregor).

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- **Fact 3:** Prior to submitting our paper, I wrote an email to Dr. Tim Osborn on January 10, 2008. Tim Osborn was on the editorial board of the International Journal of Climatology. I told Dr. Osborn that, before deciding whether we would submit our paper to the International Journal of Climatology, I wanted to have some assurance that our paper would "be regarded as an independent contribution, not as a comment on Douglass et al." This request was entirely reasonable in view of the substantial amount of new work that we had done. I have described this new work above.
- **Fact 4:** I did not want to submit our paper to the International Journal of Climatology if there was a possibility that our submission would be regarded as a mere "comment" on Douglass et al. Under this scenario, Douglass et al. would have received the last word. Given the extraordinary claims they had made, I thought it unlikely that their "last word" would have acknowledged the serious statistical error in their original paper. As subsequent events showed, I was right to be concerned – they have not admitted any error in their work.
- **Fact 5:** As I clearly stated in my email of January 10 to Dr. Tim Osborn, if the International Journal of Climatology agreed to classify our paper as an independent contribution, "Douglass et al. should have the opportunity to respond to our contribution, and we should be given the chance to reply. Any response and reply should be published side-by-side…"
- **Fact 6:** The decision to hold back the print version of the Douglass et al. paper was not mine. It was the editor's decision. I had no "power" over the publishing decisions of the International Journal of Climatology.

This whole episode should be filed under the category "No good deed goes unpunished". My colleagues and I were simply trying to set the scientific record straight. There was no conspiracy to subvert the peer-review process. Unfortunately, conspiracy theories are easy to disseminate. Many are willing to accept these theories at face value. The distribution of facts on complex scientific issues is a slower, more difficult process.

Peabody Energy provides numerous quotations from the CRU e-mails and narrates its interpretations of events, but its examples do not materially change the narrow and limited nature of its overall argument, which is that the Santer et al. paper was improperly published in print at the same time as the Douglass et al. paper. Peabody makes no claims or arguments as to the validity of the science in the Santer et al. (2008) paper, just that its hard-copy publication date was advanced by the editor, and another paper's was delayed. Decisions regarding the selection of peer reviewers, the timing of peer review, and whether and when a paper is published are solely the responsibility of the journal editor, not the study authors.

Crucially, we also note that the Douglass et al. paper was freely available online for almost a year before it came out in print. Online publications are considered to be official records of publication and generally attract the majority of the scientific and media attention. At the point of online publication, the Douglass et al. paper was considered to be a legitimate contribution to the literature, which is why the year of citation is 2007 while the year of citation for the Santer et al. paper is 2008. Thus, Peabody Energy's argument that the Douglass et al. paper was "improperly delayed" and Southeastern Legal Foundation's argument that "the normal conventions of the peer review process appear to have been compromised" are without merit;

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when it was published online, Douglass et al. were "on the record" as part of the peer-reviewed academic literature.

The decision of IJC editor Glenn McGregor to delay the print publication of Douglass et al. and expedite the review of Santer et al. so that they would be published simultaneously was motivated by McGregor's desire to "correct the scientific record[17]" after the editor became aware of problems with the Douglass et al. paper. Santer had made the case for doing so when he e-mailed Tim Osborne at IJC stating his conditions for submittal on January 10, 2008—which the petitioner did not include in its summary of events:

> IJC published a paper with egregious statistical errors. Douglass et al. was essentially a commentary on work by myself and colleagues—work that had been previously published in Science in 2005 and in Chapter 5 of the first U.S. CCSP Report in 2006. To my knowledge, none of the authors or co-authors of the Santer et al. Science paper or of CCSP 1.1 Chapter 5 were used as reviewers of Douglass et al. I am assuming that, when he submitted his paper to IJC, Douglass specifically requested that certain scientists should be excluded from the review process. Such an approach is not defensible for a paper which is largely a comment on previously-published work.
>
> It would be fair and reasonable to give IJC the opportunity to "set the record straight", and correct the harm they have done by publication of Douglass et al. I use the word "harm" advisedly. The author and coauthors of the Douglass et al. IJC paper are using this paper to argue that "Nature, not CO2, rules the climate", and that the findings of Douglass et al. invalidate the "discernible human influence" conclusions of previous national and international scientific assessments.
>
> Quick publication of a response to Douglass et al. in IJC would go some way towards setting the record straight. I am troubled, however, by the very real possibility that Douglass et al. will have the last word on this subject. In my opinion (based on many years of interaction with these guys), neither Douglass, Christy or Singer are capable of admitting that their paper contained serious scientific errors. Their "last word" will be an attempt to obfuscate rather than illuminate. They are not interested in improving our scientific understanding of the nature and causes of recent changes in atmospheric temperature. They are solely interested in advancing their own agendas. It is telling and troubling that Douglass et al. ignored radiosonde data showing substantial warming of the tropical troposphere—data that were in accord with model results—even though such data were in their possession. Such behaviour constitutes intellectual dishonesty. I strongly believe that leaving these guys the last word is inherently unfair.[18]

Given Santer's serious scientific concerns about the substance of the Douglass et al. paper, as well as the process for publishing it, McGregor clearly felt it was his prerogative as the journal editor to accept Santer's request for a quick turn-around and inclusion as a new submission. This is demonstrated by the e-mail cited by the petitioner in which Osborne says to Santer on January 11, 2008:

[17] E-mail file 1199999668.txt, (January 10, 2008), page 1427, line 43 of the PDF version entitled: CRU Emails 1996-2009.pdf
[18] E-mail file 1200076878.txt, (January 11, 2008), page 1433, line 18 of the PDF version entitled: CRU Emails 1996-2009.pdf

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> just heard back from Glenn. He's prepared to treat it as a new submission rather than a comment on Douglass et al. and he also reiterates that "Needless to say my offer of a quick turn around time etc still stands."[19]

The petitioner is correct that the publication of Santer as a new submission, rather than a comment gave Santer the last word on the subject in that particular issue of the journal. However, as stated above, Santer had made clear to IJC "Douglass et al. should have the opportunity to respond to our contribution." As discussed in Volume 1, Section 1.2.1.2, we note that to date, Douglass et al. have not published a peer reviewed rebuttal to Santer et al.'s study or other literature on the issue, although they have had ample time to do so.

In summary, the evidence does not suggest and no logical conclusion can be drawn that two papers being printed simultaneously "tainted the materials on which the Agency now seeks to rely" or challenges the key conclusions of the totality of scientific literature on the issue of an anthropogenic fingerprint in the tropics—as discussed in Volume 1, Section 1.2.1.2. Peabody Energy makes no arguments that the scientific reasoning or conclusions in the Santer et al. (2008) paper were inappropriate in any way, and instead draws broad, unsupported conclusions solely based on the timing of the various articles, which is irrelevant to their scientific merit.

Various additional allegations of misconduct on the part of Santer and colleagues from Peabody Energy are discussed in several subsequent responses in this section.

Comment (3-17):
Peabody Energy states that Glenn McGregor, editor of IJC, intended to:

> ….identify in "advance reviewers who are both suitable and available [to review the Santer et al. submission]," perhaps including "someone on the email list you've been using." [20]

It concludes "this appears to be a flagrant abuse of the review process, where reviewers are not permitted to be close associates of the author."

Response (3-17):
It is standard practice when submitting a journal article for journal editors to request from authors a list of appropriate reviewers. Reviewers should not be directly contributing to the research of the authors, but may be colleagues who are experts on matters related to the subject and/or have published on related work.

As a matter of fact, Tim Osborn, an editor at IJC, stated criteria for suggesting co-authors in an e-mail (partially cited by Peabody Energy):

> Obviously one reviewer could be someone who is already familiar with this discussion, because that would enable a fast review - i.e., someone on the email list you've been using - though I don't know which of these people you will be asking to be co-authors

[19] E-mail file 1200076878.txt, (January 11, 2008), page 1433, line 9 of the PDF version entitled: CRU Emails 1996-2009.pdf
[20] E-mail file 1200076878.txt, (January 11, 2008), page 1434, line 25 of the PDF version entitled: CRU Emails 1996-2009.pdf

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> and hence which won't be available as possible reviewers. For objectivity the other reviewer would need to be independent, but you could still suggest suitable names.[21]

And, in fact, on January 11, 2008, Santer submitted a list of names to Tim Osborn, with the following preface:

> Here are some suggestions for potential reviewers of a Santer et al. IJoC submission on issues related to the consistency between modeled and observed atmospheric temperature trends. None of the suggested reviewers have been involved in the recent "focus group" that has discussed problems with the Douglass et al. IJoC paper.[22]

Thus, Peabody Energy's allegation of "flagrant abuse of the review process" is not supported.

Comment (3-18):
Peabody Energy states:

> On January 10, 2008, Jones told the team [i.e. many of the scientists Santer and his colleagues corresponded with on this issue] (Wigley, K. Taylor, Lanzante, Mears, Bader, Zwiers, Wentz, Haimberger, Free, MacCracken, Jones, Sherwood, Klein, Solomon, Thorne, Osborn, Schmidt, and Hack) a "secret" he had learned from Osborn: that one of the recipients on the Santer e-mail list was one of the original reviewers of Douglass et al. (2007) who did not reject the article.
>
> > The problem !! The person who said they would leave it to the editor's discretion is on your email list! I don't know who it is - Tim does - maybe they have told you? I don't want to put pressure on Tim. He doesn't know I'm sending this. It isn't me by the way - nor Tim ! Tim said it was someone who hasn't contributed to the discussion - which does narrow the possibilities down![23]

Response (3-18):
The petitioner excerpts this e-mail with no comment as it to its significance or implications. It appears to be simply an example of scientists, in a private communication, trying to determine who among them might have approved publication of a paper (i.e., Douglass et al.) that many of them felt was substandard. It has no demonstrated relevance to the integrity of the publication of the Santer et al. paper or the underlying science.

Comment (3-19):
Peabody Energy claims that this statement in an e-mail from Osborn to Santer and Jones on January 11, 2008 demonstrates "the impropriety of the situation" in which the Douglass et al. paper publication is delayed:

[21] E-mail file 1199999668.txt, (January 10, 2008), page 1428, line 4 of the PDF version entitled: CRU Emails 1996-2009.pdf
[22] E-mail file 1200059003.txt, (January 11, 2008), page 1432, line 17 of the PDF version entitled: CRU Emails 1996-2009.pdf
[23] E-mail file 1199999668.txt, (January 10, 2008), page 1427, line 9 of the PDF version entitled: CRU Emails 1996-2009.pdf

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> the only thing I didn't want to make more generally known was the suggestion that print publication of Douglass et al. might be delayed ... all other aspects of this discussion are unrestricted.[24]

Response (3-19):
The petitioner does not explain why it is improper or of any scientific relevance that Osborn, an editor of IJC, would want to keep quiet the possibility that the print publication of Douglass et al. might be delayed. It is also not clear why Osborn wanted to keep it quiet. Instead of arguing the merits of the science, the petitioner relies instead on speculation of motivations. There is not material evidence of "impropriety."

As stated in our response (3-16) above, the electronic version of Douglass et al.—an official record of the publication—had been available to the public for months

Comment (3-20):
Peabody Energy ends its narrative discussion of this issue by referencing a series of e-mails composed during the Santer et al. paper review process, suggesting the journal editor, McGregor, had made efforts to "accommodate" Santer:

> McGregor informed Santer that he had received one set of comments and though he "... would normally wait for all comments to come in before providing them to you, I thought in this case I would give you a head start in your preparation of revisions."[25] Later, Santer wrote to Jones on July 10, 2008, that the two subsequent reviews were in, but reviewer number two was "somewhat crankier."[26] Santer indicated that McGregor had told him that he would not resend the coming revised manuscript to the "crankier" reviewer in another apparent effort by McGregor to accommodate Santer.[27]

Response (3-20):
The petitioner does not explain why or how McGregor's actions are relevant to the scientific legitimacy of Santer et al.'s study. First, the petitioner does not demonstrate how McGregor providing Santer et al. with one reviewer's comments before the other two has any effect on the substance of Santer's study or the legitimacy of the review process. The following e-mail from Santer to his co-authors on April 24, 2008, details how seriously Santer considered the comments from this first reviewer and discusses at length Santer's initial thoughts on how to be responsive:

> Dear folks,
>
> I'm forwarding an email from Prof. Glenn McGregor, the IJoC editor who is handling our paper. The email contains the comments of Reviewer #1, and notes that comments from two additional

[24] E-mail file 1200076878.txt, (January 11, 2008), page 1433, line 13 of the PDF version entitled: CRU Emails 1996-2009.pdf
[25] E-mail file 1209080077.txt, (April 24, 2008), page 1484, line 23 of the PDF version entitled: CRU Emails 1996-2009.pdf
[26] E-mail file 1215712600.txt, (July 10, 2008), page 1536, line 12 of the PDF version entitled: CRU Emails 1996-2009.pdf
[27] E-mail file 1215712600.txt, (July 10, 2008), page 1536, line 12 of the PDF version entitled: CRU Emails 1996-2009.pdf

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Reviewers will be available shortly. Reviewer #1 read the paper very thoroughly, and makes a number of useful comments. The Reviewer also makes some comments that I disagree with.

The good news is that Reviewer #1 begins his review (I use this personal pronoun because I'm pretty sure I know the Reviewer's identity!) by affirming the existence of serious statistical errors in DCPS07 [Douglass, Christy, Pearson, and Singer, 2007]

"I've read the paper under review, and also DCPS07, and I think the present authors are entirely correct in their main point. DCPS07 failed to account for the sampling variability in the individual model trends and, especially, in the observational trend. This was, as I see it, a clear-cut statistical error, and the authors deserve the opportunity to present their counter-argument in print."

Reviewer #1 has two major concerns about our statistical analysis. Here is my initial reaction to these concerns.

CONCERN #1: Assumption of an AR-1 [autoregressive] model for regression residuals.

In calculating our "adjusted" standard errors, we assume that the persistence of the regression residuals is well-described by an AR-1 model. This assumption is not unique to our analysis, and has been made in a number of other investigations. The Reviewer would "like to see at least some sensitivity check of the standard error formula against alternative model assumptions." Effectively, the Reviewer is asking whether a more complex time series model is required to describe the persistence.

Estimating the order of a more complex AR model is a tricky business. Typically, something like the BIC (Bayesian Information Criterion) or AIC (Akaike Information Criterion) is used to do this. We could, of course, use the BIC or AIC to estimate the order of the AR model that best fits the regression residuals. This would be a non-trivial undertaking. I think we would find that, for different time series, we would obtain different estimates of the "best-fit" AR model. For example, 20c3m runs without volcanic forcing might yield a different AR model order than 20c3m runs with volcanic forcing. It's also entirely likely (based on Rick 'Katz's experience with such AR model-fitting exercises) that the AIC- and BIC-based estimates of the AR model order could differ in some cases.

As the Reviewer himself points out, DCPS07 "didn't make any attempt to calculate the standard error of individual trend estimates and this remains the major difference between the two papers." In other words, our paired trends test incorporates statistical uncertainties for both simulated and observed trends. In estimating these uncertainties, we account for non-independence of the regression residuals. In contrast, the DCPS07 trend "consistency test" does not incorporate ANY statistical uncertainties in either observed or simulated trends. This difference in treatment of trend uncertainties is the primary issue. The issue of whether an AR-1 model is the most appropriate model to use for the purpose of calculating adjusted standard errors is really a subsidiary issue. My concern is that we could waste a lot of time looking at this issue, without really enlightening the reader about key differences between our significance testing procedure and the DCPS07 approach.

One solution is to calculate (for each model and observational time series used in our paper) the parameters of an AR(K) model, where K is the total number of time lags, and then apply equation 8.39 in Wilks (1995) to estimate the effective sample size. We could do this for several different

K values (e.g., K=2, K=3, and K=4; we've already done the K=1 case). We could then very briefly mention the sensitivity of our "paired trend" test results to choice of order K of the AR model. This would involve some work, but would be easier to explain than use of the AIC and BIC to determine, for each time series, the best-estimate of the order of the AR model.

CONCERN #2: No "attempt to combine data across model runs"

The Reviewer is claiming that none of our model-vs-observed trend tests made use of data that had been combined (averaged) across model runs. This is incorrect. In fact, our two modified versions of the DCPS07 test (page 29, equation 12, and page 30, equation 13) both make use of the multi-model ensemble-mean trend.

The Reviewer argues that our paired trends test should involve the ensemble-mean trends for each model (something which we have not done) rather than the trends for each of 49 individual 20c3m realizations. I'm not sure whether the rationale for doing this is as "clear-cut" as the Reviewer contends.

Furthermore, there are at least two different ways of performing the paired trends tests with the ensemble-mean model trends. One way (which seems to be what the Reviewer is advocating) involves replacing in our equation (3) the standard error of the trend for an individual realization performed with model A with model A's intra-ensemble standard deviation of trends. I'm a little concerned about mixing an estimate of the statistical uncertainty of the observed trend with an estimate of the sampling uncertainty of model A's trend.

Alternately, one could use the average (over different realizations) of model A's adjusted standard errors, or the adjusted standard error calculated from the ensemble-mean model A time series. I'm willing to try some of these things, but I'm not sure how much they will enlighten the reader. And they will not help to make an already-lengthy manuscript any shorter.

The Reviewer seems to be arguing that the main advantage of his approach #2 (use of ensemble-mean model trends in significance testing) relative to our paired trends test (his approach #1) is that non-independence of tests is less of an issue with approach #2. I'm not sure whether I agree. Are results from tests involving GFDL CM2.0 and GFDL CM2.0 temperature data truly "independent" given that both models were forced with the same historical changes in anthropogenic and natural external forcings? The same concerns apply to the high- and low-resolution versions of the MIROC model, the GISS models, etc.

I am puzzled by some of the comments the Reviewer has made at the top of page 3 of his review. I guess the Reviewer is making these comments in the context of the pair-wise tests described on page 2. Crucially, the comment that we should use "...the standard error if testing the average model trend" (and by "standard error" he means 'DCPS07's sigma{SE}) IS INCONSISTENT with the Reviewer's approach #3, which involves use of the inter-model standard deviation in testing the average model trend.

And I disagree with the Reviewer's comments regarding the superfluous nature of Section 6. The Reviewer states that, "when simulating from a known (statistical) model... the test statistics should by definition give the correct answer. The whole point of Section 6 is that the DCPS07 consistency test does NOT give the correct answer when applied to randomly-generated data!

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> In order to satisfy the Reviewer's curiosity, I'm perfectly willing to repeat the simulations described in Section 6 with a higher-order AR model. However, I don't like the idea of simulation of synthetic volcanoes, etc. This would be a huge time sink, and would not help to illustrate or clarify the statistical mistakes in DCPS07.
>
> It's obvious that Reviewer #1 has put a substantial amount of effort into reading and commenting on our paper (and even performing some simple simulations). I'm grateful for the effort and the constructive comments, but feel that a number of comments are off-base. Am I misinterpreting the Reviewer's comments?
>
> With best regards,
> Ben[28]

As evidenced by this detailed and substantive scientific discussion of the reviewers comments, Santer treated the peer review process seriously and focused carefully on the scientific merits of the reviewer's comments. Petitioners, however, have raised no scientific arguments or objections, and instead rely solely on speculation concerning motivations.

Concerning the second review, the petitioner does not discuss why McGregor's decision not to send Santer's revised manuscript back to the second reviewer is an accommodation or somehow irregular. Santer's e-mail to his co-authors about the second reviewer's comments simply indicates that McGregor—as journal editor—had communicated to Santer that he was not sending the next draft of the manuscript back to this reviewer. The CRU e-mails do not explain McGregor's reasoning, and the petitioner relies on speculation.

Although Santer was told the second reviewer would not see the manuscript again, he was diligent in describing to McGregor why one of the second reviewer's criticisms was not of central relevance. Santer wrote to McGregor on July 10, 2008:

> Dear Glenn,
>
> I thought you might be interested in this email exchange with Francis Zwiers [one of Santer's co-authors]. It's directly relevant to the third criticism raised by Reviewer 2.
>
> With best regards,
> Ben[29]

Santer attached a detailed, highly technical discussion from Zwiers pertaining to this third criticism and his response to Zwiers in which he stated his agreement.

> Thanks - this information will be extremely helpful in responding to Reviewer 2. I really do feel that the Reviewer is getting overly exercised about a relatively minor technical point.[30]

[28] E-mail file 1209080077.txt, (April 24, 2008), page 1482, line 1 of the PDF version entitled: CRU Emails 1996-2009.pdf
[29] E-mail file 1215713915.txt, (July 10, 2008), page 1537, line 25 of the PDF version entitled: CRU Emails 1996-2009.pdf

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To summarize, the petitioner does not substantiate any improper procedures on the part of either Santer or McGregor in this process, nor does the petitioner present any scientific basis to question the scientific validity of the analysis and conclusions contained in the Santer et al. (2008) paper.

Comment (3-21):
Peabody Energy states that it appears that Glenn McGregor, editor of IJC, breached confidentiality obligations by disclosing the page proofs of Douglass et al. (2007) to New York Times reporter Andrew Revkin, who then disclosed them to Santer and two other unnamed scientists a week before initial publication online. The petitioner makes a general claim that "use of confidential information" should cause EPA to question Santer et al.'s work. Peabody Energy quotes Revkin's e-mail: "Sorry to take your time up, but really do need a scrub of singer/christy/etc effort."[31]

Response (3-21):
It is customary for journals to provide embargoed versions of articles to journalists prior to publication. Thus, it does not appear that confidentiality was breached by McGregor. Furthermore, the petitioner does not discuss how the alleged breach of confidentiality bears on the legitimacy of the publication process of either the Douglass et al. or Santer et al. papers, or on the scientific validity of the analyses and concussion in either paper. Our evaluation of the scientific issues involved with the Douglass and Santer papers is provided in Volume 1, Section 1.2.1.2 of this RTP document.

Petitioners' evidence does not support their claim that the journal publication process was manipulated or improper, nor do the petitioners provide any other evidence that would cause EPA to question the conclusions drawn about the scientific merits of the issues involved in these papers.

Comment (3-22):
Peabody Energy argues that Michael Mann and Kevin Trenberth (of the National Center for Atmospheric Research) improperly sought special treatment to get their comment (Foster et al. 2010) on a paper by McLean et al. (2009) published immediately in the *Journal of Geophysical Research*. According to the petitioner, their improper actions included violating the journal's policy that reviewers recommended by the authors could not be their close associates, and giving a copy of their manuscript to Michael McPhaden, president of the American Geophysical Union (AGU), which publishes the journal. The petitioner concludes that these examples provide evidence that "peer-review publication rules" were manipulated in an attempt to favor publication of supporting views of anthropogenic climate change. Peabody Energy argues that the Endangerment Finding should be reconsidered because it relied on biased peer-reviewed literature that does not reflect the true breadth of the science.

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[30] E-mail file 1215713915.txt, (July 10, 2008), page 1538, line 18 of the PDF version entitled: CRU Emails 1996-2009.pdf
[31] E-mail file 1196795844.txt, (December 4, 2007). page 1360, line 4 of the PDF version entitled: CRU Emails 1996-2009.pdf

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Response (3-22):
First, we note that McLean et al. (2009) was published on July 23, 2009, and Foster et al. (2010) was published about 10 months later on May 14, 2010. This fact alone refutes the petitioner's claim that there was any "special treatment" that resulted in immediate publication of Foster et al. (2010). Furthermore, the petitioner's argument does not discuss the merits of the science in either paper, or any alleged harm to the McLean et al. (2009) paper resulting from the publication of Foster et al. (2010). It is well within the norms of the scientific community to write and attempt to publish rebuttals to published journal articles if one can demonstrate that there are scientific insufficiencies. Responses can be submitted either as separate manuscripts or as "comments" on a given paper. There is no credible evidence to suggest that the authors of Foster et al. (2010) overstepped the bounds of common practice in submitting their response and asking that it be reviewed expeditiously. In addition, the petitioner makes an unsubstantiated assumption that the reviewers suggested by the authors of Foster et al. (2010) would be biased in favor of the paper. There is no evidence to support the petitioner's claim that these recommended reviewers would be unable or unwilling to provide objective critique of a manuscript. Ultimately, any decisions as to the timing of review, the selection of peer reviewers, and whether and when a paper is published are solely the responsibility of the journal editor.

