



April 28, 2014

Mr. Larry F. Gottesman  
National FOIA Officer  
U.S. Environmental Protection Agency, Headquarters  
Office of Environmental Information  
1200 Pennsylvania Avenue, NW (2822T)  
Washington, DC 20460

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Re: **ITSSD FOIA Request Clarification**  
**FOIA (Consolidated) Request No. EPA-HQ-2014-004938**  
(formerly, EPA-HQ-2014-004938; EPA-R3-2014-004862; EPA-R4-2014-005118; EPA-R5-2014-004881; EPA-R6-2014-005004; EPA-R8-2014-004910; EPA-R10-2014-004857)

Dear Mr. Gottesman:

On March 17, 2014, Requester Institute for Trade, Standards and Sustainable Development (“ITSSD”)<sup>1</sup> mailed a separate FOIA Request dated March 14, 2014 to Environmental Protection Agency (“EPA”) Headquarters (“EPA-HQ”) and eight different EPA regional offices<sup>2</sup>, pursuant to the Freedom of Information Act, 5 U.S.C. §552 and the Environmental Protection Agency (“EPA”) Freedom of Information Act-implementing regulations (40 C.F.R. §2.107(l)(1)-(3)). Between March 23 and March 28, 2014, ITSSD received acknowledgements of receipt of such requests via phone, email and/or the FOIAonline website.<sup>3</sup>

On March 28, 2014, ITSSD received an email communication from Ms. Wanda Calderon, the designated FOIA Officer/Liaison for EPA Region 2 in response to ITSSD’s email communication of the same day requesting confirmation of receipt of ITSSD’s EPA Region 2 FOIA Request. After acknowledging such receipt, Ms. Calderon’s communication relayed to ITSSD the following new information: “...instructions disseminated were that HQ is taking the lead on this FOIA with input from the regions.”<sup>4</sup> Presumably, Ms. Calderon was referring to the instructions provided by your office (EPA-HQ-OEI).

Ms. Calderon’s message was thereafter reinforced by a separate letter correspondence ITSSD received on April 1, 2014 from Ms. Dana Hyland of EPA Headquarters’ Office of Air and Radiation (“EPA-HQ-OAR”).<sup>5</sup> Ms. Hyland’s correspondence indicated that “EPA Headquarters will be consolidating and coordinating the response to your requests under the tracking number listed above...EPA-HQ-2014-004938”. Ms. Hyland’s correspondence also stated that

“Your request does not reasonably describe the records you are seeking in a way that will permit EPA employees to identify and locate them...We would like to provide you the opportunity to clarify the records that you are seeking so that EPA can

process your request...*Please contact me at [hyland.dana@epa.gov](mailto:hyland.dana@epa.gov) with your clarification*" (emphasis added).

As it now appears, both EPA-HQ-OEI *and* EPA-HQ-OAR will proceed to handle the consolidated response to the nine previously filed ITSSD EPA FOIA Requests, and EPA-HQ-OAR has provided ITSSD with the opportunity to clarify said requests. Therefore, ITSSD shall submit its consolidated **"FOIA Request Clarification"** to *both* EPA-HQ offices.

This annotated FOIA Request Clarification seeks disclosure of all EPA records ("all EPA climate science-related peer review files") substantiating the specific measures EPA had taken, consistent with the highest and most rigorous standards applicable to highly influential scientific assessments ("HISAs"<sup>6</sup>) imposed by the Information Quality Act ("IQA")<sup>7</sup> and the Office of Management and Budget ("OMB")<sup>8</sup> and EPA<sup>9</sup> IQA-implementing guidelines, to ensure the quality, integrity and reliability of EPA- and third-party- developed climate science-related assessments and reports upon which the Administrator primarily relied in reaching positive greenhouse gas ("GHG") endangerment and cause or contribute findings under Clean Air Act Sec. 202(a)(1).<sup>10</sup>

## **I. EPA Climate Science-Related Peer Review Files (Records) Requested -**

1. All international, national regional and local agency climate science-related files referring, directly or indirectly, to the substantive and procedural peer reviews conducted, managed or overseen by EPA, an EPA-established federal advisory committee(s), and/or an EPA-hired third-party contractor(s) (private parties or other federal agencies) of the assessments, studies and reports referenced within the EPA Technical Summary Document ("EPA-TSD") supporting the Administrator's GHG endangerment and cause or contribute findings, especially all climate science-related files referring directly or indirectly to assessments, studies and reports designated therein (at Table 1.1, p. 6)<sup>11</sup> as "core reference documents".<sup>12</sup> Such files *include, but are not limited to*:
  - a. Climate science-related files containing:
    - i. Specific and detail peer review charges issued by EPA to EPA-established federal advisory committee members, EPA-hired third-party contractors, individual peer reviewers and/or peer review panel members.
    - ii. Peer review comments EPA received from EPA-established federal advisory committee members, EPA-hired third-party contractors, other federal agencies (e.g., DOC-NOAA), interagency entities (e.g., U.S. Global Change Research Program/Climate Change Science Program ("USGCRP/CCSP")<sup>13</sup> and executive offices (Office of Management and Budget ("OMB"), Office of Science and Technology Policy ("OSTP"), etc.),<sup>14</sup> individual peer reviewers and/or peer review panels. These files include, but are not limited to:
      - A. Those relating directly or indirectly to discussions regarding how to address scientific uncertainties and/or reference the precautionary principle or precautionary approach within the individual USGCRP/CCSP climate science-related assessments, reports, studies, etc. developed by EPA as 'lead agency';

- B. These files also include, but are not limited to, those relating directly or indirectly to discussions within EPA and between EPA and other federal agencies and executive offices regarding how to address scientific uncertainties and/or reference the precautionary principle or precautionary approach in the Administrator's CAA Section 202(a) proposed and final findings. The records herein requested are in addition to those already reflected in Docket ID Nos. EPA-HQ-OAR-2009-0171-0122 and EPA-HQ-OAR-2009-0171-0124 which concern OMB's first and second round (March, April, etc. 2009) comments pertaining to EPA's proposed<sup>15</sup> and final endangerment findings (which docket files are currently available to the public).
- iii. EPA responses to the peer review comments EPA received from EPA-established federal advisory committee members, EPA-hired third-party contractors, other federal agencies, interagency entities (e.g., USGCRP/CCSP), executive offices (OMB, OSTP, etc.), individual peer reviewers and/or peer review panels, as referred to in (ii.) above.
  - iv. EPA-established federal advisory committee peer review reports prepared for EPA, in both full and summary versions (in addition to and as referenced in federal advisory committee meeting minutes), discussing individual peer reviewer and peer review panel comments received (including those relating to scientific uncertainties and lack of scientific data supporting author text, etc.);
  - v. Public comments received in response to federal register notices issued by DOC-NOAA on EPA's behalf, that DOC-NOAA thereafter shared with EPA, concerning each climate science-related assessment with respect to which such EPA-established federal advisory committee was charged with providing EPA advisory and/or peer review services;
  - vi. Interim and final conclusions drawn by EPA, EPA-established federal advisory committees, EPA-hired third-party contractors (including private parties and other federal agencies (e.g., DOC-NOAA) and/or interagency entities (e.g., USGCRP/CCSP) and executive offices (OMB, OSTP, etc.) regarding the substantive and procedural compliance of the final amended assessments, studies and reports reflecting peer reviewer comments and EPA responses, with the IQA and OMB and EPA IQA-implementing guideline requirements applicable to HISAs and/or "influential scientific information" ("ISI").
2. All international, national, regional and local agency climate science-related files to the extent not included above, reflecting directly or indirectly EPA's consideration of whether the agency, EPA-established federal advisory committees, EPA-hired third-party contractors, an interagency (e.g., USGCRP/CCSP) entity or executive offices (OMB, OSTP, etc.) and/or a peer review panel consisting of individual peer reviewers, would undertake the peer review or the management and/or oversight of the peer review of such assessments, and EPA's final

decisions concerning same, including all such files relating to EPA federal advisory committee and EPA-hired third-party contractor selection processes actually utilized.

3. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA's establishment and/or use of government science advisory boards (and committees and subcommittees) and/or specially formed federal advisory committees via third-party contract, interagency agreement, etc. to undertake, manage or otherwise oversee the peer review of such assessments.
4. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committee, and/or EPA-hired third-party contractor peer reviewer and peer review panel selection processes actually utilized, and the criteria EPA, EPA-established federal advisory committees and/or EPA-hired third-party contractors employed to evaluate professional credentials and relevant experience and affiliations, and EPA's consideration, during and after the peer reviewer selection process, of perceived and/or actual conflict-of-interest issues arising from having certain members of a EPA-established federal advisory committee draft such assessments while having other members from the same federal advisory committee peer review them.<sup>16</sup> Such files *include, but are not limited to*:
  - a. EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor review and testing performed of the adequacy of peer review candidates' prior peer reviews;
  - b. EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor peer reviewer independence reviews conducted to assess the eligibility of individual peer reviewer candidates to participate *if employed by the agency or office producing the document, or if participating in an agency-funded program*, in whole or in part, and documentation of agency-employee peer reviewer participation due to special circumstances – i.e., unique or indispensable expertise, or subject participation of agency-funded university and/or consulting firm scientists to close oversight;
  - c. EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor peer reviewer (and family) financial and non-financial conflict-of-interest reviews<sup>17</sup> conducted, at the time of peer reviewer selection and/or appointment to specially purposed federal advisory committees, and also throughout the entire course of peer review work until its completion, to reveal *inter alia*:
    - i. Significant investments, consulting arrangements, employer affiliations, grants/contracts, potential financial ties to regulated entities, other stakeholders, and regulatory agencies;
    - ii. Work as an expert witness;
    - iii. Consulting arrangements, honoraria and sources of grants and contracts.
  - d. EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor determinations concerning panel composition and balance based on the expertise and diversity of subject-relevant scientific perspectives of prospective and actual panel members;

- e. EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor measures employed to avoid the repeated use of the same reviewer in multiple assessments.
5. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor procedures established and followed for addressing actual or perceived conflict-of-interest and lack of impartiality (bias) issues that arise or are revealed after panel selection.
  6. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor disclosure to prospective and selected peer review panelists, of information about the agency's peer reviewer selection process, including credentials, transparency and conflict-of-interest requirements.
  7. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor disclosure to prospective and selected peer review panelists of the requirement to prepare and deliver a peer review report describing the nature and scope of their review and their findings and conclusions, and containing the name of each peer reviewer and a brief description of his or her organizational affiliation, credentials and relevant experiences.
  8. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor issuance and description of the nature and scope of agency charges communicated to each individual peer reviewer participating on each peer review panel, and each peer review panel manager and overseer.
  9. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor identification of scientific issues for each peer review panel/member.
  10. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor facilitation of quality-based, focused and in-depth peer review panel discussions of the issues.
  11. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committee and/or EPA-hired third-party contractor review and verification of accuracy and clarity of peer review report contents, including:



- a. Peer reviewer comments and/or summaries produced consistent with and in satisfaction of specific peer review panel charges;
  - b. Rationales supporting individual peer reviewer and peer review panel findings;
  - c. EPA responses to individual peer reviewer and peer review panel comments and to peer review panel report findings.
12. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA website plans and actual EPA website use to provide the public with an opportunity to participate in EPA's peer review process, including *inter alia* by means of assuring that peer reviewers receive public comments with respect to such assessments that address significant scientific issues with ample time to consider them in their review.
  13. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA, EPA-established federal advisory committees and/or EPA third-party contractor safeguards, if any, employed by such parties to ensure the verification of peer reviewer credentials and reputations, and the objectivity and credibility of the EPA, EPA-established federal advisory committee and/or EPA third-party contractor process for selecting, managing and monitoring peer reviewers and peer review panels in connection with such assessments, from inception to completion;
  14. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly EPA contractual measures requiring EPA-hired third-party contractor peer review managers and overseers to engage in practices that ensure against or otherwise substantially minimize peer reviewer conflicts-of-interest and biases, including:
    - a. Mandatory vetting by such third-party contractors of prospective peer review candidates via internet background searches to identify potential conflicts of interest and appearances of bias or partiality;
    - b. Mandatory use by all such third-party contractors of similar procedures for identifying any changes in selected panelists' conflict of interest status;
    - c. Mandatory disclosure by peer review candidates of nationality, past and present foreign government affiliation, and service on prior, ongoing and ad hoc agency-established federal advisory committees;
    - d. Mandatory written recertification from panelists before a peer review panel is convened, stating that their responses to the questionnaire have not changed;
    - e. Mandatory self-reporting by peer reviewers of any changes that may impact their conflict of interest status or lack of impartiality status at any point in the process;
    - f. Mandatory agency oversight of EPA-hired third-party contractor peer review management and oversight practices to ensure they follow agency peer review contractual guidelines;
  15. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly all climate science-related

agreements entered into by EPA with the Intergovernmental Panel on Climate Change (“IPCC”) to prepare contributions to, or to conduct, manage or oversee, peer reviews of IPCC Working Groups I and II contributions to the 4<sup>th</sup> Assessment Report (“4AR”), including the summaries for policymakers.

16. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly the contents of all climate science-related agreements entered into between EPA and other federal agencies (e.g., DOC-NOAA, etc.) or between EPA and the interagency USGCRP/CCSP, pursuant to which other federal agencies, acting in the capacity of ‘lead agency’, would, on EPA’s behalf, develop climate science-related assessments, reports and studies and have them peer reviewed by such agencies themselves (including agency-established federal advisory committees), a third party-hired private contractor such as NRC, the interagency USGCRP/CCSP, and/or an executive office (e.g., OMB, OSTP, etc.) which agreement provisions *inter alia*:
  - a. Required such agencies to certify to USGCRP/CCSP or to EPA via a memorandum or other formal or informal document, communication, etc. that each such assessment for which such agencies served as ‘lead agency’ developer (as noted in EPA-TSD Table 1.1. reproduced in Appendix 1 below) complied with and/or conformed to the highest and most rigorous level IQA and corresponding OMB and agency-specific IQA-implementing guidelines applicable to highly influential scientific assessments (“HISAs”) and/or influential scientific information (“ISI”), especially considering that each such federal agency knew or should have known the Administrator would rely upon their assessment(s) for purposes of making CAA Section 202(a) findings;
  - b. Required such agencies to ensure the receipt of author responses to individual peer reviewer and peer review panel comments, public comments and lead agency review comments, and required such agencies to demonstrate that they had informed authors how to comply with such HISA or ISI standards;
  - c. Required such agencies to substantiate each such certification, including by testing and verifying the reproducibility of the climate science findings authors cited as contained in climate science-related supporting literature;
  - d. Required EPA, NRC, or the interagency USGCRP/CCSP to verify that such agencies had substantiated their certifications with respect to each such assessment for which they were responsible as ‘lead agency’ developer.
  
17. All international, national, regional and local agency climate science-related files, to the extent not included above, reflecting directly or indirectly all climate science-related agreements entered into between EPA and other federal agencies, and/or between:
  - i. EPA and private parties (e.g., environmental nongovernmental organizations) in connection with DOC-NOAA Regional Integrated Sciences and Assessments (“RISAs”), DOC-NOAA Regional Climate Centers (“RCCs”) or other DOC-NOAA and other federal agency programs; and
  - ii. DOC-NOAA and university research organizations, in connection with DOC-NOAA’s Cooperative Institutes Program.<sup>18</sup>

## II. Definitions Pertaining to EPA Climate Science-Related Peer Review Files (Records) Requested -

The following definitions apply to and are incorporated by reference within this ITSSD FOIA Request Clarification, and therefore, must be consulted:

### 1. "EPA" -

The term "EPA" as referred to above, includes, but is not limited to:

- a. EPA National Headquarters Office ("EPA-HQ") Offices, including:
  - i. Office of the EPA Administrator ("the Administrator");
  - ii. Science Advisory Board ("SAB"), including committees and subcommittees;
  - iii. Office of Research and Development ("ORD") (including its research program for Air, Climate, and Energy ("ACE") and its National Center for Environmental Assessment ("NCEA"));
  - iv. Office of Air and Radiation ("OAR");
  - v. Office of Water ("OW");
  - vi. All current EPA National Headquarters Office employees (including directors, associate/assistant directors, program directors, staff, etc.), as well as, all former EPA National Headquarters Office employees previously employed from January 1, 2005 through December 31, 2011.
- b. EPA Regional ("EPA: R-2, R-3, R-4, R-5, R-6, R-8, R-9, R-10) Offices, including:
  - i. All Regional and related local branch offices with offices, departments and programs corresponding to those of the EPA-HQ Offices identified above;
  - ii. All current Regional office and related local branch office employees (including directors, associate/assistant directors, program directors, staff, etc.), as well as all former Regional Office (and related local office) employees previously employed from January 1, 2005 through December 31, 2011.
- c. EPA-appointed members, including chairs and secretariats, of climate science-related advisory boards and federal advisory committees EPA had established, operated and/or terminated during the period spanning from January 1, 2005 through December 31, 2011, *including, but not limited to*:
  - i. Human Impacts of Climate Change Advisory Committee ("HICCCAC") (established 2007 and terminated 2008);
  - ii. Coastal Elevations and Sea Level Rise Advisory Committee ("CESLAC") (established 2006 and terminated 2009);
  - iii. Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee ("ACSERAC") (established 2007 and terminated 2008);
- d. EPA and other federal agency-hired third-party contractors that provided climate science-related peer review services (substantive peer review, peer review management and/or peer review oversight) during January 1, 2005 through December 31, 2011, including:



- i. Private parties (including internet/cloud service providers);
- ii. Other federal government agencies; (e.g., DOC-NOAA,<sup>19</sup> DOE,<sup>20</sup> DOI-USGS,<sup>21</sup> DOT,<sup>22</sup> NASA,<sup>23</sup> USDA),<sup>24</sup> etc.;
- iii. U.S. interagency entities (e.g., USGCRP/CCSP);
- iv. Foreign government agencies (e.g., the UK Met Office);
- v. Intergovernmental bodies (e.g., IPCC);
- vi. Nongovernmental organizations (e.g., The Nature Conservancy, Environmental Defense, etc.).

2. “Climate Science-Related” -

The term “climate science-related”, as used above, refers:

Directly or indirectly to assessments, reports, studies, literature, information, files, etc. explaining observations of past, current and projected future changes in the Earth’s climate, the impacts of such climate change on humans and the environment, and approaches for adapting and mitigating such change.<sup>25</sup>

3. “EPA Climate Science-Related Files” -

“EPA Climate science-related files” *include, but are not limited to:*

Any and all EPA climate science-related data, records, statistics, models, assumptions, correspondences, communications, etc., including finals, drafts and notes, whether in current, stored and/or archived printed, digital, electronic (email including attachments), magnetic, internet or other form, originated, transmitted (dispatched and/or received), stored and/or archived by means of office email, personal email, internet, etc. accounts, wherever held, *including but not limited to:*

- a. By EPA-HQ and EPA Regional Offices at EPA office premises and at other EPA on-site locations;
- b. By current and former EPA employees (including employee-advisory board members and federal advisory committee members) at:
  - i. EPA office premises and other EPA on-site locations;
  - ii. Non-EPA office premises and other non-EPA off-site locations (including, but not limited to, their personal premises);
- c. By current and former EPA third-party records retention, internet, and/or cloud service providers at:
  - i. EPA third-party service provider owned or leased business premises and other EPA third-party service provider on-site locations;
  - ii. Other non-EPA off-site locations;
- d. By current and former non-EPA employee-advisory board members at EPA office premises and at other EPA on-site locations;
- e. By current and former non-EPA-employee federal advisory committee members at EPA office premises, at other EPA on-site locations, and non-EPA off-site locations.

Such files shall include all those originated, transmitted, stored and/or archived by EPA during the period spanning from January 1, 2005 through December 31, 2011.

4. “EPA Climate Science-Related Peer Review Files” -

“EPA climate science-related peer review files” include all climate science-related files noted above discussing or referring directly or indirectly to EPA or EPA-hired third-party contractors, including those reflecting that EPA had acted pursuant to an “EPA climate science-related agreement” to have third parties conduct, manage or oversee the peer review of the assessments, reports, studies, literature, etc. referenced in the EPA-TSD. The assessments, reports, studies, peer reviewed and ‘gray’ literature, etc., subject to such agreements *include, but are not limited to*, those:

- a. Designated in Table 1.1 of the EPA-TSD as “core reference documents”;<sup>26</sup>
- b. Not designated in the EPA-TSD as “core reference documents”, but otherwise expressly referenced in the EPA-TSD;
- c. Not designated in the EPA-TSD as “core reference documents” and not expressly referenced in the EPA-TSD, but expressly referenced in other scientific assessments, reports, and studies designated in the EPA-TSD as “core reference documents”.

5. “EPA Climate Science-Related Agreements” -

“EPA climate science-related agreements” include all:

- a. Contractual or other reciprocal arrangements entered into between EPA and third parties, including other federal agencies, foreign governments (including foreign governmental agencies) and/or intergovernmental organizations/bodies:
  - i. Pursuant to which such third parties performed climate science-related peer review services (substantive peer review, peer review management and/or peer review oversight) jointly or solely on EPA’s behalf, with respect to the climate science-related assessments, reports and studies referenced in the EPA-TSD, in exchange for some form of consideration.
- b. Such agreements *include, but are not limited to*:
  - i. EPA Memorandums of Understanding (“MOUs”);<sup>27</sup>
  - ii. EPA’s cooperation authority under Clean Water Act Section 104(b)(2) and/or Clean Air Act Section 103(b)(2);<sup>28</sup>
  - iii. Economy Act (31 U.S.C. §1535) agreements;<sup>29</sup>
  - iv. Other more general domestic or international science & technology, research & development, analysis, cooperation, etc. agreements;
  - v. Arrangements subject to U.S. federal agency reporting pursuant to the Case-Zablocki Act (1 U.S.C. §112b).<sup>30</sup>
- b. Contractual or other reciprocal arrangements entered into between EPA and private parties, pursuant to which such private parties performed climate science-related observational, assessment, diagnostic or other services supporting the peer review of climate science-related assessments, reports, studies, authored by EPA or other

federal agencies on in exchange for some form of consideration *including, but not limited to*, those:

- i. Focused on promoting environmental protection or conservation (e.g., The Nature Conservancy, etc.);
- ii. Focused on promoting the research objectives of DOC-NOAA Regional Integrated Sciences and Assessments Programs (“RISAs”), DOC-NOAA Regional Climate Centers (“RCCs”) Programs, or other federal agency programs;
- iii. Focused on promoting the research and policy objectives of DOC-NOAA and other federal agencies, including EPA, as part of the DOC-NOAA funded Cooperative Institute Program.

To further assist EPA national and regional FOIA officials in identifying and locating the requested records, this ITSSD FOIA Request Clarification also includes and incorporates by reference an Annotated Addendum and several Appendices (I-V) that provide additional relevant and useful historical and contextual information.

In closing, please recall that Ms. Dana Hyland of EPA-OAR has provided ITSSD with the opportunity to prepare this ITSSD FOIA Request Clarification which consolidates nine ITSSD EPA-HQ and EPA Regional Office FOIA Requests previously filed with your Office. In light of such change, logic and consistency dictate that ITSSD also be afforded the opportunity to prepare the consolidated Fee Waiver Request Clarification which accompanies this FOIA Request Clarification under separate cover.

ITSSD hereby requests and shall look forward to receiving a response to this FOIA Request Clarification within twenty (20) working days as provided by law. If ITSSD’s request is denied in whole or in part, it requests disclosure of segregable portions and a *Vaughn v. Rosen* index justifying the withholding of non-segregable information.

We thank you for your prompt attention to this matter.

