



COMPETITIVE ENTERPRISE INSTITUTE

17 January, 2003

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Docket ID # 030102001-3001-01
FILED ELECTONICALLY

Re: Comments on NOAA/USCCSP's "Strategic Plan for the Climate Science Program"

I. Background Information

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II. Overview Comments on Chapter 1: Introduction Climate and Global Change: Improving Connections Between Science and Society

First Overview Comment: CCSP's document asserts "sound science" principles once presumed in endeavors such as this, though grossly abused in recent years, most egregiously in the "National Assessment on Climate Change" (NACC). These "Guidelines" must more strongly assert adherence to, and the requirement that any product meet the requirements of, the Federal Data Quality Act (FDQA)(enacted as Section 515(a) of the FY '01 Treasury and General Government Appropriations Act (P.L. 106-554; H.R. 5658). They must be stated more firmly, and provide an internal enforcement mechanism, as well as review and appeal mechanisms

pursuant to the White House Office of Management and Budget's (OMB) "government-wide" Interim Final Guidelines for agency compliance with FDQA requirements (66 FR 49718), finalized by OMB's January 3, 2002 Final Guidance (67 FR 369), providing a strong foundation for improving the overall quality of information which the federal government disseminates to the public. Past USGCRP efforts manifested flagrant violation of these basic standards, as detailed in this Comment, and which CCSP must avoid including through instituting advance, FDQA-compliant precautions.

III. Specific Comments on Chapter 1: Introduction Climate and Global Change: Improving Connections Between Science and Society

"Guiding Principles for CCSP"

All the following comments relate to Page 11, lines 5-24, of document as found at <http://www.climatescience.gov/Library/stratplan2003/ccspstratplan2003-11nov2002.pdf>

Specific Comment: CCSP's document asserts "sound science" principles once presumed in endeavors such as this, though grossly abused in recent years, most egregiously in the "National Assessment on Climate Change" (NACC). Replication of this is impermissible as CCSP must comply with FDQA's requirements as set forth, herein. CCSP's principles are as follow:

"To fulfill its mission as the publicly sponsored research program addressing climate change 5 issues for the United States, the CCSP must continuously adhere to three guiding principles that 6

underpin the objectivity, integrity, and usefulness of its research and reporting: 7

· **The scientific analyses conducted by the CCSP are policy relevant but 8**

not policy driven. CCSP scientific analyses (including measurements, models, 9 projections, and interpretations) are directed toward continually improving our 10 understanding of climate, ecosystems, land use, technological changes, and their 11 interactions. In developing projections of possible future conditions, the CCSP 12 addresses questions in the form of "If..., then..." analyses. Policy and resource 13 management decisions are the responsibility of government officials who must integrate 14 many other considerations with available scientific information. 15

· **CCSP analyses should specifically evaluate and report uncertainty.** All 16 of science, and all decisionmaking, involves uncertainty. Uncertainty need not be a 17 basis for inaction; however, scientific uncertainty should be carefully described in CCSP 18 reports as an aid to the public and decisionmakers. 19

· **CCSP analyses, measurements, projections and interpretations should 20**

meet two goals: scientific credibility and lucid public communication. 21

Scientific communications by the CCSP must maintain a high standard of methods, 22 reporting, uncertainty analysis, and peer review. CCSP public reports must be carefully 23 developed to provide objective and useful summaries of findings. 24" (emphases supplied)

These "Guidelines" must more strongly assert adherence to, and the requirement that any product meet the requirements of, the Federal Data Quality Act.

Specifically, consider how past USGCRP “climate science” has disregarded such basic guidelines presumed in any credible, apolitical research and analytical product rising to the level of “science”.

CEI has previously provided USGCRP, and NOAA, a detailed explanation of I) relevant issues relating to all agencies promulgating Data Quality guidelines, incorporating a selection of how various proposed agency guidelines address these important topics, including a) an example of a satisfactory agency proposal on the issue, if any, and the reasoning for that conclusion, & b) numerous unsatisfactory examples of current agency proposals; and **II) a direct example of information currently disseminated by Commerce/ NOAA violating FDQA, OMB’s “government-wide” guidelines and any Commerce/NOAA guidelines which could be acceptable under FDQA.**

Regarding the latter, in sum, due to a failure to institute stronger protections than those provided, e.g., in “III. Guiding Principles for CCSP”, politics was permitted to infect an expensive and important scientific undertaking, leading Commerce and NOAA to disseminate significant data that fails the test set forth by FDQA and OMB’s government-wide guidelines. Any Commerce/NOAA “guiding principles” that would permit the continued dissemination of such data, as exemplified by but in no way limited to the example provided, *infra*, cannot withstand scrutiny as acceptable under either FDQA’s or OMB’s requirements.

CEI considers CCSP’s “Guiding Principles” to rise to the level of FDQA-covered “agency guidelines” regarding data quality. OMB’s interagency Data Quality guidelines implement section 3504(d)(1) of the Paperwork Reduction Act (PRA). 44 U.S.C. § 3516 note. Section 3504(d)(1) requires that “with respect to information dissemination, the [OMB] director shall develop and oversee the implementation of policies, principles, standards, and guidelines to apply to Federal agency dissemination of public information, regardless of the form or format in which such information is disseminated...” 44 U.S.C. § 3504(d)(1). All federal agencies subject to the PRA must comply with OMB’s interagency Data Quality guidelines when they issue their own Data Quality guidelines. 44 U.S.C. §§ 3504(d)(1); 3506(a)(1)(B); 3516 note. Congress clearly intended OMB’s Data Quality guidelines to apply to all information agencies subject to the PRA in fact make public.