This example does not support the petitioner's argument that the journal publication process was manipulated, nor does the petitioner provide any other evidence that would cause EPA to change its view on the scientific issues involved in these papers. Petitioner has failed to provide any arguments based on the science.

To summarize Section 3.3.3, petitioners argue that the scientific record for the Endangerment Finding is biased because of improper practices in publication of certain journal articles. Their evidence is limited to only a few articles. They focus on claims of when the hard copy of one article was published, as well as changes in the editorial board at one journal. Their claims of improper practices are broad and sweeping, but are not supported by the evidence they present. Their claims are based largely on speculation, and they fail to provide any scientific argument to contest the scientific analysis or conclusions of the articles they object to. They fail to show improper action, whether for the articles at issue or more broadly. They fail provide a basis to question EPA's views on the scientific issues involved in the papers.

3.3.4 Allegations Regarding Efforts to Remove Editors and Boycott Journals

Comment (3-23):
The Coalition for Responsible Regulation, the Ohio Coal Association, Peabody Energy, the Southeastern Legal Foundation, and the State of Texas argue that the CRU e-mail authors threatened to boycott the journal *Climate Research* and endeavored to have one of its editors, Chris de Freitas, removed because the journal had published a paper by Soon and Baliunas (2003) with which that they did not agree. The Southeastern Legal Foundation asserts that "After Messrs. Jones and Mann threatened a boycott of publications and reviews, half of the editorial board of *Climate Research* resigned." Peabody Energy claims that "[i]n response to these protests, wholesale changes were made in the editorial staff at Climate Research." The State of Texas argues that when "the group learned that Climate Research planned to publish so-

called skeptical literature, the climatologists responded less like objective scientists eager to let the science determine the answer, and more like activists working to advance their preferred result." The Southeastern Legal Foundation claims that this is an example of "a concerted effort to purge dissenting views from the scientific literature." The Pacific Legal Foundation also references this example, stating that the CRU e-mails "…appear to show attempts to 'discipline' scientists and journalists who published skeptical information." The petitioners quote a number of CRU e-mails in support of their arguments.

More specifically, the Ohio Coal Association and Peabody Energy quote a statement from Phil Jones: "I will be e-mailing the journal to tell them I'm having nothing more to do with it until they rid themselves of this troublesome editor.[32]" The Southeastern Legal Foundation and Peabody Energy quote the following e-mail from Michael Mann:

> I think we have to stop considering 'Climate Research' as a legitimate peer-reviewed journal. We would also need to consider what we tell or request of our more reasonable colleagues who currently sit on the editorial board. Perhaps we should encourage our colleagues in the climate research community to no longer submit to, or cite papers in, this journal.[33]

Peabody Energy quotes an e-mail from Tom Wigley, characterizing his words as "urging a full-scale assault on the editorial board":

> PS Re CR [Climate Research], I do not know the best way to handle the specifics of the editoring [sic]. Hans von Storch [another editor at *Climate Research*] is partly to blame -- he encourages the publication of crap science 'in order to stimulate debate'. One approach is to go direct to the publishers and point out the fact that their journal is perceived as being a medium for disseminating misinformation under the guise of refereed work. I use the word 'perceived' here, since whether it is true or not is not what the publishers care about -- it is how the journal is seen by the community that counts.
>
> I think we could get a large group of highly credentialed scientists to sign such a letter -- 50+ people. Note that I am copying this view only to Mike Hulme and Phil Jones. Mike's idea to get editorial board members to resign will probably not work -- must get rid of von Storch too, otherwise holes will eventually fill up with people like Legates, Balling, Lindzen, Michaels, Singer, etc. I have heard that the publishers are not happy with von Storch, so the above approach might remove that hurdle too[34]."

Peabody Energy then quotes a statement from the publisher of *Climate Research*, Otto Kinne, which attempts to defend de Freitas' decision to publish the Soon and Baliunas paper:

[32] E-mail file 1047388489.txt, (March 11, 2003), page 456, line 30 of the PDF version entitled: CRU Emails 1996-2009.pdf
[33] E-mail file 1047388489.txt, (March 11, 2003), page 457, line 13 of the PDF version entitled: CRU Emails 1996-2009.pdf
[34] E-mail file 1051190249.txt, (April 24, 2003), page 488, line 11 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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> Dear colleagues, In my [June, 20 2003] e-mail to you I stated, among other things, that I would ask C[limate] R[esearch] editor Chris de Freitas to present to me copies of the reviewers' evaluations for the 2 Soon et al. papers. I have received and studied the material requested. Conclusions: 1) The reviewers consulted (4 for each ms) by the editor presented detailed, critical and helpful evaluations. 2) The editor properly analyzed the evaluations and requested appropriate revisions. 3) The authors revised their manuscripts accordingly. Summary: Chris de Freitas has done a good and correct job as editor.[35]

As further evidence of the CRU e-mail authors' protests against this editor and journal, Peabody Energy quotes Mann's response that Kinne's words were "disingenuous" and said "I think that the community should, as previously suggested in this eventuality, terminate its involvement with this journal at all levels--reviewing, editing, and submitting, and leave it to wither way into oblivion and disrepute."[36]

Peabody Energy then quotes Wigley's response: "I agree that Kinne seems like he could be a deFreitas clone. However, what would be our legal position if we were to openly and extensively tell people to avoid the journal?"[37] The petitioner also quotes Santer's response: "Based on Kinne's editorial, I see little hope for more enlightened editorial decision making at Climate Research. Tom, Richard Smith and I will eventually publish a rebuttal to the Douglass et al. paper. We'll publish this rebuttal in JGR - not in Climate Research."[38]

The petitioner concludes that these e-mails provide evidence that the e-mail authors interfered with journal editorial boards in an attempt to suppress publication of dissenting views about anthropogenic climate change. Peabody Energy argues that the Endangerment Finding should be reconsidered because it relied on biased peer-reviewed literature that does not reflect the true breadth of the science.

Response (3-23):

The context to the petitioners' arguments is the Soon and Baliunas (2003) paper published in the journal *Climate Research*. This paper was subsequently heavily and broadly criticized by the scientific community in peer-reviewed journals. A scientific rebuttal to Soon and Baliunas (2003) was published in the AGU journal *Eos* (Mann et al., 2003).

The publication of this paper revealed problems with the peer review process at *Climate Research*, which eventually resulted in the resignation of three people on the editorial board when they could not come to an agreement with the publisher on how to revamp the peer-review process in the wake of the controversy (Kinne, 2003). Petitioners assume that because the resignations occurred after the CRU e-mail authors threatened to boycott the journal, the

[35] E-mail file 1057941657.txt, (July 11, 2003), page 546, line 13 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[36] E-mail file 1057941657.txt (July 11, 2003), page 547, line 18 of the PDF version entitled: CRU Emails 1996-2009.pdf
[37] E-mail file 1057941657.txt (July 11, 2003), page 547, line 12 of the PDF version entitled: CRU Emails 1996-2009.pdf
[38] E-mail file 1057941657.txt (July 11, 2003), page 547, line 1 of the PDF version entitled: CRU Emails 1996-2009.pdf

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resignations must be a result of that threat. However, *Climate Research* publisher Otto Kinne later admitted in a statement published in the journal that the Soon and Baliunas paper was flawed and should not have been published, expressed regret that the journal had lost three editors due to the controversy, and promised to strengthen the journals' peer review policies (Kinne, 2003). Thus, the petitioners' claims that it was the actions of the CRU e-mail authors that resulted in changes to the editorial board of *Climate Research* are without merit.

It is clear from the quoted e-mails that the CRU scientists and their colleagues believed that there was a failure of the peer review process at *Climate Research* that allowed a scientifically flawed paper to be published. Subsequent events have demonstrated that their views were justified; as shown by the publication of Mann et al.'s (2003) scientific rebuttal. It is not inappropriate or uncommon for scientists to challenge the validity of each 'others work. It is well within the norms of the scientific community to write and publish comments or responses and otherwise challenge published journal articles if one can demonstrate that there are scientific insufficiencies. Such challenges are indeed essential to the progress of science. The critical issue is that such challenges should be focused on scientific and factual grounds. The scientists reacted reasonably by publishing a rebuttal to the Soon and Baliunas paper in a different peer-reviewed journal (Mann et al., 2003).

Science is a community-based professional enterprise in which it is expected and appropriate that researchers choose in which journals to publish, as well as recommend to their peers journals in which to publish or not publish. In this case, the bottom line is that the underlying science at issue has been shown to be flawed. The scientists' actions were focused on this lack of scientific merit and the process that lead to it, and not an attempt to distort the science or the scientific literature. We disagree with the petitioner's claim that the CRU e-mail authors acted like "activists" and not like scientists. Their focus was clearly on the scientific merits of the study at issue and the scientific integrity of the peer review process. There is no evidence to suggest that the CRU e-mail authors were attempting to manipulate the peer-reviewed literature. If anything, their actions aimed to police the peer review process and rectify a problem that threatened its scientific integrity.

We also note that the e-mails cited by the petitioner are simply statements of displeasure, not indications that any actions were undertaken. It is legitimate and entirely reasonable that these scientists expressed their opinions about a situation that concerned them. There is no evidence that the CRU e-mail authors engaged in any actions that were unethical, or otherwise outside the norms of scientific practice. Moreover, there are hundreds of journals relevant to climate science and many editors at each, so to claim that any change in the editorial board at one journal somehow biased the vast wealth of climate change studies or called into question the overall conclusions reached from those thousands of papers is unwarranted and unsupported.

Comment (3-24):
The State of Texas and the Coalition for Responsible Regulation claim that the CRU e-mail authors sought to remove an editor from *Geophysical Research Letters* (GRL) because they did not agree with his views on climate science. They quote the following e-mail from Tom Wigley:

> This is truly awful. GRL has gone downhill rapidly in recent years…Proving bad behavior here is very difficult. If you think that [the objectionable editor] is in the

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> greenhouse skeptics camp, then, if we can find documentary evidence of this, we could go through official AGU channels to get him ousted.[39]

The Pacific Legal Foundation also references this example, stating that the CRU e-mails "…appear to show attempts to 'discipline' scientists and journalists who published skeptical information." The State of Texas argues that the CRU e-mail authors' language reflects an "us versus them" attitude more commonly associated with legal advocacy or team sports than the scientific method. The petitioner quotes an e-mail from Michael Mann: "What a shame that would be. It's one thing to lose 'Climate Research' [sic]. We can't afford to lose GRL."

The State of Texas states that "Wigley's goal of removing the editor" was successful, quoting a statement from Pat Michaels of the Cato Institute, who said that the departure of the GRL editor, James Saiers, "coincided with Mann, Wigley, and Dr. Jones's plan to 'get him ousted'" [Michaels, 2009a]. The State of Texas and the Coalition for Responsible Regulation also quote an e-mail from Michael Mann: "the GRL leak may have been plugged up now w/ new editorial leadership there."[40]

The petitioners conclude that these e-mails provide evidence that their authors interfered with journal editorial boards in an attempt to suppress publication of dissenting views about anthropogenic climate change. The petitioners argue that the Endangerment Finding should be reconsidered because it relied on biased peer-reviewed literature that does not reflect the true state of the science.

Response (3-24):

First, we note that there is no evidence that any actions by the CRU e-mail authors were taken or they resulted in the dismissal or replacement of the editor, and there is also no evidence that they took inappropriate actions. The e-mails show the scientists discussing plans to record evidence of potential political bias by one of the journal's editors. Michael Mann states, "If there is a clear body of evidence that something is amiss, it could be taken through the proper channels" [41] The e-mails depict scientists' reaction to what they believed was bias within the peer review process.

Again, petitioners assume that because the resignation occurred after the CRU e-mail authors talked among themselves, it must be a result of actions by the e-mail authors. This claim is unsupported by any evidence provided by the petitioners, however, and they do not show that the scientists engaged in improper behavior or claimed sabotage of the journal or its editors. There is also no evidence that any action by the scientists resulted in the replacement of the journal editor. To the contrary, we note that the GRL editor in question was James Saiers, who was quoted in an article in the *Guardian* newspaper saying simply that "his three-year term was up" (Pearce, 2010). Saiers also stated, "My departure had nothing to do with attempts by Wigley or

[39] E-mail file 1106322460.txt (January 20, 2005), page 809, line 14 of the PDF version entitled: CRU Emails 1996-2009.pdf

[40] E-mail file 1132094873.txt, (November 15, 2005), page 989, line 25 of the PDF version entitled: CRU Emails 1996-2009.pdf

[41] E-mail file 1106322460.txt, (January 20, 2005), page 809, line 7 of the PDF version entitled: CRU Emails 1996-2009.pdf

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anyone else to have me sacked…nor was I censured, as I have seen suggested on a blog posting written by McKitrick." Thus, it appears that Saiers left voluntarily when his term ended, and that his departure was unrelated to any actions of the CRU e-mail authors.

As stated in our previous response (3-23), it is not unethical or inappropriate for scientists to challenge or oppose—on scientific and factual grounds—the actions of a journal editor that approved the publication of research that they believe is flawed. Just as they were concerned for editorial integrity at *Climate Research*, the CRU scientists and their colleagues were concerned about what they viewed as a failure of the peer review process at GRL. The evidence does not suggest that the CRU e-mail authors were attempting to manipulate the peer-reviewed literature, nor that they engaged in any actions that were unethical or otherwise outside the norms of scientific practice. Moreover, there are hundreds of journals relevant to climate science and many editors at each, so to claim that any change in the editorial board at one journal somehow biased the vast wealth of climate change studies or called into question the overall conclusions reached from those thousands of papers is unwarranted and unsupported.

Comment (3-25):
The Coalition for Responsible Regulation claims that the CRU e-mails show that Phil Jones and Ben Santer "went over the head of the editor of *Weather*, with Jones threatening the Royal Meteorological Society [RMS] Chief Executive that he would no longer submit information to Royal Meteorological Society journals if the *Weather* editor refused to 'back down' [1237496573.txt]." The Coalition for Responsible Regulation provides no additional context for this exchange, but claims that it is another example of the CRU scientists and their colleagues interfering with the editorial boards of scientific journals in order to publish only those papers that agreed with their positions.

The petitioners conclude that these e-mails provide evidence that their authors interfered with journal editorial boards in an attempt to favor publication of papers that supported their views about anthropogenic climate change. The petitioners argue that the Endangerment Finding should be reconsidered because it relied on biased peer-reviewed literature that does not reflect the true breadth of the science.

Response (3-25):
From our review of the CRU e-mails, the context for the petitioner's quote is that Phil Jones submitted a paper with fellow CRU scientist David Lister on urban heat islands (UHI) to the journal *Weather*—i.e., Jones and Lister (2009). Contrary to what the petitioner implies, Ben Santer was not involved with the paper; he simply received an e-mail about it from Jones. It appears that Jones received comments back from the editor at *Weather* with which he did not agree. Jones states:

> I've written up the London paper for the RMS journal Weather, but having trouble with their new editor. He's coming up with the same naive comments that these responders are. He can't understand that London has a UHI of X, but that X has got no bigger since 1900.[42]

[42] E-mail file 1237474374.txt, (March 19, 2009), page 1647, line 37 of the PDF version entitled: CRU Emails 1996-2009.pdf

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In another e-mail, Jones states:

> In my 2 slides worth at Bethesda I will be showing London's UHI and the effect that it hasn't got any bigger since 1900. It's easy to do with 3 long time series. It is only one urban site (St James Park), but that is where the measurements are from. Heathrow has a bit of a UHI and it has go[t] bigger. I'm having a dispute with the new editor of Weather. I've complained about him to the RMS Chief Exec. If I don't get him to back down, I won't be sending any more papers to any RMS journals and I'll be resigning from the RMS. The paper is about London and its UHI![43]

First, we note that the science of UHIs and their relationship to climate change is addressed in Volume 1, Section 1.3.4 of this RTP document. However, the petitioner does not argue based on the scientific information presented in the manuscript in question, which was eventually accepted and published in *Weather* (Jones and Lister, 2009). Rather, the petitioner takes issue with the fact that Jones complained about the editor and made statements about boycotting the journal in the future, which the petitioner claims is evidence that Jones inappropriately interfered with the peer review and publication process at *Weather*. Phil Jones is within his rights as a scientist and author to choose the journals to which he submits his papers. We disagree with the petitioner that Jones' statements constitute "interference" or inappropriate action.

The Independent Climate Change E-mails Review examined this general issue and reached a similar conclusion:

> In conclusion, it is common for editors to have multiple, intense, and sometimes sharp and passionate interactions with authors and reviewers. The tone of their exchanges and communications with editors can be attacking, accusatory, aggressive, and even personal. If a research paper is especially controversial and word of it is circulating in a particular scientific community, third-party scientists or critics with an interest in the work may get to hear of it and decide to contact the journal. They might wish to warn or encourage editors. This kind of intervention is entirely normal. It is the task of editors to weigh up the passionate opinions of authors and reviewers, and to reflect on the comments (and motivations) of third parties.

This example does not support the petitioner's arguments that the journal publication process was manipulated.

To summarize Section 3.3.4, petitioners' evidence does not support their claims that the journal publication process was improperly influenced. Their evidence shows scientists with strong scientific opinions on the scientific merits of various papers, and opinions about the scientific integrity of the peer review process at certain journals. It appears that in one case the journal determined that mistakes had been made in publishing a flawed paper. In another case an editor resigned and publicly stated it had nothing to do with the scientists that petitioners point to.

[43] E-mail file 1237496573.txt, (March 19, 2009), page 1649, line 21 of the PDF version entitled: CRU Emails 1996-2009.pdf

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Petitioners' broad, sweeping conclusions about improper actions by the scientists are speculative and not supported by the evidence.

As in other claims discussed above, petitioners do not base their claims on scientific arguments. They do not argue that the scientists at issue here were wrong in their scientific analyses or conclusions, or in their critiques of other studies. They do not provide evidence of any scientific paper or research that was not but should have been published. Their broad claim that EPA relied upon a body of peer reviewed literature that was biased and did not reflect the true breadth of the science is not supported by the evidence they present. Their assertions are not based on any scientific arguments or evidence, but instead rely upon unwarranted speculation.

3.3.5 Allegations Regarding Objectivity of the Peer-Reviewed Literature

Comment (3-26):
Peabody Energy argues that "Michael Mann and his collaborators engaged in a decade-long campaign of preventing dissenting scientific voices from being heard." Peabody Energy states that one of Mann's former collaborators, Raymond Bradley, disassociated himself from comments made to the editor of the journal *Science* after it published a paper with which Mann disagreed. Peabody Energy quotes part of an e-mail written by Bradley on April 19, 1999 to the editor at *Science*:

> As for thinking that it is "Better that nothing appear, than something unacceptable to us"…as though we are the gatekeepers of all that is acceptable in the world of paleoclimatology seems amazingly arrogant. Science moves forward whether we agree with individual articles or not.[44]

Peabody Energy asserts that in the end, Mann and his colleagues acted as gatekeepers to the peer-reviewed literature, in marked contrast to Mann's stance in his 2009 letter to the editor of The Wall Street Journal. Peabody Energy provides the following excerpt from the letter:

> Society relies upon the integrity of the scientific literature to inform sound policy. It is thus a serious offense to compromise the peer-review system in such a way as to allow anyone—including proponents of climate change science—to promote unsubstantiated claims and distortions [Mann, 2009].

Peabody Energy argues that the Endangerment Finding should be reconsidered because it relied on peer-reviewed literature that is biased in favor of views supporting anthropogenic climate change and does not reflect the true breadth of the science.

Response (3-26):
The petitioner quotes only one part of one e-mail from Bradley, and fails to provide the context for the incident they are describing, which occurred more than 10 years ago. In context, it appears Mann is referring to specific language he objected to in a draft article he was reviewing for the journal *Science*. This drafting issue was later resolved to the satisfaction of the author of

[44] E-mail file 0924532891.txt (April 19, 1999), page 155, line 16 of the PDF version entitled: CRU Emails 1996-2009.pdf

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the article, and does not indicate any attempt to suppress opposing views or some "decades long" attempt to do so. To understand Mann's statement in context, we include three relevant e-mails below, in full. The first is the full text of Bradley's e-mail to the editor at *Science*, sent April 19, 1999. The second is an e-mail from Phil Jones to Michael Mann regarding Mann's reaction to the draft article in *Science*, sent May 6, 1999. The third is an e-mail from Mann to Jones and others involved in writing, reviewing, or editing the draft article in *Science*, sent on May 12, 1999.

> Date: Mon, 19 Apr 1999 10:06:52 -0400
> To: juppenbrink@science-int.co.uk [editor at *Science*]
> From: "Raymond S. Bradley" rbradley@geo.umass.edu
> Subject: Climate warming prespctives article
> Cc: mann@snow.geo.umass.edu, mhughes@ltrr.arizona.edu
>
> I have just returned from Finland and have now read all the correspondence regarding the Science perspectives article you asked Keith Briffa & Tim Osborn to write. I've sent Tim Osborn & Keith Briffa a few suggestions re their perspectives article. If you would like to see them, let me know. I would like to diasassociate myself from Mike Mann's view that "xxxxxxxxxx" [*original text x'ed out in released e-mails*] and that they "xxxxxxxxxxxx" [*original text x'ed out in released e-mails*]. I find this notion quite absurd. I have worked with the UEA [University of East Anglia] group for 20+ years and have great respect for them and for their work. Of course, I don't agree with everything they write, and we often have long (but cordial) arguments about what they think versus my views, but that is life. Indeed, I know that they have broad disagreements among themselves, so to refer to them as "the UEA group", as though they all march in lock-step seems bizarre. As for thinking that it is "Better that nothing appear, than something unnacceptable to us" .....as though we are the gatekeepers of all that is acceptable in the world of paleoclimatology seems amazingly arrogant. Science moves forward whether we agree with individiual articles or not.... Sincerely, Raymond S. Bradley[45]

> From: Phil Jones <p.jones@xxxxxxxxx.xxx>
> To: mann@xxxxxxxxx.xxx
> Subject: Straight to the Point
> Date: Thu, 06 May 1999 17:37:34 +0100
> Cc: k.briffa@xxxxxxxxx.xxx,t.osborn@xxxxxxxxx.xxx,mhughes@xxxxxxxxx.xxx, rbradley@xxxxxxxxx.xxx
>
> Mike,
>
> Just back from two weeks away and from discussions with Keith and Tim and some e-mails you seem quite pissed off with us all in CRU. I am somewhat at a loss to understand why. It is clear from the e-mails that this relates to the emphasis placed on a few words/phrases in Keith/Tim's Science piece. These may not be fully resolved but the piece comes out tomorrow. I don't want to open more wounds but I might by the end of the e-mail. I've not seen the censored e-mail that Ray has mentioned but this doesn't, to my way of working, seem to be the way you should be responding - ie slanging us all off

[45] E-mail file 0924532891.txt (April 19, 1999), page 155, line 16 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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to Science. We are all trying to work together for the good of the 'Science'. We have disagreements - Ray, Malcolm, Keith and me have in the past, but they get aired and eventually forgotten. We have never resorted to slanging one another off to a journal (as in this case) or in reviewing papers or proposals. You may think Keith or I have reviewed some of your papers but we haven't. I've reviewed Ray's and Malcolm's - constructively I hope where I thought something could have been done better. I also know you've reviewed my paper with Gabi very constructively.