Very truly yours,

*Lawrence A. Kogan*

Lawrence A. Kogan

CEO/President  
ITSSD

Cc Dana Hyland, EPA-HQ-OAR, Climate Change Division

**ANNOTATED ADDENDUM  
TO ITSSD FOIA REQUEST CLARIFICATION:  
LEGAL BACKGROUND; HISTORICAL & CONTEXTUAL INFORMATION**

**A. Legal Background:**

In *Massachusetts v. EPA* (2007)<sup>31</sup> the United States Supreme Court held that Congress had delegated to EPA, pursuant to Section 202(a)(1) of the Clean Air Act (CAA) (42 U.S.C. §7521(a)(1)), “the statutory authority to regulate the emission of...[GHGs] from new motor vehicles”. In addition, the Supreme Court had held that the text of this statutory provision requires the Administrator, before exercising his/her authority, to form a ‘judgment’ “relate[d] to whether an air pollutant cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare”.<sup>32</sup> According to the Court, “*policy judgments have nothing to do with whether greenhouse gas emissions contribute to climate change and do not amount to a reasoned justification for declining to form a scientific judgment* (emphasis added).<sup>33</sup>

In the subsequently decided case of *Coalition for Responsible Regulation, Inc. (“CRR”) v. EPA* (2012)<sup>34</sup> the DC Circuit Court of Appeals ruled that CAA § 202(a)(1) “requires EPA to answer only two questions: whether particular ‘air pollution’ [e.g.,] –greenhouse gases– ‘may reasonably be anticipated to endanger public health or welfare,’ and whether motor-vehicle emissions ‘cause, or contribute to’ that endangerment.”<sup>35</sup> The DC Circuit Court also held, reaffirming the Supreme Court in *Massachusetts v. EPA*, that “[t]hese questions require a ‘*scientific judgment*’ about the potential risks greenhouse gas emissions pose to public health or welfare—not policy discussions. *Massachusetts v. EPA*, 549 U.S. at 534” (emphasis added).<sup>36</sup>

*CRR v. EPA* (and related cases consolidated by the DC Circuit Court of Appeals) had arisen, in part, as the result of the EPA Administrator’s issuance of positive GHG endangerment and cause or contribute findings,<sup>37</sup> notwithstanding EPA’s prior alleged failure to adequately respond to public comments concerning, and to public stakeholder requests for explanation, clarification and necessary correction of, EPA’s climate science-related peer review records elucidating the scientific and policy judgments underlying the Administrator’s findings.<sup>38</sup> This case also was triggered because, immediately after the Administrator had reached positive GHG endangerment and cause or contribute findings, EPA-HQ promulgated economically significant national GHG tailpipe emissions rules (May 2010)<sup>39</sup> and regulations governing GHG emissions from stationary source facilities under CAA Titles I and V (April and June 2010, respectively).<sup>40</sup> In addition, the Administrator rejected, thereafter, stakeholders’ petitions to reconsider the endangerment and cause or contribute findings (August 2010),<sup>41</sup> notwithstanding public stakeholder claims that EPA allegedly had failed to adequately respond to or address beforehand the comments they had submitted under the Administrative Procedure Act<sup>42</sup> and the requests for correction they had filed under the Information Quality Act (“IQA”).<sup>43</sup>

The Administrator’s CAA Section 202(a)(1) findings were, in part, based primarily on the twenty-one (21) climate science-related synthetic assessment products (“SAPs”) issued by the United States

Global Change Research Program/Climate Change Science Program (“USGCRP/CCSP”). Apparently, the release of the 21 SAPs, which had been intended to fulfill the Global Change Research Act of 1990 requirement for a single integrated national climate change assessment, had been delayed for some time due to interpretational and other administrative complications.<sup>44</sup>

To better understand the context underlying the prior ITSSD FOIA Requests and this consolidated ITSSD FOIA Request Clarification, it is helpful to recall the pivotal role that these SAPs, which had been heavily based on IPCC findings, had served in informing the Administrator’s findings. To this end, it also is helpful to revisit the early court challenge launched in November 2006 by three environmental nongovernmental organizations (“ENGOs”)<sup>45</sup> to ensure and expedite the production of these delayed SAPs is quite enlightening. It reveals the quite considerable scheduling constraints and political pressures under which the prior administration operated to produce and conduct peer reviews of all 21 SAPs (including the scientific literature underlying them) in abbreviated record time.

In *Center for Biological Diversity et al. v. Brennan et al.* (2007),<sup>46</sup> a case of first impression, the U.S. Federal District Court for the Northern District of California ruled in favor of the three ENGOs that had sought declaratory and injunctive relief to compel executive branch<sup>47</sup> compliance with the relevant provisions of the Global Change Research Act of 1990 (GCRA). In particular, 15 U.S.C. §§2934 and 2936, respectively, require the “periodic preparation and submission of (1) a National Global Change Research Plan...and (2) a Scientific Assessment analyzing the effects of global climate change.”<sup>48</sup>

The District Court found that the Bush administration had failed to prepare the required new Research Plan within the statutory timeframe (i.e., at least once every three years). “The last Research Plan issued was in July 2003...The statute [15 U.S.C. §2934] required a revised Research Plan by July 2006. None ha[d] been forthcoming...”<sup>49</sup> The Court also found that defendants had failed to prepare and submit the required new Scientific Assessment within the prescribed statutory period (15 U.S.C. §2936 requires “not less frequently than every 4 years”). According to the Court,

“The last Scientific Assessment was published on October 31, 2000, and submitted to the Congress in November 2000...A new assessment was due in November 2004...As with the Research Plan, this deadline has lapsed. The Scientific Assessment is now more than two and a half years late.”<sup>50</sup>

In their response to plaintiff’s complaints, defendants advised that they had already “initiated the process for producing a revised Research Plan”<sup>51</sup> but had not provided a specific date by which they would complete the revised Research Plan.<sup>52</sup> Defendants also responded that they were then “in the process of issuing 21 Assessment and Synthesis reports that [would] fulfill the requirements [to produce a Scientific Assessment],”<sup>53</sup> which they had intended to complete “by end of 2007.”<sup>54</sup>

On August 21, 2007, the District Court ordered defendants to publish the revised Research Plan in the Federal Register within the following six months - by “no later than March 1, 2008,”<sup>55</sup> and to produce the new Scientific Assessment, which “must in some manner integrate, evaluate, and



interpret the public comments of the Research Plan,” by “no later than May 31, 2008.”<sup>56</sup> By February 2008, the 21 USGCRP/CCSP SAPs that defendants had claimed were “in progress” in December 2006, had still been ““on the verge of release,”” prompting questions from environmental stakeholders concerning “how the CCSP [would] meet the May 31 court deadline to produce a new climate change assessment” that reflected the findings of each of these reports.<sup>57</sup> On May 29, 2008, the White House National Science and Technology Council’s Committee on Environment and Natural Resources<sup>58</sup> finally issued an assessment entitled, *Scientific Assessment of the Effects of Global Change on the United States*,<sup>59</sup> in compliance with the Court Order.

As of August 1, 2008, it was reported that “only eight of the [21] CCSP SAPs ha[d] so far been completed” even though these ‘eight’ had been represented as serving largely as the scientific foundation for another CCSP assessment referred to as the “Draft Unified Synthesis Product” (“USP”),<sup>60</sup> for which DOC-NOAA had previously sought public comments in a July 17, 2008 federal register notice.<sup>61</sup> DOC-NOAA had previously characterized the USP, which it distinguished from the period scientific assessment subject to the Court Order, as a report that would “integrate and evaluate” CCSP findings “in the context of current and projected global climate change trends...and analyze the effects of current and projected climate change...”<sup>62</sup>

Both the incomplete state of the CCSP SAPs and the unusually short 28-day public comment period provided provoked industry objections regarding the USP’s credibility and its compliance with the IQA and DOC-NOAA IQA-implementing guidelines.<sup>63</sup> DOC-NOAA had taken the position in such notice that the USP did not qualify as an Agency “dissemination” within the meaning of the IQA,<sup>64</sup> and that therefore, it is not required to produce the thirteen (13) then-incomplete SAPs underlying it. Clearly, however, “public commentators [could not have] possibly assess[ed] the “objectivity and reliability [of the USP]” at that time in the absence of such foundational documents.”<sup>65</sup>

Due to the many public comments it had received and the likely significant revisions the document thereafter required, DOC-NOAA effectively announced, on December 12, 2008, that the incoming administration would release the amended draft USP for a second 45-day public comment period sometime during January 2009.<sup>66</sup> On January 13, 2009, the Obama administration published a notice in the Federal Register announcing the commencement of a second 45-day public comment period ending on February 27, 2009, to review said document;<sup>67</sup> the USP, entitled, *Global Climate Change Impacts in the United States*, was later released in June 2009.<sup>68</sup> And, by January 16, 2009, it was reported that all of the remaining incomplete USGCRP/CCSP SAPs had been “completed.”<sup>69</sup>

## **B. Administrative Facts and Context:**

### *1. Observations*

On December 7, 2009, EPA released a Technical Summary Document (“EPA-TSD”)<sup>70</sup> to explain how the Administrator’s positive endangerment and cause or contribute findings had been reached. The Administrator’s findings stated that the EPA-TSD had been ‘peer reviewed’ by “12 federal experts [one of whom was an EPA scientist]<sup>71</sup> who...had also been involved with the USGCRP/CCSP as well as in the development and/or review of the Working Group II contribution

to the IPCC's Fourth Assessment Report ("AR4").<sup>72</sup> In particular, EPA had taken "part in the approval of the summary for policymakers for the Working Group II volume, *Impacts, Adaptation, and Vulnerability*".<sup>73</sup> According to EPA, "[t]he federal experts were ideal candidates because they ha[d] contributed significantly to the body of climate change literature and played active roles in IPCC and CCSP."<sup>74</sup>

The facts, however, reveal that no EPA personnel either drafted or contributed to the WG II summary for policymakers, whereas, no fewer than eight DOC-NOAA personnel had drafted, contributed to and/or edited said report.<sup>75</sup> The facts also reveal that while nine (9) EPA personnel had served as 'reviewers' of the Working Group II portion of the AR4,<sup>76</sup> no EPA personnel had drafted or contributed to such report. Several of these EPA IPCC reviewers subsequently participated in the preparation and/or review of the three (3) USGCRP/CCSP synthetic assessment products for which EPA had served as 'lead agency' developer.<sup>77</sup>

Furthermore, the facts reveal that no EPA personnel drafted, contributed to or reviewed the Working Group I portion of the AR4, which task had fallen largely to DOC-NOAA personnel.<sup>78</sup> Apparently, four (4) EPA personnel made contributions to the Working Group III portion of the AR4, while one of these EPA employees, along with three (3) others, had reviewed such report.<sup>79</sup> Clearly, EPA had relatively little or no input into the development of the substantive science portions of the IPCC AR4 report which assessed observed changes in climate supposedly taking into account the ongoing scientific uncertainties surrounding the current state of climate science. Rather, EPA assumed more of an observational role that endeavored to evaluate the risks engendered by the changes in climate as reported by third parties, including other federal agencies, particularly, DOC-NOAA. Therefore, the IPCC documents contained within the EPA-TSD that allegedly support the Administrator's CAA Section 202(a)(1) findings had been prepared mostly by non-EPA-personnel.

The EPA-TSD essentially provides a summary and synthesis of numerous summarized and synthesized scientific reports, assessments and literature upon which the Administrator's findings were primarily based, including those of the Intergovernmental Panel on Climate Change ("IPCC"),<sup>80</sup> the US Global Climate Research Program/Climate Change Science Program ("USGCRP/CCSP"),<sup>81</sup> and the National Research Council of the National Academies of Science ("NRC/NAS").<sup>82</sup> The EPA-TSD states that it:

"relies most heavily on existing, and in most cases very recent, synthesis reports of climate change science and potential impacts, which have undergone their own peer-review processes, including review by the U.S. government. Box 1.1 describes this process[fn]. The information in this document has been developed and prepared in a manner that is consistent with EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by the Environmental Protection Agency* (U.S. EPA 2002). In addition to its reliance on existing and recent synthesis reports, which have each gone through extensive peer-review procedures, this document also underwent a technical review by 12 federal climate change experts, internal EPA review, interagency review, and a public comment period."<sup>83</sup>

The EPA-TSD, furthermore, lists twenty-eight (28) “core reference documents”.<sup>84</sup> “These include [ : three (3) documents comprising] the 2007 *Fourth Assessment Report* of the Intergovernmental Panel on Climate Change (IPCC)[;] [sixteen (16) of twenty-one (21) documents comprising] the *Synthesis and Assessment Products of the U.S. Climate Change Science Program* (CCSP) published between 2006 and 2009[;]<sup>85</sup> the 2009 USGCRP scientific assessment[;][four (4)] National Research Council (NRC) reports under the U.S. National Academy of Sciences (NAS)[;] the National Oceanic and Atmospheric Administration’s (NOAA’s) 2009 *State of the Climate in 2008* report[;] the 2009 EPA annual *U.S. Inventory of Greenhouse Gas Emissions and Sinks*[;] and the 2009 EPA assessment of the impacts of global change on regional U.S. air quality.”<sup>86</sup> In addition, it also includes the Arctic Council’s 2004 climate impact assessment.<sup>87</sup>

The EPA-TSD, moreover, stated that EPA relied primarily on these assessment reports “because they 1) are very recent and represent the current state of knowledge on GHG emissions, climate change science, vulnerabilities, and potential impacts; 2) have assessed numerous individual, peer-reviewed studies in order to draw general conclusions about the state of science; 3) have been reviewed and formally accepted, commissioned, or in some cases authored by U.S. government agencies and individual government scientists; and 4) they reflect and convey the consensus conclusions of expert authors.”<sup>88</sup>

Consequently, the Administrator’s GHG endangerment and cause or contribute findings asserted that, “the scientific assessments of the IPCC, the USGCRP, and the NRC were “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.”<sup>89</sup> In addition, said findings stated that,

*“[t]hese assessments therefore essentially represent the U.S. government’s view of the state of knowledge on greenhouse gases and climate change. For example, with regard to government acceptance and approval of IPCC assessment reports, the USGCRP Web site states that: ‘When governments accept the IPCC reports and approve their Summary for Policymakers, they acknowledge the legitimacy of their scientific content.’[fn] It is the Administrator’s view that such review and acceptance by the U.S. Government lends further support for placing primary weight on these major assessments”* (emphasis added).<sup>90</sup>

The EPA-TSD described “the peer review and publication approval processes of IPCC, CCSP/USGCRP and NRC reports”; however, it offered little or no support for the EPA assertion that, “the comprehensiveness of these assessments and their review processes...provide EPA with assurances that this material has been well vetted by both the climate change research community and by the U.S. government.”<sup>91</sup> The EPA-TSD also offered little or no support for the EPA assertion that “this document relies on information that is objective, technically sound and vetted and of high integrity” and that “use of these assessments complies with EPA’s information quality guidelines”.<sup>92</sup>

Furthermore, the EPA-TSD outlined the following peer review process employed for each USGCRP/CCSP SAP referenced therein:

“For each SAP, there was first a prospectus that provided an outline, the proposed authors, and the process for completing the SAP; this went through two stages of expert, interagency, and public review. Authors produced a first draft that went through expert review; a second draft was posted for public review. The designated lead agency ensured that the third draft complied with the Information Quality Act. Finally, each SAP was submitted for approval by the National Science and Technology Council (NSTC), a cabinet-level council that coordinates science and technology research across the federal government.”<sup>93</sup>

However, hard evidence demonstrating such EPA compliance has not yet been made available in the administrative record; nor has any such information been made publicly accessible on agency websites.

The EPA-TSD and its contents had been “incorporated by reference”<sup>94</sup> by EPA into the federal registered-noticed GHG tailpipe emissions rules<sup>95</sup> and the prevention of significant deterioration and Title V GHG tailoring rules for stationary source facilities.<sup>96</sup> Thereafter, EPA incorporated the EPA-TSD by reference into a recently proposed federal register-noticed new source performance standard for CO<sub>2</sub> emissions potentially applicable to new “fossil fuel-fired electric utility generating units.”<sup>97</sup>

It is helpful to review the administrative record for purposes of understanding how many of the climate science-related assessments and reports upon which the EPA-TSD had “primarily” and “heavily” relied had not been expressly referenced in the body of the EPA-TSD. Rather, they had been incorporated by reference into assessments and reports that had been expressly referenced therein, as discussed below.

The record reveals that the USGCRP/CCSP had appointed EPA as ‘lead agency’ for the development of three (3) USGCRP/CCSP SAPs two (2) of which had been designated as “core reference documents” (SAP4.1/CCSP(2009b) and SAP4.6/CCSP(2008b)). This designation was significant for several key reasons.

First, the “core reference document” designation reflected the Administrator’s “primary” and “heavy” reliance, in part, upon these two USGCRP/CCSP SAPs<sup>98</sup> in having reached positive GHG endangerment and cause or contribute findings that triggered EPA’s subsequent issuance of economically significant national mobile and stationary source GHG emissions control regulations. Second, such designation suggested that the Administrator had *not* primarily relied upon the third EPA-developed SAP (SAP4.4/CCSP(2008)) that had *not* been expressly listed in the EPA-TSD as a “core reference document”. Nevertheless, the administrative record reflects that the Administrator had actually primarily relied upon this third EPA SAP to the extent it had been “incorporated by reference” within another EPA-TSD-designated “core reference document” (i.e., within a DOC-NOAA-developed climate science report commonly referred to as the second national climate assessment).<sup>99</sup>

The “core reference document” designation was also important because of the number of “core reference documents” that referenced IPCC assessments that were not themselves designated as “core reference documents”. For example, the EPA-TSD had included only three IPCC assessments as “core reference documents”,<sup>100</sup> but had incorporated by reference many more IPCC assessments that were referenced within the sixteen (16) USGCRP/CCSP SAPs, four (4) NRC assessments, and one (1) DOC-NOAA climate assessment designated as “core reference documents”.<sup>101</sup>

Furthermore, the “core reference document” designation was significant because of the IQA compliance certification statements that had been included within such documents. The two (2) EPA SAPs designated as “core reference documents” contained a statement classifying them as “highly influential” scientific assessments (“HISAs”) for peer review purposes, within the meaning of the IQA and applicable EPA IQA-implementing guidelines. These HISA statements were practically identical to those contained in other federal agency ‘led’ USGCRP/CCSP SAPs designated as “core reference documents”, save for a modification reflecting the name of the IQA guidelines of the specific federal agency serving as ‘lead’ development agency for that SAP.

The statement provided that,

*“[f]or purposes of compliance with Section 515 [...of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554) and the information quality act guidelines issued by the U.S. Environmental Protection Agency pursuant to Section 515...], this CCSP Synthesis and Assessment Product is an “interpreted product” as that term is used in U.S. Environmental Protection Agency guidelines and is classified as “highly influential” (emphasis added).<sup>102</sup>*

Such statements demonstrated *prima facie* that these two (2) SAPs constituted HISAs, and thus, that they had been subjected to the highest and most rigorous level peer review, conflict-of-interest and transparency requirements. The term “interpreted product”, however, did not appear either in EPA’s IQA-Implementing Guidelines or in EPA’s *Peer Review Handbook*. This raises questions concerning how EPA could have used that term for purposes of classification.

Clearly, EPA had borrowed that term from DOC-NOAA’s IQA Guidelines, which refer to “interpreted products” as one form of DOC-NOAA (government)-dissemination which is covered by the OMB and DOC-NOAA IQA Guidelines.<sup>103</sup> According to such Guidelines,

*“Interpreted Products are those that have been developed through interpretation of original data and synthesized products.<sup>104</sup> In many cases, this information incorporates additional contextual and/or normative data, standards, or information that puts original data and synthesized products into larger spatial, temporal, or issue contexts. This information is subject to scientific interpretation, evaluation, and judgment. Examples of interpreted products include journal articles, scientific papers, technical reports, and production of and contributions to integrated assessments.”<sup>105</sup>*



If EPA had borrowed that term from DOC-NOAA, which seems most likely, it does not appear that EPA indicated in the administrative record that it had done so.

These two EPA ‘lead agency’ SAPs also contained a statement certifying that said document *prima facie* satisfied all relevant and applicable IQA and EPA IQA-implementing guideline requirements.

“This document, part of the Synthesis and Assessment Products described in the U.S. Climate Change Science Program (CCSP) Strategic Plan, *was prepared in accordance with* Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554) and the information quality act guidelines issued by the U.S. Environmental Protection Agency pursuant to Section 515. *The CCSP Interagency Committee relies on U.S. Environmental Protection Agency certifications regarding compliance with Section 515 and Agency guidelines as the basis for determining that this product conforms with Section 515*” (emphasis added).<sup>106</sup>

The administrative record, however, did not substantiate why EPA classified these documents as HISAs or that EPA had publicly substantiated how its certification to the CCSP Committee and other federal agencies of EPA IQA HISA compliance had actually been satisfied, as Section VII of the OMB *Peer Review Bulletin* had required.<sup>107</sup>

The administrative record also does not evidence how EPA had verified the truthfulness and reliability of the certifications made by DOC-NOAA, DOI-USGS and other federal agencies regarding the SAPs for which they had ‘lead’ development agency responsibilities. Since EPA well-recognized that the Administrator’s CAA Section 202(a) GHG findings primarily relied, in part, on these non-EPA SAPs, the record should have reflected prior EPA efforts to seek more than *prima facie* assurances from the CCSP Committee of such other agencies’ IQA HISA compliance.

In addition, the administrative record reflects that EPA had also performed a lesser oversight function<sup>108</sup> in connection with two (2) other DOC-NOAA-developed SAPs,<sup>109</sup> three (3) DOE-developed SAPs,<sup>110</sup> and four (4) other SAPs developed, respectively, by DOI-USGS,<sup>111</sup> NASA,<sup>112</sup> DOT,<sup>113</sup> and USDA.<sup>114</sup> The EPA-TSD designated all nine (9) of these USGCRP/CCSP SAPs as “core reference documents”. Since EPA had embraced and publicly disseminated these SAPs as its own,<sup>115</sup> and the EPA Administrator had relied upon them in both reaching positive GHG endangerment and cause or contribute findings and promulgating economically significant national GHG emissions control regulations, EPA had been obliged, as a matter of statute and administrative procedure, to ensure their quality, integrity and reliability.

The EPA-TSD recited and reproduced *prima facie* sections of IPCC, USGCRP/CCSP and NRC<sup>116</sup> peer review, conflict-of-interest and transparency procedures without their having been tested in actual practice. Unless EPA decides to disclose records substantiating how such procedures, as actually employed, satisfied the highest and most rigorous IQA, OMB and EPA IQA-implementing guideline standards applicable to HISAs, the assessments produced by each of these organizations pursuant to such procedures cannot be certified as IQA-compliant. Regrettably, as the discussion

above reflects, EPA has yet to substantiate how the USGCRP/CCSP peer review procedures, in practice, had been IQA-compliant, other federal agency IQA certifications notwithstanding.

The administrative record also strongly suggests that EPA had not seriously considered the perceived independence and conflict-of-interest issues that had potentially compromised those processes, let alone, their impact on the integrity of the science produced therefrom. Similar independence issues were alleged to have arisen from EPA's review of the Administrator's CAA Section 202(a) findings. As at least one legal practitioner pointed out,

“During the Endangerment Finding comment period, a number of commenters questioned the independence and objectivity of the personnel EPA selected to peer review the Endangerment Finding, which is plainly a major scientifically based work product requiring peer review under EPA's IQA guidelines. As these comments pointed out, all of the peer reviewers were government scientists and many had worked directly on the ‘assessment literature’ on which EPA relied.”<sup>117</sup>

A close inspection of the administrative record strongly suggests that the peer review processes that had been employed by certain federal agencies upon whose SAPs the Administrator primarily relied may have been compromised. For example, the peer review agendas of the specially formed federal advisory committee to peer review SAP 3.4 for which DOI-USGS had development responsibility<sup>118</sup> and the final version of SAP 2.1a that DOE had produced,<sup>119</sup> appear to have reflected that different members from the same specially formed advisory committees had drafted and been integrally involved in the peer review of these SAPs. At the very least, these federal agencies have yet to publicly disclose the criteria the specially formed federal advisory committees had employed to review and select the individual peer reviewers identified (in the peer review agenda by DOI-USGS, and in the final SAP by DOE). Other SAPs developed by these agencies also appear to suffer from such infirmity. As a result, the Administrator had not been ensured by such other agencies that the SAPs for which they had ‘lead agency’ development responsibility had satisfied the highest and most rigorous level peer review, conflict-of-interest and transparency standards applicable to HISAs.

In addition, there are indications that EPA would be hard-pressed to show how the IPCC peer review procedures had been IQA-compliant, thereby casting doubt on the IQA-compliance of the IPCC assessments and reports developed pursuant to them that the EPA-TSD had designated as “core reference documents”. For example, the findings of a 2010 United Nations (“UN”) Secretary General and IPCC Chair-commissioned report revealed systemic flaws in the IPCC's peer review processes and procedures.<sup>120</sup> The IAC-2010 report found that the Third and Fourth IPCC Assessment Reports (“AR3”, “AR4”) had been developed amidst numerous systemic IPCC process and procedure failures in the critical areas of peer review, reviewer independence/ conflict-of-interest, lead author selection, assessment scoping, and assessment communication transparency, which required correction.<sup>121</sup> <sup>122</sup> These are precisely the very failures the IQA and the OMB and EPA IQA-implementing guidelines are meant to guard against.

However, despite these findings, the IPCC Review Committee appointed by the IAC Board had somehow managed to conclude that the IPCC AR3 and AR 4 “assessment process ha[d] been

successful overall”.<sup>123</sup> Reasonable persons are entitled to question this result and to raise additional questions. For example, had DOC-NOAA funding of the organizations for which four of twelve (4/12) (one third) of the Committee members had then worked, in any way, influenced that Committee finding?<sup>124</sup>

ITSSD understands that, during the period of EPA climate science-related activities evidenced by agency records to which this FOIA Request Clarification is directed (January 1, 2005 through December 31, 2011), EPA-HQ had established at least three (3) climate science-related advisory committees which have since been terminated.

EPA established the Human Impacts of Climate Change Advisory Committee (“HICCAC”) in 2007 and terminated it in 2008.<sup>125</sup> It is ITSSD’s understanding and belief that the HICCAC had been comprised, at most, of nine (9) members,<sup>126</sup> not all of whom had been in attendance at the two committee meetings<sup>127</sup> for which federal register notices had been filed.<sup>128</sup>

“The purpose of this Committee [was] *to provide advice* on the conduct of a study titled *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems* to be conducted as part of the U.S. Climate Change Science Program (CCSP) [SAP 4.6/CCSP(2008b)]” (emphasis added).<sup>129</sup> More specifically, the HICCAC Charter explained the Committee’s charge as follows:

“The primary responsibility of this committee is *to conduct an expert peer review* of a first external review draft report entitled: ‘Analyses of the effects of global change on human health and welfare and human systems.’ The HICCAC *will provide advice to the EPA Administrator on the conduct of this study*...The Committee will also review Agency responses to the public and CCSP’s peer review panel comments of the first draft. Specific and detailed review charges will be developed and provided to the Committee to guide their review process...The duties of the HICCAC are solely advisory in nature...*The HICCAC will submit its report on advice and recommendations to the EPA Administrator through the Assistant Administrator, Office of Research and Development.*” (emphasis added).<sup>130</sup>

Based on this description, it would appear that the HICCAC had rendered several different types of peer review-related services in connection with the subject study which had been reported to EPA-ORD that may or may not have been consistent with IQA HISA requirements. In particular, they had conducted an “expert peer review”, had reviewed EPA responses to public comments on the peer reviewed document, and had reviewed EPA responses to CCSP’s peer review panel comments of the document’s first draft.