So why all the beef now? Maybe it started with my Science piece last summer. When asked to do this it was stressed to that I should discuss how your Nature paper fitted in to the current issues in paleoclimatology. This is what I thought I was doing. Julia Uppenbrink asked me to do the same with your GRL paper but I was too busy and passed it on to Keith. Again it seems a very reasoned comment.

I would suspect that you've been unhappy about us coming out with a paper going back 1000 years only a few months after your Nature paper (back to 1400). Ray knew all about this as he was one of the reviewers. Then the second Science comment has come out with a tentative series going back 2000 years. Both Science pieces give us a chance to discuss issues highly relevant to the 'science', which is what we have both tried to do. Anyway that's enough for now - I'll see how you'll respond, if at all. There are two things I'm going to say though:

1) Keith didn't mention in his Science piece but both of us think that you're on very dodgy ground with this long-term decline in temperatures on the 1000 year timescale. What the real world has done over the last 6000 years and what it ought to have done given our understanding of Milankovic forcing are two very different things. I don't think the world was much warmer 6000 years ago - in a global sense compared to the average of the last 1000 years, but this is my opinion and I may change it given more evidence.

2) The errors don't include all the possible factors. Even though the tree-ring chronologies used have robust rbar statistics for the whole 1000 years (ie they lose nothing because core numbers stay high throughout), they have lost low frequency because of standardization. We've all tried with RCS [regional curve standardized]/very stiff splines/hardly any detrending to keep this to a minimum, but until we know it is minimal it is still worth mentioning. It is better we (I mean all of us here) put the caveats in ourselves than let others put them in for us.

3) None of us here are trying to get material into IPCC. I've given you my input through the review of the chapter in Asheville. I may get a chance to see the whole thing again at some stage, but I won't be worried if I don't.

I can't think of a good ending, but hoping for a favourable response, so we can still work together. Cheers, Phil[46]

From: mann@xxxxxxxxx.xxx
Date: Wed, 12 May 1999 13:00:09 -0400 (EDT)
To: juppenbrink@xxxxxxxxx.xxx, k.briffa@xxxxxxxxx.xxx, t.osborn@xxxxxxxxx.xxx
Cc: mann@xxxxxxxxx.xxx, mhughes@xxxxxxxxx.xxx, p.jones@xxxxxxxxx.xxx, rbradley@xxxxxxxxx.xxx

[46] E-mail file 0926026654.txt (May 6, 1999), page 164, line 18 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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Dear all,

Thanks for working so hard to insure a final product that was acceptable to all. I think that Keith and Tim are to be commended on a fine job w/ the final version of the Perspectives piece that appeared, and I thank Julia for her especially difficult editorial task. I appreciate having had the opportunity to respond to the original draft. I think this opportunity is very important in such cases (ie, where a particular author/groups work is the focus of a commentary by someone else), and hope that this would be considered standard procedure in the future in such instances.

I think we have some honest disagreements amonst us about some of the underlying issues, but these were fairly treated in the piece and that's what is important (The choice of wording in the final version was much better too. Wording matters!). Thanks all for the hard work and a job well done. I like to think that may feedback helped here--so I take some pride here as well.

best regards,
mike[47]

We first note that the statement attributed to Michael Mann—"Better that nothing appear, than something unacceptable to us"—is actually just inferred from Raymond Bradley's email, which does not specifically identify Mann as the source of the quote. Regardless of its origin, however, the petitioner mischaracterizes and misinterprets this statement attributed to Michael Mann by Bradley. The petitioner mistakenly assumes that Mann was arguing that it would be better that nothing was published in the peer-reviewed literature, rather than dissenting viewpoints that differed from his own. In actuality, Mann was specifically commenting on a draft article written by Keith Briffa and Tim Osborn (Briffa and Osborn, 1999) for the journal *Science*. The Briffa and Osborn article was commissioned by an editor at *Science* and represents a review or synthesis, not original research. As the e-mails make clear, the background for their disagreement stems from a negative review of the Briffa and Osborn article that Mann sent to an editor at *Science*. We do not have access to the review Mann sent to the editor at *Science* because it was not included in the released CRU e-mails, but it can be observed from other CRU e-mails that Mann disagreed with some of the language and descriptions used in the article.[48] For example, in one of his comments to Briffa and Osborn, Mann states, "One additional new comment: 0) 1st page, 'In attemping [sic] to do this...Mann at al...exemplifies' is unacceptable language to us. We confront the very problems that are being discussed here, so it is a disservice to us to say our paper 'exemplifies' these problems. It 'exposes' or 'confronts' would be fair language, but 'exmemplifies'[sic] is unacceptable." [49]

The e-mails also make it clear that the disagreements were amicably resolved; in the final e-mail, Mann states, "Thanks for working so hard to insure a final product that was acceptable to all."[50]

[47] E-mail file 0924532891.txt (April 20, 1999), page 155, line 46 of the PDF version entitled: CRU Emails 1996-2009.pdf

[48] e.g., E-mail file 0924030302.txt (April 13, 1999), page 146, line 45, e-mail file 0924120405.txt (April 14, 1999), page 153, line 15, and e-mail file 0924613924.txt (April 20, 1999), page 155, line 46 of the PDF version entitled: CRU Emails 1996-2009.pdf.

[49] E-mail file 0924120405.txt (April 14, 1999), page 153, line 15 of the PDF version entitled: CRU Emails 1996-2009.pdf.

[50] E-mail file 0926681134.txt (May 14, 1999), page 166, line 45 of the PDF version entitled: CRU Emails 1996-2009.pdf

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The most reasonable conclusion is that the statement "Better that nothing appear, than something unacceptable to us" apparently referred to specific language in the paper with which Mann strongly disagreed. We find no evidence to suggest that the statement had anything to do with suppressing dissenting scientific views on climate change or their publication, much less a "decade-long campaign" to keep them out of the peer-reviewed literature.

The petitioner's evidence does not show that Mann's actions were inconsistent with his views on the peer review process, as described in his letter to the editor of The Wall Street Journal. Although the petitioner only quotes part of the letter, we provide it here in full:

> In his Dec. 18 op-ed "How to Manufacture a Climate Consensus," Patrick J. Michaels of the Cato Institute falsely claims that work by him (and other fossil-fuel-funded climate change contrarians) has been unfairly blocked by me and others from appearing in mainstream science journals because the peer review process is supposedly biased against climate science deniers.
>
> In truth, the only bias that exists at such publications is for well-reasoned writing that is buttressed by facts.
>
> That is why climate skeptics such as Richard Lindzen of MIT [Massachusetts Institute of Technology] or John Christy of the University of Alabama—who are widely regarded as credible and whose work contributes meaningfully to the scientific discourse—have no problem publishing their work in mainstream scientific journals.
>
> And what about those who are not being published? Every scientist dealing with a major public issue must decide if he or she is going to be a scientist or a de facto politician.
>
> Mr. Michaels and many climate science deniers have opted for the latter course of action. For example, presidential science adviser John Holdren notes that Mr. Michaels "has published little if anything of distinction . . . being noted rather for his shrill op-ed pieces and indiscriminate denunciations of virtually every finding of mainstream climate science." This makes Mr. Michaels a perfect candidate for a Wall Street Journal op-ed and a decidedly poor submitter to a serious scientific journal.
>
> Society relies upon the integrity of the scientific literature to inform sound policy. It is thus a serious offense to compromise the peer-review system in such a way as to allow anyone—including proponents of climate change science—to promote unsubstantiated claims and distortions.
>
> The good news is that it is not happening today in relation to either climate scientists or the deniers of climate science. Men and women who have dedicated their lives to advancing science need not apologize for keeping their rigorous professional journals free of the pollution of what is purely politics.

Thus, we conclude that the petitioner leaps from the Bradley quote to an unsupported conclusions regarding Mann's actions with respect to the specific issue in the e-mails and in general. The petitioner's claim that Mann wanted to suppress the article is unsupported by the

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text they reference, and their claim that these e-mails somehow prove that Mann had a "decades-long agenda" to suppress dissenting views is baseless. Mann's letter to the editor of The Wall Street Journal further clarifies that he supports ensuring high standards of rigor and quality in the peer-reviewed literature. This example does not support the petitioner's arguments that the journal publication process was manipulated. The claim of a "gatekeeper" to the peer-reviewed literature is not supported by their evidence, and the petitioner provides no evidence of any paper that it believes was not, but should have been, published as a result of the claimed "gatekeeping." They make no arguments based on science, and instead rely on unwarranted speculation.

Comment (3-27):

The Coalition for Responsible Regulation and the Southeastern Legal Foundation argue that various actions by the CRU e-mail authors made it difficult or impossible for scientists with differing views to successfully publish their research in peer-reviewed journals. The Coalition for Responsible Regulation claims that the CRU e-mail authors "tried mightily to allow only one perspective on the global warming debate to be published and legitimized." In support of this argument, petitioners repeat their allegations regarding reviews of manuscripts, journal publication practices, and efforts to remove editors and boycott journals that are discussed in sections 3.3.2, 3.3.3, and 3.3.4 of this Volume. In addition, the Coalition for Responsible Regulation quotes part of an e-mail written by Roger Pielke, Sr., of Colorado State University on November 19, 2004:

> There has been, however, in my view an unfortunate change over time where reviewers who disagree with already published work recommend rejection of subsequent work rather than letting the community view and assess the different perspectives on a science issue.[51]

The Coalition for Responsible Regulation claims that "[t]his systemic suppression of differing viewpoints, in turn, has dissuaded prominent scientists from seeking publication in peer-reviewed journals," quoting as evidence an e-mail from Phil Jones: "Even here they [climate change skeptics] don't seem to be bothering with journals at all recently."[52] The Southeastern Legal Foundation provides a quote supporting this argument from Pat Michaels:

> Mr. Wigley repeatedly tells news reporters not to listen to 'skeptics' (or even nonskeptics like me), because they didn't publish enough in the peer-reviewed literature— even as he and his friends sought to make it difficult or impossible to do so. [Michaels, 2009]

Thus, the petitioners argue, scientists with dissenting views were only able to publish their work in formats other than peer-reviewed journals, which both EPA and the IPCC ignored or downplayed. On this basis, the petitioners argue that the Endangerment Finding should be reconsidered because it relies on peer-reviewed literature, which is biased in favor of views supporting anthropogenic climate change and does not reflect the true state of the science.

Response (3-27):

[51] E-mail file 1101133749.txt (November 18, 2004), page 752 lines 30-46 of the PDF version entitled: CRU Emails 1996-2009.pdf.

[52] E-mail file 1256765544.txt (October 28, 2009), page 1837 , lines 28-29 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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We respond to petitioners' allegations regarding reviews of manuscripts, journal publication practices, and efforts to remove editors and boycott journals in sections 3.3.2, 3.3.3, and 3.3.4 of this volume. As discussed there, the petitioners' broad, sweeping conclusions about improper actions by the scientists are speculative and not supported by the evidence. The petitioners jump to the conclusion that papers with opposing views were systematically suppressed but do not provide any evidence of actions taken to prevent publication of otherwise acceptable research.

The petitioners quote the opinions of Roger Pielke, Sr., and Pat Michaels as support for the proposition that research with opposing views of anthropogenic climate change cannot get published. The petitioners assume that such research should have been or would have been published in peer-reviewed literature if not for the opposition of the CRU e-mail authors, without providing any science-based analysis to support this argument. The petitioners assume, with no basis, that the CRU e-mail authors had the power both to influence the peer-review process for the many journals that publish research related to climate-change, and to prevent publication of manuscripts with opposing views of anthropogenic climate change.

The petitioner's characterization of the scientific literature as biased and one-sided is incorrect. The Coalition for Responsible Regulation argues that it has been "difficult or impossible" for climate "skeptics" to get their research published in professional journals. However, EPA reviewed numerous publications representing a wide range of views on climate change, both here in the RTP document and in the RTC document for the Endangerment Finding. As Michael Mann stated in his letter to the editor of The Wall Street Journal (reproduced in full in response 3-26 above): "[C]limate skeptics such as Richard Lindzen of MIT or John Christy of the University of Alabama—who are widely regarded as credible and whose work contributes meaningfully to the scientific discourse—have no problem publishing their work in mainstream scientific journals." Petitioners' evidence does not support their claims of "systematic suppression of differing viewpoints" in the literature.

EPA disagrees with the petitioners' argument that the Findings were based on a false consensus regarding anthropogenic global warming, and that the IPCC (and by extension EPA) disregarded contrary views or evidence because they were not represented in the peer-reviewed literature. Contrary to the petitioners' implication, there are many perspectives on climate change present in the peer-reviewed literature. In reality, many diverging viewpoints and a vast array of findings are represented in the scientific literature on climate change. There is no single view in the literature as petitioners seem to claim, instead there are myriad examples in the literature of the robust back and forth process of scientific research for the broad range of scientific issues have been explored by many different scientists around the world. It is precisely this diversity in research results that the IPCC describes in its assessment reports when it provides uncertainty ranges for its major conclusions. The assessment reports synthesize literally thousands of individual studies and look at the range of conclusions across multiple disciplines. The assessment reports comprehensively reviewed the science; their scientific conclusions routinely identified the degree of certainty around any conclusion, driven by the degree of consistency and the depth of the science. These conclusions reflected a broad consensus of the scientific community, and recognized the existence of ongoing debate within the scientific community on all of these issues, as is the norm in all science endeavors. We thoroughly address issues related to the use of consensus literature and the major assessment reports in Volume 1 of the RTC

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document for the Endangerment Finding and again in Volume 2, Section 2.2 of this RTP document. Thus we find no merit in the argument that the Endangerment Finding did not fully consider scientific evidence representing a full range of views.

The Endangerment Finding was based on a careful consideration of the full weight of scientific evidence and a thorough review of hundreds of thousands of public comments. The major scientific conclusions that support the Endangerment Finding are themselves the product of decades of research, reflected in thousands of studies by numerous scientists, with varying opinions about how best to interpret the results. EPA relied on these assessment reports precisely to avoid an over-reliance on and narrow consideration of individual studies from a limited subset of scientific disciplines or perspectives and to ensure that the Administrator's decision would be based on a comprehensive assessment of the scientific literature. Even if something was missed in an assessment report, our notice and comment on the Endangerment Finding was designed to ensure that EPA received information from all points of view. We received over 380,000 comments, including hundreds of references to literature and reports for our consideration. This material was reviewed and responded to in the 11 volumes of the RTC document for the Endangerment Finding. The notion that EPA did not consider the full range of scientific views is thus simply incorrect. We find that the objections raised by the petitioner have not changed EPA's conclusion that the science supporting the Endangerment Finding is robust, is compelling, and has been appropriately characterized by EPA.

Comment (3-28):
Petitioners question the credibility of the peer review process and the validity of the scientific consensus regarding anthropogenic climate change. The Southeastern Legal Foundation claims that the numerous examples (discussed in sections 3.3.2–3.3.4 above) of "persecution and black-balling of journals, editors, and reviewers" by the CRU e-mail authors provide evidence that "the normal processes of peer review and objective scientific evaluation that might ordinarily lead to 'consensus' have been shown to be so fundamentally degraded by collusion, intimidation, and deception that no one can seriously contend that any consensus [about anthropogenic climate change] exists at this time."

The Southeastern Legal Foundation argues that the CRU e-mail authors' intimidation tactics have caused other journal editors to be concerned about the risk to their careers from allowing publication of anything contrary to the views of these scientists. The Southeastern Legal Foundation states that "it can be difficult to distinguish 'consensus' from enforced doctrinal orthodoxy," quoting John Christy of the University of Alabama:

> These people act in concert to diminish, reject, and otherwise denigrate findings with which they do not agree -- and they are able to do so because of their "establishment" positions. This is the preservation of "group think" at its most serious level.... The group represented by the bulk of these e-mails does indeed have a message to defend. Those of us who see problems with that message are aware of how the data are manufactured and interpreted to support that message -- and worse, how these establishment scientists act as gatekeepers for the "consensus" reports to suppress alternative findings. [Hake, 2009]

The Southeastern Legal Foundation asserts that the CRU e-mail authors "manipulated the scientific literature to purge any and all contrary opinions" and that this suppression of contrary

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opinions has resulted in bias in the type of papers cited in the IPCC reports and other major assessments, and which were relied upon by EPA in making the Endangerment Finding. The petitioner quotes Pat Michaels in support of this argument:

> When scientists make putative compendia of that literature, such as is done by the U.N. climate change panel every six years, the writers assume that the peer-reviewed literature is a true and unbiased sample of the state of climate science. That can no longer be the case. The alliance of scientists at East Anglia, Penn State, and the University Corporation for Atmospheric Research (in Boulder, Colo.) has done its best to bias it. [Michaels, 2009]

The Pacific Legal Foundation claims that the CRU e-mails "appear to call into question the credibility of the peer review process" and argues that that EPA's Scientific Advisory Board should be given the opportunity to examine the CRU e-mails and determine if there was scientific misconduct that would undermine the science on which the Endangerment Finding was based. The Competitive Enterprise Institute claims that "the IPCC scientific review process has a systematic bias of an unknowable magnitude in favor of human-induced warming. Consequently, the EPA Endangerment Finding is severely undermined by a systematic bias of an unknowable magnitude in favor of human-induced warming."

The petitioners argue that the Endangerment Finding should be reconsidered because the peer-reviewed literature on which it relies has been biased in favor of views supporting anthropogenic climate change and does not reflect a true consensus regarding anthropogenic climate change.

Response (3-28):

We respond to petitioners' specific arguments regarding the peer review process, journal editors, and journal publication practices in Sections 3.3.2–3.3.4 of this Volume of the RTP document. In our responses, we discuss the fact the evidence relied upon by petitioner is limited in nature, involves at most a few articles and the journals involved, that this evidence is often taken out of context and does not support the claims made by petitioners of unethical, or inappropriate actions taken against journals or their editors, or an attempt to prevent contrary opinions from entering the literature. Petitioners do not identify papers that were not, but should have been, published because of their scientific merit, and petitioners do not make any scientific arguments about the limited number of papers at issue. Southeastern Legal Foundation's claim that journal editors would be concerned about the risk to their careers from publishing opposing science is not substantiated by the evidence. Southeastern Legal Foundation's sole support for this allegation is the personal opinions of Pat Michaels and John Christy. These statements of opinion, however, do not demonstrate or substantiate the petitioner's claim that CRU scientists "manipulated the scientific literature." In addition, as discussed in the preceding response (3-27), the scientific literature is not one-sided and includes a wide variety of perspectives about climate change.

The evidence presented by petitioners does not support the claims that the CRU e-mail authors acted as "gatekeepers" to the literature to advance their views or were motivated by an activist agenda. As discussed in detail in our previous response (3-23), the CRU scientists identified what they believed was flawed science in specific papers, and responded by publishing peer-

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reviewed, scientific rebuttals in professional journals. This is standard practice in the scientific community and in no way constitutes bias in the literature. The evidence does not support the claims that the content and substance of the body of peer-reviewed literature on climate change was manipulated by the CRU email authors.

The statement from John Christy provided by the Southeastern Legal Foundation (that "data are manufactured and interpreted to support [a] message [of anthropogenic climate change]") is an assertion; it contains no evidence of the claimed data manipulation. We respond to similar arguments that question the accuracy and credibility of the science in Volume 1 of this RTP document. The scientific issues petitioners claim were hidden or presented in a biased manner were in fact fully and comprehensively discussed in the assessment reports. Our responses to the science issues contained in Volume 1 make this clear. The evidence we have examined does not call into question any of the fundamental conclusions of climate science research.

Finally, our notice and comment process on the Endangerment Finding was designed to ensure that EPA received information from all points of view. We received over 380,000 comments, including hundreds of references to literature and reports for our consideration. This material was reviewed and responded to in the 11 volumes of the RTC document for the Endangerment Finding. The notion that EPA did not consider the full range of scientific views is thus simply incorrect. The objections raised by the petitioner do not support changing EPA's conclusion that the science supporting the Endangerment Finding is robust, is compelling, and has been appropriately characterized by EPA.

Comment (3-29):
The State of Texas claims that the CRU e-mails "reveal a cadre of activist scientists colluding and scheming to advance what they *want* the science to be, even where the empirical data suggest a different outcome." The State of Texas concludes that the CRU e-mails "reflect a concerted effort to advance a specific scientific theory—or perhaps more appropriately a scientific cause—rather than to reach the objective truth. That is, the e-mails that have been released indicate that the scientists were more concerned with advancing their agenda than with obtaining the objective results required by the OMB and EPA guidelines."

The State of Texas also claims that the CRU e-mail authors were opposed to the publication of dissenting views because they "had long maligned their skeptical opponents' positions by arguing that the opposition's research had not been published by a peer-reviewed journal and could therefore not be trusted." The State of Texas argues that the CRU e-mail authors were worried that any publication of dissenting views gave support to "skeptics", quoting as evidence an e-mail from Phil Jones: "I think the skeptics will use this paper to their own ends and it will set paleo [climate science] back a number of years if it goes unchallenged.[53]" The petitioner argues that the Endangerment Finding should be reconsidered because it relies on peer-reviewed literature, which is biased in favor of views supporting anthropogenic climate change and does not reflect the true state of the science.

[53] E-mail file 1047388489.txt (March 11, 2003), page 456, line 30 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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Response (3-29):
The State of Texas claims that the CRU e-mail authors' scientific judgments regarding anthropogenic climate change are unsupported by "empirical data." We respond to similar arguments that question the accuracy and credibility of the science in Volume 1 of this RTP document. The scientific issues petitioners claim were hidden or presented in a biased manner were in fact fully and comprehensively discussed in the assessment reports, and include appropriate characterization of the degree of certainty around any conclusion. The evidence EPA has examined does not call into question any of the fundamental conclusions of climate science research.

The State of Texas argues that the CRU scientists were opposed to certain publications solely on ideological grounds, but the evidence does not support the petitioner's claim. The petitioner quotes an e-mail from Phil Jones that refers to the controversial Soon and Baliunas (2003) paper published in the journal *Climate Research*. As described in our response (3-23) above, the publication of this paper revealed problems with the journal's peer review process, which eventually resulted in the resignation of three people on the editorial board. The publisher of *Climate Research* later admitted that the Soon and Baliunas paper was flawed and should not have been published (Kinne, 2003). Scientists, including Jones, did no more than challenge the scientific validity of the Soon and Baliunas (2003) paper, which is an appropriate response within the scientific community and appears scientifically warranted in this case. Petitioners make no arguments that the scientific challenges were incorrect.

As stated in the above responses (3-23 and 3-24), scientists are justified in challenging or opposing—on scientific and factual grounds—any research that they believe is flawed. This is true regardless of whether the research had been published in a peer-reviewed journal, but is particularly so if a scientist has reason to believe that flawed science made it through the peer review process, which exists for the express purpose of ensuring scientific integrity of published research. It is well within the norms of the scientific community to write comments or responses and otherwise challenge published journal articles if one can demonstrate that there are scientific insufficiencies. The State of Texas implies that the CRU e-mail authors did not have scientific and factual grounds on which to oppose the publication of dissenting views; however, the petitioner does not provide evidence or even attempt to show that the critiques of "skeptics'" research were scientifically unjustified. In addition, the State of Texas implies that "skeptics'" research should have been or would have been published in peer-reviewed literature if not for the opposition of the CRU e-mail authors, but it does not provide any evidence or science-based analysis to support this argument.

In sum, the petitioners' evidence does not support their claim of actions to manipulate the content and substance of the peer-reviewed literature on climate change, nor does the evidence provided by the petitioner warrant EPA to question the conclusion that the science supporting the Endangerment Finding is robust, is compelling, and has been appropriately characterized by EPA.

Comment (3-30):

The Coalition for Responsible Regulation argues that "[p]rominent scientists have stated for years that their efforts to publish contrary science have been stifled and that they have seen their grant money dry up and research positions become unavailable to them. These same scientists claim they have been publicly ridiculed and their reputations made to suffer if they take issue with the supposed 'consensus' on the science (Carter, 2008)." The petitioner argues that because certain researchers have been unable to publish their research, the peer-reviewed literature is biased in favor of views supporting anthropogenic climate change and does not reflect the true state of the science.

Response (3-30):
The petitioner's evidence does not support its claim of broad, concerted efforts to exclude dissenting viewpoints that would in any way change our understanding of key climate change science. The petitioner makes accusations of "public ridicule" and harm to "skeptics'" professional reputations, citing an article by Robert Carter, an Australian professor at James Cook University, in which he argues against the evidence for anthropogenic climate change. It appears that the petitioner bases its claim on the following statement in Carter's article: "At the same time, unsolicited ad hominem attacks are made on qualified persons who espouse different views, and who are often disparaged as 'sceptics', 'deniers', or worse." Carter does not elaborate beyond this one statement, and there is no evidence presented to substantiate either Carter's or the Coalition for Responsible Regulation's claims.

The petitioner claims that scientists with opposing views of anthropogenic climate change faced difficulties securing grant money and research positions; however, these are common challenges faced by research scientists in all disciplines of scientific research. The existence of such challenges does not mean the body of scientific literature on climate change, which spans multiple scientific disciplines and reflects the research of thousands of scientists worldwide, is flawed or biased. The evidence does not support the petitioner's broad and sweeping conclusions about the merits of the broader body of scientific literature, and the arguments do not support changing EPA's conclusion that the science supporting the Endangerment Finding is robust, is compelling, and has been appropriately characterized by EPA.

3.3.6 Allegations of Intimidating Scientists and Those With Dissenting Views

Comment (3-31):
Peabody Energy claims that "The politics of climate research was enough to make at least one scientist contemplate leaving the field completely." The petitioner claims that Mann and other CRU colleagues engaged in "constant haranguing" about a manuscript submitted by Ed Cook regarding the Medieval Warm Period. The petitioner quotes part of an e-mail from Ed Cook to Keith Briffa, sent on September 10, 2001:

> I never wanted to get involved in this quixotic game of producing the next great NH [Northern Hemisphere] temperature reconstruction because of the professional politics and sensitivities involved. … This all reinforces my determination to leave this NH/global temperature reconstruction junk behind

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> me once I get this paper submitted. It's not worth the aggravation. However, the paper is something that I need to do for Jan. And I still think it is a good paper.[54]

Peabody Energy concludes that the goal of the CRU e-mail authors' "intimidation/bad-mouthing [was] to influence scientific development" and effectively prevent "dissenting scientific voices from being heard" in the climate science literature. Peabody Energy argues that the Endangerment Finding should be reconsidered because it relies on peer-reviewed literature, which is biased in favor of views supporting anthropogenic climate change and does not reflect the true breadth of the science.

Response (3-31):

We disagree with the petitioner's interpretation of this e-mail. Our review indicates that the context for this e-mail, which is not discussed by petitioner, was an e-mail discussion between Cook and Michael Mann and Keith Briffa, in which Mann and Briffa provided scientific feedback on a paper Cook was completing. The e-mails are provided below, and do not support the petitioner's charge that Cook suffered "constant haranguing." To the contrary, the e-mails reflect a professional exchange on how best to characterize a complex scientific issue:[55]

> Ed
> I still believe you are not showing sufficient comparisons with series besides the MBH [Mann, Bradley, and Hughes]; necessary to demonstrate the true extent of "new" information in this work. At the very least this needs to acknowledge that other (and other tree-ring-based) series are out there , that use at least some of the data you employ , and use the RCS method to process may of their constituent series - i.e. the Northern chronology series shown in my QSR [*Quaternary Science Reviews*] paper. What is similar and what is different in your series and this one? You give the impression here that you are using the RCS and new data to demonstrate the possibility of getting more low frequency signal from tree-ring data - but then you base this on a comparison with MBH only. Surely what is needed here is to establish WHY MBH don't get as much LIA [Little Ice Age]for example. By not showing that other tree-ring data that have also shown a LIA , and not exploring why MBH does not (despite using some of the same - and note -already RCS standardised data) is perhaps confusing rather than clarifying the issue. When we discussed this here, I also suggested the need to show separate "north" and more "south" curves ,separated in your data set, to try to get at least some handle on the independent expression of the centennial trends in a region south of the over-exploited northern network. At the very least it should be clearly stated that many of the site data used here and in previous work (see our Science perspectives piece) are common and other series already produce more low-frequency signal than is implied in MBH.
> Sorry for this rushed comment but I wanted to get this point over as we had talked about it before but you don't seem to have taken it on board.
> Cheers Keith [56]

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[54] E-mail file 1000154718.txt (September 10, 2001), page 389, line 17 of the PDF version entitled: CRU Emails 1996-2009.pdf.

[55] e.g., E-mail file 1000132513.txt (September 10, 2001), page 386, line 15, e-mail file 1000140042.txt (September 10, 2001), page 388, line 45, and e-mail file 1000168453.txt (September 10, 2001), page 390, line 26 of the PDF version entitled: CRU Emails 1996-2009.pdf.

[56] E-mail file 1000168453.txt (September 10, 2001), page 390, line 26 of the PDF version entitled: CRU Emails 1996-2009.pdf

Hi Ed,
Just to reiterate one more key point---Superimposing the two series and their uncertainties is not the whole story (although it is a definite improvement over just showing the two reconstructions on top of each other w/ know assessment of uncertainty). However, doing the above still only poses the question: apple +/- [uncertainty in apple] =? orange +/- [uncertainty in orange]

As we discussed in a previous e-mail exchange (based on the correlations you calculated between instrumental series w/ the trend removed) , the two reconstructions should probably only share about 60% or so variance in common in the best case scenario, where there is no uncertainty at all, owing simply to the differing target regions/season... So we need to be very careful w/ the following statement which you made in your previous e-mail: "If so, this would not mean that the series are not significantly different from each other. One can't dismiss the highly systematic differences at multi-centennial timescales quite so easily." I'm not sure you can justify that statement based on sound statistical reasoning! I agree w/ your following statement "Why these differences are there is the crux question."

However, I hope the discussion will accurately reflect the fact that the leading hypotheses to be rejected in answering that question are 1) random uncertainty in the two series owing to differing data quality and sampling, etc. can explain the difference and 2) systematic differences owing to differing target region and seasonality can explain any residual differences after (1). That may be a tough standard to beat, but it *is* the approach that Tom, Phil, Keith, and I have all been taking in addressing the issue of whether our different reconstructions are or are not inconsistent and the conclusion has in general been (see e.g. IPCC which was really a consensus of many of us, though admittedly only I was a lead author) that, despite notable differences in the low-frequency variability, the different reconstructions probably cannot be considered inconsistent given the uncertainties and differences in seasonality/spatial sampling. I have a hard time understanding why the same standard should not be applied to comparisons w/ your current reconstruction? Does your RCS reconstruction really not fall in the mix of all the other reconstructions? Is it truly an outlier w/ respect to Phil's, Tom's, MBH, and other existing N. hem reconstructions that are based on different seasonality and regional sampling???

We've probably had enough discussion now on this point, so I'll leave it to you to discuss the results in the way you see most fit, but I really hope you take the above points into account, in fairness to the previous work... I look forward to seeing the final manuscript in one form or another, in any case,
cheers,
mike[57]

These e-mails provide no basis for the petitioner's charges of intimidation, bad mouthing, and constant haranguing, or that these drove Cook out of this area of research. Cook has not left the field; he currently serves as the director of the Tree-Ring Laboratory at the Lamont-Doherty Earth Observatory at Columbia University. Although Cook may no longer work on this

[57] E-mail file 1000132513.txt (September 10, 2001), page 386, line 15 of the PDF version entitled: CRU Emails 1996-2009.pdf

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particular type of temperature reconstruction, there is no basis for the petitioner's assertion that this was because of improper actions by Mann and Briffa.

We disagree that the comments and critiques from Keith Briffa, Michael Mann, and others constitute "haranguing" or indicate that politics were tainting climate research. It is evident from the e-mails that the CRU scientists and their colleagues were providing detailed, science-based critiques of Cook's manuscript in an attempt to improve it. There is no indication that they were pressuring or threatening Cook. In fact, Mann clearly tells Cook, "I'll leave it to you to discuss the results in the way you see most fit".[58] We respond to the petitioner's scientific arguments regarding the paleoclimate reconstructions in the RTC document for the Endangerment Finding and in Volume 1 of this RTP document.

Comment (3-32):

Peabody Energy claims that "[d]iverging opinions were also left out of conferences and professional events" and that Michael Mann and Phil Jones acted to exclude "skeptic" scientists from such events. Peabody Energy quotes an e-mail sent by Mann to Jones on August 25, 2005, in which he refers to a conference invitee list that he has been sent, saying, "The last two on the list (w/ question marks) would be unwise choices because they are likely to cause conflict than to contribute to consensus and progress," to which Phil Jones responds, "I agree with Mike that the last two names on the list should be removed".[59] Peabody Energy then quotes another e-mail from Mann describing why he did not want to invite Zorita:

> I'm afraid I don't agree on Zorita. He has engaged in some very nasty, and in my opinion unprofessional e-mail exchanges with some close colleagues of mine who have established some fundamental undisclosed errors in work he co-published with von Storch. Given this, I don't believe he can be involved in constructive dialogue of the sort we're looking for at this workshop. There are some similarly problematic issues w/ Cubasch, who like von Storch, who has engaged in inflammatory and ad hominem public commentary. There is no room for that on any side of the debate.[60]

Peabody Energy concludes that the goal of the CRU e-mail authors' "intimidation/bad-mouthing [was] to influence scientific development" and effectively prevent "dissenting scientific voices from being heard" at conferences or in the climate science literature. Peabody Energy argues that the Endangerment Finding should be reconsidered because it relies on peer-reviewed literature, which is biased in favor of views supporting anthropogenic climate change and does not reflect the true breadth of the science.

Response (3-32):

[58] E-mail file 1000132513.txt (September 10, 2001), page 386, line 15 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[59] E-mail file 1124994521.txt (August 25, 2005), page 980, line 23 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[60] E-mail file 1125067952.txt (August 26, 2005), page 981, line 19 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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Peabody Energy's claim that there is a pattern of behavior of excluding "skeptic" scientists from conferences and professional events is based on a speculative interpretation of one e-mail chain involving one apparently by-invitation-only workshop. As conveners of the workshop, Mann, Jones, and the other workshop planners have every right to decide who to invite and why, based on their goals for the workshop. Peabody Energy claims that Zorita and Cubasch were not invited because they were "skeptic scientists," but Mann and Jones do not characterize them as such. Rather, the e-mail from Mann clearly indicates that he had concerns regarding the quality of their scientific work and their professional behavior. Mann makes a substantive comment that Zorita had "fundamental undisclosed errors" in a paper he co-authored, and that he was concerned neither of them would be constructive at the workshop.

The petitioner does not make any arguments based on the science, but projects a claim of bias to the breadth of the scientific literature based on one e-mail involving one invitation-only workshop. There is no discussion of the validity of the scientific work of the individuals at issue, or whether their work is reflected in the peer reviewed literature, or whether their work shows that the body of scientific evidence, when viewed as a whole, does not support the conclusions reached by EPA. Instead of basing arguments on the science, the petitioner relies on very limited evidence of one workshop to draw an unwarranted assumption of bias across the body of the scientific literature.

Comment (3-33):
Peabody Energy argues that Michael Mann engaged in "a pattern of scholarly intimidation" against those whose research challenged his own, and that this affected the way other researchers presented their results in journal articles. Peabody Energy quotes an e-mail sent on November 30, 2001, from Keith Briffa to an editor at the journal *Science* regarding a manuscript he reviewed:

> You will see that I think the work is genuinely interesting and potentially of wide significance. The bottom line is that you should publish this but the way the authors have chosen to present their results smacks of a lack of clarity of thought (and a lot of fudging!). I believe that they are more concerned with trying to temper their ideas so as not to "offend" Mann et al.[61]

The petitioner describes an e-mail exchange between Briffa and the authors of the manuscript, which Peabody Energy characterizes as "some less established paleoclimate researchers." Briffa states in this e-mail, "I think you will start a minor explosion - but that is what science needs.[62]" The researchers wrote back to offer Briffa a co-authorship on the paper; Peabody Energy asserts that they made this offer for protection from Mann, because Briffa, as a more well-established scientist, "could better shield them from" any backlash from Mann. Peabody Energy argues that this example demonstrates that scientists felt a "fear of reprisal from Mann."

[61] E-mail file 1014240346.txt (February 20, 2002), page 398, line 17 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[62] E-mail file 1066075033.txt (October 13, 2003), page 603, line 25 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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Peabody Energy concludes that the goal of the CRU e-mail authors' "intimidation/bad-mouthing [was] to influence scientific development" and effectively prevent "dissenting scientific voices from being heard" in the climate science literature. Peabody Energy argues that the Endangerment Finding should be reconsidered because it relies on peer-reviewed literature which is biased in favor of views supporting anthropogenic climate change and does not reflect the true breadth of the science.

Response (3-33):

This is another instance of the petitioner claiming that there is a pattern of behavior based on speculation and innuendo. The first e-mail offers one scientist's opinion on a manuscript, which he concludes has scientific merit and ought to be published. He offers his opinion that the research results could have been presented differently, but it is clear from the e-mail that he is not questioning the validity of the research findings themselves. The petitioner provides no analysis of the scientific content in the manuscript in question or evidence that Michael Mann played a material role in the decision to present the research findings any particular way. In fact, there is no evidence whatsoever that Mann had anything to do with the paper either before or after it was published. The petitioner quote parts of the e-mail exchange between Briffa and the authors of the manuscript in question (Jan Esper of the Swiss Federal Research Institute and Rob Wilson of the University of St. Andrews), but here we provide the e-mails in full to provide important context:

> Date: Mon, 13 Oct 2003 15:21:03 +0200
> To: Keith Briffa <k.briffa@xxxxxxxxx.xxx>
> From: Jan Esper <esper@xxxxxxxxx.xxx>
> Subject: minor explosion
> Cc: Wilson Rob <rjwilson_dendro@xxxxxxxxx.xxx>
> Hi Keith
> thank you for the message and the comments to the Siberia draft. We are intending to finalize a draft when Rob is coming over and we go on a sampling trip to the Bavarian Forest and E-Germany. We will then also discuss of data-overlap issue again and might include some extra figure with our record re-calculated (without Tornetraesk and Polar Ural). However, I (Jan) an not sure that we should have another figure with only the Mann and the (reduced) Esper series. Second, it seems that Mann used the density records from these two sites only (not ring width). Lets see. We would really like to send you the final draft, and ask you to become the fourth author? We ask this not only because of the "minor explosion" that might happen, but also because some of the arguments in the draft were made earlier by you anyway. What do you think?
> Take care
> Jan and Dave
>
> Jan
> with respect to the overlap problem we could agree to differ for now -I think the problem is much more in the earlier period anyway but I suggest you go ahead and submit it anyway. There are some minor wording points but nothing that affects the meaning. You know that in my opinion the recent similarity in the records is driven by instrumental data inclusion (or calibration against instrumental data) and that Mann's earlier data are strongly biased towards summer and northern land signals. I think you will start a minor explosion - but that is what science needs. I looked at your tree-line data and thought them very interesting. In my opinion the way you directed the interpretation was what

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drew your criticisms. For a climate journal you should have been pointing out the complicated regional responses (to the temperature record) rather than trying to state a simple overall response. The data are clearly important and you should have no trouble publishing them if you rethink the approach to the description (no work needed). I think Boreas or Arctic and Alpine Res. are better targets though. I enjoyed the discussions also and it is frustrating not to be able to get up to speed with your other projects. I will get back to you when I have looked more at the idea of the big review paper.
the very best to you and all
Keith

At 09:55 AM 10/8/03 +0200, Jan Esper wrote:

Hi Keith
with respect to our EOS draft, I am still thinking about the data overlap argument you made.
1. I still believe that the overlap is not that significant, and that the significance is changing dramatically with time (less in more recent centuries).
2. With respect to the aim of the paper, we do NOT intend to explain the similarity between the records. We rather address that the recons differ in the lower frequency domains AND are much more similar in the higher frequency domains. I believe that this is crucial. (One could also say that we only address the dissimilarity, and the arguments related to that.)
I appreciated the discussions we had very, very much (especially the one in the night before the official meeting).
Take care
Jan[63]

This e-mail exchange clearly shows that Briffa made substantive contributions to the manuscript, which would warrant the courtesy of offering co-authorship. As the petitioner acknowledges, Briffa did not accept the co-authorship, the paper was published, and there is no evidence of any "backlash" from Mann. These subsequent events demonstrate that the petitioner's speculative claim of "fear of reprisal" was unfounded.

Beyond these e-mails, Peabody Energy provides no evidence to support their claim that Mann engaged in a "pattern of scholarly intimidation," implying that an unknown number of journal articles may have been affected by one scientist's purported actions. This allegation is not supported by evidence, but relies on unwarranted speculation and assumptions based on this e-mail exchange involving only one of thousands of papers that compose the body of scientific literature on climate change, and for this one paper there was publication and no apparent reprisal or other activity. To claim, as the petitioner does, that concerns raised concerning this one paper could somehow bias the vast wealth of climate change studies or call into question the overall conclusions reached from those thousands of papers is unwarranted speculation and unsupported. This example and the objections raised by the petitioner provide no basis for changing EPA's conclusion that the science supporting the Endangerment Finding is robust, is compelling, and has been appropriately characterized by EPA.

[63] E-mail file 1066075033.txt (October 13, 2003), page 603, line 25 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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Comment (3-34):
Peabody Energy claims that Michael Mann and Tom Wigley in particular "resorted to admonishment of those they disagreed with." Peabody Energy cites the example of Mexican climate researcher Jorge Sánchez-Sesma, who, in an e-mail to Phil Jones sent December 3, 2004, said that he met Mann at a conference. According to Peabody Energy, "at first Mann was 'very kind,' but when Mann found out Sánchez-Sesma's work ran counter to some of Mann's conclusions, Mann 'changed his attitude.'"[64]

In addition, Peabody Energy claims that Michael Mann "continued his battle" against climate change "skeptics" like Stephen McIntyre and Ross McKitrick in the press, quoting an e-mail from Mann to New York Times reporter Andy Revkin, sent on February 8, 2005:

> The McIntyre and McKitrick paper is pure scientific fraud. I think you'll find this reinforced by just about any legitimate scientist in our field you discuss this with. To recap, I hope you don't mention MM [McIntyre and McKitrick] at all. It really doesn't deserve any additional publicity.[65]

Peabody Energy also claims that Tom Wigley engaged in character assassination of two highly credentialed scientists—John Christy and Chris de Freitas—in an attempt to ruin their careers. As evidence, Peabody Energy quotes the following e-mail from Wigley, sent on August 19, 2003:

> Jim Titus mentioned to me that in the legal profession here people are disbarred for behavior like that of De Freitas (and even John Christy -- although this is a more subtle case). We cannot do that of course, but we can alert the community of honest scientists to such behavior and formally discredit these people.[66]

Peabody Energy concludes that the goal of the CRU e-mail authors' "intimidation/bad-mouthing [was] to influence scientific development" and effectively prevent "dissenting scientific voices from being heard" at conferences or in the climate science literature. Peabody Energy argues that the Endangerment Finding should be reconsidered because it relies on peer-reviewed literature, which is biased in favor of views supporting anthropogenic climate change and does not reflect the true breadth of the science.

Response (3-34):
The petitioner uses language such as "admonished," "battled," "engaged in character assassination," and "intimidation/bad mouthing" in an attempt to demonstrate that two scientists, Michael Mann and Tom Wigley, improperly biased the peer reviewed literature, making the body of peer reviewed literature unreliable. Examination of the petitioner's argument does not support their claims. With respect to interaction between Mann and Jorge Sánchez-Sesma, we

[64] E-mail file 1079384474.txt (March 15, 2004), page 661, line 45 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[65] E-mail file 1107899057.txt (February 8, 2005), page 825, line 31 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[66] E-mail file 1061298033.txt (August 19, 2003), page 566, line 15 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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provide the full e-mail that Sánchez-Sesma sent to Phil Jones, in which he described his interaction with Michael Mann:

> Dear Dr. Jones: I am very happy because I went to a Workshop in Kona Hawaii (with support of NASA-CRCES [National Aeronautics and Space Administration–Center for Research on the Changing Earth System] after to gain a contest with a review paper about global temperature reconstructions, it was a different version of the paper that you have read). There I met with Dr. Michael Mann. Mann was very kind with me, however when he did know my work he changed his attitude. I met there also Dr. Hans von Starch who presented a global temperature reconstructions with a AOCGCM [atmosphere-ocean coupled general circulation model] with natural and anthropogenic forcings. His results agree more or less with ECS, and my results. i am in contact with the GKSS group in order to compare and share information. However, the key point of my studies, as you have pointed out, is to justify that the background Ice Acidity (without volcanic activity) from polar caps could be considered as a proxy. I have contacted Dr. Hammer and Dr. Crowley to have information and advice. In order continue this kind of studies I would like to propose you again (as we have tried last year) to ask support the AMC (Mexican Academy of Sciences) to support a visit to CRU UEA next year to continue my work, with your help and advice, about global temperature for the Holocene. I will need only an official invitation for my visit. It would be in March 2005 for 3 or 4 weeks. Also, I am asking support to travel to Japan this year (this fall), however I would like to stop in England a week, in order to visit CRU-UEA and to continue our collaboration. I would like to know your opinion, cheers, Jorge[67]

The quote from Sánchez-Sesma"Jorge—"he changed his attitude"—is unclear; there is no substantive information in the e-mail to determine what it means. Assuming Mann did change his attitude to some degree, the petitioners' evidence does not show that he acted in a way that had any negative consequences for Sánchez-Sesma. In fact, it is clear from the full e-mail that Sánchez-Sesma was "very happy" with the workshop, and it appears that his brief contact with Mann did not adversely affect his experience there.

Regarding the e-mail from Michael Mann to Andy Revkin, Mann's statements reflect his scientific judgment that the McIntyre and McKitrick (2005) paper was flawed. As discussed thoroughly in our previous responses (e.g., 3-23), it is entirely acceptable and appropriate for scientists to express their opinions and challenge papers that they believe are scientifically flawed. It was on this basis that Mann recommended that McIntyre and McKitrick were not worth interviewing because their paper was flawed. In any case this e-mail concerns discussions with a journalist, and have no bearing on the publication of peer-reviewed literature in journals. We note that we have responded to the scientific arguments presented in McIntyre and McKitrick (2005) as well as numerous other issues related to paleoclimatic reconstructions, both in the RTC document for the Endangerment Finding and in Volume 1 of this RTP document.