EPA established the Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee (“ACSERAC”) in 2007 and terminated it in 2008.<sup>131</sup> It is ITSSD’s understanding and belief that the ACSERAC had been comprised of ten (10) members,<sup>132</sup> not all of whom had been in attendance at the several committee meetings<sup>133</sup> for which federal register notices had been filed.<sup>134</sup>

“The purpose of this Committee [was] to provide advice on the conduct of a study titled ‘Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources’ to be conducted as part of the U.S. Climate Change Science Program (CCSP). [SAP 4.4/CCSP(2008)]”<sup>135</sup> More specifically, the ASCERAC Charter explained the Committee’s charge as follows:

“The primary responsibility of this Committee is *to conduct an expert peer review of the first external review draft report entitled: ‘Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources.’ The ACSERAC will provide advice to the EPA Administrator on the conduct of this study...*The Committee also will review Agency responses to the public and CCSP’s peer review panel comments on the first draft. *Specific and detailed review charges will be developed and provided to the Committee to guide their review process...* The duties of the ACSERAC are solely advisory in nature...*The ACSERAC will submit its report on advice and recommendations to the EPA Administrator through the Assistant Administrator, Office of Research and Development*” (emphasis added).<sup>136</sup>

Based on this description, it would appear that the ACSERAC, like the HICCAC, had rendered several different types of peer review-related services in connection with the subject study which had been reported to EPA-ORD that may or may not have been consistent with IQA HISA requirements. In particular, it had conducted an “expert peer review”, had reviewed EPA responses to public comments on the peer reviewed document, and had reviewed EPA responses to CCSP’s peer review panel comments of the document’s first draft.

EPA established the Coastal Elevations and Sea Level Rise Advisory Committee (“CESLAC”) in 2006 and terminated it in 2009.<sup>137</sup> It is ITSSD’s understanding and belief that the CESLAC had been comprised of fifteen (15) members,<sup>138</sup> not all of whom were in attendance at the several committee meetings<sup>139</sup> for which federal register notices had been filed.<sup>140</sup>

“The purpose of this Committee [was] to provide advice on the conduct of a study titled *Coastal Elevations and Sensitivity to Sea Level Rise* to be conducted as part of the U.S. Climate Change Science Program (CCSP) [SAP 4.1/CCSP(2009b)]”<sup>141</sup>. More specifically, the CESLAC Charter explained the Committee’s charge as follows:

“CESLAC will provide advice to the EPA Administrator on the conduct of a study titled Coastal Elevations and Sea Level Rise to be conducted as part of the U.S. Climate Change Science Program. Within the context of the basic study plan, CESLAC will advise on the specific issues to be addressed, appropriate technical approaches, the nature of information relevant to decision makers, the content of the final report, compliance with the Information Quality Act, and other matters important to the successful achievement of the objectives of the study...The duties of the CESLAC are solely advisory in nature...*CESLAC will submit advice and report to the EPA Administrator, through the Director of the Office of Atmospheric Programs in the Office of Air and Radiation (OAR)*” (emphasis added).<sup>142</sup>

Unlike the HICCAC and ASCERAC Charter descriptions, the CESCLAC Charter description did *not* expressly indicate whether the “advisory services” that CESLAC was to have provided in connection with the subject study included conducting a peer review of such study, responding to public comments to the peer reviewed study, and/or responding to CCSP (interagency) comments made to an earlier study draft. However, minutes from CESLAC’s June 8, 2007 federal advisory committee meeting strongly suggested that CESLAC’s primary mission was, indeed, to peer review SAP 4.1.<sup>143</sup>

The administrative record, however, does not reflect that EPA had publicly released full and summary versions of peer review reports prepared on its behalf by these three EPA-established federal advisory committees. For the most part, all that is publicly accessible are HICCAC, ASCERAC and CESLAC federal advisory committee meeting minutes. As a result, the public can only speculate whether and how the peer review practices and procedures EPA employed to ensure the quality, integrity and reliability of these three climate science-related assessments upon which the Administrator’s CAA Section 202(a) findings relied, actually satisfied the highest and most rigorous level peer review, conflict-of-interest and transparency standards applicable to HISAs, consistent with the IQA and OMB and EPA IQA-implementing guidelines.

Moreover, the administrative record does not reflect that EPA had substantiated how its chosen method for addressing public stakeholder IQA requests for correction (“RFCs”) of disseminated EPA climate science reports and assessments underlying EPA’s proposed Clean Air Act (“CAA”) Section 202(a)(1) findings had satisfied the relevant statutory and administrative requirements of the IQA and OMB and EPA IQA-implementing guidelines. The IQA obliged EPA

“to establish administrative mechanisms allowing affected persons to seek and obtain correction of information maintained and disseminated by the agency that does not comply with the [OMB] guidelines”.<sup>144</sup>

Meanwhile, OMB’s IQA Guidelines provide that,

“[Only] if “existing public comment procedures – for rulemakings, adjudications other agency actions [e.g., endangerment findings]...provide well-established procedural safeguards that allow affected persons to contest information quality on a timely basis”, may agencies “use those procedures to respond to information quality complaints.”<sup>145</sup>

The OMB *Peer Review Bulletin*, furthermore, admonishes agencies that the typical Administrative Procedure Act notice and comment process will not necessarily assure IQA stakeholders that their specialized peer review-oriented requests for correction will, in fact, be adequately addressed.

“The mere existence of a public comment process (e.g., notice-and-comment procedures under the Administrative Procedure Act) does not constitute adequate peer review or an “alternative process,” [under Section VII of the OMB-PRB] because it



does not assure that qualified, impartial specialists in relevant fields have performed a critical evaluation of the agency's draft product.”<sup>146</sup>

EPA’s *Peer Review Handbook* appears to reinforce this notion, insofar as it distinguishes between the objectives of the peer review and notice and comment processes.

“[Public comment] does not necessarily draw the kind of independent, expert information and in-depth analyses expected from the peer review process...[which]...is limited to consideration of specified technical issues...[and therefore]...does not substitute for peer review.”<sup>147</sup>

“...Unlike stakeholder involvement which is concerned with the outcome of an agency’s technical work product or regulatory position, peer review is concerned with the scientific quality and technical credibility of the work product supporting a policy or decision.”<sup>148</sup>

These distinctions notwithstanding, EPA’s IQA Guidelines seem to retreat from this position to the extent they signal that the agency typically will address information quality issues in connection with [a] final Agency action or information product” rather than separately from and “prior to the final Agency action or information product...”<sup>149</sup> As the administrative record shows,<sup>150</sup> EPA had followed this latter approach when addressing public stakeholders’ IQA RFCs of climate science information and data underlying the Administrator’s very significant proposed CAA Section 202(a)(1) findings.<sup>151</sup> In other words, EPA had treated them as part of the general Administrative Procedure Act notice and comment procedure tied to such proposed rule, rather than as a separate IQA undertaking(s). This FOIA Request Clarification, therefore, seeks disclosure of EPA records substantiating how this agency action had ensured EPA’s compliance with the relevant IQA and OMB and EPA IQA-implementing guideline requirements.

Lastly, based on the administrative record, EPA appears to have concluded that, to respond to stakeholders’ RFCs, it needn’t have “obtain[ed] and publicize[d] the data underlying all the [USGCRP, IPCC, and NRC] assessments on which they rel[ied]...as the primary scientific and technical basis of [the] endangerment decision.”<sup>152</sup> While EPA had noted how it had placed within its website docket for downloading each of these major assessments, EPA had chosen not to provide website access to the thousands of climate-related studies that supported them. Apparently, EPA had reasoned that many such studies would have otherwise been inaccessible to the public via this medium due to copyright restrictions.<sup>153</sup> Instead, it merely directed public stakeholders to contact the EPA public reading room to determine whether the particular studies sought could be viewed or obtained.<sup>154</sup>

Only EPA’s comprehensive disclosure of the records requested pursuant to this ITSSD FOIA Request Clarification will better enable a broad public audience to understand how the scientific process of peer review EPA had undertaken in compliance with IQA and agency requirements had supported the scientific findings allegedly derived therefrom – namely, that the emissions of the six

human-induced GHGs EPA identified pose a potential risk of endangerment to public health and welfare.

## 2. *Reports of Interest*

A review of EPA's record reveals a series of reports from various EPA offices documenting difficulties that EPA has long experienced in performing a number of climate science-related development and review functions. These reports raise serious questions about EPA's ability to have expertly undertaken the GHG endangerment analysis required by CAA Section 202(a)(1), and the peer review processes that EPA had employed itself or vis-à-vis third parties to ensure the quality, integrity and reliability of the climate related-science underlying the Administrator's findings, consistent with the highest and most rigorous level IQA and OMB and EPA IQA-implementing guidelines applicable to HISAs.

During 2006, the EPA-ORD Board of Scientific Counselors ("BOSC"), Subcommittee on Global Change Research had documented that one of EPA's long-term goals had been to ensure that "[d]ecision makers in the states and EPA regional and program offices will use scientific information and decision tools from EPA's research and assessment program to protect human health by adapting to global change".<sup>155</sup> However, the BOSC also reported that "[t]he Agency d[id] not have the resources, nor is it EPA's mission...to fully address the data and research needs for public health protection; data resources such as public health surveillance and disease registries are within the purview of the Department of Health and Human Services (HHS) through the Centers for Disease Control and Prevention (CDC)."<sup>156</sup>

In addition, ITSSD is aware of at least one 2009 EPA Office of Inspector General ("EPA-OIG") Report identifying how EPA-ORD had experienced difficulties (during 2005-2011) ensuring the collection, retention and dissemination of useful climate science research information ("research products, technical information, or tools on climate change impacts, adaptation, and mitigation") for the benefit of EPA's regional and local offices.<sup>157</sup>

Based on the 2009 EPA-OIG Report, EPA-ORD's response to the 2006 EPA-ORD BOSC report, and a 2011 joint report from the EPA Science Advisory Board ("SAB") and the EPA-ORD BOSC,<sup>158</sup> ITSSD also recognizes EPA's evolving reorientation. These reports effectively revealed that, since 2008, the EPA-ORD-Global Change Research Program ("ORD-GCRP"),<sup>159</sup> OW<sup>160</sup> and OAR have increasingly directed their focus and proportionately committed more of their limited local and regional budgets and other resources to federal interagency (CCSP/USGCRP) and international climate science initiatives.<sup>161 162</sup> These EPA offices and entities have emphasized "the importance of aligning an Agency-wide strategy with these interagency programs",<sup>163</sup> and the need to redirect long-term goals from intra-agency regional and local initiatives "toward a more national perspective."<sup>164</sup>

Furthermore, ITSSD is aware of at least one 2011 EPA-OIG Report which focused on EPA-ORD's implementation of its *pro forma* "extensive process for peer review that addresses both internal and external peer reviews, as well as conflicts of interest".<sup>165</sup> As the EPA-OIG found, EPA-ORD

(between 2005-2011) “d[id] not test its policies and procedures...to address internal control standards, such as:...*Principles of Scientific Integrity* [and] *Peer Review Handbook*...[and consequently,] ORD c[ould] not assert with certainty the effectiveness of [its] controls...”<sup>166</sup>

Moreover, ITSSD is aware of the important role that the EPA Office of Research and Development’s NCEA division serves with respect to scientific assessments and its consequent reliance on scientific peer review. At least one 2009 EPA-OIG Report reveals that EPA-ORD-NCEA “produces highly influential scientific assessments and thus is one of EPA’s primary users of peer review services.”<sup>167</sup> “NCEA [also] oversees the peer review of EPA’s health risk assessments, specifically the peer review panel process”,<sup>168</sup> and “may obtain peer review services from the NAS, the SAB, an EPA contract, or under an interagency agreement”.<sup>169</sup> Although EPA-OIG deemed EPA-ORD-NCEA’s peer review process to be *adequate*, EPA-OIG, nevertheless, concluded that NCEA could “improve its system for populating and managing expert panels by better documenting conflict of interest decisions, establishing guidance for handling conflict of interest issues that arise after the panel has completed its deliberations, and providing more consistency between contractor and other third party procedures for selecting panels.”<sup>170</sup>

The administrative record also reveals how EPA’s SAB and the EPA-ORD’s BOSC had, during 2011, assessed the breadth and strength of EPA’s legal authority over climate-related issues in light of the U.S. Supreme Court’s decision in *Massachusetts v. EPA*. Their evaluation concluded that, “[a]lthough EPA has little authority related to energy and little authority on climate *other than that provided through the Supreme Court ruling* and the Endangerment Finding, the lack of regulatory responsibilities could free ORD to pursue unfettered, innovative and creative research that supports voluntary and/or information-based programs” (emphasis added).<sup>171</sup>

Finally, ITSSD’s attention has been drawn to another 2011 EPA-OIG Report the findings of which shed negative light on EPA’s peer review methodology and implementation as applied to the EPA-TSD. In sum, the EPA-OIG found that, “EPA’s TSD [p]eer [r]eview [m]ethodology [d]id [n]ot [m]eet OMB [r]equirements for [h]ighly [i]nfluential [s]cientific [a]ssessments.”<sup>172</sup>

According to the report,

“EPA had the TSD...[it] disseminated as part of its endangerment finding...reviewed by a panel of 12 federal climate change scientists. However, the panel’s findings and EPA’s disposition of the findings were not made available to the public as would be required for reviews of highly influential scientific assessments. Also, this panel did not fully meet the independence requirements for reviews of highly influential scientific assessments because one of the panelists was an EPA employee.”<sup>173</sup>

Apparently, the EPA-OIG had found that EPA-OAR officials had “not consider[ed] the TSD a scientific assessment [despite] the influential nature of the Agency’s endangerment finding and the supporting technical information” the accompanying TSD contained.<sup>174</sup> Lastly, this same report identified how EPA’s

“development of the endangerment finding did not follow all action development process steps as outlined in EPA’s action development process guidance”<sup>175</sup> applicable to ‘Tier 1’<sup>176</sup> actions. In particular, the analytic blueprint<sup>177</sup> ...[which] contained an outline for the endangerment finding...[and] listed the IPCC, CCSP (USGCRP), and NRC reports as core references for the development of OAR’s TSD...*did not explain what reviews were needed before accepting the other organizations’ data or how the TSD would be peer reviewed*...Although...OAR prepared *nine briefing documents* for EPA senior management that provided details on the Agency’s plans for preparing and peer reviewing the TSD...[they]...*did not explain why [the Agency] chose not to have a formal external peer review of the TSD*” (emphasis added).<sup>178</sup>

To its credit, EPA has since endeavored to fulfill this 2011 OIG Report’s recommendation that the agency revise its *Summary of General Assessment Factors for Evaluating the Quality of Scientific and Technical Information* (EPA, 2003) “to establish minimum review and documentation requirements for assessing and accepting data from other organizations.”

In January 2012, EPA issued what was likely its first response to the 2011 EPA-OIG report, namely, a guidance document intended to assist in the creation of Quality Assurance Project Plans (QAPPs). The guidance document was

“designed to assist in the creation of QAPPs that address the specifications listed in Annex B of *Quality Standard For Environmental Data Collection, Production, and Use By EPA Organizations* (EPA CIO 2106-S-01) and *Quality Standard For Environmental Data Collection, Production, and Use By Non-EPA (External) Organizations* (EPA CIO 2106-S-02.0) (current versions). It is intended both for EPA organizations and for **organizations conducting environmental data operations under external agreements with EPA**” (bold-faced emphasis added).<sup>179</sup>

Thereafter, during April 2012, EPA developed a minimum set of requirements for agency scientists to follow in developing a QAPP.<sup>180</sup>

A cursory review of the current version of the *Quality Standard For Environmental Data Collection, Production, and Use By Non-EPA (External) Organizations* (EPA CIO 2106-S-02.0) last reviewed by EPA during February 2012 reveals that it focuses on

“all non-EPA organizations having *external agreements with EPA* and shall be explicitly applied to all external agreements involving the collection, production, and use of environmental data for EPA. The terms and conditions of applicable external agreements shall include this Standard by reference as the requirements for quality management processes, applications, and personnel responsibilities. Affected organizations may include, but not be limited to:...*contractors; cooperative agreement holders;...other federal government departments and agencies; non-governmental organizations; international governments/organizations;...*” (emphasis

added).<sup>181</sup>

This standard encompasses a rather broad scope of environmental data-related activities that includes:

*“direct and indirect field and/or laboratory measurements; evaluating the operation and performance of environmental technology (e.g., remediation); inspections; survey development or application; enforcement and compliance monitoring or assessments; application of environmental management systems; environmental safety and health monitoring; scientific research; regulatory development; statistical or economic analyses using environmental data; use of information technology (e.g., the development and use of models such as pollutant transport and ground water migration, databases) supporting Agency programs; use of information sources outside of direct EPA management controls or authority (e.g., academic institutions); and use of data obtained from other sources (e.g., literature, Internet)”* (emphasis added).<sup>182</sup>

In December 2012, EPA issued “guidance for assessing and accepting existing scientific and technical information [that]...is relevant not only to data from other organizations, but to any existing scientific and technical information used to support Agency decision making.”<sup>183</sup> According to said document,

“EPA uses and disseminates scientific and technical information obtained from a variety of sources, both internal and external. **Information generated by the Agency, or obtained through EPA contracts, grants, and cooperative and interagency agreements, falls under the direct control of the Agency’s internal information quality systems** and various Agency-wide and program-specific policies and procedures...**Information generated by or obtained from outside sources**, such as local and state governments, tribes, industry, environmental organizations, **other federal agencies, and the peer-reviewed literature**, is evaluated by EPA using the guidance contained in the following documents to determine whether it meets the quality requirements of the Agency: *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* (EPA, 2002); FINAL December 2012; *A Summary of General Assessment Factors for Evaluating the Quality of Scientific and Technical Information* (the document to which this Addendum applies; EPA, 2003); *Guidance on Quality Assurance Project Plans* (EPA, 2012c); and *Peer Review Handbook, 3rd Edition* (EPA, 2006) and its Addendum (EPA, 2009c)” (bold-faced emphasis added).<sup>184</sup>

Interestingly, this EPA guidance document did not refer to third-party-generated scientific or technical assessments, reports, studies and other information that EPA obtains from *intergovernmental organizations* such as the UN IPCC. As the Administrator’s CAA Section 202(a)(1) GHG findings reflect, EPA seems to have treated such scientific information either as



having been generated by or obtained from an “environmental organization” or as “peer-reviewed literature”.<sup>185</sup>

In addition, this EPA guidance document stated that “EPA organizations are expected to develop and use a Quality Assurance Project Plan (QAPP), or an equivalent form of documentation, to document the procedures used in the review and analysis of existing scientific and technical information. Such documentation is part of EPA’s mandatory Quality Program.”<sup>186</sup> During December 2012, EPA also issued a draft *Handbook for Developing Quality Assurance Project Plans*, which

“presents non-mandatory guidance intended to help its users prepare Quality Assurance Project Plans (QAPPs) that meet the requirements of the following two Environmental Protection Agency (EPA) Standards: *Quality Standard for Environmental Data Collection, Production, and Use by EPA Organizations*, (CIO 2106-S-01) ‘Internal Standard’ (EPA 2012a); and *Quality Standard for Environmental Data Collection, Production, and Use by Non-EPA (External) Organizations*, (CIO 2106-S-02), (EPA 2012b). These Standards provide the foundation for the Agency-wide Quality Program for environmental data-related products and services that are disseminated outside the Agency.”<sup>187</sup>

Each of these activities conceivably fall under the types of activities that other federal agencies and intergovernmental organizations (e.g., UN IPCC) had undertaken on EPA’s behalf or in cooperation with EPA, especially those emphasized.

Regrettably, these recently established external EPA data quality processes, which build upon the IQA and relevant OMB and EPA IQA-implementing guidelines applicable to HISAs were either not in existence or not functioning well at the time the Administrator had reached positive CAA Section 202(a)(1) findings that triggered EPA’s issuance of economically significant mobile and stationary source GHG emissions control regulations. As a result, EPA had not subjected to an equivalently robust and rigorous process of data quality review either the climate science-related assessments developed by the IPCC (and the scientific literature underlying them) or the climate science-related assessments developed by other federal agencies participating in the USGCRP/CCSP (and the non-IPCC scientific literature underlying them) upon which the Administrator’s findings had primarily relied.

Early in his administration, the President recognized the importance in securing public trust in “the science and scientific process informing public policy decisions”.<sup>188</sup> To this end, in March 2009, he issued a policy memorandum instructing all federal agencies, including EPA, to subject all “scientific or technological information...considered in policy decisions...to well-established scientific processes, including peer review where appropriate”, and to “appropriately and accurately reflect that information *in complying with and applying relevant statutory standards*” (emphasis added).<sup>189</sup> The 2010 White House Office of Science and Technology Policy Director’s guidelines implementing the principles set forth in the President’s memorandum specifically referred to “peer review” as a scientific process that is indispensable to ensuring the scientific integrity of scientific or technological information that agencies such as EPA consider in policy decisions.

“Scientific and technological information is often a significant contributor to the development of sound policies. Thus, it is important that policymakers involve science and technology experts and that the scientific and technological information and processes relied upon in policymaking be of the highest integrity. *Successful application of science in public policy depends on the integrity of the scientific process* both to ensure the validity of the information itself and to engender public trust in Government. For this reason, agencies should develop policies that:..2. Strengthen the actual and perceived credibility of Government research. Of particular importance are: a) ensuring that selection of candidates for scientific positions in the executive branch is based primarily on their scientific and technological knowledge, credentials, experience, and integrity, b) *ensuring that data and research used to support policy decisions undergo independent peer review by qualified experts, where feasible and appropriate, and consistent with law*, c) setting clear standards governing conflicts of interest, and, d) adopting appropriate whistleblower protection” (emphasis added).<sup>190</sup>

As the 2012 Scientific Integrity Policy that EPA promptly drafted to implement the OSTP guidelines clearly indicates,

“This Scientific Integrity Policy *builds upon existing Agency and government-wide policies and guidance documents*, enhancing the EPA’s overall commitment to scientific integrity. This commitment is evidenced by the Agency’s adherence to the 2002 Office of Management and Budget (OMB) *Information Quality Guidelines*, the 2005 *OMB Information Quality Bulletin for Peer Review*, the *EPA’s Quality Policy* for assuring the collection and use of sound scientific data and information, the *EPA’s Peer Review Handbook* for internal and external review of scientific products, and the *EPA’s Information Quality Guidelines* for establishing the transparency, integrity, and utility of information published on the Agency’s websites” (emphasis added).<sup>191</sup>

In December 2010, the Director of the White House Office of Science and Technology Policy (“OSTP”) issued its own memorandum providing guidance explaining how federal agencies should implement the President’s science integrity policy.<sup>192</sup> Apparently, the White House was concerned that a lack of public confidence in the science and scientific process could serve not only to limit funding for the nation’s science and technology research agenda,<sup>193</sup> but also to impede administration-favored environmental and health policies informed by Agency science infected by ‘flawed’ or ‘compromised’ scientific peer review practices.<sup>194</sup> Although these White House memoranda were issued in 2009 and 2010, and EPA’s implementing policy was drafted in 2012, respectively, it was not until August 2013 that EPA was found to have been actively pursuing full compliance with the President’s scientific integrity policy.<sup>195</sup>

Taking into account all of the agency reports and studies and the actual administrative practices in which EPA had engaged up to the time the Administrator had reached positive CAA Section 202(a)(1) findings, as discussed in Section B of this Addendum, reasonable persons may conclude

that EPA had long adopted a pattern of demonstrated *minimal* compliance, if not, *noncompliance* with federal government and agency scientific data quality requirements. It is gratifying to see that EPA has since developed, adopted and employed new programs in response to the EPA-OIG's multiple findings, and to the President's and OSTP's initiatives on scientific integrity, as Section B of this Addendum also shows. However, this does not remedy the prior infirmities that beset EPA's peer review processes for vetting the mostly externally generated third-party climate science assessments, reports and studies underlying the Administrator's findings. Absent EPA's full and complete disclosure of the records requested, it would not be unreasonable for the public to conclude that EPA had *not* been in compliance with the highest and most rigorous level statutory and administrative peer review, conflict-of-interest and transparency standards governing EPA's dissemination of the internally and externally generated HISAs supporting the Administrator's positive proposed (April 2009) and final (December 2009) GHG endangerment and cause or contribute findings.<sup>196</sup>

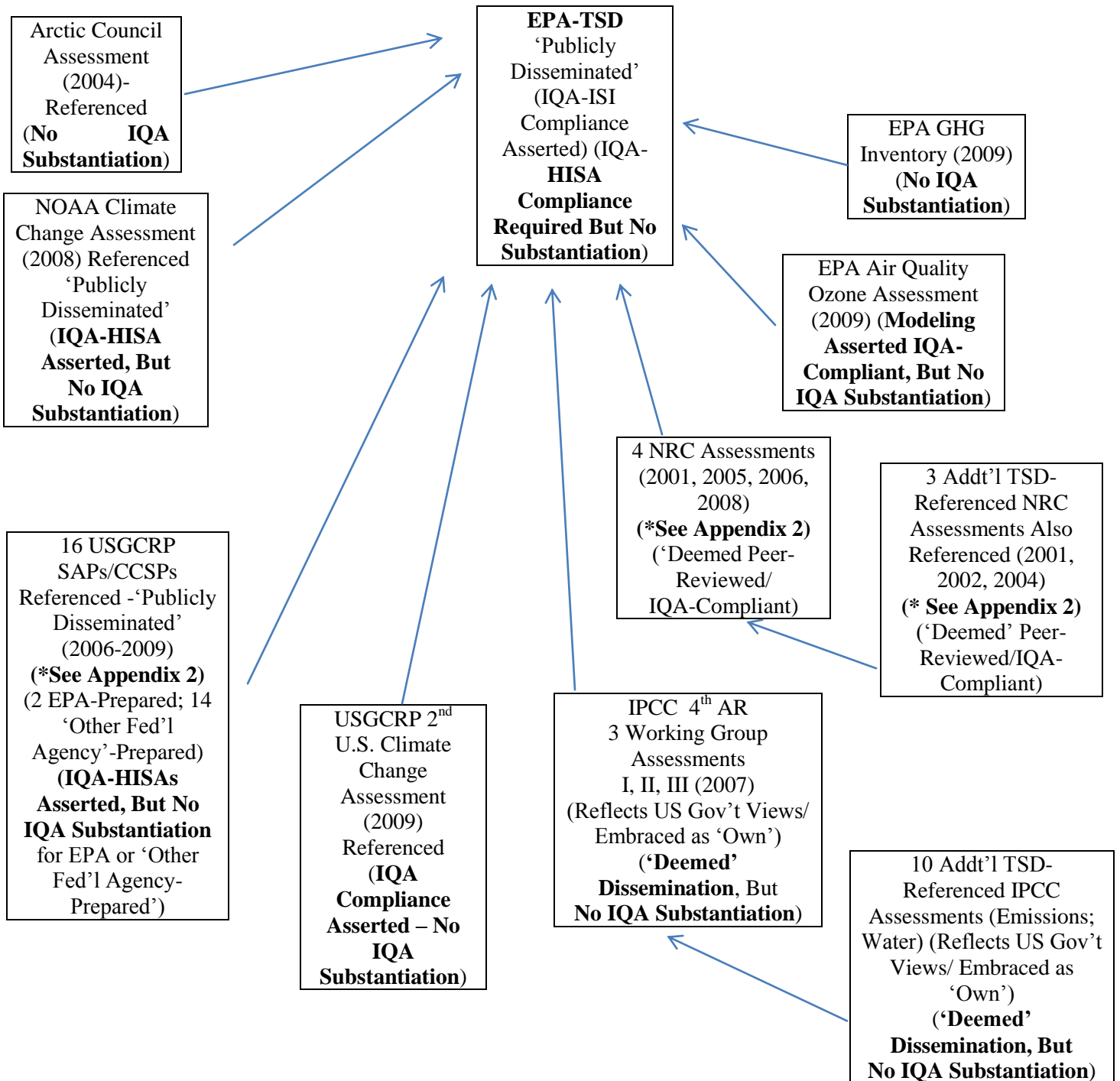
\*END\*

**Appendix 1: EPA-TSD Table 1.1 “Core Reference Documents”\***

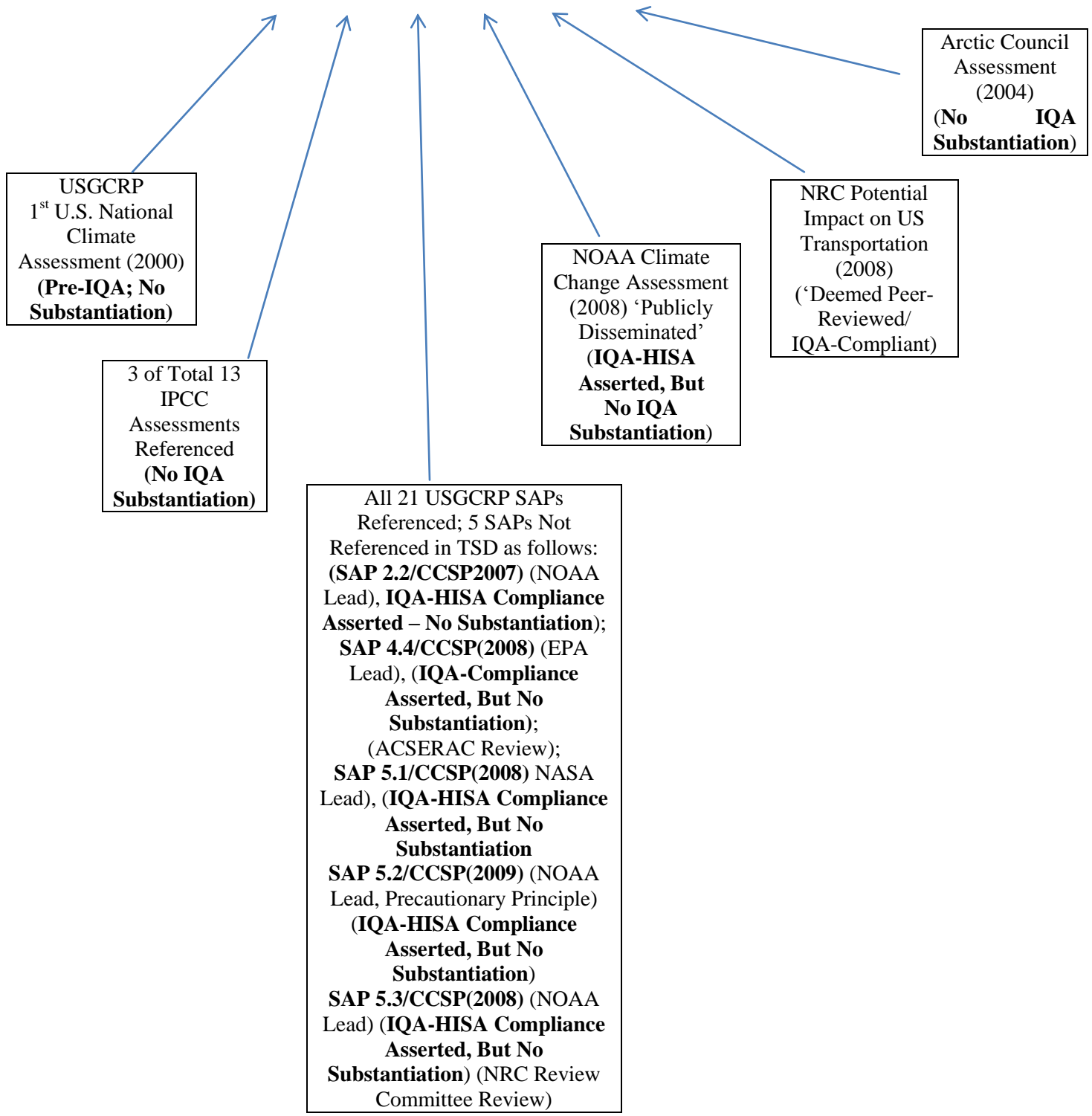
<b>Science Body-Author</b>	<b>U.S. Agency ‘Lead’</b>	<b>Assessment/Report Title</b>	<b>Year</b>
DOC-NOAA	DOC-NOAA	<i>State of the Climate in 2008</i> <sup>197</sup>	2009
USGCRP/CCSP	DOC-NOAA	<i>Global Climate Change Impacts in the United States</i> <sup>198</sup>	2009
IPCC		<i>Working Group I: The Physical Science Basis</i> <sup>199</sup>	2007
IPCC		<i>Working Group II: Impacts, Adaptation and Vulnerability</i> <sup>200</sup>	2007
IPCC		<i>Working Group III: Mitigation of Climate Change</i> <sup>201</sup>	2007
USGCRP/CCSP	DOC-NOAA	<i>SAP 1.1: Temperature Trends in the Lower Atmosphere</i> <sup>202</sup>	2006
USGCRP/CCSP	DOI-USGS	<i>SAP 1.2: Past Climate Variability and Change in the Arctic and at High Latitudes</i> <sup>203</sup>	2009
USGCRP/CCSP	DOC-NOAA	<i>SAP 1.3: Re-analyses of Historical Climate Data</i> <sup>204</sup>	2008
USGCRP/CCSP	DOE	<i>SAP 2.1: Scenarios of GHG Emissions and Atmospheric Concentrations</i> <sup>205</sup>	2007
USGCRP/CCSP	NASA	<i>SAP 2.3: Aerosol Properties and their Impacts on Climate</i> <sup>206</sup>	2009
USGCRP/CCSP	DOC-NOAA	<i>SAP 2.4: Trends in Ozone-Depleting Substances</i> <sup>207</sup>	2008
USGCRP/CCSP	DOE	<i>SAP 3.1: Climate Change Models</i> <sup>208</sup>	2008
USGCRP/CCSP	DOC-NOAA	<i>SAP 3.2: Climate Projections</i> <sup>209</sup>	2008
USGCRP/CCSP	DOC-NOAA	<i>SAP 3.3: Weather and Climate Extremes in a Changing Climate</i> <sup>210</sup>	2008
USGCRP/CCSP	DOI-USGS	<i>SAP 3.4: Abrupt Climate Change</i> <sup>211</sup>	2008
USGCRP/CCSP	<b>EPA</b>	<i>SAP 4.1: Coastal Sensitivity to Sea Level Rise</i> <sup>212</sup>	2009
USGCRP/CCSP	DOI-USGS	<i>SAP 4.2: Thresholds of Change in Ecosystems</i> <sup>213</sup>	2009
USGCRP/CCSP	USDA	<i>SAP 4.3: Agriculture, Land Resources, Water Resources, and Biodiversity</i> <sup>214</sup>	2008
USGCRP/CCSP	DOE	<i>SAP 4.5: Effects on Energy Production and Use</i> <sup>215</sup>	2007
USGCRP/CCSP	<b>EPA</b>	<i>SAP 4.6: Analyses of the Effects of Global Change on Human Health</i> <sup>216</sup>	2008
USGCRP/CCSP	DOT	<i>SAP 4.7: Impacts of Climate Change and Variability on Transportation Systems</i> <sup>217</sup>	2008
NRC		<i>Climate Change Science: Analysis of Some Key Questions</i> <sup>218</sup>	2001
NRC		<i>Radiative Forcing of Climate Change</i> <sup>219</sup>	2005
NRC		<i>Surface Temperature Reconstructions for the Last 2,000 Years</i> <sup>220</sup>	2006
NRC		<i>Potential Impacts of Climate Change on U.S. Transportation</i> <sup>221</sup>	2008
	<b>EPA</b>	<i>Impacts of Global Change on Regional U.S. Air Quality</i> <sup>222</sup>	2009
	<b>EPA</b>	<i>Inventory of U.S. Greenhouse Gas Emissions and Sinks</i> <sup>223</sup>	2009
ACIA		<i>Arctic Climate Impact Assessment</i> <sup>224</sup>	2004

\* This table reproduces and annotates Table 1.1 on p. 6 of the EPA-TSD.

## Appendix 2: EPA-TSD “Core Reference Documents” and Assessments ‘Incorporated By Reference’ Therein







**Appendix 3:– USGCRP/CCSP “Core Reference Documents”  
‘Lead’ Agency Burdens**

<b><u>‘Lead’ Federal Agency Role</u></b> <b>*EPA Lead-Author Role</b> <b>**EPA Lesser Role</b>	<b>USGCRP/CCSP SAP/TSD Reference</b>
<b><u>EPA</u></b>	SAP 4.6/CCSP(2008b)
	SAP 4.1/CCSP(2009b)
<b><u>DOC/NOAA</u></b>	SAP 1.1/CCSP(2006)
	SAP 1.3/CCSP(2008g)
*Jeff Cohen, USEPA Lead Author, Chap. 2; Exec Summ *Terry Keating, USEPA Lead Author, Chap. 3; Exec Summ ** Michael W. Slimak, USEPA SAP Advisory Group Chair	SAP 2.4/CCSP(2008h)
** Michael W. Slimak, USEPA SAP Advisory Group Chair	SAP 3.2/CCSP(2008d)
** Michael W. Slimak, USEPA SAP Advisory Group Chair	SAP 3.3/CCSP(2008i)
	USGCRP/GCCI/2009
<b><u>DOE</u></b>	SAP 2.1b/CCSP(2007b)
** Michael W. Slimak, USEPA SAP Advisory Group Chair	
** Michael W. Slimak, USEPA SAP Advisory Group Chair	SAP 3.1/CCSP(2008c)
** Michael W. Slimak, USEPA SAP Advisory Group Chair	SAP 4.5/CCSP(2007a)
<b><u>DOI/USGS</u></b>	SAP 1.2/CCSP(2009c)
** Michael W. Slimak, USEPA SAP Advisory Group Chair	
	SAP 3.4/CCSP(2008a)
**EPA Designated Contributing Agency ** Michael W. Slimak, USEPA SAP Advisory Group Chair	SAP 4.2/CCSP(2009d)
<b><u>NASA</u></b>	SAP 2.3/CCSP(2009a)
** Michael W. Slimak, USEPA SAP Advisory Group Chair	
<b><u>DOT</u></b>	SAP 4.7/CCSP(2008f)
** Michael W. Slimak, USEPA SAP Advisory Group Chair	
<b><u>USDA</u></b>	SAP 4.3/CCSP(2008e)
** Michael W. Slimak, USEPA SAP Advisory Group Chair	

### Appendix 4: USGCRP/CCSP Documents Referencing IPCC Assessment Reports

<b>USGCRP/CCSP SAPs</b> <b>*EPA-TSD Core Reference Documents</b> <b>! EPA-TSD Non-“Core Reference Documents” (But Incorporated by Reference in TSD)</b>	<b>Referenced IPCC Assessment Reports</b>
CCSP(2009a)	1990, 1992, 1995, 1996, 2007
*CCSP(2009b)/SAP4.1 <b>(EPA Lead Agency)</b>	1990, 1992, 1996, 2001, 2007
CCSP(2009c)	1990, 2000, 2007
CCSP(2009d)	1996, 2007, 2007a, 2007b
CCSP(2008a)	2001, 2005, 2007
*CCSP(2008b)/SAP4.6 <b>(EPA Lead Agency)</b>	1994, 1995, 1996, 2000, 2001, 2001a, 2001b, 2001c, 2005, 2007, 2007a, 2007b, 2007c
CCSP(2008c)	1990, 2000, 2001, 2007, 2007a, 2007b
!SAP 4.4/CCSP(2008) <sup>225</sup> <b>(EPA Lead Agency)</b>	2000, 2001, 2001a, 2001b, 2007, 2007a, 2007b, 2007c, IPCC-TGIC 2007
*SAP 3.2/CCSP(2008d) <b>NOAA Lead Agency</b>	1990, 1992, 1996, 2001, 2001b, 2007, 2007a, 2007b
CCSP(2008e)	1990, 2000, 2001, 2007
CCSP(2008f)	1996, 2000, 2001, 2007
*SAP 1.3/CCSP(2008g) <b>NOAA Lead Agency</b>	2001, 2007, 2007a, 2007b
*SAP 2.4/CCSP(2008h) <b>NOAA Lead Agency</b> <b>(EPA Contributing Author)</b>	1999, 2001, 2005, 2007
*SAP 3.3/CCSP(2008i) <b>NOAA Lead Agency</b>	2001, 2007, 2007a, 2007b
CCSP(2007a)	2001, 2001a, 2005a, 2005b, 2007
CCSP(2007b)	1990, 1992, 1996a, 1996b, 1999, 2001, 2001a, 2001b, 2001c
*SAP 1.1/CCSP(2006) <b>NOAA Lead Agency</b>	1990, 2001
! SAP 2.2/CCSP(2007) <b>NOAA Lead Agency</b>	2000, 2001, 2007
! SAP 5.2/CCSP(2009) <b>NOAA Lead Agency</b>	2001, 2001a, 2001b, 2004, 2005, 2007
! SAP 5.3/CCSP(2008) <b>NOAA Lead Agency</b>	2007, 2007a, 2007b
*USGCRP/GCCI/2009 <b>NOAA Lead Agency</b>	2000, 2007a, 2007b, 2007c, 2007d, 2008(Water)

### Appendix 5: NRC Reports Referencing IPCC Assessment Reports

<b>NRC Reports</b> <b>* EPA-TSD “Core Reference Documents”</b> <b>! Non-TSD “Core Reference Documents” (But</b> <b>Incorporated by Reference in EPA-TSD)</b>	<b>Referenced IPCC Assessment Reports</b>
*NRC(2008)	2005, 2007a, 2007b
*NRC(2006b)	1990, 2001, 2001
*NRC(2005)	1990, 1992, 1996, 2001
!NRC(2004)	2001
!NRC(2002)	2001a, 2001b
*NRC(2001a)	2001
!NRC(2001b)	1996

**ENDNOTES**

<sup>1</sup> ITSSD is a globally recognized nonprofit research, analytics and educational institution based in the State of New Jersey which focuses, in part, on international and domestic environmental law and policy research and analysis in the public interest.

<sup>2</sup> In addition to filing a FOIA Request with EPA-HQ, ITSSD filed separate FOIA Requests with EPA Regions 2, 3, 4, 5, 6, 8, 9, and 10 designated as “EPA-R2”, “EPA-R3”, “EPA-R4”, “EPA-R5”, “EPA-R6”, “EPA-R8”, “EPA-R9” and “EPA-R10”.

<sup>3</sup> Representatives from the following EPA offices had so acknowledged receipt: EPA-HQ, EPA-R2, EPA-R3, EPA-R4, EPA-R5, EPA-R6, EPA-R8 and EPA-R10.

<sup>4</sup> See Email Dated March 28, 2014 From Wanda Calderon, EPA Region 2 to Lawrence Kogan, ITSSD.

<sup>5</sup> See Letter Correspondence Dated, April 1, 2014, From Dana Hyland, EPA Office of Air and Radiation to Lawrence Kogan, ITSSD.

<sup>6</sup> HISAs are defined as “influential scientific information [ISI] that the agency or the Administrator determines to be a scientific assessment that... (i) could have a potential impact of more than \$500 million in any year, or (ii) is novel, controversial, or precedent-setting or has significant interagency interest”. See Office of Management and Budget, *Final Information Quality Bulletin for Peer Review* (“OMB-PRB”) (Dec. 16, 2004) at §III.1, available at: <http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2005/m05-03.pdf>; United States Environmental Protection Agency, *Peer Review Handbook* (3rd ed.), EPA/100/B-06/002 (2006) (“EPA-PRH(2006)”) at §2.2.4, available at: <http://www.epa.gov/oamcinc1/1200015/handbook.pdf>. Scientific work product is “considered [ISI] if it “support[s] a regulatory program or policy position and it: “support[s] top Agency actions (i.e., rules, substantive notices, policy documents, studies, guidance; and/or its preparation demands ongoing Administrator and extensive cross-Agency involvement; and/or it addresses issues that could potentially result in major cross-Agency policies”; and/or it addresses highly novel or controversial issues; and/or “it could significantly advance the Administrator’s priorities”; and/or it “ha[d] an annual effect on the economy of \$100 million or more”. See United States Environmental Protection Agency, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by the Environmental Protection Agency*, EPA/260R-02-008 (“EPA IQA Guidelines”) (Oct. 2002) at §6.2, available at: [http://www.epa.gov/quality/informationguidelines/documents/EPA\\_InfoQualityGuidelines.pdf](http://www.epa.gov/quality/informationguidelines/documents/EPA_InfoQualityGuidelines.pdf); EPA-PRH(2006), *supra* at §2.2.3; United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 FR 66496, 66545 (Dec. 15, 2009), available at: <http://www.gpo.gov/fdsys/pkg/FR-2009-12-15/pdf/E9-29537.pdf>. Since similar factors are used “in determining if a scientific assessment is [influential or] highly influential”, OMB/EPA IQA-implementing guidelines instruct EPA officials to treat scientific assessments that meet the criteria of both as highly influential (i.e., as HISAs). See EPA-PRH(2006), *supra* at §2.2.3, §2.2.4; OMB-PRB, *supra* at p. 2 and §III.2; United States Environmental Protection Agency, *Peer Review Policy and Memorandum* (“EPA-PRP&M”) (Jan. 31, 2006) at p. 1, available at: [http://www.epa.gov/peerreview/pdfs/peer\\_review\\_policy\\_and\\_memo.pdf](http://www.epa.gov/peerreview/pdfs/peer_review_policy_and_memo.pdf); United States Environmental Protection Agency, *Peer Review Handbook* (3rd ed.), EPA/100/B-06/002 (6/29/12) (“EPA-PRH(2012)”) at Modified Figures 1 and 3, available at: [http://www.epa.gov/peerreview/pdfs/peer\\_review\\_handbook\\_2012.pdf](http://www.epa.gov/peerreview/pdfs/peer_review_handbook_2012.pdf); [http://www.epa.gov/peerreview/pdfs/Modified\\_Figures\\_1\\_and\\_3.pdf](http://www.epa.gov/peerreview/pdfs/Modified_Figures_1_and_3.pdf).

<sup>7</sup> See Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub. L. No. 106-554, 114 Stat. 2763, 2763A-153-154 (2000), §515, codified at 44 U.S.C. § 3516 note, available at: <http://www.gpo.gov/fdsys/pkg/PLAW-106publ554/pdf/PLAW-106publ554.pdf>; <http://codes.lp.findlaw.com/uscode/44/35/I/3516/notes>.

<sup>8</sup> See Office of Management and Budget, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies* (“OMB IQA Guidelines”) 67 FR 8452 (Feb. 22, 2002), available at: <http://www.whitehouse.gov/sites/default/files/omb/fedreg/reproducible2.pdf>; OMB-PRB, *supra* (particularly, Preamble, pp. 23-26; Sections I-VII). “Section III requires a more rigorous form of peer review for highly influential scientific assessments... *If information is covered by Section III, an agency is required to adhere to the peer review procedures specified in Section III*” (emphasis added). *Id.*, at Preamble, p. 23.

<sup>9</sup> See EPA IQA Guidelines, *supra*; EPA-PRH(2006), *supra*; EPA-PRH(2012), *supra* (especially revisions to Figures 1 and 3); EPA-PRP&M, *supra*. These guidelines provide that “all influential scientific and technical work products [ISI] used in decision making will be peer reviewed”. EPA-PRH(2006), *supra* at §2.2.1-2.2.2, 1.2.10. The EPA-PRP&M, which explains §4.2 of the EPA IQA Guidelines, explicitly states that ISI, including HISAs, as defined in § 1.5, I.7 of the



OMB-PRB, “should be peer reviewed in accordance with the Agency’s Peer Review Handbook.” See EPA-PRP&M, *supra* at 1; EPA Office of the Science Advisor, Peer Review Program website (last visited March 31, 2014), available at: <http://www.epa.gov/peerreview/>.

<sup>10</sup> United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 FR 66496 (Dec. 15, 2009), available at: <http://www.gpo.gov/fdsys/pkg/FR-2009-12-15/pdf/E9-29537.pdf>.

<sup>11</sup> See United States Environmental Protection Agency, *Technical Support Document (“EPA-TSD”) For Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, EPA-HQ-OAR-2009-0472-11292 (Dec. 7, 2009), at Table 1.1 p.6, available at: [http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment\\_TSD.pdf](http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment_TSD.pdf).

<sup>12</sup> As the EPA-TSD clearly states, “Table 1.1 lists the core reference documents for this TSD.” See EPA-TSD, *supra* at p. 7. Indeed, Table 1.1 is labeled “Core references *relied upon most heavily* in this document” (emphasis added). *Id.*, at Table 1.1, p. 7. “This version of the TSD, as well as previous versions of the TSD dating back to 2007, have taken the approach of *relying primarily on these assessment reports* because they 1) are very recent and represent the current state of knowledge on GHG emissions, climate change science, vulnerabilities, and potential impacts; 2) have assessed numerous individual, peer-reviewed studies in order to draw general conclusions about the state of science; 3) *have been reviewed and formally accepted, commissioned, or in some cases authored by U.S. government agencies and individual government scientists*; and 4) they reflect and convey the consensus conclusions of expert authors” (emphasis added). *Id.*, at p. 6. See also Appendix 1: EPA-TSD Table 1.1 “Core Reference Documents”.

<sup>13</sup> These agencies include the U.S. Departments of Commerce/National Oceanic and Atmospheric Administration (“DOC-NOAA”), Defense (“DOD”), Energy (“DOE”), Interior (U.S. Geological Survey) (“DOI-USGS”), State (“DOS”), Transportation (“DOT”) and Agriculture (“USDA”), the National Aeronautics and Space Administration (“NASA”), the National Science Foundation (“NSF”), the Smithsonian Institution, and the US Agency for International Development (“USAID”).

<sup>14</sup> It is ITSSD’s understanding and belief that a number of executive offices had been involved in the production and peer review of the 21 synthetic assessment products (“SAPs”) referenced in the EPA-TSD. As the previously filed ITSSD FOIA Requests reflect, these include, in addition to the OMB Office of Information and Regulatory Affairs (“OMB-OIRA”) the White House Office of Science and Technology Policy (“OSTP”), the OSTP Environment, Natural Resources and Sustainability Committee, the US Global Climate Research Program Subcommittee on Global Change Research and its Interagency Working Groups (especially its Interagency National Climate Assessment (INCA) Working Group and International Research and Cooperation IWG ), the National Science and Technology Council and its Committee on Environment, Natural Resources and Sustainability, and the President’s Interagency Climate Change Adaptation Task Force, co-organized by the White House Council on Environmental Quality (“CEQ”) and OSTP.

<sup>15</sup> See, e.g., “First (1st) Round of Office of Management and Budget (OMB) Comments to USEPA on the Proposed Findings”, EPA-HQ-OAR-2009-0171-0124 (April 24, 2009), available at: <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0171-0124>; “Second (2nd) Round of Office of Management and Budget (OMB) Comments to USEPA on the Proposed Findings”, EPA-HQ-OAR-2009-0171-0122 (April 24, 2009), available at: <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0171-0122>.