Regarding the allegations of "character assassination," the full e-mail sent on August 19, 2003, by Tom Wigley provides context for his statements:

[67] E-mail file 1079384474.txt (March 15, 2004), page 661, line 45 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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> Andre, I have been closely involved in the CR [Climate Research] fiasco. I have had papers that I refereed (and soundly rejected), under De Freitas's editorship, appear later in the journal -- without me seeing any response from the authors. As I have said before to others, his strategy is first to use mainly referees that are in the anti-greenhouse community, and second, if a paper is rejected, to ignore that review and seek another more 'sympathic' reviewer. In the second case he can then (with enough reviews) claim that the honest review was an outlier. I agree that an ethics committee is needed and I would be happy to serve on such a committee. It would have to have endorsement by international societies, like Roy. Soc., US Nat. Acad., Acad. Europ., plus RMS, AMS [American Meteorological Society], AGU, etc. Jim Titus mentioned to me that in the legal profession here people are disbarred for behavior like that of De Freitas (and even John Christy -- although this is a more subtle case). We cannot do that of course, but we can alert the community of honest scientists to such behavior and formally discredit these people. The Danish Acad. did something like this recently, but were not entirely successful. In the meantime, I urge people to dissociate themselves from Climate Research. The residual 'editorial' (a word I use almost tongue in cheek) board is looking like a rogues' gallery of skeptics. Those remaining who are credible scientists should resign.
> Tom.[68]

Wigely's e-mail refers to the decision by an editor at *Climate Research*, Chris de Freitas, to publish the controversial Soon and Baliunas (2003) paper. As described in our response (3-23) above, the publication of this paper revealed problems with the journal's peer review process. The publisher of *Climate Research* later admitted that the Soon and Baliunas paper was flawed and should not have been published (Kinne, 2003). Clearly, scientists, including Wigley, were justified in challenging the scientific merit of the Soon and Baliunas (2003) paper and to question the process that enabled such a paper to be published. It is clear from the e-mail that Wigley believed that Chris de Freitas acted in a way that was contrary to the practice of good science. Like anyone else, Wigley is entitled to speak his mind in personal communications to colleagues. To raise legitimate questions of scientific validity is not "character assassination," nor are such actions unethical, or otherwise outside the norms of scientific practice. In sum, the evidence presented does not support the arguments and broad conclusions drawn by petitioners.

3.3.7 Summary

The petitioners rely upon a small number of papers and other circumstances to claim that leading climate scientists successfully conspired to keep dissenting views of climate change out of the broad body of peer-reviewed literature and create an artificial consensus about anthropogenic climate change. They claim these e-mails show the broad body of scientific literature is biased and can not credibly be relied upon to make an Endangerment Finding. The examples proved by petitioners are extremely limited, and involve a small number of papers and a few specific situations. In all cases it appears the scientists involved were basically making their scientific objections known, and were basing their objections on the science and not on assumptions or speculation. The evidence presented by petitioners does not support their claims of bias, either

[68] E-mail file 1061298033.txt (August 19, 2003), page 566, line 15 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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for the specific papers and individuals at issue, or for the much broader and sweeping challenges made concerning the integrity of all peer-reviewed climate literature.
The arguments made of a biased peer review process relies on speculation and subjective interpretations of quotes from the CRU e-mails, which are typically taken out of context, and involve a very small number of papers and situations. The e-mails themselves do not support the claims and conclusions drawn by petitioners, either for those specific papers and situations, or for the broader peer reviewed literature petitioners contest. Petitioners' claims are not based on scientific analysis or arguments, and their evidence does not support changing or revising EPA's use of the major assessments of peer-reviewed literature or the overall scientific conclusions about climate change reached from the thousands of papers considered in the assessments. The objections raised by the petitioner have not called into question or changed EPA's conclusion that the science supporting the Endangerment Finding is robust, is compelling, and has been appropriately characterized by EPA.

3.4 Issues Concerning Freedom of Information Act Requests

3.4.1 Overview

Several petitioners (the Coalition for Responsible Regulation, the Ohio Coal Association, the Pacific Legal Foundation, Peabody Energy, the Southeastern Legal Foundation, the State of Texas) claim that the CRU e-mails provide evidence that leading climate scientists did not conduct their research in a fully transparent manner and did not appropriately respond to UK Freedom of Information (FOI) and U.S. Freedom of Information Act (FOIA) requests. Specifically, the petitioners argue that these scientists deliberately withheld key data and computer programming codes and attempted to obstruct or avoid FOI/FOIA requests from "climate skeptics."

Our review of the CRU emails indicates that in many cases, the data at issue were released by the scientists, including data concerning a human "fingerprint" in the tropics, data underlying the HadCRUT temperature record, and data concerning historic temperature reconstructions. In addition, significant data were also publicly available. Petitioners have not explained or shown why the amount of data and other information that was available was not adequate for researchers to replicate or otherwise evaluate key findings, or to conduct other research. In addition, there was a robust and public process to submit, review, and publicly respond to comments on the scientific issues involved in all parts of the IPCC AR4. Petitioners do not rely on science or science based arguments to support their claim that the assessment report resulting from this robust process should not be relied upon by EPA. Instead, they rely on unsupported conclusions drawn from e-mails concerning a FOI request for personal communications between various scientists, where it appears that the appropriate University FOI officers had determined that these emails were exempt from release. This evidence does not support petitioners' claims that the IPCC AR4 should not be considered as part of the scientific basis for the Endangerment Finding.

EPA agrees with the results of the various investigations, which found that the scientists at issue conducted their research with scientific integrity and rigor, the research utilized methods which are fair and satisfactory, and that their actions were consistent with the common practice in

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climate research at that time. EPA also agrees with the recommendations of the Independent Climate Change E-mails Review supporting greater transparency in the future in this area of climate research. Petitioners' evidence, however, does not support their conclusions that the research produced by these scientists was suspect, flawed, or biased, or that the AR4 or other assessment reports were suspect, flawed, or biased. Their evidence does not support the conclusion that the science at issue should not be relied upon by EPA. Greater transparency in the future will facilitate scientific research; however, concluding that greater transparency would be helpful for a particular element of climate change science is not the equivalent of providing evidence that the scientific basis for EPA's Endangerment Finding is flawed.

The following sections provide our response to petitioners' specific arguments. Section 3.4.2 deals with claims that the CRU e-mail authors refused requests to make their data, computer programming codes, and other information on which some of their research was based publicly available, and inappropriately limited other researchers' ability to replicate and verify results. Section 3.4.3 addresses claims of improper conduct with regard to UK FOI and U.S. FOIA laws, including general non-compliance allegations, allegations regarding a specific FOI request related to the IPCC, and allegations of improperly influencing University FOI officials. Finally, Section 3.4.4 summarizes our response to these issues.

3.4.2 Allegations of Withholding Key Data and Information

Comment (3-35):
The Southeastern Legal Foundation claims that "three prominent British scientific organizations have condemned the practices of top IPCC climate scientists as revealed by the Climategate documents [i.e., the CRU e-mails]." The group provides quotes from the Institute of Physics, the Royal Society of Chemistry (RSC), and the Royal Statistical Society (RSS) taken from statements submitted to the UK House of Commons Science and Technology Committee (2010a) during its investigation of the CRU e-mails. The Southeastern Legal Foundation states that these three organizations "concluded that the refusal of the CRU researchers to disclose their data and methods was contrary to the scientific method and cast doubt on the integrity of their research." In addition, the petitioner highlights the organizations' statements regarding data availability, stating that they call for the "data and methods of climate research to be made freely available as required by the canons of the scientific method." On the basis of these statements, the Southeastern Legal Foundation concludes that the CRU e-mails have "grave implications for the integrity of the science upon which the IPCC's reporting is based" and that "EPA cannot dismiss the conclusions of institutions having the prestige and reputation of the Institute of Physics, the Royal Society of Chemistry, and the Royal Statistical Society."

Response (3-35):
During the UK House of Commons Science and Technology Committee's investigation of the CRU e-mails, it accepted written evidence regarding the following questions:

1. What are the implications of the disclosures for the integrity of scientific research?
2. Are the terms of reference and scope of the Independent Review announced on 3 December 2009 by UEA adequate?
3. How independent are the other two international datasets?

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In addition, the UK House of Commons Science and Technology Committee held one oral evidence session to take information from the following five panels:

1. The Right Honourable Lord Lawson of Blaby, Chairman, and Dr. Benny Peiser, Director, Global Warming Policy Foundation.
2. Richard Thomas Commander of the Order of the British Empire, former Information Commissioner.
3. Professor Edward Acton, Vice-Chancellor at UEA, and Professor Phil Jones, Director of CRU.
4. Sir Muir Russell, Head of the Independent Climate Change E-Mails Review.
5. Professor John Beddington, Government Chief Scientific Adviser; Professor Julia Slingo Officer of the Order of the British Empire, Chief Scientist, UK Met Office; and Professor Bob Watson, Chief Scientist, Department for Environment, Food and Rural Affairs.

The Committee received 57 submissions of written evidence (see UK House of Commons Science and Technology Committee, 2010a). The petitioner cites selective quotes from only three of these submissions. The full transcripts of the three statements discussed by the petitioner are provided in the reference document entitled, "Memoranda Submitted to the UK House of Commons Science and Technology Committee Investigation" in the docket (http://www.regulations.gov, Docket ID EPA-HQ-OAR-2009-0171). We respond to the petitioner's allegations with regard to the three submissions below.

First, the petitioner mischaracterizes or exaggerates the statements from the Institute of Physics, the RSC, and the RSS to claim that they "condemned the practices of top IPCC climate scientists." The Institute of Physics states that there is "reason for concern" as well as "a need for a review of [the] adequacy and objectivity" of the peer-review process (Institute of Physics, 2010). The institute also states its opinion that further inquiry into the implications of the CRU e-mails on scientific integrity is warranted. Contrary to the petitioner's claims, however, the institute does not assume misconduct or wrongdoing on the part of the CRU e-mail authors, nor does it "condemn" their work.

The RSC states that the CRU e-mails have been "widely portrayed as an indication of a lack of integrity in scientific research," but the RSC itself does not state or conclude that there has been lack of integrity in climate science research (RSC, 2010). The RSC statement does not have language that represents a condemnation of IPCC climate scientists. Similarly, the RSS discusses in detail its arguments for placing climate change data, analysis methods, and models in the public domain, but does not condemn the work of IPCC scientists nor allege a lack of integrity in climate science research.

Second, the petitioner exaggerates the organizations' statements when it states that the organizations agree that the CRU e-mails "cast doubt on the integrity of their research." The Institute of Physics states that questions have been raised about the integrity of some historic temperature reconstructions and the way in which they have been graphically represented by entities such as the IPCC. It is misleading and inaccurate to interpret this statement—which states that "questions have been raised" but does not take a position on the merits of the issue—as casting doubt on all of the research conducted throughout the years by the CRU e-mail authors.

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The RSC describes the implications of "[a] lack of willingness to disseminate scientific information" in general or hypothetical terms, without making claims or drawing conclusions about CRU researchers or their work. In addition, in part of the statement not quoted by the petitioner, the RSC highlights the importance of transparency and valid science on both sides of the climate change debate (point 10 in their submission):

> 10. The issue of misinformation in the public domain must also be tackled. Just as the scientific community must be open with regard to their evidence base, those who disagree must also provide a clear and verifiable backing for their argument, if they wish their opinions to be given weight. When disagreements occur, the validity of the analysis must be established before credence can be given to any opinion. Increased understanding of the process of scientific research, firstly in the government, but also within the media and general public, is vital in order to foster a more open sharing of information.

Similarly, the RSS makes broad statements and recommendations about the importance of open access to data without making claims or drawing conclusions about CRU researchers or their work. In part of the statement not quoted by the petitioner, the RSS also discusses important caveats to its position that raw data and associated metadata used for scientific analyses should be publicly available within reason (point 8 in their statement):

> 8. It is also clearly unreasonable to require that any given scientist having published some research is then condemned to answer each and every question that might possibly arise from it. For example, requests under the Freedom of Information act or the Environmental Information Regulations could overwhelm small groups of scientists. To avoid this it is best if data are stored in data centres that are professionally run and properly funded.

These statements from the Institute of Physics, RSC, or RSS do not constitute agreement that the integrity of CRU e-mail authors' research is now in question. We note that the Institute of Physics, the RSC, and the RSS are offering their opinions on the questions posed to them by the UK House of Commons Science and Technology Committee. Neither the Institute of Physics, the RSC, nor the RSS have been involved in the three recent inquiries and investigations into the CRU e-mails that carefully examined the full body of evidence with regard to the allegations against CRU: 1) the UK House of Commons Science and Technology Committee investigation; 2) the Scientific Appraisal Panel review; and 3) the Independent Climate Change E-mails Review.

Beyond reading the text of the e-mails, none of the organizations indicated that they had conducted any detailed review of the broader context for the events described in the CRU e-mails. These organizations' statements were written in February 2010, before the conclusions of any of the three recent investigations were published. The petitioner claims that the statements from the Institute of Physics, RSC, and RSS challenge the scientific research advanced by CRU scientists and by extension the science on which EPA relied, but does not cite any of the conclusions of the independent investigations that carefully examined the full body of evidence.

In contrast to the general statements from the Institute of Physics, RSC, and RSS, the UK House of Commons Science and Technology Committee investigation examined written and oral

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evidence from numerous witnesses on both sides of the issue and examined the facts of the issues. Their report made the following broad conclusions:

- The focus on Professor Jones and CRU has been largely misplaced. On the accusations relating to Professor Jones's refusal to share raw data and computer codes, we consider that his actions were in line with common practice in the climate science community. We have suggested that the community consider becoming more transparent by publishing raw data and detailed methodologies. On accusations relating to Freedom of Information, we consider that much of the responsibility should lie with UEA, not CRU.
- In addition, insofar as we have been able to consider accusations of dishonesty—for example, Professor Jones's alleged attempt to "hide the decline"—we consider that there is no case to answer. Within our limited inquiry and the evidence we took, the scientific reputation of Professor Jones and CRU remains intact. We have found no reason in this unfortunate episode to challenge the scientific consensus as expressed by Professor Beddington, that "global warming is happening [and] that it is induced by human activity". It was not our purpose to examine, nor did we seek evidence on, the science produced by CRU. It will be for the Scientific Appraisal Panel to look in detail into all the evidence to determine whether or not the consensus view remains valid (UK House of Commons Science Technology Committee, 2010b).

The Scientific Appraisal Panel conducted a review of the science, examining criticism of CRU that "climatic data had been dishonestly selected, manipulated and/or presented to arrive at pre-determined conclusions that were not compatible with a fair interpretation of the original data." The inquiry involved an international panel of experts headed by Lord Oxburgh, and drew the following key conclusions:

- We saw no evidence of any deliberate scientific malpractice in any of the work of the Climatic Research Unit and had it been there we believe that it is likely that we would have detected it. Rather we found a small group of dedicated if slightly disorganised researchers who were ill-prepared for being the focus of public attention. As with many small research groups their internal procedures were rather informal.
- After reading publications and interviewing the senior staff of CRU in depth, we are satisfied that the CRU tree-ring work has been carried out with integrity, and that allegations of deliberate misrepresentation and unjustified selection of data are not valid. In the event CRU scientists were able to give convincing answers to our detailed questions about data choice, data handling and statistical methodology. The Unit freely admits that many data analyses they made in the past are superseded and they would not do things that way today.
- Like the work on tree rings, this work [temperatures from historical instrumental records] is strongly dependent on statistical analysis and our comments are essentially the same. Although there are certainly different ways of handling the data, some of which might be superior, as far as we can judge the methods which CRU has employed are fair and satisfactory. Particular attention was given to records that seemed anomalous and to establishing whether the anomaly was an artefact or the result of some natural process. There was also the challenge of dealing with gaps in otherwise high quality data series. In detailed discussion with the researchers we found them to be objective and dispassionate in their view of the data and their results, and there was no hint of tailoring results to a particular agenda. Their sole aim was to establish as robust a record of temperatures in recent centuries

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In addition, the Independent Climate Change E-mails Review found:

> Climate science is a matter of such global importance, that the highest standards of honesty, rigour and openness are needed in its conduct. On the specific allegations made against the behaviour of CRU scientists, we find that their rigour and honesty as scientists are not in doubt. In addition, we do not find that their behaviour has prejudiced the balance of advice given to policy makers. In particular, we did not find any evidence of behaviour that might undermine the conclusions of the IPCC assessments (Russell, 2010).

The three general statements selected by the petitioner do not support what they claim, and do not undermine the conclusions of the independent investigations quoted above that weighed substantially more information and evidence. We find that evidence provided by the petitioner does not contradict the conclusions of these investigations, which found that the CRU research was conducted with integrity and scientific rigor, without dishonesty, and their release of data was consistent with the common practices of the scientific community at that time.

Comment (3-36):
The State of Texas and Peabody Energy reference an article in *The Times* newspaper discussing the reaction of Professor John Beddington (Chief Scientific Advisor to the British Government) to the CRU e-mails. The State of Texas provides the following quote from Beddington: "I don't think it's healthy to dismiss proper skepticism. Science grows and improves in the light of criticism. There is a fundamental uncertainty about climate change prediction that can't be changed" (Webster, 2010). Peabody Energy provides the following quote from Beddington: "I think, wherever possible, we should try to ensure there is openness and that source material is available for the whole scientific community" (Webster, 2010). The petitioners use these quotes to substantiate their claim that the CRU e-mail authors obstructed the normal process of scientific inquiry by withholding information necessary for replicating key studies, so that by extension, the science on which EPA relied for the Endangerment Findings has been called into question.

Response (3-36):
Professor John Beddington's opinions as quoted from a newspaper article do not provide evidence that supports the petitioner's allegation that the CRU e-mail authors withheld data necessary for replicating key studies. Beddington is simply stating his view that the climate scientists, in addition to the whole scientific community, should make more concerted efforts to ensure data availability. The petitioners' evidence does not show that the CRU e-mail authors engaged in any actions that were unethical or outside of the norms of scientific practice. As discussed in our response (3-35) above, the CRU e-mail authors acted in line with common practice in the climate science community.

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In addition, we note that Professor Beddington elaborated more fully on his views in his written evidence to the UK House of Commons Science and Technology Committee investigating the CRU e-mails. The relevant portion of his submission stated:

> Not withstanding the need for scientists to maintain a competitive position amongst their peers, protect intellectual property and in some cases protect confidentiality, scientists should, as a general principle, aim to ensure openness and transparency of their data, methods and results at the point of peer-reviewed publication. This allows independent expert scrutiny, challenge and repetition to confirm the validity of findings, all of which are fundamental to furthering scientific understanding. Equally, scientists should feel free to openly debate their work, as this process is also essential for the furthering of robust research (UK House of Commons Science and Technology Committee, 2010b).

In another relevant portion of Professor Beddington's written evidence, he states that the CRU e-mails have not altered our understanding of the basic science and the human contribution to climate change:

> It is important to emphasise that the evidence that the world is warming and that human activities are driving this change does not rest on the robustness or otherwise of a single temperature record. Basic physics shows that greenhouse gases absorb and re-emit long wave radiation emitted by the Earth, which warms the surface and lower atmosphere. The science underpinning this knowledge was performed over a century ago. We also know that human activities are releasing billions of tonnes of greenhouse gases - including carbon dioxide, methane, nitrous oxide and halocarbons - each year, which is increasing their concentration in the atmosphere.

The petitioners' evidence does not support their claim that the CRU scientists and their colleagues obstructed the normal process of scientific inquiry, nor does the article relied upon by the petitioners provide any other evidence that would cause EPA to question the scientific merits of these scientists' work. The evidence indicates that scientists commonly weigh several policies in deciding issues of release of data, such as the need for transparency, protection of intellectual property, and protection of confidentiality. As discussed below, in many cases data were already publicly available or were released by the scientists, and the scientific issues involved were the subject of robust and serious scientific debate, as explained in Volume 1 of the RTP document. Petitioners' evidence does not show that the scientific research produced by these scientists is in any way flawed or unreliable, and they make no science-based arguments to that effect.

Comment (3-37):

The Ohio Coal Association, Peabody Energy, and the Southeastern Legal Foundation point to CRU scientists' attempts to refuse an FOI request by scientist Willis Eschenbach to obtain land station data for the HadCRUT3 dataset (Eschenbach, 2009), which is a global surface temperature dataset based on measurements from both land stations and ships. The petitioners state that the request was first met with evasion, and only later it was eventually revealed that the CRU no longer had access to the raw data for their dataset. The Southeastern Legal Foundation goes one step further, claiming that the CRU e-mails "prove that the conspiracy to obstruct his requests went to the highest levels of climate science."

Response (3-37):

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The petitioners claim that the CRU scientists stonewalled FOI requests in order to prevent public access to critical climate information like the HadCRUT dataset. An extensive discussion of the availability of HadCRUT data was provided in Volume 2 of EPA's RTC document for the Endangerment Findings, and this issue is also discussed in Volume 1, Section 1.3.3.1 of this RTP document. As stated in those discussions, a limited amount of raw data from the HadCRUT dataset is no longer in CRU's possession; however, this does not impede the ability to check if the publically available data give the same results as the HadCRUT analysis, or that it changes the scientific validity of the analyses performed by the CRU. The HadCRUT dataset is publicly available as a value-added (i.e., quality-controlled and homogenized) dataset of global surface temperature data. Regarding the availability of the HadCRUT data, the Independent Climate Change E-mails Review (Russell, 2010) found that:

> On the allegation of withholding temperature data, we find that CRU was not in a position to withhold access to such data or tamper with it. We demonstrated that any independent researcher can download station data directly from primary sources and undertake their own temperature trend analysis.

The Independent Climate Change E-mails Review also noted that CRU eventually provided a list of station identifiers pursuant to the FOI request referenced by petitioners. Although the review notes this could have been accomplished in a more timely manner, the evidence does not support the argument of a "conspiracy to obstruct [Eschenbach's] requests." Petitioners' evidence provides no basis to question the reliability or integrity of the scientific research involving the HadCRUT dataset.

Comment (3-38):
Peabody Energy claims that Benjamin Santer of Lawrence Livermore National Laboratory attempted to avoid repeated informal requests for data as well as a formal U.S. FOIA request by Stephen McIntyre for data that were used in one of his papers. The data in question depicted evidence for a human "fingerprint" in the tropics, essentially showing that the tropical troposphere was warming as predicted by models. The petitioner claims that the lack of access to this data hampered efforts by other researchers to replicate and verify Santer's work, which was a key attribution study used in the IPCC AR4. Peabody Energy states that the data were eventually made public, but questions why "Santer could not have just released his data when McIntyre first requested it rather than attempting to stonewall it."

Response (3-38):
We respond to comments on the scientific validity of Santer's study regarding a human "fingerprint" in the tropics and the existence of multiple lines of evidence for human attribution of climate change in Section 1.2.1 of this RTP document.