<sup>16</sup> Similar independence issues were alleged to have arisen from EPA’s review of the Administrator’s CAA Section 202(a) findings. “During the Endangerment Finding comment period, a number of commenters questioned the independence and objectivity of the personnel EPA selected to peer review the Endangerment Finding, which is plainly a major scientifically based work product requiring peer review under EPA’s IQA guidelines. As these comments pointed out, all of the peer reviewers were government scientists and many had worked directly on the ‘assessment literature’ on which EPA relied.[fn] In responding to this comment, the Administrator recognized that she was obligated to provide for independent peer review. She nevertheless maintained that her near complete reliance on the ‘assessment literature’ meant that she was justified in selecting peer reviewers not on the basis of their independence from EPA or the ‘assessment literature’ but on the basis of their familiarity with that literature. As she stated, ‘[g]iven our approach to the scientific literature...the purpose of the federal expert review was to ensure that the TSD accurately summarized the conclusions and associated uncertainties from the assessment reports.’ [fn] In other words, it was not important to the Administrator that she receive an independent critique of her own Endangerment Finding; her concern was merely to ensure that she had accurately summarized the conclusions of the ‘assessment literature’ on which she was relying.” See

<sup>17</sup> EPA, however, appears to have developed such practices only recently. See United States Environmental Protection Agency, *Conflicts of Interest Review Process for Contractor-Managed Peer Reviews of EPA HISA and ISI Documents* (March 21, 2013), available at: <http://www.epa.gov/osa/pdfs/epa-process-for-contractor.pdf>; United States Environmental Protection Agency, *EPA Strengthens Conflict of Interest Review Process for Science Review Panels*, Press Release (May 3, 2013), available at: <http://yosemite.epa.gov/opa/admpress.nsf/0/D5E1E226AFB31F7185257B60004B7958>; United States Environmental Protection Agency, Office of Inspector General, *Special Report: Review of Conflict of Interest Allegations Pertaining to the Peer Review of EPA's Draft Report, "Exposure and Human Health Evaluation of Airborne Pollution from the World Trade Center Disaster"*, Report No. 2005-S-00003 (Nov. 4, 2004), available at: <http://www.epa.gov/oig/reports/2005/20041104-2005-S-00003.pdf>. See also InsideEPA.com, *EPA Seeks To Strengthen 'Conflict' Policies For Contractor Peer Reviews*, Superfund Report (1/21/13), available at: <http://insideepa.com/Superfund-Report/Superfund-Report-01/21/2013/epa-seeks-to-strengthen-conflict-policies-for-contractor-peer-reviews/menu-id-1094.html>.

<sup>18</sup> See National Oceanic Atmospheric Administration, *Cooperative Institute Program Office Fact Sheet*, NOAA website, available at: <ftp://ftp.oar.noaa.gov/lci/1pgFactSheets/CIFAS.pdf>; United States Department of Commerce, National Oceanic and Atmospheric Administration, *NOAA COOPERATIVE INSTITUTE PROFILES 6/6/2012*, NOAA website, available at: <ftp://ftp.oar.noaa.gov/lci/Documents/ci-profiles.pdf>; Cooperative Institute for Research in Environmental Services, *NOAA (National Oceanic and Atmospheric Administration) & CIRES Collaboration*, CIRES website, available at: <http://cires.colorado.edu/about/noaa/>.

<sup>19</sup> "DOC-NOAA" means "United States Department of Commerce-National Oceanic and Atmospheric Administration."

<sup>20</sup> "DOE" means United States Department of Energy.

<sup>21</sup> "DOI-USGS" means United States Department of Interior, U.S. Geological Survey.

<sup>22</sup> "DOT" means United States Department of Transportation.

<sup>23</sup> "NASA" means National Aeronautics and Space Administration.

<sup>24</sup> "USDA" means United States Department of Agriculture.

<sup>25</sup> See U.S. Global Change Research Program, *Climate Literacy Framework, A Guide for Individuals and Communities*, USGCRP website (last visited April 4, 2014), available at: <http://www.globalchange.gov/resources/educators/climate-literacy.html>; U.S. Global Change Research Program, *Climate Literacy: The Essential Principles of Climate Science*, (March 2009), available at: [http://cpo.noaa.gov/sites/cpo/Documents/pdf/ClimateLiteracyPoster-8\\_5x11\\_Final4-11.pdf](http://cpo.noaa.gov/sites/cpo/Documents/pdf/ClimateLiteracyPoster-8_5x11_Final4-11.pdf) (*Climate Literacy: The Essential Principles of Climate Science* presents information that is deemed important for individuals and communities to know and understand about Earth's climate, impacts of climate change, and approaches to adaptation or mitigation.") *Id.*, at inside cover.

<sup>26</sup> See "Appendix 1: EPA-TSD Table 1.1 "Core Reference Documents"."

<sup>27</sup> See, e.g., *Memorandum of Understanding Between the United Nations Environment Programme and The Environmental Protection Agency of the United States of America* (Feb. 21, 2011), available at: <http://www.epa.gov/international/io/epaunepmou.pdf>. This cooperative arrangement entered into between the Departments of Commerce and Interior in August 2010 serves as a recent example of a climate change-related MOU. "The two secretaries signed a Memorandum of Understanding (MOU) that provides a framework to build upon existing partnerships that bring together the departments' best available climate science and services to inform adaptation strategies and response decisions to manage America's oceans, coasts, Great Lakes and public lands. This joint effort aims to leverage each department's unique capabilities and stewardship mandates to most efficiently and effectively manage the nation's waters and lands and safeguard the communities and economies that depend on them. This agreement will also draw on national and regional programs and partnerships of each department, including The Department of the Interior's emerging Climate Science Centers and Landscape Conservation Cooperatives and the Department of Commerce/National Oceanic and Atmospheric Administration's climate science and services, Regional Integrated Sciences and Assessments program and Regional Climate Centers. The MOU will also support the ongoing broader interagency coordination efforts through the U.S. Global Change Research Program." See United States Department of Commerce, *U.S. Departments of Commerce and the Interior to Cooperate on Climate-Related Activities*, Press Release (Aug. 3, 2010), available at: <http://www.commerce.gov/news/press-releases/2010/08/03/us-departments-commerce-and-interior-cooperate-climate-related-acti>. See also MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. DEPARTMENT OF THE INTERIOR AND THE U.S. DEPARTMENT OF COMMERCE TO

COORDINATE AND COOPERATE IN CLIMATE-RELATED ACTIVITIES INVOLVING SCIENCE, SERVICES, MITIGATION, ADAPTATION, EDUCATION, AND COMMUNICATION, entered into on July 30, 2010, available at: <http://www.noaa.gov/climate/resources/resources/doidocclimatemoufinal.pdf>.

<sup>28</sup> “An Office of General Counsel (OGC) memorandum dated July 26, 2007, indicates that the two types of statutory authorities (SAs) for IAs that EPA uses most often are the Economy Act (31 U.S. Code 1535) and EPA’s cooperation authorities, such as Clean Water Act Section 104(b)(2) and Clean Air Act Section 103(b)(2). ‘The Economy Act is the authority for an IA when one agency acquires goods or services from another federal agency and the performing agency does not have an interest in providing the goods or services, apart from its interest in performing the work for the requesting agency. In contrast, EPA’s cooperation authorities generally authorize the Agency to cooperate with other entities, including federal agencies, in a broad range of specified activities. The cooperation authorities themselves are silent with respect to payments between agencies for these particular types of costs. However, the fact that the cooperation authorities are silent with respect to payments between agencies for these types of costs does not mean that such payments are unauthorized.’ The OGC memorandum also refers to other SAs that provide for reimbursement of the Agency’s costs. There are statutory authorities that expressly contemplate the use by EPA of another agency’s personnel, services, or other resources, referred to as utilization authorities. Certain utilization authorities expressly authorize EPA to pay for the personnel and associated indirect costs, as well as for travel, supplies, and equipment costs directly related to the IA project. In addition, the memorandum says that ‘some utilization authorities contemplate the use by EPA of another agency’s personnel and associated resources but do not address reimbursement of the other agency.’ Further, ‘if EPA did not reimburse the agency providing assistance to EPA, the other agency would be using its appropriation to perform functions under EPA’s statutes and would augment the EPA appropriation that supports the activities in question.’ OGC’s opinion is “the silence of the statutes regarding reimbursement does not foreclose reimbursement and, in fact, the better argument is that reimbursement is required.” See United States Environmental Protection Agency Office of Inspector General, *EPA Could Recover More Indirect Costs Under Reimbursable Interagency Agreements*, Report No. 12-P-0835 (Sept. 19, 2012), at p. 2, available at: <http://www.epa.gov/oig/reports/2012/20120919-12-P-0835.pdf>.

<sup>29</sup> *Id.* The Economy Act (31 U.S.C. §1535), which established “the first government-wide statutory authorization for federal agencies to provide work, services, or materials to other federal agencies on a [contractual and] reimbursable basis”, generally presumes interagency redelegations are invalid. Act of June 30, 1932, ch. 314, 47 Stat. 382; 31 U.S.C. §1535(d). Although the Economy Act is silent on the issue of redelegation, it “does not give a performing agency any authority which it would not otherwise have”. GAO OGC Fed’l Appropriations Law, 3<sup>rd</sup> Ed., Vol. III, p. 12-28, citing Comp. Gen. 262, 266 (1938). The Comptroller General has permitted interagency redelegations, provided “the ordering agency retains control over the redelegated tasks which must not involve significant decision-making authority or an agency’s primary administrative functions”. See Jason Marisam, *The Interagency Marketplace*, 96 Minn. Law Review 886, 901, 908 (2012), available at: [http://www.minnesotalawreview.org/wp-content/uploads/2012/05/Marisam\\_MLR.pdf](http://www.minnesotalawreview.org/wp-content/uploads/2012/05/Marisam_MLR.pdf) (citing B-163758, 1971 WL 7556 (Comp. Gen. May 6, 1971)).

<sup>30</sup> “The Case-Zablocki Act of August 22, 1972, 1 U.S.C. §112b (the Act) requires that all international agreements entered into by the U.S. Government receive prior approval by the Secretary of State. ‘Notwithstanding any other provision of law, an international agreement may not be signed or otherwise concluded on behalf of the United States without prior consultation with the Secretary of State. Such consultation may encompass a class of agreements rather than a particular agreement.’ 1 U.S.C. § 112b(c). The Act clearly applies to government agencies and ‘the fact that an agreement is concluded by and on behalf of a particular agency of the United States Government, rather than the United States Government, does not mean that the agreement is not an international agreement.’ 22 C.F.R. § 181.2(a)5)b.” See United States Department of Commerce, National Oceanic and Atmospheric Administration Office of General Counsel, *Case-Zablocki Act (C-Z)*, available at: [http://www.gc.noaa.gov/gc\\_case\\_zablocki.html](http://www.gc.noaa.gov/gc_case_zablocki.html).

<sup>31</sup> See *Massachusetts v. EPA*, 549 U.S. 497 (2007). Said endangerment evaluation must “relate to whether an air pollutant ‘cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare.’” *Id.*, at 532–33.

<sup>32</sup> *Id.*, at 526-527 (2007). Said endangerment evaluation must “relate to whether an air pollutant ‘cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare.’” *Massachusetts v. EPA*, 549 U.S. at 532–33.

<sup>33</sup> *Id.*, at 534. “If the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment, it must say so. The statutory question is whether sufficient information exists for it to make an endangerment finding. *Id.*

<sup>34</sup> 684 F.3d 102, 117 (DC Cir. 2012).

<sup>35</sup> *Id.*, at 117.

<sup>36</sup> *Id.*, at 117-118.

<sup>37</sup> See United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act* 74 FR 66496 (Dec. 15, 2009).

<sup>38</sup> See United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act: EPA’s Response to Public Comments Volume 1: General Approach to the Science and Other Technical Issues* (April 17, 2009); United States Environmental Protection Agency, *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 2: Issues Raised by Raised by Petitioners on EPA’s Use of IPCC* (Aug. 13, 2010); United States Environmental Protection Agency, *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* (Aug. 13, 2010).

<sup>39</sup> See United States Environmental Protection Agency, *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule*, 75 FR 25324 (May 7, 2010), available at: <http://www.gpo.gov/fdsys/pkg/FR-2010-05-07/pdf/2010-8159.pdf>.

<sup>40</sup> See 75 FR 25324, 25402, *supra*; See also 42 U.S.C. § 7475; 7479(1); § 7602(j); United States Environmental Protection Agency, *Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs (“Timing Rule”)*, 75 FR 17004 (Apr. 2, 2010), available at: <http://www.gpo.gov/fdsys/pkg/FR-2010-04-02/pdf/2010-7536.pdf>; United States Environmental Protection Agency, *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Final Rule*, 75 FR 31514, 31,534-36 (June 3, 2010), available at: <http://www.gpo.gov/fdsys/pkg/FR-2010-06-03/pdf/2010-11974.pdf>. In addition, EPA has since relied upon the Administrator’s positive endangerment and cause or contribute findings to issue a proposed new source performance standard for GHG emissions of stationary source electric utility generating units. See United States Environmental Protection Agency, *Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units*; Proposed Rule, 79 FR 1430 (Jan. 8, 2014), available at: <http://www.gpo.gov/fdsys/pkg/FR-2014-01-08/pdf/2013-28668.pdf>.

<sup>41</sup> See United States Environmental Protection Agency, *EPA’s Denial of the Petitions to Reconsider the Administrator’s Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule*, 75 FR 49556 (Aug. 13, 2010), available at: <http://www.gpo.gov/fdsys/pkg/FR-2010-08-13/pdf/2010-19153.pdf>.

<sup>42</sup> See Administrative Procedure Act (APA), Pub.L. 79–404, 60 Stat. 237 (June 11, 1946), codified at 5 U.S.C. 551et seq.

<sup>43</sup> See Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub. L. No. 106-554, 114 Stat. 2763 (2000), §515.

<sup>44</sup> See Rick Piltz, *U.S. National Climate Change Assessment Strategic Planning Kicks Off in Chicago Meeting*, Climate Science Watch (April 4, 2010), available at: <http://www.climate-science-watch.org/2010/04/04/u-s-national-climate-change-assessment-strategic-planning-kicks-off-in-chicago-meeting/> (“In 2003, in the absence of any intention to produce an integrated national climate change assessment, the U.S. Climate Change Science Program announced that, during the next four years, it would produce a series of 21 climate science-related synthesis reports on various topics. However, production of the reports bogged down in interminable and dubious Bush Administration political and bureaucratic procedure, which delayed the originally scheduled release of many of the reports by years, until the last 5 were cleared on the final working day of the Administration.”). *Id.*

<sup>45</sup> These organizations included the Center for Biological Diversity, Greenpeace and Friends of the Earth.

<sup>46</sup> See *Center for Biological Diversity v. Brennan*, 571 F. Supp. 2d 1105 (DC ND Calif. 2007), available at: [http://www.biologicaldiversity.org/programs/climate\\_law\\_institute/fighting\\_climate\\_science\\_suppression/enforcing\\_national\\_assessment\\_of\\_climate\\_change/pdfs/CCSP-order-08-21-2007.pdf](http://www.biologicaldiversity.org/programs/climate_law_institute/fighting_climate_science_suppression/enforcing_national_assessment_of_climate_change/pdfs/CCSP-order-08-21-2007.pdf); and <https://www.courtlistener.com/cand/8Ef6/center-for-biological-diversity-v-brennan/>.

<sup>47</sup> The stated defendants included: 1) Dr. William Brennan, Acting Director of U.S. Climate Change Science Program (“CCSP”); 2) John Marburger, III, Director of the Office of Science Technology Policy (“OSTP”), and Chairman of the



Federal Coordinating Council on Science, Engineering and Technology; 3) U.S. Climate Change Science Program (“CCSP”); 4) White House Office of Science Technology Policy; and 5) Federal Coordinating Council on Science, Engineering and Technology.

<sup>48</sup> See *Center for Biological Diversity et al. v. Brennan et al.*, Complaint for Declaratory and Injunctive Relief, Case No. CO6-7061 (Nov. 14, 2006), available at: [http://www.biologicaldiversity.org/programs/climate\\_law\\_institute/fighting\\_climate\\_science\\_suppression/pdfs/Complaint-national-assessment.pdf](http://www.biologicaldiversity.org/programs/climate_law_institute/fighting_climate_science_suppression/pdfs/Complaint-national-assessment.pdf).

<sup>49</sup> See *Center for Biological Diversity v. Brennan*, 571 F. Supp. 2d 1105, Slip Op. at p. 2.

<sup>50</sup> Slip. Op., at pp. 2-3.

<sup>51</sup> Slip. Op., at p. 3.

<sup>52</sup> Slip. Op., at p. 36.

<sup>53</sup> Slip. Op., at pp. 3-4.

<sup>54</sup> Slip. Op., at p. 4.

<sup>55</sup> Slip. Op., at p. 37. In addition, the Court ordered defendants to submit the proposed Research Plan “to Congress not later than 90 days thereafter. This date allows the defendants six months to prepare the summary of the Plan, and then 90 days for public comment and revision provided for by the GCRA. See 15 U.S.C. § 2934(f).” *Id.*

<sup>56</sup> *Id.*

<sup>57</sup> See Anne Polansky, *A Strategy Session on the Future of the US Global Change Research Program*, Climate Science Watch (Feb. 5, 2008), available at: <http://www.climatesciencewatch.org/2008/02/05/a-strategy-session-on-the-future-of-the-us-global-change-research-program/> (making observations concerning, and referring to the remarks of former CCSP Office Director Peter Schultz made during, a January 17, 2008 conference organized by the nonprofit National Council on Science and the Environment (NCSE) to explore “the process for developing a set of [US Global Change Research Program-related] recommendations to the next administration and Congress in January 2009.”).

<sup>58</sup> In addition to the thirteen federal agencies that participate in the U.S. Global Change Research Program, the National Science and Technology Council Committee on Environment and Natural Resources is comprised of representatives from the U.S. Departments of Justice and Homeland Security, as well as from six White House Offices, including the Council on Environmental Quality, Council of Economic Advisers, Domestic Policy Council, National Economic Council, Office of Management and Budget and Office of Science and Technology Policy. See The White House, Office of Science and Technology Policy, *NSTC Committee on Environment, Natural Resources, and Sustainability*, OSTP website (last visited April 11, 2014), available at: <http://www.whitehouse.gov/administration/eop/ostp/nstc/committees/cenrs>.

<sup>59</sup> See The White House, National Science and Technology Council Committee on the Environment and Natural Resources, *Scientific Assessment of the Effects of Global Change on the United States* (May 2008), available at: [http://downloads.globalchange.gov/ccsp/CCSP\\_Scientific\\_Assessment\\_Full.pdf](http://downloads.globalchange.gov/ccsp/CCSP_Scientific_Assessment_Full.pdf). See also Anne Polansky, *Draft Synthesis Report on US Climate Impacts From Lame Duck Bush Administration Raises Questions*, Climate Science Watch (Aug. 18, 2008), available at: <http://www.climatesciencewatch.org/2008/08/18/draft-synthesis-report-on-us-climate-impacts-from-lame-duck-bush-administration-raises-questions/>.

<sup>60</sup> “On July 17, 2008, the National Oceanic and Atmospheric Administration published a Synthesis Report notice of availability and request for public comment in the Federal Register and announced a 28-day public comment period. The Synthesis Report is an integrative summary of the 21 Synthesis and Assessment Products (SAPs) of the Climate Change Science Program (CCSP), as well as the recent IPCC Fourth Assessment Report, and other recent results that have appeared in the scientific literature. However, as many of the underlying SAPs have not yet been produced, the public cannot presently judge the reliability and objectivity of Synthesis Report, because the public cannot access the underlying documents on which the Synthesis Report is based...[T]he Synthesis Report is heavily dependent on the findings and information contained in the CCSP SAPs. However, only eight of the CCSP SAPs have so far been completed.” See Letter from William L. Kovacs to William J. Brennan, *Comments on USP Draft: Kovacs* (Aug. 1, 2008), at pp. 1, 2-3, available at: <https://www.uschamber.com/sites/default/files/legacy/CO2/files/080108wkCOMMENTSCommentsonUSPFileKovacs.pdf>.



<sup>61</sup> See United States Department of Commerce, National Oceanic and Atmospheric Administration, *U.S. Climate Change Science Program Draft Unified Synthesis Product Report: Global Climate Change in the United States*, 73 FR 41042 (July 17, 2008), available at: <http://www.gpo.gov/fdsys/pkg/FR-2008-07-17/html/E8-16386.htm>.

<sup>62</sup> See United States Department of Commerce, National Oceanic and Atmospheric Administration, *Notice of establishment of Climate Change Science Program (CCSP) Unified Synthesis Product Development Committee (USPDC) and Announcement of Public Meeting*, 73 FR 14442 (March 18, 2008), available at: <http://www.gpo.gov/fdsys/pkg/FR-2008-03-18/pdf/E8-5440.pdf>.

<sup>63</sup> “This problem clearly raises the question of how the public can possibly assess the reliability and objectivity of the Synthesis Report when in fact many of the major reports on which the Synthesis Report relies have not yet even been completed—some of the SAPs are not even scheduled to be completed until October 2008. For this reason, the Synthesis Report lacks transparency, and therefore it does not comply with the Information Quality Act or Guidelines—for as the SAPs on which it relies have not yet been produced, there is no way for public commenters to assess the objectivity of the report as the underlying information is not available...In sum, the Synthesis Report lacks transparency owing to the unavailability of the underlying documents on which it relies and therefore fails to comply with objectives that are set out in the Information Quality Act and Information Quality Guidelines.” See Letter from William L. Kovacs to William J. Brennan, *Comments on USP Draft: Kovacs* (Aug. 1, 2008), *supra* at p. 3.

<sup>64</sup> See United States Department of Commerce, National Oceanic and Atmospheric Administration, *U.S. Climate Change Science Program Draft Unified Synthesis Product Report: Global Climate Change in the United States*, 73 FR 41042 (July 17, 2008), *supra*.

<sup>65</sup> See Letter from William L. Kovacs to William J. Brennan, *Comments on USP Draft: Kovacs* (Aug. 1, 2008), *supra* at p. 4.

<sup>66</sup> See United States Department of Commerce, National Oceanic and Atmospheric Administration, *U.S. Climate Change Science Program Draft Unified Synthesis Product: Global Climate Change Impacts in the United States - Notice of revision of the production schedule for the U.S. Climate Change Science Program Unified Synthesis Product*, 73 FR 75678 (Dec. 12, 2008), available at: <http://www.gpo.gov/fdsys/pkg/FR-2008-12-12/pdf/E8-29495.pdf>.

<sup>67</sup> See United States Department of Commerce, National Oceanic and Atmospheric Administration, *U.S. Climate Change Science Program Draft Unified Synthesis Product Report: Global Climate Change Impacts in the United States - Notice of availability and request for public comments*, 74 FR 1666 (Jan. 13, 2009), available at: <http://www.gpo.gov/fdsys/pkg/FR-2009-01-13/html/E9-371.htm>.

<sup>68</sup> See “Appendix 1: EPA-TSD Table 1.1 “Core Reference Documents””.

<sup>69</sup> “As of January 16, 2009, the CCSP had completed 21 synthesis and assessment products (SAPs) that address the highest priorities for U.S. climate change research, observation, and decision support needs.” See EPA-TSD, *supra* at Box 1.1, p. 4. It had been previously reported, as of January 10, 2009, that 5 remaining SAPs had not been released. They included: “*Past Climate Variability and Change in the Arctic and at High Latitudes*, U.S. Climate Change Science Program Synthesis and Assessment Product (SAP) 1.2, Lead Agency: U.S. Geological Survey[;]...*Thresholds of Change in Ecosystems*, U.S. Climate Change Science Program Synthesis and Assessment Product (SAP) 4.2, Lead agency: U.S. Geological Survey[;]...SAP 4.1, *Coastal Sensitivity to Sea-Level Rise: A Focus on the Mid-Atlantic Region* [Lead agency: EPA;]...SAP 5.2, *Best Practice Approaches for Characterizing, Communicating, and Incorporating Scientific Uncertainty in Decisionmaking* [Lead agency: DOC-NOAA;]...SAP 2.3, *Aerosol Properties and their Impacts on Climate*, [Lead agency: NASA].” See Rick Piltz, *White House Science Office Finally Clears Two Delayed Climate Science Reports for Release*, *Climate Science Watch* (Jan. 10, 2009), available at: <http://www.climate-science-watch.org/2009/01/10/white-house-science-office-finally-clears-two-delayed-climate-science-reports-for-release/>.

<sup>70</sup> See United States Environmental Protection Agency, *Technical Support Document (“EPA-TSD”) For Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, EPA-HQ-OAR-2009-0472-11292 (Dec. 7, 2009), available at: [http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment\\_TSD.pdf](http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment_TSD.pdf).

<sup>71</sup> These “12 federal experts” included the following U.S. federal agency personnel: “Federal expert reviewers [-] Virginia Burkett, USGS; Phil DeCola; NASA (on detail to OSTP); William Emanuel, NASA; Anne Grambsch, EPA; Jerry Hatfield, USDA; Anthony Janetos, DOE Pacific Northwest National Laboratory; Linda Joyce, USDA Forest

Service; **Thomas Karl, NOAA**; Michael McGeehin, CDC; Gavin Schmidt, NASA; **Susan Solomon, NOAA**; and Thomas Wilbanks, DOE Oak Ridge National Laboratory.” *Id.*, at p. ii.