The petitioner acknowledges that Santer subsequently provided the requested datasets and information, as well as additional information. In an e-mail written in December 2008 and sent to various colleagues, Santer states:

> …Over the past several weeks, I've had a number of discussions about the "FOIA issue" with PCMDI's [Program for Climate Model Diagnosis and Intercomparison] Director (Dave Bader), with other LLNL [Lawrence Livermore National Laboratory] colleagues,

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> and with colleagues outside of the Lab. Based on these discussions, I have decided to "publish" all of the climate model surface temperature time series and synthetic MSU time series (for the tropical lower troposphere [T2LT] and the tropical mid- to upper-troposphere [T2]) that we used in our International Journal of Climatology (IJoC) paper. This will involve putting these datasets through an internal "Review and Release" procedure, and then placing the datasets on PCMDI's publicly-accessible website. The website will also provide information on how synthetic Microwave Sounding Unit (MSU) temperatures were calculated, anomaly definition, analysis periods, etc. After publication of the model data, we will inform the "FOIA Point of Contact" that the information requested by McIntyre is publicly available for bona fide scientific research. Unfortunately, we cannot guard against intentional or unintentional misuse of these datasets by McIntyre or others. By publishing the T2, T2LT, and surface temperature data, we will be providing far more than the "Monthly average T2LT values" mentioned in McIntyre's FOIA request to DOE. This will make it difficult for McIntyre to continue making the bogus claim that he is being denied access to the climate model data necessary to evaluate the validity of our findings. All of the raw model output used in our IJoC paper are already available to Mr. McIntyre (as I informed him several months ago), as are the algorithms required to calculate synthetic MSU temperatures from raw model temperature data. I hope that "publication" of the synthetic MSU temperatures resolves this matter to the satisfaction of NNSA [National Nuclear Security Administration], DOE Headquarters, and LLNL. With best regards, Ben [69]

Petitioner makes no argument based on the science that Santer's analysis was incorrect scientifically. They do not claim that there has been any inability to use the released information for their research. Their sole argument concerns the timing of the release, and not the merits of the science. The petitioners' evidence does not provide any reason to question the scientific merits of these scientists' work.

Comment (3-39):

Peabody Energy argues that CRU scientists and their colleagues "hid from public view" information pertaining to key studies used in the IPCC AR4. The petitioner describes four examples in which it claims that authors of CRU e-mails refused to release requested information because they feared scientific criticism of their work. Two of the examples—the data underlying the HadCRUT temperature record and the data regarding a human "fingerprint" in the tropics—are discussed and responded to in the preceding comments (3-37 and 3-38). The two other examples are discussed below.

According to the petitioner, the first example of "stonewalling" requests for data occurred in the spring of 2003, when Michael Mann, professor at Pennsylvania State University, allegedly provided Stephen McIntyre, editor of the blog "Climate Audit," with an incorrect or incomplete dataset of the information used in Mann's "hockey stick" temperature reconstruction paper. McIntyre used the dataset to publish a paper in October 2003 with Ross McKitrick, professor at University of Guelph, which described errors in Mann's analysis. According to Peabody Energy, Mann responded in a tone that was "harshly negative" and accused McIntyre and McKitrick of making numerous errors and using some data other than what was used in the original analysis.

[69] E-mail file 1229468467.txt (December 16, 2008), page 1598, line 38 of the PDF version entitled: CRU Emails 1996-2009.pdf.

Peabody Energy quotes an e-mail from November 12, 2003, in which Tim Osborn, academic fellow at CRU, writes to Keith Briffa and Phil Jones of CRU and states that he wished Mann had waited to respond to the McIntyre and McKitrick paper by submitting a formal comment to a peer-reviewed journal.

Peabody Energy states that McIntyre and McKitrick then requested Mann's original source code, but their request was not granted. Peabody Energy notes that Mann referred to their requests as "intimidation tactics" in a February 14, 2005, *Wall Street Journal* article (Regalado, 2005). The petitioner also highlights a series of e-mails from Phil Jones to multiple colleagues, from which Peabody Energy draws the conclusion that Jones and his colleagues discussed providing "information that could not be used or not providing any information at all." In one of the e-mails quoted by Peabody Energy, Jones writes his opinions about the request from McIntyre and McKitrick:

> If the code is sent, there needs to be conditions. We don't want MM [McIntyre and McKitrick] to come out and say he can't get it to work after a few days. So, it is far some simple. I'm still against the code being given out. Mike has made the data available. That is all they should need. The method is detailed in the original paper - in the online (methods) and also in several other papers Mike has written.[70]

The petitioner cites a second example of "stonewalling" requests for data in the winter of 2004, when Stephen McIntyre made a request to Phil Jones for data underlying the Jones and Mann (2003) paper, which created a proxy temperature reconstruction that was cited in Chapter 6 of the IPCC AR4 (Jansen et al., 2007). Peabody Energy describes Jones as refusing the request despite obtaining approval from a colleague, Tas van Ommen of the Australian Arctic Division, to release his part of the dataset. The petitioner also cites an e-mail exchange between Jones and Mann about McIntyre's request, in which Mann stated that he would not provide information to McIntyre and encouraged Jones to do the same. Peabody Energy also quotes an e-mail from Jones to Mann from about a year later:

> I got this e-mail from McIntyre a few days ago. As far as I'm concerned he has the data — sent ages ago. I'll tell him this, but that's all — no code. If I can find it, it is likely to be hundreds of lines of uncommented fortran! I recall the program did a lot more that just average the series. I know why he can't replicate the results early on — it is because there was a variance correction for fewer series.[71]

The petitioner argues that these examples of ignoring data requests, in addition to other statements made by CRU scientists and their colleagues, are indicative of a pattern or typical practice of refusing to provide access to their data. Peabody Energy cites the following e-mail from Phil Jones to Tas van Ommen on February 9, 2004 as further evidence:

[70] E-mail file 1076083097.txt, (February 6, 2004), page 650, line 42 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[71] E-mail file 1114607213.txt, (April 27, 2005), page 866, line 31 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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> I had some e-mails with him a few years ago when he wanted to get all the station temperature data we use here in CRU. At that time, I hid behind the fact that some of the data had been received from individuals and not directly from Met Services through the Global Telecommunications Service (GTS) or through GCOS [Global Climate Observing System]… I'll just sit tight here and do nothing. Mike will likely do the same, but we'll expect another publication in the nearish future.[72]

Peabody Energy also cites the following e-mail from Phil Jones to Tas van Ommen and Caspar Ammann on May 7, 2004:

> Many of us in the paleo field get requests from skeptics (mainly a guy called Steve McIntyre in Canada) asking us for series. Mike and I are not sending anything, partly because we don't have some of the series he wants, also partly as we've got the data through contacts like you, but mostly because he'll distort and misuse them.[73]

Peabody Energy asserts that "the reason why these scientists refused to divulge underlying information was to avoid criticism of their work" and "Jones and Mann and their colleagues were obviously hostile to McIntyre and other 'skeptics' because of their disagreement with the conclusions those 'skeptics' might draw, saying the 'skeptics' would 'misuse' and 'distort' the data." As evidence, the petitioner quotes a comment Phil Jones made to Janice Lough of the Australian Institute of Marine Science: "Mike Mann refuses to talk to these people and I can understand why. They are just trying to find if we've done anything wrong." As further evidence, Peabody Energy also quotes two e-mails from Mann to Osborn as examples of CRU scientists' "acute hostility" to anyone associated with ClimateAudit:

> I'm saddened to hear that this bozo is bothering you too, in addition to NCAR [National Center for Atmospheric Research], NSF [National Science Foundation], NAS [National Academies of Science], IPCC and everyone else. Rest assured that I won't ever respond to McIntyre should he ever contact me, but I will forward you any e-mail he sends related to this. I assume Scott feels the same way... [74]

> hi tim. personally, I don't see why you should make any concessions for this moron.[75]

Peabody Energy states that "[T]his attitude is not consistent with good science…Research, particularly research of this immense importance, should be amenable to replication by anyone, regardless of whether they will draw different conclusions from the research than those producing the research would like." In support of this argument, Peabody Energy references the conclusions of a report commissioned by the U.S. House Committee on Energy and Commerce,

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[72] E-mail file 1076336623.txt, (February 9, 2004), page 652, line 6 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[73] E-mail file 1083962601.txt, (May 7, 2004), page 665, line 12 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[74] E-mail file 1146062963.txt, (April 26, 2006), page 1126, line 8 of the PDF version entitled: CRU Emails 1996-2009.pdf
[75] E-mail file 1147435800.txt, (May 12, 2006), page 1129, line 27 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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known as the "Wegman Report" (Wegman et al., 2006). Peabody quotes the following conclusion from the report:

> Sharing of research materials, data, and results is haphazard and often grudgingly done. We were especially struck by Dr. Mann's insistence that the code he developed was his intellectual property and that he could legally hold it personally without disclosing it to peers. When code and data are not shared and methodology is not disclosed, peers do not have the ability to replicate the work and thus independent verification is impossible.

Response (3-39):

First, the petitioner describes at length four interactions between the CRU e-mail authors and people requesting information. On the basis of these four examples, the petitioner concludes that CRU scientists and their colleagues repeatedly and consistently ignored data requests because they feared scientific review and critiques of their work. For two of these examples—the raw CRU temperature data and the tropical "fingerprint" data—we address the petitioner's concerns on this issue in responses 3-37 and 3-38 above, which shows that these information requests were not ignored and data was made or was available to the requestors. Regarding the other two examples—claims that Mike Mann and Phil Jones withheld paleoclimate data—we address the petitioner's concerns here.

The e-mails cited by the petitioner indicate that the scientists believed they had already provided enough data and information for others to be able to replicate their work by making the basic data publicly available and publishing the methodology for replicating a particular study in the literature. For example, Phil Jones states that "Mike [Mann] has made the data available. That is all they should need. The method is detailed in the original paper - in the online (methods) and also in several other papers Mike has written"[76]. The UK House of Commons Science and Technology Committee inquiry (2010b) found that this type of approach was considered common practice at the time. They stated:

> The focus on Professor Jones and CRU has been largely misplaced. On the accusations relating to Professor Jones's refusal to share raw data and computer codes, we consider that his actions were in line with common practice in the climate science community. We have suggested that the community consider becoming more transparent by publishing raw data and detailed methodologies.

From our review of the e-mails, it is clear that the scientists expressed significant frustration at repeated requests for specific explanations and computer codes, and that their attitudes toward some requestors were not always complimentary. This is consistent with the findings of the Independent Climate Change E-mails Review, which stated that the CRU scientists had an "overly defensive approach" and a tendency to provide unhelpful responses to requests for information (Russell, 2010). This is regrettable, and EPA agrees with the recommendations of the UK House of Commons Science and Technology Committee investigation and the Independent Climate Change E-mails Review that both CRU and the greater scientific

[76] E-mail file 1076083097.txt, (February 6, 2004), page 650, line 42 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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community should make more of an effort to provide public access to raw data and detailed methodologies.

However, we also find that the petitioner greatly exaggerates the implications of the alleged conduct of two scientists. The evidence they point to does not support their claims that the ability of other researchers to independently review or replicate paleoclimate studies has been limited, that their scientific conclusions are unsupported, or that these specific incidents are a sound basis on which to characterize the practices of hundreds, if not thousands, of scientists across the much broader body of climate science. These leaps of logic are not supported by sound reasoning or evidence. The evidence indicates the exercise of scientific rigor and honesty, and the release of information in accord with then common scientific practice. The petitioner has not explained why the data and methodology that was released or was otherwise available was inadequate for further research, and have not provided scientific arguments to support their claims. In addition, the "hockey stick" papers are more than a decade old. Since their publication, numerous studies have been published that improved on the original methodology and that include newer and different sources of data. Given this body of newer work, petitioner's concern over the construction of a decade old figure are of little if any scientific relevance. As discussed in Volume 1 of the RTP and elsewhere, there has been significant research and debate in the scientific community over a variety of proxy temperature reconstructions, and petitioner has not argued or shown here that this research was in error or that research opposing it was not performed or could not be performed because of data or coding allegedly withheld.

EPA agrees with the Independent Climate Change E-mails Review's recommendation of greater transparency in the future in this area of scientific research, but the evidence presented by the petitioner does not support the view that the scientific research in this area and the conclusions drawn from it, including conclusions about the uncertainty involved in areas of research such as proxy temperature reconstructions, was flawed or improperly characterized by EPA in the Endangerment Finding.

In addition, the body of paleoclimate research—that is, the specific research at issue in the e-mails related to these two examples cited by the petitioner—underwent extensive scientific review and scrutiny by the NRC in 2006 in response to a request from the U.S. House of Representatives Committee on Science. The NRC committee was tasked with assessing "the state of scientific efforts to reconstruct surface temperature records for the Earth over approximately the last 2,000 years and the implications of these efforts for our understanding of global climate change" (NRC, 2006). A key conclusion from the NRC report supported the methods and general conclusions of the paleoclimate community, stating:

> It can be said with a high level of confidence that global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries. This statement is justified by the consistency of the evidence from a wide variety of geographically diverse proxies.

Thus, we find that the petitioner's evidence does not support their conclusion that paleoclimate studies could not be replicated and results verified, nor any reason to question the fundamental conclusions of the climate change research conducted by the CRU researchers.

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Comment (3-40):
Peabody Energy claims that in response to a HadCRUT data request from Warwick Hughes, an Australian scientist, Phil Jones replied on February 8, 2005, "We have 25 years or so invested in the work. Why should I make the data available to you, when your aim is to try and find something wrong with it?" (Jones, 2005). On this basis, the petitioner argues that the Endangerment Finding should be reconsidered because lack of data sharing and accessibility prevented key climate science studies from being replicated and critiqued.

Response (3-40):
Although Jones denies Hughes' request, we note that he points Hughes to another expert (Hans Teunisson) to assist with his request, as well as to various sources of data while describing that some countries restrict access to data. Jones' full response to Hughes' email is as follows (Jones, 2005):

> Warwick,
> Hans Teunisson will reply. 'He'll tell you which other people should reply. Hans is "Hans Teunissen" <HTeunissen@wmo.int> . I should warn you that some data we have we are not supposed top pass on to others. We can pass on the gridded data - which we do. Even if WMO [the World Meteorological Organization] agrees, I will still not pass on the data. We have 25 or so years invested in the work. Why should I make the data available to you, when your aim is to try and find something wrong with it. There is IPR to consider.
>
> You can get similar data from GHCN at NCDC. Australia 'isn't restricted there. Several European countries are. Basically because, for example, France 'doesn't want the French picking up data on France from Asheville. Meteo France wants to supply data to the French on France. Same story in most of the others.
> Cheers
> Phil

The petitioners exaggerate the implications of this one unfulfilled data request for the validity of the science. We note that the methods used to generate the HadCRUT temperature record are well described in the literature and the data necessary to replicate the HadCRUT record are publically available, as described in Volume 1, Section 1.3.3.1. Working with publically accessible data, the Independent Climate Change E-mails Review (Russell, 2010) was able to write computer code from scratch in a space of two days that produced results similar to the HadCRUT and other independent analyses. Furthermore, Volume 1 demonstrates that temperature reconstructions from publically available data such as NOAA's temperature record, the Global Historical Climatology Network (GHCN), look very similar to temperature reconstructions from HadCRUT. Therefore, the petitioner's allegation that key climate science studies could not be replicated and critiqued is not accurate. It remains the case that the HadCRUT temperature record is legitimized by peer reviewed methodology, its replicability, and its similarity with other global temperature records.

As noted in our response (3-39) above, the Independent Climate Change E-mails Review found a tendency to provide unhelpful responses to requests for information and the need for a culture

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shift to emphasize the importance of transparency. EPA agrees with the recommendations of the UK House of Commons Science and Technology Committee investigation and the Independent Climate Change E-mails Review that both CRU and the greater scientific community should make more of an effort to provide public access to raw data and detailed methodologies. However, the petitioners' broad and sweeping claims are not warranted given the data that was clearly available and the ready ability to do research using the publicly available data and methodology provided by the CRU.

Comment (3-41):
The petitioners draw various conclusions about the effect of the scientists' alleged actions discussed in the e-mails. Peabody Energy argues that leading climate scientists have worked under a "veil of secrecy" and that their actions "[do] not comport with U.S. scientific norms." Peabody Energy asserts that this is suggestive that they may have been "hiding" something. Peabody Energy also claims that without the underlying data and related information, CRU and associated scientists' studies "could not be replicated or critiqued," which calls into question their validity. The Coalition for Responsible Regulation goes one step further, alleging that "It is doubtful EPA can disclose the technical studies and data upon which it so heavily relies, not only because Phil Jones and his colleagues at CRU deliberately withheld data from both EPA's and the public's review, but also because some of that raw data has now been destroyed."

Response (3-41):
Our responses to the specific e-mails petitioners rely upon in reaching these conclusions are addressed above. Responses 3-37 through 3-40 address claims regarding availability of data, including data concerning a human "fingerprint" in the tropics, data underlying the HadCRUT temperature record, and data concerning historic temperature reconstructions. Volume 1 of this RTP document addresses claims regarding the scientific validity and other scientific aspects of these data. As we have explained, based on our review of the e-mails, the evidence does not support the broad claims of misfeasance or poor science, or of attempts to hide any such science. Instead the scientists at issue performed their research honestly and with scientific rigour, and they released information in accord with the common scientific practice at that time.

Further, the e-mails show that the scientists believed that enough data and information were available for independent review, replication, and verification, while also expressing frustration with the ongoing inquiries from certain individuals. It is clear that the e-mail authors were particularly frustrated by repeated requests for specific explanations and computer programming codes when the base data had already been made available and the methodology for replicating a particular study had already been published in the literature. As we note in our previous responses (e.g., 3-35), this view of the e-mail authors represented the common approach toward data release at the time. Petitioners do not explain why the data that was available was inadequate for the purposes of such research.

The petitioners claim that the CRU scientists and their colleagues ignored requests for data in order to avoid revealing their biased or flawed science, implying that they did not operate according to good scientific practice. However petitioner's evidence does not support their suggestion that the scientists manipulated their analyses to reach desired results, withheld data with an aim of hiding the alleged manipulation, and ultimately

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reached flawed their scientific conclusions are flawed.

EPA is not alone in reaching these conclusions. As stated in our response (3-35) above, the UK House of Commons Science and Technology Committee investigation concluded that "On the accusations relating to Professor Jones's refusal to share raw data and computer codes, we consider that his actions were in line with common practice in the climate science community." The Scientific Appraisal Panel review examined criticism toward CRU and found "no evidence of any deliberate scientific malpractice in any of the work of the Climatic Research Unit and had it been there we believe that it is likely that we would have detected it" (Oxburgh, 2010). In addition, the Independent Climate Change E-mails Review concluded, "On the specific allegations made against the behaviour of CRU scientists, we find that their rigour and honesty as scientists are not in doubt" (Russell, 2010). We find that the petitioner's evidence does not suggest otherwise or show that the CRU scientists and their colleagues utilized methods other than those which are "fair and satisfactory" according to the Scientific Appraisal Panel, and conducted their research with integrity and rigor.

Comment (3-42):
Peabody Energy states that the CRU e-mails provide evidence that top climate scientists refused to provide access to key data underlying their studies, and that this practice is "especially alarming both because many of these scientists were either government employees or government-funded and because they were so highly influential in the IPCC." Peabody Energy quotes the following conclusion from the "Wegman Report" (Wegman et al., 2006).

> Federally funded work including code should be made available to other researchers upon reasonable request, especially if the intellectual property has no commercial value. Some consideration should be granted to data collectors to have exclusive use of their data for one or two years, prior to publication. But data collected under federal support should be made publicly available.

Response (3-42):
The petitioner's quote from the Wegman Report does not support the petitioner's allegation that the CRU e-mail authors refused to share key data underlying their studies. It is simply a statement of the opinion of Dr. Wegman, author of the referenced report. We have already addressed public comments regarding the Wegman Report in Volume 2 of the RTC document supporting the Endangerment Findings. We address the petitioners' claims regarding the alleged withholding of data—including data concerning a human "fingerprint" in the tropics, data underlying the HadCRUT temperature record, and data concerning historic temperature reconstructions—in Responses 3-37 through 3-40 above.

Comment (3-43):
Peabody Energy states that the CRU e-mail authors finally acknowledged the importance of public disclosure of their data for maintaining good scientific practices only after they were forced to admit they had made mistakes in their research. According to Peabody Energy, the authors of a paper published in *Science* were forced to admit that they had flipped a dataset upside down as a result of Stephen McIntyre's requests for data. Peabody Energy quotes the

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following e-mail from Jonathan Overpeck, professor at University of Arizona, sent to multiple colleagues on September 5, 2009:

> D [Darrell Kaufman, professor at Northern Arizona University] et al.—
> Please write all e-mails as though they will be made public. I would not rush and I would not respond to any of them until the best strategy is developed—don't want to waste anyone's time, including yours or Mc's [Stephen McIntyre's]. Since the recon in Science has an error, I think you do need to publish a correction in Science…I don't think you have a choice here…
>
> # 5 is tricky. Giving him the data would be good, but only if it is yours to give. You can't give him data that you got from others and are not allowed to share. But it would be nice if he could have access to all the data that we used—that's the way science is supposed to work.[77]

Peabody Energy also states that Tom Wigley of the University Corporation for Atmospheric Research was forced to admit there were problems with datasets used in proxy temperature reconstructions by Keith Briffa of CRU, when Stephen McIntyre raised questions about them. According to the petitioner, Briffa, at least initially, "declined to respond to McIntyre's requests for information." The petitioner quotes the following e-mail excerpt from Tom Wigley to Phil Jones on October 5, 2009:

> …Keith does seem to have got himself into a mess…And the issue of with-holding data is still a hot potato, one that affects both you and Keith (and Mann). Yes, there are reasons— but many *good* scientists appear to be unsympathetic to these. The trouble here is that with-holding data looks like hiding something, and hiding means (in some eyes) that it is bogus science that is being hidden.[78]

Response (3-43):

Peabody Energy implies that because of Stephen McIntyre's requests for data, mistakes were found in a paper published in *Science*, which the petitioner did not identify but that we believe to be Kaufman et al. (2009) based on context given in the e-mails. However, the evidence does not show what the catalyst was for the authors' decision to publish a correction. In the "corrections and clarifications" update written by Kaufman et al. responding to critiques of their original paper, they thanked "H. McCulloch and others who have pointed out errors and have offered suggestions" (Kaufman et al. 2010). To the extent that Peabody Energy is arguing that the results of Kaufman et al. (2009) are invalid given the errors that necessitated publishing a correction, we respond in Volume 1, Section 1.1.3 of the RTP document to the allegation about "flipping datasets" (1-10) and related paleoclimate temperature reconstruction issues.

Peabody Energy also implies that Wigley admitted there were problems with Keith

[77] E-mail file 1252164302.txt, (September 5, 2009), page 1734, line 12 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[78] E-mail file 1254756944.txt, (October 5, 2009), page 1782, line 6 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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Briffa's proxy temperature reconstructions after Stephen McIntyre questioned their validity. The e-mail does not support this allegation. The text of the e-mails says nothing that would indicate that Wigley "admitted" or believed there were errors in Briffa's work, or that any errors were being "hidden." To the contrary, Wigley states that there can be valid reasons for not publishing data, but voices concern that others would misinterpret such actions as trying to hide poor science.

As before, the petitioner claims that these incidents are proof that the science was flawed and unreliable. Through our review of the scientific issues, in response to petitioners' arguments and throughout the notice and comment period on the Endangerment Findings, EPA has determined that the paleoclimate science is appropriately characterized and weighed in the Administrator's decision. Our review of the issues related to the release of data indicates that the scientists did make data and information available, even if sometime later and sometimes not to the satisfaction of requestors, that raw data was also publicly available, that the scientists at issue conducted their work with scientific integrity and rigour, and their actions in releasing data was consistent with common and accepted scientific practice. While EPA supports increased transparency in this area of research, petitioners arguments are not based on science and do not support their claims that the research at issue was flawed. Their claim is based on concerns over data availability, and they do not show why the data that was available was not adequate for the research purposes claimed. The evidence they present does not support the broad scientific and other conclusions they draw.