<sup>72</sup> See United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act: EPA’s Response to Public Comments, Volume 1: General Approach to the Science and Other Technical Issues (“RTCs Vol. 1”)* (April 17, 2009), at Responses (1-5), (1-10) at pp. 4-5 and 7, available at: <http://www.epa.gov/climatechange/endangerment/comments/volume1.html>.

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*, at Response (1-10), at p. 7.

<sup>75</sup> The following DOC-NOAA personnel had either drafted, contributed to, and/or edited the Summary for Policymakers for the WG II portion of the AR4: Drafters – Martin Manning, Venkatachalam Ramaswamy, Susan Solomon, Ronald Stouffer; Contributors – David Fahey; Editors – Martin Manning, Melinda Marquis, Kristen Averyt, Henry LeRoy Miller.

<sup>76</sup> The nine (9) EPA personnel who had reviewed the Working Group II portion of the AR4 assessment included: Ben DeAngelo, John Furlow, Mary Grant, Jane Leggett, Steven Rose, Joel Scheraga, James Titus, Allen Solomon and Darrell Winner.

<sup>77</sup> For example, James Titus served as “Lead Coordinating Author for SAP 4.1: *Coastal Sensitivity to Sea Level Rise*, and as a “Reviewer of SAP 4.4: *Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources*. And, Ben DeAngelo served as “Reviewer” for both SAP 4.4 and SAP 4.6: *Analyses of the Effects of Global Change on Human Health*.

<sup>78</sup> At least forty-seven (47)) DOC-NOAA scientists had served either as “Lead Authors”, “Contributing Authors” or “Coordinating Lead Authors” for the Working Group I portion of the AR4. See Intergovernmental Panel on Climate Change, IPCC Fourth Assessment Report: Climate Change 2007, *Climate Change 2007: Working Group I: The Physical Science Basis, Annex II: Contributors to the IPCC WGI Fourth Assessment Report*, at pp. 955-968, available at: [http://www.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/annexessannex-ii.html](http://www.ipcc.ch/publications_and_data/ar4/wg1/en/annexessannex-ii.html); [http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4\\_wg1\\_full\\_report.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4_wg1_full_report.pdf). At least thirty-seven (37)) DOC-NOAA scientists had ‘peer reviewed’ the final Working Group I portion of the IPCC AR4. *Id.*, at pp. 969-979.

<sup>79</sup> ITSSD is aware of only four EPA personnel who had made a contribution to the AR4, and such contribution was only to the WG III portion of the report. They included: Christa Clapp, Kenneth Andrasko, Francislo De La Chesnaye and Steven Rose. In addition Steven Rose, three additional EPA personnel had reviewed that portion of the report: Mark Heil, Dina Kruger and Robert Larson.

<sup>80</sup> See United Nations Intergovernmental Panel on Climate Change (IPCC), *Organization*, IPCC website (last visited March 31, 2014), available at: <http://www.ipcc.ch/organization/organization.shtml>. “The Intergovernmental Panel on Climate Change (IPCC) is the leading international body for the assessment of climate change. It was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) in 1988 to provide the world with a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts.” *Id.*

<sup>81</sup> See U.S. Global Change Research Program, *About*, USGCRP website (last visited March 31, 2014), available at: <http://www.globalchange.gov/about.html>. “The U.S. Global Change Research Program (USGCRP) is a Federal program that coordinates and integrates global change research across 13 government agencies to ensure that it most effectively and efficiently serves the Nation and the world. USGCRP was mandated by Congress in the Global Change Research Act of 1990 and has since made the world’s largest scientific investment in the areas of climate science and global change research.” *Id.*

<sup>82</sup> See Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 FR 66496, 66510. .

<sup>83</sup> See EPA-TSD, *supra* at p. 4.

<sup>84</sup> As the EPA-TSD clearly states, “Table 1.1 lists the core reference documents for this TSD.” See EPA-TSD, *supra* at p. 7. Indeed, Table 1.1 is labeled “Core references *relied upon most heavily* in this document” (emphasis added). *Id.*, at Table 1.1, p. 7. “This version of the TSD, as well as previous versions of the TSD dating back to 2007, have taken the approach of *relying primarily on these assessment reports* because they 1) are very recent and represent the current state of knowledge on GHG emissions, climate change science, vulnerabilities, and potential impacts; 2) have assessed numerous individual, peer-reviewed studies in order to draw general conclusions about the state of science; 3) *have been*

reviewed and formally accepted, commissioned, or in some cases authored by U.S. government agencies and individual government scientists; and 4) they reflect and convey the consensus conclusions of expert authors” (emphasis added). *Id.*, at p. 6. See also “Appendix 1: EPA-TSD Table 1.1 ‘Core Reference Documents’”.

<sup>85</sup> See “Appendix 3: USGCRP/CCSP ‘Core Reference Documents’ - ‘Lead’ Agency Burdens”.

<sup>86</sup> See EPA-TSD, *supra*, at p. 5.

<sup>87</sup> See “Appendix 1: EPA-TSD Table 1.1 ‘Core Reference Documents’”.

<sup>88</sup> See EPA-TSD, *supra* at p. 5. See also Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, *supra* at 74 FR 66511.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.* See also “Analytical and Process Flaws in EPA’s Greenhouse Gas Endangerment Finding”, Prepared Statement of Mr. Peter Glaser, Partner, Troutman Sanders, LLP, at *Climate Change: Examining the Processes Used to Create Science and Policy*, Hearing Before the Committee on Science, Space and Technology, House of Representatives, 112<sup>th</sup> Cong., 1<sup>st</sup> Sess., Rept. 112–09 (March 30, 2011), (pp. 84-96), at p. 89, available at: <http://www.gpo.gov/fdsys/pkg/CHRG-112hrg65306/pdf/CHRG-112hrg65306.pdf>. (“Importantly, although EPA says it relied on reports of the USGCRP, the IPCC, and the NRC, EPA relied almost exclusively on the work of the IPCC on the critical ‘attribution’ issue: whether changes to the climate system that EPA says are occurring and will accelerate in the future can be attributed to anthropogenic GHG emissions and not natural forces. Most of the TSD examines observed and projected climate and the effect on public health and welfare. Only eight pages of the TSD are devoted to the attribution issue. [fn] I count 67 citations in this section, with 47 to the IPCC. All the graphics in this section are taken from the IPCC, as is the introduction. Plainly, the principal authority for EPA’s central conclusion that anthropogenic GHG emissions are causing deleterious climate change is the IPCC.”). *Id.*

<sup>91</sup> “Peer review and transparency are central to each of these research organizations’ report development process. Given the comprehensiveness of these assessments and their review processes, these assessment reports provide EPA with assurances that this material has been well vetted by both the climate change research community and by the U.S. government.” *Id.*, at p. 5. See also Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, *supra* at 74 FR 66511.

<sup>92</sup> “Furthermore, use of these assessments complies with EPA’s information quality guidelines, as this document relies on information that is objective, technically sound and vetted, and of high integrity.” See EPA-TSD, *supra* at p. 5.

<sup>93</sup> *Id.*, at Box 1.1, p. 4.

<sup>94</sup> “Incorporation by reference (IBR) allows Federal agencies to comply with the requirement to publish rules in the Federal Register by referring to materials already published elsewhere. The legal effect of incorporation by reference is that the material is treated as if it were published in the Federal Register. This material has the force and effect of law, just like regulations published in the CFR. Congress authorized incorporation by reference in the Freedom of Information Act to reduce the volume of material published in the Federal Register and Code of Federal Regulations (CFR). Incorporation by reference is only available if the regulations are published in the CFR.” See National Archives and Records Administration, The Office of the Federal Register, *Federal Register Document Drafting Handbook* (Jan. 2011 rev.) at p. 6-1, available at: <http://www.archives.gov/federal-register/write/handbook/chapter-6.pdf>. See also U.S. Government Printing Office, Electronic Code of Federal Regulations, *Incorporation by Reference*, e-CFR website (last visited April 14, 2014), available at: <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=ibr.tpl>. “As a centralized depository of regulatory commands, the CFR provides citizens with actual notice of legal requirements. In this context, incorporation by reference is a term of art for the practice of codifying material published elsewhere by simply referring to it in the text of a regulation. It is permitted only if the incorporated material is ‘reasonably available to the class of persons affected’ and the promulgating agency secures the ‘approval of the Director of the Federal Register.’ The legal effect is that the material is treated as if it were set out fully in the regulation.” See Emily S. Bremer, *Incorporation Buy Reference in an Open-Government Age*, 36 *Harvard Journal of Law & Public Policy* 131 (2013) at 133-134.

<sup>95</sup> See 75 FR 25324 (May 7, 2010), *supra* at 25326, 25328, 25362, 25373, 25397, 25491, 25541, fn#s 6, 8, 149-150, 159, 298, 502.

<sup>96</sup> See 75 FR 31514 (June 3, 2010), *supra* at 31519, 31591.

<sup>97</sup> See 79 FR 1430 (Jan. 8, 2014), *supra* at 1438, 1456, fn# 20.

<sup>98</sup> See EPA-TSD, at Table 1.1, p. 7, *supra*.

<sup>99</sup> See “Appendix 1: EPA-TSD Table 1.1 “Core Reference Documents””.

<sup>100</sup> *Id.*

<sup>101</sup> See “Appendix 4: USGCRP/CCSP Documents Referencing IPCC Assessment Reports”; “Appendix 5: NRC Reports Referencing IPCC Assessment Reports”.

<sup>102</sup> See, e.g., SAP4.1/CCSP(2009b) and SAP4.6/CCSP(2008b), *supra* at inside cover.

<sup>103</sup> “NOAA disseminates a wide variety of information that is subject to the OMB Guidelines. This dissemination could occur through a variety of mechanisms, including analyses and assessments supporting a rulemaking. To facilitate development of information quality standards and procedures, NOAA’s disseminated information is grouped into the following categories: 1) Original Data; 2) Synthesized Products; 3) Interpreted Products; 4) Hydrometeorological, Hazardous Chemical Spill, and Space Weather Warnings, Forecasts, and Advisories; 5) Natural Resource Plans; 6) Experimental Products; and 7) Corporate and General Information.” See United States Department of Commerce, Office of the Chief Information Officer & High Performance Computing and Communications, *National Oceanic and Atmospheric Administration Information Quality Guidelines*, at Part II, available at: [http://www.cio.noaa.gov/services\\_programs/IQ\\_Guidelines\\_011812.html](http://www.cio.noaa.gov/services_programs/IQ_Guidelines_011812.html).

<sup>104</sup> *Synthesized Products* are those that have been developed through analysis of original data. This includes analysis through statistical methods; model interpolations, extrapolations, and simulations; and combinations of multiple sets of original data. While some scientific evaluation and judgment is needed, the methods of analysis are well documented and relatively routine. Examples of synthesized products include summaries of fisheries landings statistics, weather statistics, model outputs, data display through Geographical Information System techniques, and satellite-derived maps” *Id* (emphasis in original).

<sup>105</sup> *Id* (emphasis in original).

<sup>106</sup> See, e.g., SAP4.1/CCSP(2009b) and SAP4.6/CCSP(2008b), *supra* at inside cover.

<sup>107</sup> See OMB-PRB, *supra* at Sec. VII. For example, NOAA has not yet substantiated in the administrative record whether the USGCRP/CCSP peer review process, as described by EPA, had actually been followed, and whether the CCSP Interagency Committee had actually scrutinized NOAA’s IQA compliance certifications on more than a pro forma basis.

<sup>108</sup> See “Appendix 2 – ‘Lead’ Agency Burdens USGCRP/CCSP “Core Reference Documents””.

<sup>109</sup> EPA performed a lesser oversight function in connection with the following DOC-NOAA-developed SAPs: SAP3.2/CCSP(2008d) and SAP3.3/CCSP(2008i). *Id.*

<sup>110</sup> EPA performed a lesser oversight function in connection with the following DOE-developed SAPs: SAP2.1b/CCSP(2007b); SAP3.1/CCSP(2008c) and SAP 4.5/CCSP(2007a). *Id.*

<sup>111</sup> EPA performed a lesser oversight function in connection with the following DOI-USGS-developed SAPs: SAP1.2/CCSP(2009c) and SAP4.2/CCSP(2009d). *Id.*

<sup>112</sup> EPA performed a lesser oversight function in connection with the following NASA-developed SAP: SAP2.3/CCSP(2009a).

<sup>113</sup> EPA performed a lesser oversight function in connection with the following DOT-developed SAP: SAP 4.7/CCSP(2008f).

<sup>114</sup> EPA performed a lesser oversight function in connection with the following USDA-developed SAP: SAP 4.3/CCSP(2008e).

<sup>115</sup> “For purposes of these Guidelines, EPA disseminates information to the public when EPA initiates or sponsors the distribution of information to the public...EPA initiates a distribution of information if EPA distributes information prepared or submitted by an outside party in a manner that reasonably suggests that EPA endorses or agrees with it; if EPA indicates in its distribution that the information supports or represents EPA’s viewpoint; or if EPA in its distribution proposes to use or uses the information to formulate or support a regulation, guidance, policy, or other Agency decision or position.” See U.S. Environmental Protection Agency, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by EPA* (2002), at Sec. 5.3 pp. 15-16, available at: [http://www.epa.gov/quality/informationguidelines/documents/EPA\\_InfoQualityGuidelines.pdf](http://www.epa.gov/quality/informationguidelines/documents/EPA_InfoQualityGuidelines.pdf). “If a particular distribution of information is not covered by these Guidelines, the Guidelines may still apply to a subsequent dissemination of the information in which EPA adopts, endorses, or uses the information to formulate or support a regulation, guidance, or other Agency decision or position.” *Id.*, at Sec. 5.5 p. 18.



<sup>116</sup> ITSSD accepts that, pursuant to Section IV of the OMB Peer Review Bulletin, agencies need not follow the peer review procedures of Section III applicable to HISAs if they “(i) rely on the principal findings, conclusions and recommendations of a report produced by the National Academy of Sciences”, considering that the NRC is a unit of the National Academy of Sciences. In other words, NRC peer review processes are presumed to be IQA HISA-compliant. However, this presumption of IQA HISA compliance does *not* extend to the principal findings, conclusions and recommendations of a report produced by the USGCRP or the IPCC, or by another source.

<sup>117</sup> See “Analytical and Process Flaws in EPA’s Greenhouse Gas Endangerment Finding”, Prepared Statement of Mr. Peter Glaser, Partner, Troutman Sanders, LLP, at *Climate Change: Examining the Processes Used to Create Science and Policy*, Hearing Before the Committee on Science, Space and Technology, House of Representatives, 112<sup>th</sup> Cong., 1<sup>st</sup> Sess., Rept. 112–09 (March 30, 2011), *supra*, at p. 90. “In responding to this comment, the Administrator recognized that she was obligated to provide for independent peer review. She nevertheless maintained that her near complete reliance on the ‘assessment literature’ meant that she was justified in selecting peer reviewers not on the basis of their independence from EPA or the ‘assessment literature’ but on the basis of their familiarity with that literature. As she stated, ‘[g]iven our approach to the scientific literature...the purpose of the federal expert review was to ensure that the TSD accurately summarized the conclusions and associated uncertainties from the assessment reports.’ [fn] In other words, it was not important to the Administrator that she receive an independent critique of her own Endangerment Finding; her concern was merely to ensure that she had accurately summarized the conclusions of the ‘assessment literature’ on which she was relying.” *Id.*

<sup>118</sup> For example, the lead and contributing authors of all portions (Executive Summary and Chapters 1-5) of SAP 3.4 entitled, *Synthesis and Assessment Product 3.4: Abrupt Climate Change*, were also members of the specially formed federal advisory committee charged with reviewing said assessment. See United States Geological Survey, Peer Review Summary Document - Synthesis and Assessment Product 3.4: Abrupt Climate Change (May 22, 2008), available at: [http://www.usgs.gov/peer\\_review/docs/sap3-4\\_pr\\_results.pdf](http://www.usgs.gov/peer_review/docs/sap3-4_pr_results.pdf). See also United States Geological Survey, *Peer Review Plan for Synthesis and Assessment Product 3.4: Abrupt Climate Change*, available at: [http://www.usgs.gov/peer\\_review/docs/sap3-4\\_climate\\_change.pdf](http://www.usgs.gov/peer_review/docs/sap3-4_climate_change.pdf); United States Geological Survey, *Instructions for Peer Review of U.S. Climate Change Science Program (CCSP) Synthesis and Assessment Product (SAP) 3.4 Abrupt Climate Change*, available at: [http://www.usgs.gov/peer\\_review/docs/SAP\\_3.4\\_charge\\_letter.pdf](http://www.usgs.gov/peer_review/docs/SAP_3.4_charge_letter.pdf); United States Geological Survey Federal Advisory Committee for Peer Review of U.S. Climate Change Science Program (CCSP) *Synthesis and Assessment Product (SAP) 3.4 Abrupt Climate Change – Draft Executive Summary, Draft Chapter 1, Draft Chapter 2, Draft Chapter 3, Draft Chapter 4, and Draft Chapter 5*, available at: [http://www.usgs.gov/peer\\_review/docs/SAP\\_3.4.es\\_pr\\_draft.pdf](http://www.usgs.gov/peer_review/docs/SAP_3.4.es_pr_draft.pdf); [http://www.usgs.gov/peer\\_review/docs/SAP\\_3.4.1\\_pr\\_draft.pdf](http://www.usgs.gov/peer_review/docs/SAP_3.4.1_pr_draft.pdf); [http://www.usgs.gov/peer\\_review/docs/SAP\\_3.4.2\\_pr\\_draft.pdf](http://www.usgs.gov/peer_review/docs/SAP_3.4.2_pr_draft.pdf); [http://www.usgs.gov/peer\\_review/docs/SAP\\_3.4.3\\_pr\\_draft.pdf](http://www.usgs.gov/peer_review/docs/SAP_3.4.3_pr_draft.pdf); [http://www.usgs.gov/peer\\_review/docs/SAP\\_3.4.4\\_pr\\_draft.pdf](http://www.usgs.gov/peer_review/docs/SAP_3.4.4_pr_draft.pdf); [http://www.usgs.gov/peer\\_review/docs/SAP\\_3.4.5\\_pr\\_draft.pdf](http://www.usgs.gov/peer_review/docs/SAP_3.4.5_pr_draft.pdf).

<sup>119</sup> For example, six members of the federal advisory committee charged with peer reviewing USGCRP/CCSP SAP 2.1a entitled, *Scenarios of Greenhouse Gas Emissions and Atmospheric Concentrations*, appear to have been integrally involved in the peer review of this assessment. See SAP 3.4, at Appendix 1, *infra*, at pp. iv and vi.

<sup>120</sup> See InterAcademy Council, *Climate Change Assessments Review of the Processes and Procedures of the IPCC* (“IAC-2010 Report”) (10/1/10), available at: <http://www.interacademycouncil.net/24026/26050.aspx>.

<sup>121</sup> See, IAC-2010 Report, *supra* at iii, 59-65. The report found that, although “the IPCC has heightened public awareness of climate change, raised the level of scientific debate, and influenced the science agendas of many nations...some fundamental changes to the process and the management structure are essential” (emphasis added). *Id.*, at 59.

<sup>122</sup> The IAC-2010 Report disclosed that established IPCC processes for flagging, critically assessing and listing unpublished or non-peer-reviewed sources were often ignored, leading to AR4 lead-author review errors. See IAC-2010 Report, *supra* at xiii-xiv, 16-17, Box 2.1, 22. The Report also revealed that 16%, 41%, and 64% of the approximately 14,000 IPCC references that Working Groups (“WG”) I, II and III, respectively, cited in AR3 consisted of non-peer-reviewed journal articles. IAC-2010 Report at 16, citing the findings of Bjurström, A., and M. Polk, *Physical and Economic Bias in Climate Change Research: A Scientometric Study of IPCC Third Assessment Report*, Climatic Change



(2010), §3.2, available at: [http://gaia.jhuapl.edu/sites/default/files/Bjurstrom\\_IPCC\\_bias.pdf](http://gaia.jhuapl.edu/sites/default/files/Bjurstrom_IPCC_bias.pdf). These authors estimate that AR4 reflects roughly similar rates of reliance upon non-peer-reviewed “gray” literature. See Roger Pielke Jr., Blog, *Gray Literature in the IPCC TAR, A Guest Post by Andreas Bjurström* (3/5/10) available at: <http://rogerpielkejr.blogspot.com/2010/03/gray-literature-in-ipcc-tar-guest-post.html>. This estimate appears reasonable, especially with respect to WG-III whose AR3 contribution had relied mostly on gray literature. Two of the three editors of WG-III’s AR4 report (Metz and Davidson) had been lead-authors in WG III’s AR3 report, strongly suggesting that no significant change in the use of non-peer-reviewed sources had taken place. See IPCC (2001), *Climate Change 2001: Mitigation, A Report of Working Group III of the Intergovernmental Panel on Climate Change* (“IPCC AR3 WG-III Report”), at §10.4.2.2, available at: <http://www.ipcc.ch/ipccreports/tar/wg3/index.php?idp=437>; IPCC (2007) *Climate Change 2007 - Mitigation of Climate Change, Contribution of Working Group III to the Fourth Assessment Report of the IPCC*, B. Metz, eds., Cambridge University Press (“IPCC AR4 WG-III Report”), available at: [http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4\\_wg3\\_full\\_report.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4_wg3_full_report.pdf). These systemic peer review process flaws go beyond the specific errors previously identified by stakeholders. See United States Environmental Protection Agency, Office of Atmospheric Programs, Climate Change Division, *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* (July 29, 2010), at Comments/Responses 2-17, 2-19 (“EPA-RTPs, Vol.2”), available at: <http://digital.library.unt.edu/ark:/67531/metadc29357/>; <http://www.epa.gov/climatechange/endangerment/petitions/volume2.html>. The IAC-2010 Report also found that the IPCC lacks institutional and scientific independence. As an intergovernmental subsidiary panel of the World Meteorological Organization (“WMO”) and the United Nations Environment Program (“UNEP”), the IPCC is overseen by WMO and UNEP and must report to the UNEP, the WMO, the UN Framework Convention on Climate Change, and the UN General Assembly. See IAC-2010 Report, *supra* at 44. Indeed, the WMO Secretary-General and UNEP Executive Director signed the Forewords to the AR3 and AR4 assessments. See IPCC (2001), *Climate Change 2001: The Scientific Basis, Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change*, Foreword, M. Noguer, et al., (Cambridge University Press), available at: [http://www.grida.no/climate/ipcc\\_tar/wg1/pdf/WG1\\_TAR-FRONT.pdf](http://www.grida.no/climate/ipcc_tar/wg1/pdf/WG1_TAR-FRONT.pdf); IPCC (2007), *Climate Change 2007: The Physical Science Basis, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, at Foreword (Solomon, S., et al., eds.), Cambridge University Press, available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-frontmatter.pdf>. The IAC-2010 Report, furthermore, expressed concern about the “lack of a conflict-of-interest and disclosure policy for IPCC leaders and Lead Authors”. See IAC-2010 Report, *supra* at 52-53. The IPCC “does not have a conflict-of-interest or disclosure policy for its [own] senior leadership (i.e., IPCC Chair and Vice Chairs), Working Group Co-chairs and authors, or the staff of the Technical Support Units”. *Id.*, p. 52. Rather, “IPCC Secretariat...professional staff members...are employees of WMO and/or UNEP and are subject to their disclosure and ethics policies.” *Id.* However, the report also revealed that “WMO and UNEP have not established conflict-of-interest or disclosure policies for experts who serve on most WMO and UNEP assessment teams.” *Id.* This strongly suggests that IPCC senior leadership was not subject to any conflict-of-interest rules at all. Given “the nature of the IPCC’s task (i.e., in presenting a series of expert judgments on issues of great societal relevance)”, the Report’s authors emphasized the need for the IPCC to “pay special attention to issues of independence and bias to maintain the integrity of, and public confidence in, its results.” *Id.*, at p. 53. These systemic independence/conflict-of-interest flaws go beyond the specific errors previously raised by Petitioners. See EPA-RTPs Vol. 2, *supra* at Comments/Responses 2-25, 2-30. IPCC peer review processes, moreover, suffered from transparency failures. The author selection process lacked formal criteria which rendered the AR4 susceptible to political influence. See IAC-2010 Report, *supra* at 14-15. And, IPCC leaders and spokespersons often strayed into policy advocacy in violation of the organization’s mandate. *Id.*, at 54-55. These systemic transparency flaws go beyond the specific errors previously raised by stakeholders. See EPA-RTPs Vol. 2, *supra* at Comments/Responses 2-17, 2-18, 2-25. These numerous systemic IPCC process and procedure failures raise serious doubts about the quality of the IPCC assessments and the NOAA-generated USGCRP/CCSP assessments that reference and incorporate them, upon which the EPA Administrator’s Final endangerment and cause or contribute Findings primarily rely. See United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act: EPA’s Response to Public Comments, Volume 1: General Approach to the Science and Other Technical Issues* (“EPA-RTCs Vol. 1”) (April 17, 2009), *supra* at Responses 1-14-to-1-15, 1-20. Such misplaced reliance on

flawed IPCC processes, however, severely undermined NOAA's, and by extension, the EPA Administrator's ability to satisfy the IQA's statutory mandate and the OMB/NOAA and OMB/EPA IQA-implementing guidelines' highest and most rigorous level peer review standards for HISAs.

<sup>123</sup> See IAC Report, *supra* at Executive Summary at pp. xii, 59.