3.4.3 Allegations of Improper Conduct With Regard to UK FOI and U.S. FOIA Laws

3.4.3.1 General Allegations

Comment (3-44):
The Coalition for Responsible Regulation, the Pacific Legal Foundation, Peabody Energy, and the State of Texas claim that a quote from the Deputy Information Commissioner of the UK Information Commissioner's Office (ICO)—"Requests under the Freedom of Information Act were not dealt with as they should have been under the legislation"—provides evidence that CRU scientists violated the law by refusing to comply with requests for data. Peabody Energy states that "these efforts by CRU to evade FOIA have now been determined to have been illegal." Peabody Energy further opines that "Destruction of public records to avoid disclosure under FOIA unquestionably violates U.S. and U.K. law." The State of Texas quotes a newspaper article (Kinver, 2010) that states that the UK ICO is reviewing whether the UK FOI law needs to be revised in light of the CRU's refusal to disclose public information.

Response (3-44):
The petitioners base their allegations that CRU violated the UK FOI law solely on a statement to the press made by Deputy Information Commissioner Graham Smith, which suggested that at least some of the requested information should have been disclosed. Contrary to the petitioners' claims, this statement was not an official finding of the UK ICO. The recent inquiry by the UK House of Commons Science and Technology Committee (2010b) puts Smith's statement into proper context:

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88. On 29 January there was an exchange between UEA [University of East Anglia] and Mr. Smith, the Deputy Commissioner. Brian Summers, the Registrar and Secretary of UEA responded forcibly to Mr Smith's 22 January press statement, which asserted that UEA had not dealt with FOIA requests "as they should have been under the legislation". He did not consider it was "acceptable that such a statement which has led to an extremely damaging commentary on the University [was] first communicated to the University by a journalist". His letter goes on to defend UEA's actions in detail and to ask that, if the Information Commissioner's Office (ICO) cannot retract the 22 January statement, it issue a clarification regarding the alleged breaches of the FOIA. A response from the ICO was issued the same day. It did not retract the original statement but offered clarification:

1. [No] decision notice has yet been issued and no alleged breaches have yet been put to the University for comment. That matter has yet to be addressed, but it will be over coming months.
2. The fact that the elements of a section 77 offence may have been found here, but cannot be acted on because of the elapsed time, is a very serious matter. The ICO is not resiling from its position on this.
3. The ICO's position is as stated in point 2 above. The statement may be read to indicate that. Under section 77, an offence may be committed by an individual, not necessarily the public authority itself.
4. Errors like this are frequently made in press reports and the ICO cannot be expected to correct them, particularly when the ICO has not itself referred to penalties or sanctions in its own statement.

89. UEA responded on 1 February thanking the ICO for the clarification but setting out its concerns relating to the press coverage of the ICO's original statement:

> Your clarification that the press cannot infer from your statement to the Sunday Times that it has been established that the University (or indeed any individual associated with the University) has breached the terms of the Freedom of Information Act is welcome. [UEA's] reputation which has been subjected to these damaging and incorrect assertions claiming to be based on your statement and we must take some steps to put this right. We will be writing to the media which carried reports based on your statement, pointing out the inaccuracies and asking them to rectify the position.

90. In his oral evidence Professor Acton [Vice-Chancellor at UEA] questioned the ICO statement of 22 January:

> Our principle is that prima facie evidence is evidence which on the face of it and without investigation suggests that there is a case to answer. To my mind if there is prima facie evidence; why did I set up the Muir Russell independent review? Prima facie evidence is not the same as, you have been found to breach. [...] If it is sub judice, if, as we had in the letter ten days ago from the ICO, the investigation has not even begun, I am puzzled how we could have been found to breach if there has been no investigation.

91. The ICO's most recent letter, dated 3 March, in UEA's view, "makes plain that there is no assumption by the ICO, prior to investigation, that UEA has breached the Act; and that no investigation has yet been completed." The ICO's letter confirmed that the "ICO is not pursuing any investigation under section 77 of the Act. That matter is closed as far as the ICO is concerned, given the statutory time limits for action". It added that:

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> The ICO acknowledges your concern about the statement made and the subsequent media and blog reports. Given that the Deputy Commissioner has already been publicly associated with the matter, any Decision Notice will be reviewed and signed off by another authorised signatory.

The UK House of Commons Science and Technology Committee (2010b) concluded the following:

> We regret that the ICO made a statement to the press that went beyond that which it could substantiate and that it took over a month for the ICO properly to put the record straight. We recommend that the ICO develop procedures to ensure that its public comments are checked and that mechanisms exist to swiftly correct any mis-statements or misinterpretations of such statements.

Based on the evidence submitted to the UK House of Commons Science and Technology by UEA and the UK ICO, it is clear that Deputy Information Commissioner Smith's January 22nd press statement was not based on the results of a formal investigation and his opinions about CRU do not represent the conclusions of a comprehensive government investigation. The statement from Smith does not support the petitioner's allegations that CRU scientists acted illegally. In addition, regarding the comment from the State of Texas that the UK ICO is reviewing whether the UK FOI law needs to be revised, we note that the existence of a possible review of the law does not provide evidence that CRU scientists acted illegally or inappropriately.

For all of the above reasons, the petitioners evidence does not show whether there was a violation of UK law, and does not contradict the conclusions of the three independent investigations into the CRU e-mails. These investigations found that the CRU e-mail authors conducted their research in accordance with common practice in the climate science community at the time, utilized methods which are "fair and satisfactory" according to the Scientific Appraisal Panel (Oxburgh, 2010), and maintained scientific integrity and rigor in their work. EPA supports the recommendations for greater transparency in this area of climate research; however petitioners' evidence does not support their claim that the science underlying the Endangerment Finding was suspect or flawed, or that it was mischaracterized in any way in the Endangerment Finding. Petitioners' arguments are not based on an analysis of the science, but on unsupported assertions of inadequate science.

Comment (3-45):

The Coalition for Responsible Regulation, Peabody Energy, and the Southeastern Legal Foundation claim that the CRU e-mail authors, particularly Phil Jones and Michael Mann, avoided compliance with FOI laws. Peabody Energy argues that the CRU e-mail authors concealed information as a means to frustrate the work of researchers like Stephen McIntyre and Ross McKitrick who might criticize their work. Peabody Energy states that the paleoclimate community "decided that McIntyre and anyone associated with him was essentially their enemy and that they would refuse to cooperate entirely with any effort to provide him with information, including under the U.S. and British FOIAs." Peabody Energy further claims that CRU scientists and their associates "accelerated their highly-contentious

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struggle against so-called 'skeptics'" by creating the RealClimate website in order to "counter" Stephen McIntyre's ClimateAudit website.

The petitioners highlight numerous statements taken from the CRU e-mails in support of their arguments that CRU scientists and their colleagues withheld data and ignored FOI requests. In one example, Coalition for Responsible Regulation and Peabody Energy quote an e-mail from Phil Jones to Tom Wigley and Ben Santer on January 21, 2005:

> As for FOIA Sarah isn't technically employed by UEA and she will likely be paid by Manchester Metropolitan University. I wouldn't worry about the code. If FOIA does ever get used by anyone, there is also IPR [intellectual property rights] to consider as well. Data is covered by all the agreements we sign with people, so I will be hiding behind them. I'll be passing any requests onto the person at UEA who has been given a post to deal with them.[79]

In another example, Peabody Energy, the Southeastern Legal Foundation, and the Coalition for Responsible Regulation quote the following e-mail excerpt from Jones to Mann on February 3, 2005:

> Just sent loads of station data to Scott. Make sure he documents everything better this time! And don't leave stuff lying around on ftp sites — you never know who is trawling them. The two MMs [Stephen McIntyre and Ross McKitrick] have been after the CRU station data for years. If they ever hear there is a Freedom of Information Act now in the UK, I think I'll delete the file rather than send to anyone. Does your similar act in the US force you to respond to enquiries within 20 days? — our does ! The UK works on precedents, so the first request will test it. We also have a data protection act, which I will hide behind. Tom Wigley has sent me a worried e-mail when he heard about it — thought people could ask him for his model code. He has retired officially from UEA so he can hide behind that. IPR [intellectual property rights] should be relevant here, but I can see me getting into an argument with someone at UEA who'll say we must adhere to it!…[80]

Peabody Energy and Southeastern Legal Foundation quote Mann's response (the Southeastern Legal Foundation erroneously attributes this quote to Phil Jones):

> Yes, we've learned out [sic] lesson about FTP. We're going to be very careful in the future what gets put there. Scott really screwed up big time when he established that directory so that Tim could access the data. Yeah, there is a freedom of information act in the U.S., and the contrarians are going to try to use it for all its worth. But there are also intellectual property rights issues, so it isn't clear how these sorts of things will play out ultimately in the U.S.[81]

[79] E-mail file 1106338806.txt, (January 21, 2005), page 810, line 38 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[80] E-mail file 1107454306.txt, (February 3, 2005), page 821, line 22 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[81] E-mail file 1107454306.txt, (February 3, 2005) page 821, line 12 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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Peabody Energy quotes another e-mail excerpt from Phil Jones to Michael Mann, Raymond Bradley, and Malcolm Hughes on February 21, 2005:

> PS I'm getting hassled by a couple of people to release the CRU station temperature data. Don't any of you three tell anybody that the UK has a Freedom of Information Act !"[82]

Peabody Energy quotes another e-mail excerpt from Phil Jones to Ben Santer that was forwarded on December 4, 2008:

> In response to FOI and EIR [Environmental Information Regulations] requests, we've put up some data - mainly paleo data. Each request generally leads to more — to explain what we've put up. Every time, so far, that hasn't led to anything being added — instead just statements saying read what is in the papers and what is on the web site! Tim Osborn sent one such response (via the FOI person) earlier this week. We've never sent programs, any codes and manuals.[83]

Response (3-45):
The quoted e-mails show the authors' opinions and questions about the applicability of the FOI law to their various datasets. As discussed in our previous responses in this Volume, scientists can and do state their opinions and express frustration in personal communications with colleagues. Although Jones makes sometimes flippant statements regarding FOI laws, this does not show that he deleted files, destroyed data, or otherwise attempted to obstruct FOI requests.

In addition, the petitioner's claim that the paleoclimate community refused to cooperate entirely with McIntyre and anyone associated with him is without merit. Two of the e-mails quoted by Peabody Energy [84] clearly indicate that Jones and other CRU scientists provided data in response to FOI requests. As discussed throughout this section, our review of the issues related to the release of data indicates that in many cases the data were already publicly available or were released by the scientists, and that the scientists conducted their work with scientific rigor and honesty and consistent with common and accepted scientific practice.

Regarding Peabody Energy's claims that the CRU scientists perpetuated a "highly-contentious struggle" against "climate skeptics," we find that the petitioner's assertions concerning the RealClimate blog of no relevance. The reasons for creating the site are irrelevant to the issues of whether the scientists were complying with FOI laws, and to the issue of the scientific validity of their research.

Comment (3-46):
Peabody Energy quotes the following e-mail excerpt written by Phil Jones to Kevin Trenberth of the University Corporation for Atmospheric Research on June 20, 2007, claiming that it provides evidence that CRU scientists and their colleagues withheld data and ignored FOI requests:

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[82] E-mail file 1109021312.txt, (February 21, 2005), page 834, line 25 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[83] E-mail file 1228412429.txt, (December 4, 2008), page 1593, line 22 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[84] E-mail file 1182346299.txt, (June 20, 2007), page 1335, line 9 and e-mail file 1228412429.txt, (December 4, 2008), page 1593, line 22 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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> I won't be replying to either of the e-mails below, nor to any of the accusations on the Climate Audit website. I've sent them on to someone here at UEA to see if we should be discussing anything with our legal staff. The second letter seems an attempt to be nice to me, and somehow split up the original author team. I do now wish I'd never sent them the data after their FOIA request [85]

Peabody Energy cites this example as further evidence of the CRU e-mail authors ignored FOI requests as part of their "highly-contentious struggle" against anyone affiliated with Stephen McIntyre or the Climate Audit blog.

Response (3-46):

The petitioner selectively quotes part of an e-mail chain to support its argument and does not provide larger context for Jones' statement. The e-mail chain at issue here was sent in response to the following e-mail from Douglas Keenan (private UK citizen) to Stephen McIntyre (editor of the blog Climate Audit). The subject of the e-mail relates to a paper on urban heat islands that Jones co-authored with Wei-Chyung Wang of the University at Albany in New York (i.e., Jones et al., 1990).

> From: "D.J. Keenan" doug.keenan@informath.org
> To: "Steve McIntyre" stephen.mcintyre@utoronto.ca
> Cc: "Phil Jones" p.jones@uea.ac.uk
> Subject: Wang fabrications
> Date: Tue, 19 Jun 2007 20:45:15 +0100
>
> Steve,
> I thought that I should summarize what has happened with the Wang case First, I concluded that the claims made about Chinese stations by Jones et al. [Nature, 1990] and Wang et al. [GRL, 1990] were very probably fabricated. (You very likely came to the same conclusion.) Second, some investigation showed that Phil Jones was wholly blameless and that responsibility almost certainly lay with Wang. Third, I contacted Wang, told him that I had caught him, and asked him to retract his fabricated claims. My e-mails were addressed to him only, and I told no one about them. In 'Wang's reply, though, Jones, Karl, Zeng, etc. were Cc'd. Fourth, I explained to Wang that I would publicly accuse him of fraud if he did not retract. Wang seemed to not take me seriously. So I drafted what would be the text of a formal accusation and sent it to him. Wang replied that if I wanted to make the accusation, that was up to me. Fifth, I put a draft on my web site-- http://www.informath.org/apprise/a5620.htm-- and e-mailed a few people, asking if they had any recommendations for improvement.
>
> I intend to send the final version to Wang's university, and to demand a formal investigation into fraud. I will also notify the media. Separately, I have had a preliminary discussion with the FBI--because Wang likely used government funds to commit his fraud; it seems that it might be possible to prosecute Wang under the same statute as was used in the Eric Poehlman case. The simplicity of the case makes this

[85] E-mail file 1182346299.txt, (June 20, 2007). page 1335, line 9 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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> easier--no scientific knowledge is required to understand things. I saw that you have now e-mailed Phil (Cc'd above), asking Phil to publish a retraction of Wang's claims: http://www.climateaudit.org/?p=1741#comment-115879 There could be a couple problems with that. One problem is that it would be difficult for Phil to publish anything without the agreement of Wang and the other co-authors (Nature would simply say "no"). Another problem is that your e-mail says that you presume Phil was "unaware of the incorrectness" of Wang's work. I do not see how that could be true. Although the evidence that Phil was innocent in 1990 seems entirely conclusive, there is also the paper of Yan et al. [Advances in Atmospheric Sciences, 18: 309 (2001)], which is cited on my web page. Phil is a co-author of that paper. Phil, this proves that you knew there were serious problems with Wang's claims back in 2001; yet some of your work since then has continued to rely on those claims, most notably in the latest report from the IPCC. It would be nice to hear the explanation for this. Phil?
> Kind wishes,
> Doug[86]

This e-mail shows Douglas Keenan making serious accusations of fraud and data fabrication against Wei-Chyung Wang, and accusing Jones of knowingly using Wang's alleged faulty data in his research. Keenan goes even further, stating that he contacted the Federal Bureau of Investigation about prosecuting Wang for fraud, and threatening that if Wang does not publish a retraction, Keenan will make formal accusations of fraud to Wang's university and the media.

We respond to the petitioners' claims that Jones and Wang committed fraud and knowingly used faulty Chinese weather station data in Volume 1, Section 1.3.4 of the RTP document. There, we show that the claims of Keenan and McIntyre are groundless and that Wang was cleared of any misconduct. Given this larger context, Jones' statement, "I do now wish I'd never sent them the data after their FOIA request," is more understandable. Rather than being an indication of Jones' reluctance to comply with FOIA requests, it appears that he is reacting to the fact that CRU data were misused to make aggressive and personal attacks on one of his colleagues. In addition, his e-mail basically says he is referring the request to the UEA, instead of making decisions himself on this issue. As the UK House of Commons Science and Technology Committee investigation found, "The focus on Professor Jones and CRU has been largely misplaced. On the accusations relating to Professor Jones's refusal to share raw data and computer codes, we consider that his actions were in line with common practice in the climate science community. We have suggested that the community consider becoming more transparent by publishing raw data and detailed methodologies. On accusations relating to Freedom of Information, we consider that much of the responsibility should lie with UEA, not CRU" (UK House of Commons Science and Technology Committee, 2010b).

Our review of the larger context for the CRU e-mails in question, as well as issues related to the release of data in general, indicates that the scientists did make data and information available, and conducted their work consistent with common and accepted scientific practice.

Comment (3-47):

[86] E-mail file 1182346299.txt, (June 29, 2007), page 1336, line 22 of the PDF version entitled: CRU Emails 1996-2009.pdf.

The Southeastern Legal Foundation argues that "E-mails were apparently altered or deleted to cover up wrongdoing." The petitioner quotes part of an e-mail from Phil Jones of CRU to Eugene Wahl of NOAA and Caspar Amman of the National Center for Atmospheric Research: "[T]ry and change the Received date. Don't give those skeptics something to amuse themselves with." The Southeastern Legal Foundation argues that even if there is no evidence that e-mails were tampered with in response to the request from Jones, the apparent willingness of these parties to engage in such actions should cause EPA to question its reliance on their work.

Response (3-47):

Petitioner makes a number of unsubstantiated assumptions in their argument. First, the petitioner assumes that Jones was asking Wahl and Ammann to alter their e-mail records. Although the petitioner only quotes part of the e-mail, we provide the full text to provide important context:

> Gene/Caspar,
> Good to see these two out. Wahl/Ammann doesn't appear to be in 'CC's [the journal *Climatic Change*] online first, but comes up if you search. You likely know that McIntyre will check this one to make sure it hasn't changed since the IPCC close-off date July 2006! Hard copies of the WG1 [IPCC Working Group 1] report from CUP have arrived here today. Ammann/Wahl - try and change the Received date! Don't give those skeptics something to amuse themselves with.
> Cheers
> Phil [87]

Based on our review of the issue, we note that in his e-mail, Jones is referring to two distinct journal articles written by the same authors, Wahl and Ammann (2007) and Ammann and Wahl (2007), both published in the journal *Climatic Change*. The rationale for Jones' statement, "Ammann/Wahl - try and change the Received date! Don't give those skeptics something to amuse themselves with," is that the journal *Climatic Change* had made an error in listing a received date of August 2000, which was several years earlier than the paper was written (Ammann and Wahl, 2007). Therefore, Phil Jones was apparently suggesting that they should try to get the journal to correct its website to list the actual date the Ammann and Wahl paper was received, rather than an obviously incorrect date of August 2000. There is no evidence that Ammann and Wahl followed up on Jones' suggestion, but even if they had, this would not be an inappropriate action.

Second, the petitioner assumes Jones' statement was part of some kind of "cover up" of "wrong-doing," without specifying what that means or providing any further context for their allegation. It is unclear on what basis the petitioner concludes that there was "apparent willingness of these parties" to tamper with e-mails. Jones suggestion is benign when the context is considered and receiving this e-mail in no way implies "willingness" on the part of Wahl and Amman to engage in inappropriate action. Subsequent replies from Wahl and Amman in the same e-mail chain[88] discuss only their papers and provide no indication that they engaged in any inappropriate

[87] E-mail file 1189722851.txt, (September 12, 2007), page 1357, line 18 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[88] E-mail file 1189722851.txt, (September 12, 2007). page 1356, line 33 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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actions. The petitioners' evidence does not support their claim that the CRU scientists and their colleagues altered e-mail information or withheld key data needed for replicating key climate change studies, nor do the petitioners provide any other evidence that would cause EPA to question the scientific merits of these scientists' work.

Comment (3-48):
The Pacific Legal Foundation and the State of Texas claim that the CRU e-mails demonstrate that EPA was incorrect in asserting that the science on which the Administrator has based her endangerment determinations has been fully open and transparent. The Pacific Legal Foundation and the State of Texas state that a separate inquiry funded by the University of East Anglia will investigate CRU's policies and practices for "disseminating data and research findings" to see if any of their actions were "at odds with acceptable scientific practice" or "call into question any of the research outcomes." The Pacific Legal Foundation argues that this lack of transparency evident in the CRU e-mails casts doubt on the reliability of CRU's work, and that EPA's Scientific Advisory Board should be granted an opportunity to review and comment on whether the CRU data can be relied on by EPA.

Peabody Energy argues that in a January 23, 2009, memorandum to EPA employees (U.S. EPA, 2009b) and in a March 9, 2009, Presidential Memorandum for the Heads of Executive Departments (U.S. EPA, 2009c), Administrator Jackson stated her commitment that the EPA will rely on open and transparent science. Peabody Energy states that the CRU scientists and their colleagues, which includes "government-funded scientists involved in hugely important scientific research," were not "fully willing to make available for public scrutiny all of the information they use and produce, no matter the political, policy or scientific consequence." Peabody Energy concludes that:

> [S]cience advances only when research is exposed to critical analysis; that is the entire purpose of the scientific process. The practice of science in the shadows as reflected in the CRU material is directly contrary to the Administrator's undertaking that science relied on by EPA will be subject to the highest standards of transparency and openness. The Administrator cannot, consistent with these undertakings, rely on the AR4 material prepared by these authors.

In other words, the petitioner concludes that the work of the CRU e-mail authors, including their contributions to the IPCC AR4, violates EPA's commitment to transparency and thus cannot be relied upon for the Endangerment Findings.

Response (3-48):
The Pacific Legal Foundation and the State of Texas reference the existence of the Independent Climate Change E-mails Review as evidence to call into question the reliability and validity of CRU's work. In so doing, the petitioners inappropriately assume wrongdoing based solely on the existence—not the conclusions—of an investigation. With regard to the CRU scientists' actions involving research and science, the Independent Climate Change E-mails Review issued its report on July 7, 2010. This report concluded:

> Climate science is a matter of such global importance, that the highest standards of honesty, rigour and openness are needed in its conduct. On the specific allegations made against the behaviour of CRU scientists, we find that their rigour and honesty as scientists

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> are not in doubt. In addition, we do not find that their behaviour has prejudiced the balance of advice given to policy makers. In particular, we did not find any evidence of behaviour that might undermine the conclusions of the IPCC assessments.

Regarding CRU's data management policies and practices, the Independent Climate Change E-mails Review identified issues with the way the CRU has handled requests for information in the past and the need for more transparency. As stated in our responses (e.g., 3-39) above, we agree with the recommendations of the UK House of Commons Science and Technology Committee and the Independent Climate Change E-mails Review that both CRU and the greater climate science community can improve its efforts in terms of transparency. However, we also find that the petitioners greatly exaggerate the implications of the e-mails concerning the release of certain data on the validity of the specific science issues they addressed, not to mention the petitioners' much more expansive claim that the e-mails raise questions about the credibility of unrelated scientific issues not addressed in the materials they cite. Our review of the issues related to the release of data indicates that the scientists did make data and information available, that they conducted their work with scientific rigor and integrity, and that they acted in a manner consistent with common and accepted scientific practice. Data were also publicly available for use by researchers. We reiterate that we have found no evidence that other researchers were not able to access adequate data in order to replicate key findings or conduct their research. Petitioners have not explained why the data that was available was inadequate for these purposes. The petitioners' evidence does not support their claim that the CRU scientists and their colleagues withheld key data needed for replicating key climate change studies, nor do the petitioners provide any other evidence that would cause EPA to question the scientific merits of these scientists' work.

The petitioners' claim that the assessment reports can not be relied upon are not based on arguments or analysis of the scientific merits of the research at issue. Their arguments do not support a conclusion that the body of scientific research on climate change or the scientific basis for the Endangerment Finding is scientifically inappropriate or flawed.