<sup>124</sup> The following four (4) IAC IPCC Review Committee members had worked for organizations that participating in DOC-NOAA Cooperative Institute programs: Harold Shapiro, Princeton Univ.; Maureen Cropper, Univ. of Maryland; Syukuro Manabe, Princeton, Univ.; and Mario Molino, UC-Irvine & Scripps Inst. See discussion *supra*.

<sup>125</sup> See United States Environmental Protection Agency, *Notice; Establishment of the Human Impacts of Climate Change Advisory Committee (HICCAC)*, 72 FR 26628 (May 10, 2007), available at: <http://docs.regulations.justia.com/entries/2007-05-10/E7-9023.pdf> and <http://www.gpo.gov/fdsys/pkg/FR-2007-05-10/html/E7-9023.htm>. See also US General Services Administration, *Terminated Federal Advisory Committees – Environmental Protection Agency*, USGSA website (last visited March 31, 2014), available at: <http://www.gsa.gov/portal/content/249033>.

<sup>126</sup> To the best of ITSSD's knowledge and belief, these eight (8) HICCAC members consisted of the following persons bearing the following affiliations: 1) **Roger Pulwarty** (U.S. Department of Commerce, NOAA, Boulder, CO); 2) Peter Gleick (Pacific Institute, Studies in Development, Environment, Security, Oakland, CA); 3) **Jonathan Patz** (University of Wisconsin at Madison, Nelson Institute for Environmental Studies, Madison, WI); 4) Barbara Entwisle, Co-Chair (University of North Carolina, Carolina Population Center, Chapel Hill, NC); 5) Eugene Rosa (Washington State University, Department of Sociology, Pullman, WA); 6) Thomas Dietz, Co-Chair (Michigan State University, Environmental Science and Policy Program, East Lansing, Michigan); 7) Susan Stonich (University of California, Environmental Studies Program, Santa Barbara, CA); 8) Howard Frumkin (U.S. Centers for Disease Control & Prevention, Atlanta, GA); and 9) Kristen Shrader Frechette (University of Notre Dame).

<sup>127</sup> See The Human Impacts of Climate Change Advisory Committee, *MEETING MINUTES*, prepared for the U.S. Environmental Protection Agency and Global Change Research Program (Alexandria, VA, Oct. 15-16, 2007), at Appendix A – List of Attendees, available at: [http://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=475687](http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=475687); The Human Impacts of Climate Change Advisory Committee, *Draft Minutes* prepared for the U.S. Environmental Protection Agency and Global Change Research Program (Teleconference, Jan. 14, 2008), at Appendix A – List of Attendees, available at: [http://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=475689](http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=475689).

<sup>128</sup> See, e.g., United States Environmental Protection Agency Human Impacts of Climate Change Advisory Committee, *Meeting of the U.S. Environmental Protection Agency's Human Impacts of Climate Change Advisory Committee (HICCAC) on October 15 and 16, 2007, in Alexandria, Virginia*, 72 FR 52877 (Sept. 17, 2007), available at: <http://www.gpo.gov/fdsys/pkg/FR-2007-09-17/html/E7-18262.htm>; United States Environmental Protection Agency Human Impacts of Climate Change Advisory Committee, *Notice of a public conference call meeting of the U.S. Environmental Protection Agency's Human Impacts of Climate Change Advisory Committee (HICCAC) on January 14, 2008, at 12 noon until 2 pm*, 73 FR 1222 (Jan. 7, 2008), available at: <http://www.gpo.gov/fdsys/pkg/FR-2008-01-07/pdf/E8-22.pdf>.

<sup>129</sup> See United States Environmental Protection Agency, *Notice; Establishment of the Human Impacts of Climate Change Advisory Committee (HICCAC)*, *supra* at 72 FR 26628-26629.

<sup>130</sup> See United States Environmental Protection Agency - *Charter, Human Impacts of Climate Change Advisory Committee* (May 29, 2007), at Sections 3-5, p. 1, available at: [http://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=475678](http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=475678). “[W]ithin the context of the basic study plan, HICCAC will advise on: a. The specific issues to be addressed[;] b. Appropriate technical approaches[;] c. Type and usefulness of information provided to decision makers[;] d. The content of the final report[;] e. Compliance with the Information Quality Act[;] and f. Other matters important to the successful achievement of the objectives of the study.” *Id.*, at Sec. 3. “Within EPA...the Office of Research and Development, The National Center for Environmental Assessment (Global Change Research Program)...will be responsible for financial and administrative support.” *Id.*, at Sec. 6.

<sup>131</sup> See United States Environmental Protection Agency, *Notice; Establishment of the Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee (ACSERAC)* (May 10, 2007), 72 FR 26628, available at: <http://www.gpo.gov/fdsys/pkg/FR-2007-05-10/pdf/E7-9024.pdf>; See also US General Services Administration, *Terminated Federal Advisory Committees – Environmental Protection Agency*, *supra*.

<sup>132</sup> To the best of ITSSD's knowledge and belief, these ten (10) ACSERAC members consisted of the following persons bearing the following affiliations: 1) Daniel Tufford (University of South Carolina); 2) Reed Noss (University of Central Florida); 3) Robert Van Woesik (Florida Institute of Technology); 4) Joseph Arvai (Michigan State University); 5) Eric Gilman (The World Conservation Union); 6) George Hornberger (University of Virginia); 7) Elizabeth Malone (Pacific Northwest National Laboratory and University of Maryland Joint Global Change Research Institute); 8) David Patton (Northern Arizona University); 9) **Carl Hershner** (Virginia Institute of Marine Science); and 10) Paul Risser (Smithsonian Institute).

<sup>133</sup> See The Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee, *Minutes for Meeting*, prepared for the U.S. Environmental Protection Agency and Global Change Research Program (Bethesda, MD, Oct. 22-23, 2007), at Appendix A – List of Attendees, available at: [http://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=475666](http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=475666); The Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee, *Draft Minutes for Meeting*, prepared for the U.S. Environmental Protection Agency and Global Change Research Program (by Teleconference, Jan. 15, 2008), at Appendix A – List of Attendees, available at: [http://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=475671](http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=475671).

<sup>134</sup> See United States Environmental Agency Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee (ACSERAC), *Notice of Meeting of the U.S. Environmental Protection Agency's Adaptation for Climate-Sensitive Resources Advisory Committee on October 22 and 23, 2007, in Bethesda, Maryland*, 72 FR 52875 (Sept. 17, 2007), available at: <http://www.gpo.gov/fdsys/pkg/FR-2007-09-17/pdf/E7-18261.pdf>; United States Environmental Agency Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee (ACSERAC), *Notice of a public conference call meeting of the U.S. Environmental Protection Agency's Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee on January 15, 2008, from 2 p.m. until 4 p.m.*, 73 FR 1221 (Jan. 7, 2008), available at: <http://www.gpo.gov/fdsys/pkg/FR-2008-01-07/html/E8-17.htm>; United States Environmental Agency Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee (ACSERAC), *Notice of a public conference call meeting; correction*, 73 FR 6724-6725 (Feb. 5, 2008), available at: <http://www.gpo.gov/fdsys/pkg/FR-2008-02-05/pdf/E8-2091.pdf>.

<sup>135</sup> See United States Environmental Protection Agency, Notice; *Establishment of the Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee (ACSERAC)* (May 10, 2007), *supra* at 72 FR 26628.

<sup>136</sup> United States Environmental Protection Agency – *Charter, Adaptation for Climate-Sensitive Ecosystems and Resources Advisory Committee (ACSERAC)* (May 29, 2007), at Sections 3-5, available at: [http://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=475661](http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=475661). “[W]ithin the context of the basic study plan, HICCAC will advise on: a. The specific issues to be addressed[;] b. Appropriate technical approaches[;] c. Type and usefulness of information provided to decision makers[;] d. The content of the final report[;] e. Compliance with the Information Quality Act[;] and f. Other matters important to the successful achievement of the objectives of the study.” *Id.*, at Sec. 3. “Within EPA...the Office of Research and Development, The National Center for Environmental Assessment (Global Change Research Program)...will be responsible for financial and administrative support.” *Id.*, at Sec. 6.

<sup>137</sup> See United States Environmental Protection Agency, Notice; *Establishment of the Coastal Elevations and Sea Level Rise Advisory Committee (CESLAC)*, 71 FR 29333 (May 22, 2006), available at: <http://www.gpo.gov/fdsys/pkg/FR-2006-05-22/pdf/E6-7757.pdf>. See also US General Services Administration, *Terminated Federal Advisory Committees – Environmental Protection Agency*, *supra*.

<sup>138</sup> To the best of ITSSD's knowledge and belief, these fifteen (15) CESLAC members consisted of the following persons bearing the following affiliations: 1) **Carl Hershner** (Director, Center for Coastal Resources Management); 2) Mark Mauriello (New Jersey Dept. of Environmental Protection); 3) Anthony Pratt (Delaware Dept. of Natural Resources and Environmental Control); 4) Mark Crowell (Federal Emergency Management Agency); 5) Andrew W Garcia (U.S. Army Corps of Engineers); 6) Julie Hunkins (North Carolina Dept. of Transportation); 7) Greg Rudolph (North Carolina Carteret County Government); 8) Sam Pearsall (The Nature Conservancy); 9) Harvey G Ryland (President, Institute for Business and Home Safety); 10) Mark Monmonier (Syracuse University); 11) William Nechamen (New York Dept. of Environmental Conservation); 12) Gwynne Schultz (Maryland Dept. of Natural Resources); 13) Rebecca Beavers (U.S. National Park Service); 14) Alan Belenz (N.Y. State Office of the Attorney General); and 15) Margaret Davidson, Chair (National Oceanic and Atmospheric Administration).

<sup>139</sup> See Coastal Elevations and Sea Level Rise Advisory Committee, *Meeting Minutes prepared for Environmental Protection Agency* (Wash., DC, Jan. 9, 2007), at p. 1, available at: [http://www.environmentalinformation.net/CESLAC/files/CESLAC\\_Meeting\\_Minutes\\_01.29.07.PM.FINAL.pdf](http://www.environmentalinformation.net/CESLAC/files/CESLAC_Meeting_Minutes_01.29.07.PM.FINAL.pdf); Coastal Elevations and Sea Level Rise Advisory Committee, *Meeting Minutes prepared for Environmental Protection Agency* (June 8, 2007), at p. 1, available at: [http://www.environmentalinformation.net/CESLAC/files/Meeting\\_2\\_Minutes/CESLAC\\_Meeting\\_2\\_Minutes.pdf](http://www.environmentalinformation.net/CESLAC/files/Meeting_2_Minutes/CESLAC_Meeting_2_Minutes.pdf); Coastal Elevations and Sea Level Rise Advisory Committee, *Meeting Minutes prepared for Environmental Protection Agency* (July 27, 2007), at p. 1, available at: [http://www.environmentalinformation.net/CESLAC/files/CESLAC\\_Meeting3\\_Minutes.FINAL.pdf](http://www.environmentalinformation.net/CESLAC/files/CESLAC_Meeting3_Minutes.FINAL.pdf); Coastal Elevations and Sea Level Rise Advisory Committee, *Meeting Minutes prepared for Environmental Protection Agency*, (March 17, 2008), at p. 1, available at: [http://www.environmentalinformation.net/CESLAC/files/Final\\_Minutes\\_March\\_17\\_and\\_18\\_2008.pdf](http://www.environmentalinformation.net/CESLAC/files/Final_Minutes_March_17_and_18_2008.pdf); Coastal Elevations and Sea Level Rise Advisory Committee, *Meeting Minutes prepared for Environmental Protection Agency* (July 30, 2008), available at: [http://www.environmentalinformation.net/CESLAC/files/CESLAC\\_Meeting5\\_Final\\_Minutes.pdf](http://www.environmentalinformation.net/CESLAC/files/CESLAC_Meeting5_Final_Minutes.pdf); Coastal Elevations and Sea Level Rise Advisory Committee, *Draft Meeting Minutes prepared for Environmental Protection Agency* (Oct. 16, 2008), at p. 1, available at: [http://www.environmentalinformation.net/CESLAC/files/Draft\\_Minutes\\_Meeting6\\_111008.doc](http://www.environmentalinformation.net/CESLAC/files/Draft_Minutes_Meeting6_111008.doc).

<sup>140</sup> See United States Environmental Protection Agency, Coastal Elevations and Sea Level Rise Advisory Committee, *Notice of meeting [to] be held on Monday, January 29, 2007, from 1:15 p.m. to 5 p.m.*, 72 FR 964-965 (Jan. 9, 2007), available at: <http://www.gpo.gov/fdsys/pkg/FR-2007-01-09/pdf/E7-90.pdf>; United States Environmental Protection Agency, Coastal Elevations and Sea Level Rise Advisory Committee, *Notice of meeting [to] be held on Friday, June 8, 2007, from 8:30 a.m. until 3 p.m.*, 72 FR 26629 (May 10, 2007), available at: <http://www.gpo.gov/fdsys/pkg/FR-2007-05-10/pdf/E7-9016.pdf>; United States Environmental Protection Agency, Coastal Elevations and Sea Level Rise Advisory Committee, *Notice of meeting [to] be held on Wednesday, July 30, 2008, from 9:30 a.m. until 3:30 p.m.*, 73 FR 37949 (July 2, 2008), available at: <http://www.gpo.gov/fdsys/pkg/FR-2008-07-02/pdf/E8-15009.pdf>.

<sup>141</sup> See United States Environmental Protection Agency, *Notice; Establishment of the Coastal Elevations and Sea Level Rise Advisory Committee* [CESLAC], *supra* at 71 FR 29333.

<sup>142</sup> See United States Environmental Protection Agency – *Charter, Coastal Elevations and Sea Level Rise Advisory Committee* (June 7, 2006), available at: <http://www.fdlp.gov/file-repository/about-the-fdlp/gpo-projects/web-harvesting/sample-publications-from-pilot/1902-united-states-environmental-protection-agency-charter-coastal-elevation-and-sea-level-rise-advisory/file>. Within EPA...the Climate Change Division in the Office of Atmospheric Programs, OAR...will be responsible for financial and administrative support.” *Id.*, at Sec. 6.

<sup>143</sup> “[CESLAC member Carl] Hershner inquired about committee members providing peer reviews. [Designated Federal Officer (DFO): Jack] Fitzgerald stated that the peer review should remain separate from the committee, but that issues raised by the committee will be documented and addressed by the authors. The committee report will serve to address issues with SAP 4.1.” See Coastal Elevations and Sea Level Rise Advisory Committee, *Meeting Minutes* (June 8, 2007), at p. 6, available at: [http://www.environmentalinformation.net/CESLAC/files/Meeting\\_2\\_Minutes/CESLAC\\_Meeting\\_2\\_Minutes.pdf](http://www.environmentalinformation.net/CESLAC/files/Meeting_2_Minutes/CESLAC_Meeting_2_Minutes.pdf).

<sup>144</sup> See Public Law 106-554, §515(b)(2)(B), codified in 44U.S.C. §3516, note, *supra*; OMB IQA Guidelines, *supra* at Sec. III.3; OMB-PRB, *supra* at Sec. V.3.

<sup>145</sup> See Office of Management and Budget, Administrator, Office of Information and Regulatory Affairs (“OIRA”), *Memorandum, Information Quality Guidelines – Principles and Model Language* (Sept. 5, 2002), at p. 2, available at: <http://www.whitehouse.gov/sites/default/files/omb/assets/omb/infoereg/pmcmemo.pdf>.

<sup>146</sup> See OMB-PRB, *supra* at Preamble, p. 28; Sec. VII.

<sup>147</sup> See United States Environmental Protection Agency, *Peer Review Handbook* (3rd ed.), EPA/100/B-06/002 (June 2006), *supra* at §1.2.8, p. 14.

<sup>148</sup> *Id.*, at §1.2.9.

<sup>149</sup> See United States Environmental Protection Agency, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by the Environmental Protection Agency*, EPA/260R-02-008 (Oct. 2002), *supra* at Sec. 8.5, p. 32.



<sup>150</sup> See United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act: EPA's Response to Public Comments, Volume 1: General Approach to the Science and Other Technical Issues* (April 17, 2009), at Response 1-61, p. 53, available at: <http://www.epa.gov/climatechange/endangerment/comments/volume1.html>

<sup>151</sup> *Id.*, at Comment 1-61.

<sup>152</sup> See United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act: EPA's Response to Public Comments, Volume 1: General Approach to the Science and Other Technical Issues* (April 17, 2009), *supra* at Response 1-62, p. 54, quoting *American Trucking Ass'n v. EPA*, 293 F.3d 355, 372 (D.C. Cir. 2002).

<sup>153</sup> *Id.*, at p. 55 (“we acknowledge that more than half of the scientific literature that EPA references in the TSD has copyright protections and is therefore unavailable for download from the Docket at regulations.gov”).

<sup>154</sup> *Id.* (“The online Docket provides the public with an explanation of why certain copyrighted material is not available for download and provides information on how to receive copies of the copyright protected material. The following message is posted for each copyrighted publication in the Docket: This document is not available in Regulations.gov since it is a copyrighted publication and may not be reproduced without consent of the copyright holder. Contact the EPA Docket Center, Public Reading Room to view or receive a copy of this document.”).

<sup>155</sup> See United States Environmental Protection Agency Board of Scientific Counselors, BOSC Subcommittee on Global Change Research, *Review of the Office of Research and Development's Global Change Research Program at the U.S. Environmental Protection Agency – Final Report* (March 27, 2006), at pp. 27-28, available at: <http://epa.gov/osp/bosc/pdf/glob0603rpt.pdf>.

<sup>156</sup> *Id.*, at p. 28. “Recognizing that true impacts of climate change on health in the United States and other developed countries may be secondary effects of either primary climate drivers, like sea level rise (loss of fisheries, population dislocation) and extreme events (secondary infections, population dislocation, loss of employment, etc.) or the secondary effects of adaptation measures (pesticide use, decline in outdoor physical activity, redirection of public resources) is important. Incorporating these complex interactions into primary research and decision support is far more difficult, but offers potentially higher payoffs in terms of producing information of major significance for public policy decisions.” *Id.*, at p. 29.

<sup>157</sup> See United States Environmental Protection Agency Office of Inspector General, *EPA Needs a Comprehensive Research Plan and Policies to Fulfill its Emerging Climate Change Role*, Evaluation Report No. 09-P-0089 (Feb. 2, 2009), at Executive Summary; p. 10, available at: <http://www.epa.gov/oig/reports/2009/20090202-09-P-0089.pdf>.

<sup>158</sup> See United States Environmental Protection Agency Office of the Administrator Science Advisory Board, *Office of Research and Development (ORD) New Strategic Research Directions: A Joint Report of the Science Advisory Board (SAB) and ORD Board of Scientific Counselors (BOSC)* EPA-SAB-12-001 (Oct. 21, 2011), available at: [http://yosemite.epa.gov/sab%5CSABPRODUCT.NSF/804D1A3A4A393C028525793000732744/\\$File/EPA-SAB-12-001-unsigned.pdf](http://yosemite.epa.gov/sab%5CSABPRODUCT.NSF/804D1A3A4A393C028525793000732744/$File/EPA-SAB-12-001-unsigned.pdf).

<sup>159</sup> “ORD’s Global Change Research Program has an effective process in place to determine the highest-priority research requirements of EPA programs and regions and of the Climate Change Science Program. GCRP’s prioritization process includes the Research Coordination Team, Regional Science Liaisons, Climate Coordinators, weekly cross-Agency conference calls, and other formal and informal mechanisms.” See United States Environmental Protection Agency Office of Inspector General, *EPA Needs a Comprehensive Research Plan and Policies to Fulfill its Emerging Climate Change Role*, Evaluation Report No. 09-P-0089 (Feb. 2, 2009), *supra*, at Appendix B: *Agency Preliminary Comments and OIG Evaluation*, p. 23.

<sup>160</sup> “It is important to emphasize in the report that ORD is responsible for only a subset of the climate change information developed and used by the Agency. Other EPA program offices conduct work related to GCRP activities that are coordinated with ORD. For example, the Office of Water’s (OW) new Climate Change Strategy formally integrates ORD and OW activities to address the implications of climate change for the Agency’s statutory, regulatory, and programmatic requirements under the Clean Water Act and Safe Drinking Water Act.” *Id.*, at Appendix B: *Agency Preliminary Comments and OIG Evaluation*, p. 27.

<sup>161</sup> “Since the enactment of the Global Change Research Act of 1990, EPA’s research on climate change – also known as global warming – has been part of a national and international framework. EPA is 1 of 13 federal agencies that comprise



the U.S. Climate Change Science Program (CCSP). The CCSP was launched in 2002. The CCSP incorporated both the U.S. Global Change Research Program (GCRP) and the U.S. Climate Change Research Initiative of 2001. The CCSP Strategic Plan guides federal research on climate change, and the 13 agencies focus their research on areas related to their unique missions in a collaborative effort. CCSP's strategic plan defines EPA's role as having a primary focus on understanding the regional consequences of global change. Within EPA, ORD performs this role. ORD has the responsibility for assessing the potential impacts of climate change and evaluating adaptation options. The Office of Air and Radiation (OAR) has responsibility for activities related to mitigating greenhouse gases. Both ORD and OAR communicate science findings and information about adaptation options... *We focused primarily on ORD because it has the central responsibility for EPA climate change research under the CCSP, and because ORD is the scientific research arm of EPA*" (emphasis added). *Id.*, at pp. 1-2. "ORD manages EPA's climate change research function through its GCRP. ORD's GCRP not only assesses the impacts of global change; it also focuses on the implications of climate change on EPA's ability to satisfy its statutory, regulatory, and programmatic requirements. EPA also has statutory obligations to provide scientific information to organizations other than EPA regional and program offices." *Id.*, at p. 3 "The report should acknowledge that any EPA policies and procedures for meeting the Agency's information needs must ensure that available resources are directed to their highest-valued uses. Therefore, ORD/GCRP must consider the requests it receives from EPA's program and regional offices along with those of multiple other partners (e.g. other agencies), and GCRP must allocate its resources to meet the highest-priority needs. For example, in Fiscal Years 2007 and 2008, the highest-priority research activity for GCRP was the production of two CCSP Synthesis and Assessment Reports." *Id.*, at Appendix B: *Agency Preliminary Comments and OIG Evaluation*, p. 28.

<sup>162</sup> See United States Environmental Protection Agency Office of the Administrator Science Advisory Board, *Office of Research and Development (ORD) New Strategic Research Directions: A Joint Report of the Science Advisory Board (SAB) and ORD Board of Scientific Councilors (BOSC)* EPA-SAB-12-001 (Oct. 21, 2011), *supra*. "Collaboration with other federal agencies and partners in other countries is increasingly important for ORD because of the ambitious scope of ORD's new research frameworks and the limitations of EPA's budget and the budgets of all potential partners." *Id.*, at p. 10. "The vision for the Air, Climate and Energy program includes sustainability as a paradigm for research, but there exists a fundamental disconnect between sustainability and the legislative mandates of the Clean Air Act. ORD should address clearly how it will integrate the two needs for research and how it will trade off between them. This tension will grow and may increasingly need to be addressed if EPA's budget is constrained." *Id.*, at p. 18.

<sup>163</sup> See United States Environmental Protection Agency Office of Inspector General, *EPA Needs a Comprehensive Research Plan and Policies to Fulfill its Emerging Climate Change Role*, Evaluation Report No. 09-P-0089 (Feb. 2, 2009), *supra* at Appendix B: *Agency Preliminary Comments and OIG Evaluation* at p. 27. See also United States Environmental Protection Agency Office of Research and Development, *Office of Research and Development's (ORD) October 2006 Response to the Board of Scientific Counselors (BOSC) April 2006 Final Report that Reviews ORD's Global Change Research Program* (Oct. 17, 2006), available at: <http://epa.gov/osp/bosc/pdf/glob0610resp.pdf>. "The Global Program is committed to an ongoing process of synthesizing and communicating its research results—including the results of previous assessments—and making this information available in a timely and useful form to decision makers, resource managers, and other stakeholders. For example, the program is actively engaged in the production of several Synthesis and Assessment Products (SAPs), as part of its commitment to the U.S. Climate Change Science Program (CCSP). The purpose of the SAPs is to respond to the highest-priority CCSP research, observation, and decision support needs, and to provide information to decision makers in a timely and useful way. The Global Program is leading the production of two of the 21 SAPs, and contributing to eight others. *The two SAPs being led by EPA draw heavily upon the results of the Global Program's previous research and assessments, and will make this information and "lessons learned" accessible to the public in a clear and useful way...* The Global Program is also committed to making its research and assessment results (including results produced by grantees and contractors) accessible to the public through an improved website. It is also exploring ways in which the existing website for ORD's STAR program can be improved to make it easier for the public to locate information on global change research, and to sort the information by topic. (emphasis added). *Id.*, at p. 3. "The Global Program is committed to continuing its practice of engaging external advisors at key points in its research activities at which major decisions are made about future Program directions and focus area projects." *Id.*, at p. 4.

<sup>164</sup> See United States Environmental Protection Agency Office of Research and Development, Board of Scientific Counselors, BOSC Global Change Mid-Cycle Subcommittee, *Review of the Office of Research and Development's*

*Global Change Research Program at the Environmental Protection Agency* (July 11, 2008), available at: <http://epa.gov/osp/bosc/pdf/glob0809rpt.pdf>. “Among its accomplishments, the GCRP’s shift in focus toward a more national perspective and its reorganization of its programmatic areas—fundamental recommendations of the 2006 report—have been accomplished fully and effectively. Its responsibilities to the national Climate Change Science Program (CCSP) have been met and the GCRP has taken on a role in that activity beyond what might be expected given its small portion of the overall CCSP budget. Consistent with the BOSC recommendations, the Program has become much more embedded “in the woodwork” of the mainstream activities of EPA; it has taken on roles with both the Office of Air and Radiation (OAR) and the Office of Water (OW) in facilitating the inclusion of global change elements in decisions and analyses. With respect to the latter, the tools it has developed are useful and being used in improving real decisions made elsewhere in the Agency. Further, the regional offices and their state and local counterparts have been sensitized and motivated, and to some extent empowered, by the tools provided by the GCRP to take potential global change into account both in current decisions and in planning for meeting air, water, and health protection requirements in the face of such change” (emphasis added). *Id.*, at p. 3.

<sup>165</sup> See United States Environmental Protection Agency Office of Inspector General, *Office of Research and Development Should Increase Awareness of Scientific Integrity Policies*, Audit Report No.11-P-0386 (July 22, 2011), available at: <http://www.epa.gov/oig/reports/2011/20110722-11-P-0386.pdf>. “Although ORD has internal controls in place, it should improve the way in which it evaluates the effectiveness of its policies and procedures for scientific integrity and research misconduct. Currently, ORD does not test its policies and procedures because ORD asserts that few reported instances of misconduct means that it generally does not occur. However, few identified instances of research misconduct could signal that staff lacks awareness of key criteria and reporting requirements necessary to identify and report misconduct.” *Id.*, at Executive Summary, p. 7.

<sup>166</sup> *Id.*, at p. 8. “However, ORD cannot assert with certainty the effectiveness of controls because ORD does not test its controls. ORD should periodically test controls to ensure staff awareness of how to identify and report instances of research misconduct. Testing controls will help ensure ORD’s research is of the highest quality.” *Id.* “Periodically testing its controls would help assure that ORD utilizes the right control activities while striving to achieve scientific integrity. Further, raising awareness of key criteria and updating the e-training will help strengthen ORD’s internal control environment to address instances of research misconduct. These efforts could improve the credibility of ORD’s scientific research.” *Id.*, at p. 11.

<sup>167</sup> See United States Environmental Protection Agency Office of Inspector General, *EPA Can Improve Its Process for Establishing Peer Review Panels*, Evaluation Report No. 09-P-0147 (April 29, 2009), at Executive Summary, available at: <http://www.epa.gov/oig/reports/2009/20090429-09-P-0147.pdf>.

<sup>168</sup> *Id.*, at Executive Summary, p. 4.

<sup>169</sup> *Id.*, at p. 3. “The majority of assessments are either reviewed under the peer review contract or an interagency agreement with another federal agency” (emphasis added). *Id.*

<sup>170</sup> *Id.*, at p. 5. For example, “[1] Although NCEA strives to select ‘impartial’ panelists, this concept is vaguely defined by OMB and EPA guidance and is not explained in any NCEA-specific operating guidance. Neither the 2004 OMB Bulletin nor the EPA Handbook defines what constitutes ‘impartiality.’ According to the Handbook, in general potential panelists who had a predominant influence on an organization’s position or have taken a public position or ‘taken sides’ should be avoided[; 2] There was no clear documentation of authority and responsibility for making final determinations regarding panel selection or how potential conflicts of interest were resolved[;]...[4] NCEA d[id] not have procedures for addressing conflicts of interest or potential biases, or allegations of such that become known or alleged after a panel has begun or completed its deliberations. NCEA does not have a policy or procedures regarding the circumstances under which a panelist’s pay may be recouped or withheld when the panelist is dismissed or resigns before completion[; 5] Although NCEA’s contractors conduct Internet searches to identify potential conflicts of interest and appearances of bias or partiality, ORISE – the [then] current provider of peer review services under an interagency agreement – does not conduct Internet background searches[;] 6 NCEA’s contractors d[id] not use similar procedures for identifying any changes in selected panelists’ conflict of interest status[; 7] NCEA can improve its oversight of peer reviews conducted by third parties to better ensure these peer reviews follow contractual guidelines.” *Id.*, at pp. 6-7.

<sup>171</sup> See United States Environmental Protection Agency Office of the Administrator Science Advisory Board, *Office of Research and Development (ORD) New Strategic Research Directions: A Joint Report of the Science Advisory Board (SAB) and ORD Board of Scientific Councilors (BOSC)* EPA-SAB-12-001 (Oct. 21, 2011), *supra* at p. 19.

<sup>172</sup> See United States Environmental Protection Agency Office of Inspector General, *Procedural Review of EPA's Greenhouse Gases Endangerment Finding Data Quality Processes*, Report No. 11-P-0702 (Sept. 26, 2011), at p. 13, available at: <http://www.epa.gov/oig/reports/2011/20110926-11-P-0702.pdf>.

<sup>173</sup> *Id.*, at pp. 13-14. "OAR had the TSD reviewed by a panel of climate change scientists. This review did not meet all of OMB's peer review requirements for highly influential scientific assessments. The methodology that OAR employed for this review was within the discretion afforded by OMB guidance for peer reviews of influential scientific information, but not for highly influential scientific assessments. In our opinion, the TSD is a highly influential scientific assessment and thus it required a peer review as described in Section III of OMB's *Final Information Quality Bulletin for Peer Review*." *Id.*, at pp. 15-16.

<sup>174</sup> *Id.*, at p. 14. "OAR officials...did not consider the TSD to be a scientific assessment because it only summarized existing findings and conclusions and provided no new findings or conclusions", and the "core references relied upon for the TSD had been...reviewed and vetted by the scientific community through the IPCC, USGCRP/CCSP, and NRC review procedures." *Id.*, at p. 16. Interestingly, the EPA-OIG received two different opinions from OMB officials it contacted concerning whether the TSD was a scientific assessment, though both "agreed that the primary underlying assessments that EPA relied upon in developing [and]...identified in...its TSD were scientific assessments." See *Id.*, at pp. 16-18, 24.

<sup>175</sup> *Id.*, at p. 20.

<sup>176</sup> *Id.* "Tier 1: 'Administrator's Priority Actions'... will include top actions that demand the ongoing involvement of the Administrator's office and extensive cross-Agency involvement on the part of the AAs/RAs...Your Action should be placed in Tier 1 if...science issue(s) are precedent setting and controversial; it is economically significant per E.O. 12866 (i.e., > \$100 million). It should be placed in Tier 1 unless the program office can justify placement in Tier 2; economics issue(s) are precedent setting and controversial." See United States Environmental Protection Agency Office of Policy, *EPA's Action Development Process: Guidance for EPA Staff on Developing Quality Actions* (Rev. March 2011), at p. 25, available at: [http://yosemite.epa.gov/sab%5CSABPRODUCT.NSF/5088B3878A90053E8525788E005EC8D8/\\$File/adp03-00-11.pdf](http://yosemite.epa.gov/sab%5CSABPRODUCT.NSF/5088B3878A90053E8525788E005EC8D8/$File/adp03-00-11.pdf).

<sup>177</sup> "An analytic blueprint (ABP) is a document which spells out a workgroup's plans for the data collection and analyses that will support development of a specific action. The ABP describes how this information will be collected, peer reviewed, and used to craft the action within a specific budget and time frame. In addition, the ABP process serves to expand EPA's opportunities to consider a broad range of possible regulatory (and non-regulatory) strategies, including alternative or innovative approaches that complement traditional methods. ABPs are developed in two phases, a Preliminary ABP (PABP), and a Detailed ABP (DABP)...ABPs are expected for all Tier 1 and Tier 2 actions and are encouraged for Tier 3 actions". See Environmental Protection Agency Office of Policy, *EPA's Action Development Process: Guidance for EPA Staff on Developing Quality Actions* (Rev. March 2011), *supra* at p. 33.

<sup>178</sup> See Environmental Protection Agency Office of Inspector General, *Procedural Review of EPA's Greenhouse Gases Endangerment Finding Data Quality Processes*, Report No. 11-P-0702 (Sept. 26, 2011), *supra* at p. 21

<sup>179</sup> See United States Environmental Protection Agency, *Guidance on Quality Assurance Project Plans* (CIO 2106-G-05 QAPP), Final Draft Jan. 17, 2012), at Foreword, available at: <http://www.epa.gov/oeitribalcoordination/2106-G-05%20QAPP%20Final%20Draft%2001-17-12.pdf>.

<sup>180</sup> See United States Environmental Protection Agency, *Required Elements in a Quality Assurance Project Plan (QAPP)*, EPA Great Lakes website (4/11/12), available at: <http://www.epa.gov/grtlakes/fund/qareqs.html>; See also United States Environmental Protection Agency, *Elements of a Quality Assurance Project Plan (QAPP) For Collecting, Identifying and Evaluating Existing Scientific Data/Information (a suggested template EPA scientists and contractors)*, available at: <http://www.epa.gov/stpc/pdfs/assess4.pdf>.

<sup>181</sup> See United States Environmental Protection Agency, *Quality Standard for Environmental Data, Collection, Production, and Use by Non-EPA (External) Organizations*, DRAFT FINAL (2106-S-02.0), EPA Office of Environmental Information (Review Date 2-22-12), at Sec. 2.2, p. 3, available at: <http://www.epa.gov/oeitribalcoordination/External%20Standard%20with%20Annexes.pdf>.

<sup>182</sup> *Id.*, at pp. 2-3.

<sup>183</sup> See United States Environmental Protection Agency, *U.S. Environmental Protection Agency Guidance for Evaluating and Documenting the Quality of Existing Scientific and Technical Information, Addendum to: A Summary of General*

*Assessment Factors for Evaluating the Quality of Scientific and Technical Information*, EPA Science and Technology Policy Council Peer Review Advisory Group (Dec. 2012), at p. 1, available at: <http://www.epa.gov/stpc/pdfs/assess3.pdf>.

<sup>184</sup> *Id.*, at pp. 1-2.

<sup>185</sup> “The final Endangerment Finding was issued on December 7, 2009 and published in the Federal Register shortly thereafter. Despite the requirement of Section 202(a) that the Administrator exercise her own judgment as to whether GHGs endanger public health and welfare, the Endangerment Finding was not the product of the Administrator’s or her Agency’s independent review of climate science. Instead, as the Administrator readily conceded, the Endangerment Finding was based almost exclusively on reports produced by third parties summarizing their views of global climate change science, reports that the Endangerment Finding referred to as “assessment literature”. See “Analytical and Process Flaws in EPA’s Greenhouse Gas Endangerment Finding”, Prepared Statement of Mr. Peter Glaser, Partner, Troutman Sanders, LLP, at *Climate Change: Examining the Processes Used to Create Science and Policy*, Hearing Before the Committee on Science, Space and Technology, House of Representatives, 112<sup>th</sup> Cong., 1<sup>st</sup> Sess., Rept. 112–09 (March 30, 2011), (pp. 84-96), *supra* at p. 88.

<sup>186</sup> *Id.* This document then refers to an *EPA Handbook for Developing Quality Assurance Project Plans* (EPA, 2012c)” at p. 3.

<sup>187</sup> See United States Environmental Protection Agency, *Handbook for Developing Quality Assurance Project Plans* (December 2012 Agency Review Draft), at p. 1, available at: [http://www.chesapeakebay.net/channel\\_files/19114/draft\\_qapp\\_prep-handbook.pdf](http://www.chesapeakebay.net/channel_files/19114/draft_qapp_prep-handbook.pdf).

<sup>188</sup> “The public must be able to trust the science and scientific process informing public policy decisions. Political officials should not suppress or alter scientific or technological findings and conclusions. If scientific and technological information is developed and used by the Federal Government, it should ordinarily be made available to the public. To the extent permitted by law, there should be transparency in the preparation, identification, and use of scientific and technological information in policymaking. The selection of scientists and technology professionals for positions in the executive branch should be based on their scientific and technological knowledge, credentials, experience, and integrity.” See Presidential Memorandum for the Heads of Executive Departments and Agencies, *Scientific Integrity*, The White House (March 9, 2009), available at: <http://www.whitehouse.gov/the-press-office/memorandum-heads-executive-departments-and-agencies-3-9-09> (“Science and the scientific process must inform and guide decisions of my Administration on a wide range of issues, including improvement of public health, protection of the environment, increased efficiency in the use of energy and other resources, mitigation of the threat of climate change, and protection of national security...Specifically, I direct the following: 1... (c) When scientific or technological information is considered in policy decisions, the information should be subject to well-established scientific processes, including peer review where appropriate, and each agency should appropriately and accurately reflect that information in complying with and applying relevant statutory standards...”). *Id.*

<sup>189</sup> “(c) When scientific or technological information is considered in policy decisions, the information should be subject to well-established scientific processes, including peer review where appropriate, and each agency should appropriately and accurately reflect that information in complying with and applying relevant statutory standards...” *Id.*

<sup>190</sup> See Memorandum to the Heads of Executive Departments and Agencies, *Scientific Integrity*, Director of the Office of Science and Technology Policy (Dec. 17, 2010), at pp. 1-2, available at: <http://www.whitehouse.gov/sites/default/files/microsites/ostp/scientific-integrity-memo-12172010.pdf>.

<sup>191</sup> See Administrator of the United States Environmental Protection Agency, U.S. Environmental Protection Agency *Scientific Integrity Policy* (May 2009), at p. 1, available at: [http://www.epa.gov/osa/pdfs/epa\\_scientific\\_integrity\\_policy\\_20120115.pdf](http://www.epa.gov/osa/pdfs/epa_scientific_integrity_policy_20120115.pdf).

<sup>192</sup> See Memorandum to the Heads of Executive Departments and Agencies, *Scientific Integrity*, Director of the Office of Science and Technology Policy (Dec. 17, 2010), available at: <http://www.whitehouse.gov/sites/default/files/microsites/ostp/scientific-integrity-memo-12172010.pdf> (“to provide further guidance to executive departments and agencies to implement the administration’s policies on scientific integrity”). *Id.*

<sup>193</sup> See, e.g., National Science Board, *Science and Engineering Indicators 2012*, at Chap. 7 - *Science and Technology: Public Attitudes and Understanding*, National Science Foundation (2012), available at: <http://www.nsf.gov/statistics/seind12/pdf/seind12.pdf>.



<sup>194</sup> See, e.g., Union of Concerned Scientists, *The White House's Scientific Integrity Directive*, Union of Concerned Scientists Blog (12/22/10), available at: [http://www.ucsusa.org/scientific\\_integrity/solutions/big\\_picture\\_solutions/SI-directive.html](http://www.ucsusa.org/scientific_integrity/solutions/big_picture_solutions/SI-directive.html).

<sup>195</sup> See United States Environmental Protection Agency, Office of Inspector General, *Quick Reaction Report: EPA Must Take Steps to Implement Requirements of Its Scientific Integrity Policy* 13-P-0364 (August 28, 2013), available at: <http://www.epa.gov/oig/reports/2013/20130828-13-P-0364.pdf> (“Although an agency-wide training program is required by the agency’s Scientific Integrity Policy, the EPA has not developed or implemented a program to instruct the EPA’s employees on the requirements and standards of scientific integrity. In addition, the EPA has not generated and made publicly available an annual report on the status of scientific integrity within the agency as required by the policy...As a result of the committee’s lack of progress in implementing these requirements, the EPA is less equipped to: Provide leadership for the agency on scientific integrity[;] Promote agency compliance with the Scientific Integrity Policy[;] Keep the agency’s senior leadership informed on and involved with the agencywide status of scientific integrity[; and] Detect violations of scientific integrity.”) *Id.*, at Executive Summary; pp. 5-7.

<sup>196</sup> See United States Environmental Protection Agency, *EPA's Denial of the Petitions To Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule*, 75 FR 49556, 49558, *supra*.

<sup>197</sup> See United States Department of Commerce, National Oceanic and Atmospheric Administration, *State of the Climate in 2008*, Bulletin of the Meteorological Society Vol. 90, No. 8 (T.C. Peterson and M.O. Baringer, Eds. 2009), available at: <http://www1.ncdc.noaa.gov/pub/data/cmb/bams-sotc/climate-assessment-2008-lo-rez.pdf>.

<sup>198</sup> See United States Department of Commerce, National Oceanic and Atmospheric Administration, *Global Climate Change Impacts in the United States* (Thomas R. Karl, Jerry M. Melillo, and Thomas C. Peterson, (eds.). Cambridge University Press, 2009), available at: <http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>.

<sup>199</sup> See Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis*, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007), available at: [http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_wg1\\_report\\_the\\_physical\\_sciences\\_basis.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_sciences_basis.htm).

<sup>200</sup> See Intergovernmental Panel on Climate Change, *Climate Change 2007: Impacts, Adaptation and Vulnerability*, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007), available at: [http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_wg2\\_report\\_impacts\\_adaptation\\_and\\_vulnerability.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg2_report_impacts_adaptation_and_vulnerability.htm).

<sup>201</sup> See Intergovernmental Panel on Climate Change, *Climate Change 2007: Mitigation of Climate Change*, Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007), available at: [http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_wg3\\_report\\_mitigation\\_of\\_climate\\_change.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg3_report_mitigation_of_climate_change.htm).

<sup>202</sup> U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences* (SAP1.1/CCSP(2006), National Oceanic and Atmospheric Administration, National Climatic Data Center (Thomas R. Karl, Susan J. Hassol, Christopher D. Miller, and William L. Murray, editors, 2006), available at: <http://downloads.globalchange.gov/sap/sap1-1/sap1-1-final-all.pdf>.

<sup>203</sup> U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Past Climate Variability and Change in the Arctic and at High Latitudes* (SAP1.2/CCSP(2009c), United States Department of Interior U.S. Geological Survey, available at: <http://downloads.globalchange.gov/sap/sap1-2/sap1-2-final-report-all.pdf>.

<sup>204</sup> U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Reanalysis of Historical Climate Data for Key Atmospheric Features: Implications for Attribution of Causes of Observed Change* (SAP1.3/CCSP(2008g)), National Oceanic and Atmospheric Administration, National Climatic Data Center (Randall Dole, Martin Hoerling, and Siegfried Schubert (eds.)) (2008), available at: <http://library.globalchange.gov/sap-1-3-reanalysis-of-historical-climate-data-for-key-atmospheric-features-implications-for-attribution-of-causes-of-observed-change>



<sup>205</sup> U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Scenarios of Greenhouse Gas Emissions and Atmospheric Concentrations* (SAP2.1a/CCSP(2007b)), Department of Energy, Office of Biological & Environmental Research 2007), available at: <http://downloads.globalchange.gov/sap/sap2-1a/sap2-1a-final-all.pdf>.

<sup>206</sup> U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Atmospheric Aerosol Properties and Climate Impacts* (SAP 2.3/CCSP(2009a)), National Aeronautics and Space Administration (Mian Chin, Ralph A. Kahn, and Stephen E. Schwartz (eds.)), available at: <http://downloads.globalchange.gov/sap/sap2-3/sap2-3-final-report-all.pdf>.

<sup>207</sup> See U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure* SAP 2.4/CCSP(2008h), National Oceanic and Atmospheric Administration, National Climatic Data Center (Ravishankara, A.R., M.J. Kurylo, and C.A. Ennis (eds.)), available at: <http://downloads.globalchange.gov/sap/sap2-4/sap2-4-final-all.pdf>.

<sup>208</sup> See U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Climate Models: An Assessment of Strengths and Limitations* (SAP3.1/CCSP(2008c)), Department of Energy, Office of Biological and Environmental Research, available at: [http://science.energy.gov/~media/ber/pdf/Sap\\_3\\_1\\_final\\_all.pdf](http://science.energy.gov/~media/ber/pdf/Sap_3_1_final_all.pdf).

<sup>209</sup> See U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Climate Projections Based on Emissions Scenarios for Long-Lived and Short-Lived Radiatively Active Gases and Aerosols* (SAP 3.2/CCSP(2008d)), Department of Commerce, NOAA's National Climatic Data Center (H. Levy II, D.T. Shindell, A. Gilliland, M.D. Schwarzkopf, L.W. Horowitz, (eds.)), available at: <http://downloads.globalchange.gov/sap/sap3-2/sap3-2-final-report-all.pdf>.

<sup>210</sup> See U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Weather and Climate Extremes in a Changing Climate. Regions of Focus: North America, Hawaii, Caribbean, and U.S. Pacific Islands* (SAP3.3/CCSP(2008i)), Department of Commerce, NOAA's National Climatic Data Center (Thomas R. Karl, Gerald A. Meehl, Christopher D. Miller, Susan J. Hassol, Anne M. Waple, and William L. Murray (eds.)), available at: <http://downloads.globalchange.gov/sap/sap3-3/sap3-3-final-all.pdf>.

<sup>211</sup> See U.S. Climate Change Science Program and the Subcommittee on Global Change Research, *Abrupt Climate Change* (SAP3.4/CCSP(2008a)), Department of Interior U.S. Geological Survey, available at: <http://downloads.globalchange.gov/sap/sap3-4/sap3-4-final-report-all.pdf>.

<sup>212</sup> See United States Climate Change Science Program and the Subcommittee on Global Change Research, *Coastal Sensitivity to Sea-Level Rise: A Focus on the Mid-Atlantic Region* (SAP4.1/CCSP(2009b)), U.S. Environmental Protection Agency (James G. Titus, Jessica Blunden and Anne M. Waple (eds.) Jan. 2009), available at: <http://downloads.globalchange.gov/sap/sap4-1/sap4-1-final-report-all.pdf>

<sup>213</sup> See United States Climate Change Science Program and the Subcommittee on Global Change Research, *Thresholds of Climate Change in Ecosystems* (SAP4.2/CCSP(2009d)), U.S. Geological Survey, available at: [http://www.tribesandclimatechange.org/docs/tribes\\_182.pdf](http://www.tribesandclimatechange.org/docs/tribes_182.pdf).

<sup>214</sup> See United States Climate Change Science Program and the Subcommittee on Global Change Research, *The Effects of Climate Change on Agriculture, Land Resources, Water Resources, and Biodiversity in the United States* SAP 4.3/CCSP(2008e), U.S. Department of Agriculture, available at: <http://downloads.globalchange.gov/sap/sap4-3/sap4-3-final-all.pdf>.

<sup>215</sup> See United States Climate Change Science Program and the Subcommittee on Global Change Research, *Effects of Climate Change on Energy Production and Use in the United States* (SAP4.5/CCSP(2007a)), Department of Energy, Office of Biological & Environmental Research, available at: <http://downloads.globalchange.gov/sap/sap4-5/sap4-5-final-all.pdf>.

<sup>216</sup> See United States Climate Change Science Program and the Subcommittee on Global Change Research, *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems* (SAP4.6/CCSP(2008b)), U.S. Environmental Protection Agency (Gamble, J.L. (ed.)), available at: <http://downloads.globalchange.gov/sap/sap4-6/sap4-6-final-report-all.pdf>.

<sup>217</sup> See United States Climate Change Science Program and the Subcommittee on Global Change Research, *Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: Gulf Coast Study, Phase I* (SAP 4.7/CCSP(2008f)) Department of Transportation (Savonis, M. J., V.R. Burkett, and J.R. Potter (eds.)), available at: <http://downloads.globalchange.gov/sap/sap4-7/sap4-7-final-all.pdf>.

<sup>218</sup> See National Research Council Committee on the Science of Climate Change, *Climate Change Science: An Analysis of Some Key Questions* (2001), available at: <http://www.gcrio.org/NRC/NRCclimatechange.pdf>.

<sup>219</sup> See National Research Council Committee on Radiative Forcing Effects on Climate, *Radiative Forcing of Climate Change: Expanding the Concept and Addressing Uncertainties* (2005), available at: [http://download.nap.edu/cart/download.cgi?&record\\_id=11175](http://download.nap.edu/cart/download.cgi?&record_id=11175).

<sup>220</sup> See National Research Council Committee on Surface Temperature Reconstructions for the Last 2,000 Years, *Surface Temperature Reconstructions for the Last 2,000 Years* (2006), available at: [http://download.nap.edu/cart/download.cgi?&record\\_id=11676](http://download.nap.edu/cart/download.cgi?&record_id=11676).

<sup>221</sup> See National Research Council Committee on Climate Change and U.S. Transportation, *The Potential Impacts of Climate Change on U.S. Transportation* (2008), available at: <http://onlinepubs.trb.org/onlinepubs/sr/sr290.pdf>.

<sup>222</sup> See United States Environmental Protection Agency, Office of Research & Development Global Change Research Program and National Center for Environmental Assessment, *Assessment of the Impacts of Global Change on Regional U.S. Air Quality: A Synthesis of Climate Change Impacts on Ground-Level Ozone* (EPA/600/R-07/094F) (2009), available at: [http://ofmpub.epa.gov/eims/eimscomm.getfile?p\\_download\\_id=491176](http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=491176).

<sup>223</sup> See United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007* (April 15, 2009), available at: [http://www.epa.gov/climatechange/Downloads/ghgemissions/GHG2007entire\\_report-508.pdf](http://www.epa.gov/climatechange/Downloads/ghgemissions/GHG2007entire_report-508.pdf).

<sup>224</sup> See Arctic Council, *Arctic Council Climate Impact Assessment (ACIA)* (2004), available at: <http://www.amap.no/arctic-climate-impact-assessment-acia>.

<sup>225</sup> See United States Climate Change Science Program and the Subcommittee on Global Change Research, *Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources*, U.S. Environmental Protection Agency (J.S. Baron, B. Griffith, L.A. Joyce, P. Kareiva, B.D. Keller, M.A. Palmer, C.H. Peterson, and J.M. Scott (authors)) (Julius, S.H., J.M. West (eds.) June 2008) (“SAP4.4/CCSP(2008)”), available at: <http://downloads.globalchange.gov/sap/sap4-4/sap4-4-final-report-all.pdf>.