3.4.3.2 Specific FOI Request Regarding the IPCC's Fourth Assessment Report

The following comments and responses in this section address the petitioners' specific allegation that the CRU e-mail authors obstructed one particular FOI request for e-mails and information pertaining to the creation of the IPCC's AR4.

Comment (3-49):
The State of Texas alleges that the CRU e-mail authors ignored legal requirements when discussing how to respond to a FOI request for their e-mails relating to the drafting of the IPCC AR4. The petitioner argues that "At no time in the exchange did any of them suggest what state or federal laws might have governed how the request needed to be treated." The State of Texas first quotes an e-mail from Bryan Lynch (private UK citizen) to Caspar Ammann of the National Center for Atmospheric Research on June 23, 2008, which references an FOI request submitted by David Holland of the UK-based think tank Global Warming Policy Foundation:

> I have read correspondence on web about your letter to the in relation [sic] to expert comments on IPCC chapter 6 sent directly by you to Keith Briffa, sent

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> outside the formal review process. The refusal to give these documents tends to discredit you and the IPCC in the eyes of the public.[89]

Ammann apparently forwarded Lynch's e-mail to Keith Briffa, Phil Jones, and Tim Osborn, and the State of Texas quotes their replies. Phil Jones states, "It doesn't discredit IPCC!" .[90] Tim Osborn states:

> I'd ignore this guy's request anyway. If we aren't consistent in keeping our discussions out of the public domain, then it might be argued that none of them can be kept private. Apparently, consistency of our actions is important[91]

Keith Briffa states:

> I have been of the opinion right from the start of these FOI requests, that our private, inter-collegial discussion is just that—PRIVATE. Your communication with individual colleagues was on the same basis as that for any other person and it discredits the IPCC process not one iota not to reveal the details. On the contrary, submitting to these "demands" undermines the wider scientific expectation of personal confidentiality. It is for this reason, and not because we have or have not got anything to hide, that I believe none of us should submit to these "requests."[92]

As a second example, the State of Texas alleges that Jones "…destroyed information in order to avoid the possibility of having to produce it." As evidence, the petitioner quotes an e-mail in which Phil Jones states, "About 2 months ago I deleted loads of e-mails, so have very little - if anything at all".[93]

In a third example, the State of Texas cites one e-mail in which Gavin Schmidt of NASA compares the actions of global warming "skeptics" requesting information under FOI or FOIA laws to "Somali pirates".[94] The petitioner claims that this remark "took the climate scientists' disdain for citizens who file open records requests to a whole new level." The State of Texas concludes from these examples that the CRU e-mail authors "have been the antithesis of transparent," displaying not only "a total disregard for open government-but worse, affirmative disdain for transparency and utter contempt for citizens who exercise their right to obtain public information."

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[89] E-mail file 1214228874.txt, (June 23, 2008) page 1533, line 5 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[90] E-mail file 1214228874.txt, (June 23, 2008) page 1533, line 5 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[91] E-mail file 1214228874.txt, (June 23, 2008) page 1533, line 25 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[92] E-mail file 1214228874.txt, (June 23, 2008) page 1533, line 13 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[93] E-mail file 1228412429.txt, (December 4, 2008), page 1593, line 22 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[94] E-mail file 1228258714.txt, (December 2, 2008), page 1590, line 44 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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Response (3-49):
We have reviewed the e-mails at issue in the petitioner's objection and disagree that they are evidence that the scientists ignored legal requests or that they "have been the antithesis of transparent." We address each issue below.

From our review of the e-mails related to the quote from Bryan Lynch, it appears that the subject of the FOI request was for personal communications between authors of IPCC Chapter 6 ("Palaeoclimate") regarding expert review comments on chapter 6.[95] The request appears to be for e-mails that were not part of the formal review process—in other words, for personal conversations written privately between colleagues. This type of information is tangential at best to the scientific assessment of the AR4 or the workings of the IPCC as a whole, or for this one chapter. The IPCC maintains an open and transparent formal process by which expert comments are responded to and incorporated into the IPCC reports. The public can access drafts, expert and government review comments, and author responses used to prepare the Working Group I report (IPCC, 2007b), which includes chapter 6 on paleoclimate, on the Internet (IPCC, 2006). We provide further discussion of the transparency of IPCC review processes in Volume 2, Section 2.2. The petitioners' evidence does not show that this formal, public process was hindered or disrupted in any way, or that the opinions expressed on how to respond to this FOI request produced any less robust or scientifically valid comment review process for the assessment report.

Regarding the second example, we note that Phil Jones' statement is taken out of context from the e-mails. We provide the following supporting context excerpted from the e-mail:

> The inadvertent email I sent last month has led to a Data Protection Act request sent by a certain Canadian, saying that the email maligned his scientific credibility with his peers! If he pays 10 pounds (which he hasn't yet) I am supposed to go through my emails and he can get anything I've written about him. About 2 months ago I deleted loads of emails, so have very little - if anything at all. This legislation is different from the FOI - it is supposed to be used to find put [sic] why you might have a poor credit rating![96]

Phil Jones does not discuss, as the petitioners have asserted, deleting e-mails to "avoid the possibility of having to produce it." He also does not discuss deleting e-mails to avoid complying with requests (whether Data Protection Act or FOI); he simply states that he happened to delete a portion of his e-mails two months prior to receiving this request. The evidence does not support their conclusion that any information was deliberately deleted to avoid making it public.

Regarding the third example, it is clear that the authors of the e-mails voiced significant frustration about the increasing numbers of FOI requests, which they viewed as frivolous and which were taking significant time away from their research. EPA does not agree that these examples or any statements in the quoted e-mails are indicative of "affirmative disdain" or "utter contempt" for transparency. As stated in our responses above, in many cases large amounts of data were in fact released or were publicly available. Although we agree that there is room for

[95] E-mail file 1214228874.txt, (June 23, 2008), page 1533, line 13 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[96] E-mail file 1228412429.txt, (December 4, 2008), page 1594, line 6 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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improvement in terms of transparency, we also find that the petitioners greatly exaggerate the implications of these process issues for the validity of the science in this area. Petitioners have not explained why the data available was not adequate data in order for researchers to replicate or otherwise evaluate key findings, or to conduct other research. We find that the CRU e-mail authors conducted their research in accordance with common practice in the climate science community at the time, utilized methods which are "fair and satisfactory" according to the Scientific Appraisal Panel, and maintained scientific integrity and rigor in their work.

Comment (3-50):

Peabody Energy, the Southeastern Legal Foundation, the Coalition for Responsible Regulation, the Pacific Legal Foundation, and the State of Texas allege that the CRU scientists and their colleagues deleted or otherwise attempted to avoid disclosing information pertaining to the drafting of the IPCC AR4, which was the subject of an active FOI request. Peabody Energy, the Southeastern Legal Foundation, and the State of Texas quote the following e-mail from Jones to Tom Wigley of the University Corporation for Atmospheric Research on December 4, 2008:

> You can delete this attachment if you want. Keep this quiet also, but this is the person who is putting in FOI requests for all emails Keith and Tim have written and received re Ch 6 of AR4. We think 'we've found a way around this...This message will self destruct in 10 seconds![97]

Peabody Energy, the Southeastern Legal Foundation, and the Coalition for Responsible Regulation quote the following e-mail from Jones to Michael Mann on May 29, 2008:

> Can you delete any emails you may have had with Keith re AR4? Keith will do likewise. He's not in at the moment – minor family crisis. Can you also email Gene and get him to do the same? I don't have his new email address. We will be getting Caspar to do likewise. I see that CA [Climate Audit blog] claim they discovered the 1945 problem in the Nature paper!![98]

Peabody Energy describes an e-mail exchange from May 27, 2008 between Tim Osborn of CRU and Caspar Amman of the National Center for Atmospheric Research about whether Amman viewed e-mails related to the IPCC AR4 as "confidential".[99] From these e-mails, Peabody Energy concludes that Osborn "was not looking for a good faith statement from Amman"; rather, he was "clearly seeking an excuse for refusing to disclose information that was being sought."

As further evidence that CRU scientists deleted information pertaining to the IPCC AR4, Peabody Energy cites the following e-mail excerpt from Phil Jones to Tom Wigley on March 12, 2008:

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[97] E-mail file 1210341221.txt, (May 9, 2008), page 1494, line 1 of PDF version entitled: CRU Emails 1996-2009.pdf).

[98] E-mail file 1212063122.txt, (May 29, 2008), page 1514, line 45 of PDF version entitled: CRU Emails 1996-2009.pdf).

[99] E-mail file 1211924186.txt, (May 27, 2008), page 1509, line 22, e-mail file 1212156886.txt, page 1519, line 12, and e-mail file 1212166714.txt, (May 30, 2008), page 1520, line 3 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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> The inadvertent e-mail I sent last month has led to a Data Protection Act request sent by a certain Canadian, saying that the e-mail maligned his scientific credibility with his peers! If he pays 10 pounds (which he hasn't yet) I am supposed to go through my e-mails and he can get anything I've written about him. About 2 months ago I deleted loads of e-mails, so have very little — if anything at all. This legislation is different from the FOI — it is supposed to be used to find put why you might have a poor credit rating![100]

Peabody Energy also cites the following e-mail excerpt from Phil Jones to Ben Santer of Lawrence Livermore National Laboratory on December 10, 2008:

> Haven't got a reply from the FOI person here at UEA. So I'm not entirely confident the numbers are correct. One way of checking would be to look on CA [Climate Audit], but I'm not doing that. I did get an e-mail from the FOI person here early yesterday to tell me I shouldn't be deleting e-mails – unless this was 'normal' deleting to keep e-mails manageable![101]

Peabody Energy claims that "the material that they [the CRU e-mail authors] destroyed pertained directly to their work for the IPCC…" and that the "scientists' concern about what they communicated with each other about preparation of AR4 was so serious that they undertook to delete the e-mails rather than have them subject to public scrutiny." Peabody Energy contends that the refusal to provide information about the process of writing the IPCC reports contradicts EPA's view of the transparency of that process. The Southeastern Legal Foundation argues that even if there is no evidence that e-mails were deleted in response to the request from Jones, the apparent willingness of the CRU scientists and their colleagues to destroy evidence should cause EPA to question its reliance on their work.

Response (3-50):

We note that the petitioner ascribes negative motives to CRU e-mail author Tim Osborn—e.g., "not looking for a good faith statement," "clearly seeking an excuse"—which are based on conjecture and innuendo. We find that the petitioner bases its argument on a speculative interpretation of the following e-mail from Osborn to Caspar Amman:

> I don't think it is necessary for you to dig through any e-mails you may have sent us to determine your answer. Our question is a more general one, which is whether you generally consider e-mails that you sent us to have been sent in confidence. If you do, then we will use this as a reason to decline the request.[102]

The petitioner does not provide evidence or reasons why EPA should not interpret this statement at face value—that Osborn was sincere in asking for only a general answer as to whether or not Amman considered their private communications to be confidential. It is reasonable for Osborn to tell Amman not to waste time digging through his e-mails, as he

[100] E-mail file 1228412429.txt, (March 12, 2008), page 1594, line 6 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[101] E-mail file 1228922050.txt, (December 10, 2008), page 1596, line 20 of the PDF version entitled: CRU Emails 1996-2009.pdf
[102] E-mail file 1212166714.txt, (May 30, 2008), page 1520, line 3 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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meant for his question to be a general one. We find that the petitioner has no basis for its negative characterization of Osborn's intentions.

We also note that the second e-mail quoting Phil Jones [1228412429.txt], in which Jones discusses deleting some e-mails, does not pertain to the FOI request for IPCC AR4 information. Contrary to the petitioner's assertions that Jones deliberately deleted information to avoid complying with the FOI request, the first sentence of the quoted e-mail [1228412429.txt] clearly refers to a Data Protection Act request, not an FOI request, for Jones' personal communications about a specific person (i.e., "a certain Canadian," presumably Stephen McIntyre). We also note that Phil Jones does not discuss, as the petitioners have asserted, deleting e-mails to avoid revealing something "serious" about preparation of AR4. In fact, he does not state any intentions whatsoever to avoid complying with any requests (whether Data Protection Act or FOI) by deleting e-mails; he simply states that he happened to delete a portion of his e-mails two months ago prior to receiving the Data Protection Act request. These e-mails may or may not have had anything to do with the drafting of the AR4; it is not clear from the e-mails themselves.

The petitioners exaggerate the importance of the requested information pertaining to the IPCC AR4, implying that the information requested was central to the workings of the IPCC report writing process. We respond to this issue in our response (3-49) above. We provide further discussion of the transparency of IPCC review processes in Volume 2, Section 2.2. As described above, the petitioners' evidence does not show that the formal, public process for submissions and review of comments was not fully robust or was hindered or disrupted, or that the opinions expressed in the e-mails produced any less robust or scientifically valid public comment review process on the science for the assessment report.

As described above, the investigations of the CRU scientists found that they conducted their research with scientific integrity and rigor, and with no indications of scientific malpractice. Although we agree that there is room for improvement in terms of transparency, we also find that the petitioners greatly exaggerate the implications of these process issues for the validity of the science in this area. We find that the CRU e-mail authors conducted their research in accordance with common practice in the climate science community at the time and utilized methods which are "fair and satisfactory" according to the Scientific Appraisal Panel. Petitioners' evidence concerning a request for information on e-mails considered to be informal communications does not change this conclusion.

Comment (3-51):
The Coalition for Responsible Regulation, Peabody Energy, and the State of Texas cite e-mails allegedly showing scientists attempting to avoid complying with a FOI request by saying that the IPCC, as an international institution, was not subject to the UK FOI law. As evidence, the Coalition for Responsible Regulation, the State of Texas, and Peabody Energy quote the following e-mail from Phil Jones:

> The skeptics will try to hang on to something, but I don't want to give them something clearly tangible. Keith/Tim still getting FOI requests as well as MOHC [Met Office Hadley Center] and Reading. All our FOI officers have been in discussions and are now using the same exceptions not to respond — advice they got from the Information Commissioner. As an aside and just between us,

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> it seems that Brian Hoskins has withdrawn himself from the WG1 Lead nominations. It seems he doesn't want to have to deal with this hassle. The FOI line we're all using is this. IPCC is exempt from any countries FOI – the skeptics have been told this. Even though we (MOHC, CRU/UEA) possibly hold relevant info the IPCC is not part our remit (mission statement, aims etc) therefore we don't have an obligation to pass it on.[103]

Response (3-51):
Regarding this argument, we find that the same e-mail quoted by the petitioner indicates that Phil Jones believed that CRU/UEA received advice from the Information Commissioner that the IPCC, as an international organization, was excepted from the UK FOI. Jones makes a similar statement in another e-mail: "According to the FOI Commissioner's Office, IPCC is an international organization, so is above any national FOI. Even if UEA holds anything about IPCC, we are not obliged to pass it on, unless it has anything to do with our core business - and it doesn't!"[104] We disagree, therefore, that the CRU e-mails show any attempt by the CRU scientists to avoid compliance with FOI; if anything, it shows that the scientists consulting with and following the advice of the UK ICO.

Comment (3-52):
The Coalition for Responsible Regulation argues that the CRU e-mail authors deliberately concealed information pertaining to the IPCC AR4. The petitioner claims that Gavin Schmidt, a manager of the National Aeronautics and Space Administration's (NASA's) temperature database and who participated in the review of EPA's Technical Support Document (TSD) for the Endangerment Finding, was aware that data supporting EPA's conclusions were being hidden from the Agency. The petitioner concludes that "EPA's Findings therefore rely on the input of at least one scientist who knew data were being withheld from review by EPA and the public." As evidence of his involvement, the Coalition for Responsible Regulation quotes an e-mail from Phil Jones to Schmidt:

> The FOI line we're all using is this. IPCC is exempt from any countries FOI - the skeptics have been told this. Even though we (MOHC [Met Office Hadley Center], CRU/UEA) possibly hold relevant info the IPCC is not part our remit (mission statement, aims etc) therefore we don't have an obligation to pass it on.[105]

Response (3-52):
The petitioner's claim that Gavin Schmidt was aware of a "cover up" and deliberate withholding of "data supporting EPA's conclusions" is unsupported." As stated in our response above, it appears that the subject of the FOI request was for personal e-mail communications between authors of IPCC chapter 6 (paleoclimate) regarding expert review comments. There is no mention within the e-mail exchange on this issue, nor does the petitioner present evidence, that

[103] E-mail file 1219239172.txt, (August 20, 2008), page 1547, line 31 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[104] E-mail file 1228922050.txt, (December 10, 2008), page 1596, line 34 of the PDF version entitled: CRU Emails 1996-2009.pdf.
[105] E-mail file 1219239172.txt, (August 20, 2008), page 1547, line 18 of the PDF version entitled: CRU Emails 1996-2009.pdf. See also 1210341221.txt, (May 9, 2008), page 1493, line 14; and 1228330629.txt, (December 3, 2008), page 1591, line 41.

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the request involved any type of "data" that was withheld form EPA or would affect EPA's review of the science in its Endangerment Finding. As noted above, the e-mail refers to advice received from their respective FOI office as the exemption from FOI, not to any cover-up.

In sum, petitioners' evidence concerning a FOI on communications related to the AR4 does not support their claims concerning the validity of the science underlying the AR4. The evidence indicates that personal communications were at issue, and that it appears that the respective FOI office determined that these were exempt from release. There was a robust and public process for review of comments on the science for the IPCC AR4, and petitioners' claims are not based on scientific arguments or studies showing that this public process failed to achieve its goal, or that the resulting AR4 was scientifically inappropriate or flawed in any way. EPA agrees with the Independent Climate Change E-mails Review's recommendation of greater transparency in the future in this area of research, but petitioners' evidence does not support a conclusion that the science underlying the AR4 and the Endangerment Finding was flawed or mischaracterized.

3.4.3.3 Allegations of Improperly Influencing University FOIA Officials

Comment (3-53):
The State of Texas and Peabody Energy cite an e-mail from Phil Jones of the CRU indicating his hope that university officials and potential requestors might be unaware of UK FOI laws. The State of Texas, the Southeastern Legal Foundation, and Peabody Energy claim that Phil Jones encouraged university officials to ignore FOI requests from people affiliated with the blog ClimateAudit. They quote the following e-mail:

> When the FOI requests began here, the FOI person said we had to abide by the requests. It took a couple of half hour sessions — one at a screen, to convince them otherwise showing them what CA was all about. Once they became aware of the types of people we were dealing with, everyone at UEA (in the registry and in the Environmental Sciences school — the head of school and a few others) became very supportive. I've got to know the FOI person quite well and the Chief Librarian — who deals with appeals. The VC [Vice-Chancellor] is also aware of what is going on — at least for one of the requests, but probably doesn't know the number we're dealing with. We are in double figures.[106]

In a second example, the State of Texas and Peabody Energy quote the following e-mail from Jones as proof that Jones and his colleagues convinced University of East Anglia officials to agree to ignore requests for information from anyone associated with the ClimateAudit blog. The State of Texas claims that the second sentence in the e-mail shows that Jones urged a colleague in Australia to disregard requests for information.

> Nothing much else to say except:
>
> 1. Think I've managed to persuade UEA to ignore all further FOIA requests if the people have anything to do with Climate Audit [CA].
> 2. Had an e-mail from David Jones of BMRC [Bureau of Meteorology Research Centre], Melbourne. He said they are ignoring anybody who has dealings with CA, as

[106] E-mail file 1228412429.txt, (December 4, 2008), page 1593, line 39 of the PDF version entitled: CRU Emails 1996-2009.pdf.

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there are threads on it about Australian sites.

3. CA is in dispute with IPCC (Susan Solomon and Martin Manning) about the availability of the responses to reviewer's [sic] at the various stages of the AR4 drafts. They are most interested here re Ch 6 on paleo.[107]

Response (3-53):

First, we note that in the first example the petitioners quote only part of the e-mail and that later in the same e-mail, Phil Jones states:

> In response to FOI and EIR [Environmental Information Regulations] requests, we've put up some data - mainly paleo data. Each request generally leads to more - to explain what we've put up. Every time, so far, that hasn't led to anything being added - instead just statements saying read what is in the papers and what is on the web site! Tim Osborn sent one such response (via the FOI person) earlier this week. We've never sent programs, any codes and manuals.[108]

The e-mails demonstrate that Phil Jones was not obstructing FOI requests; rather, he clearly indicates that he and his CRU colleagues made data available in response to FOI and other requests. He and others were working with the FOI officer and other university officials to determine the appropriate way to respond to these requests. As noted in our previous responses (e.g., 3-39) above, at the time it was not typical in climate science for authors to publish computer codes or detailed explanations beyond that which was described in the literature. Given this context, Jones' statement—"We've never sent programs, any codes and manuals"[109]—demonstrates his belief that having the raw data is sufficient to be able to replicate CRU's work because the methodologies are freely available in the published literature.

Regarding the second example, the e-mail is written in factual terms, it does not indicate the basis for the BMRC's interactions with persons affiliated with the CA. We also note that the Independent Climate Change E-mails Review spoke to these issues, as described in our previous responses (e.g., 3-39) in this volume. As discussed above, EPA agrees with their recommendation of greater transparency, but disagrees that the evidence presented by petitioners warrants any less reliance on the scientific assessment provided by the AR4.

3.4.4 Summary

Volumes 1 and 2 of this RTP document respond to scientific issues raised by petitioners in these e-mails and affirm that the science and assessment literature on which the Findings are based is sound. As noted in many places in this RTP document, the petitioners' arguments are not based on the body of the scientific evidence and include only a limited discussion of the science itself.

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[107] E-mail file 1182255717.txt, (June 19, 2007), page 1330, line 34 of the PDF version entitled: CRU Emails 1996-2009.pdf.

[108] E-mail file 1228412429.txt, (December 4, 2008), page 1594, line 11 of the PDF version entitled: CRU Emails 1996-2009.pdf

[109] E-mail file 1228412429.txt, (December 4, 2008), page 1594, line 15 of the PDF version entitled: CRU Emails 1996-2009.pdf

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Instead, the petitioners' arguments rely on broad claims based on the e-mails and jump to conclusions about implications for the science that are not supported by evidence.

Petitioners do not rely on science or science based arguments to support their claim that the assessment report resulting from this robust process should not be relied upon by EPA. Instead, petitioners claim that key climate data were withheld from the public when, in fact, our review of the CRU emails indicates that in many cases, the data were already publicly available or were released by the scientists. Petitioners have not explained or shown why the amount of data and other information that was available was not adequate for researchers to replicate or otherwise evaluate key findings, or to conduct other research. They also rely on unsupported conclusions drawn from e-mails concerning a FOI request for personal communications between various scientists, where it appears that the appropriate University FOI officers had determined that these emails were exempt from release. This evidence does not support petitioners' claims that the IPCC AR4 should not be considered as part of the scientific basis for the Endangerment Finding.

EPA agrees with the results of the various independent investigations into the CRU e-mails, which found that the scientists at issue conducted their research with scientific integrity and rigor, the research utilized methods which are fair and satisfactory, and that their actions were consistent with the common practice in climate research at that time. EPA also agrees with the recommendations of the Independent Climate Change E-mails Review supporting greater transparency in the future in this area of climate research; however, concluding that greater transparency would be helpful for a particular element of climate change science is not the equivalent of providing evidence that the scientific basis for EPA's Endangerment Finding is flawed. Petitioners' claims and evidence do not provide a basis for EPA to question or change its view that the science supporting the Endangerment Findings is robust, compelling, and has been appropriately characterized by EPA.

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