Further, the process envisioned by CCSP triggers the FDQA consideration of Third-Party Submissions of Data to An Agency. Much of the information disseminated by federal agencies is originally developed and submitted by states or private entities. In addition, federal agencies often disseminate research from outside parties, some of which is funded by the agency.

Congress clearly intended the Data Quality guidelines to apply to all information that agencies in fact make public. OMB’s guidelines reiterate this (see “Case Study” immediately below). Consequently, all third-party information that an agency disseminates is subject to the Data Quality guidelines.

Where an agency does not use, rely on, or endorse third-party information, but instead just makes it public, the agency might claim it should not have the initial burden of ensuring that the information meets the quality, objectivity, utility and integrity standards required by the Data Quality guidelines. The information remains subject to the Data Quality requirements and correction process through administrative petitions by third parties.

Yet this claim offers a distinction without a difference because when an agency uses, relies on, or endorses third-party information, the agency itself must have the burden of ensuring that the information meets the required quality, objectivity, utility, and integrity standards.

CCSP's process also envisions use of Third-Party Proprietary Models. Federal agencies often use various models developed by third parties (often government contractors) to formulate policies based upon influential scientific information. The third-party models are sometimes asserted to be confidential and proprietary. Worse, agencies use the involvement of third-party proprietary information to justify withholding related, non-proprietary data, access to which is indispensable to assessing the quality of modeled and other data.

This issue does not involve the concerns that arise when regulated entities are required to submit confidential or proprietary data to an agency pursuant to a regulatory program. Instead, this issue is limited to situations where any agency and a contractor agree to use a model on a proprietary basis to develop influential scientific information.

OMB's interagency Data Quality guidelines require that influential scientific information be reproducible. This reproducibility standard generally requires that the models used to develop such information be publicly available. The OMB guidelines further explain that when public access to models is impossible for "privacy, trade secrets, intellectual property, and other confidentiality protections, an agency "shall apply especially rigorous robustness checks to analytic results and documents what checks were undertaken." 67 F.R. 8452, 8457.

CASE STUDY:
ABUSE OF THIRD PARTY MODEL AND "PROPRIETARY" CLAIM

Environmental Protection Agency

CEI is increasingly concerned about the "third party data (model)" practice that government agencies knowingly or otherwise employ in frustration of public access to important data. All agencies now have a duty to ensure this practice ceases. By such practice we refer to an agency, say EPA, farming out, *e.g.*, an economic assessment, using a proprietary model then refusing to provide not the model itself but other related data (*e.g.*, assumptions, often provided in whole or part by the agency) critical to assessing the value of such an analysis, on the basis that the information is "proprietary".

This claim is particularly vexing in cases such as EPA's development of proposals for the President's "multi-pollutant" recommendation. In that context the Administration testified to Congress that legislation must meet its criteria, established by such an analysis. There is no way to properly assess whether proposed legislation meets this test, or the validity of that test, when parties cannot view the assumptions dictating the purported benchmark against which bills will be measured.

As an example, CEI have already requested, under the Freedom of Information Act (FOIA), those assumptions employed by/on behalf of EPA in the product underlying the following statement excerpted from Assistant EPA Administrator Jeffrey Holmstead's written testimony before the Senate Environment and Public Works Committee on November 1, 2001:

"We have not modeled the specific provisions in S. 556, but useful information is provided by comparing the analyses EPA and EIA conducted to respond to a request from Senators Smith, Voinovich and Brownback with the analyses responding to a request from Senators Jeffords and Lieberman. In the Smith/ Voinovich/Brownback analysis, when we analyzed SO₂ and NO_x reduction levels similar to S. 556, mercury reduction levels more modest than S. 556 and no CO₂ reductions, we did not find significant impacts on coal production or electricity prices."

It is CEI's understanding that EPA requested its outside contractor, ICF, assume unrealistic scenarios regarding the cost and supply of natural gas, or at minimum scenarios running strongly counter to those which ICF itself touts on its own website as likely under any carbon dioxide suppression scheme. CEI expressed our concerns to Mr. Holmstead, who orally assured us that his office would gladly provide us such information even without invoking FOIA. Notwithstanding the seriousness of this proposal and that assurance, it is several months since this assurance and this very straightforward request for information remains unsatisfied, under FOIA or otherwise. This leads us to believe that the Administration is using such a tactic, of farming out studies, to avoid scrutiny of its proposals.

Such withholding is made even more troubling by EPA refusing access to data described and/or provided by EPA to a contractor; it does not request any such contractor's "model" or other property reasonably subject to "proprietary" claims. By such practice an agency avoids releasing purported proprietary information that it is obligated to refrain from withholding. Still, we are told by certain Administration officers, and it was alluded to by Mr. Holmstead, that the basis for such refusal is a purported "proprietary" nature of the data.

We believe this practice makes for terrible policy and is unacceptable, even without, but certainly given, FDQA's requirements. OMB's January 3 publication of "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by Federal Agencies" (Federal Register, Vol. 2, No. 67, p. 369)(see <http://frwebgate3.access.gpo.gov/cgi-bin/waisgate.cgi?WAISdocID=43070613463+0+2+0&WAIAction=retrieve>) assert:

“As we state in new paragraph V.3.b.ii.B.II, ‘In situations where public access to data [sic] and methods will not occur due to other compelling interests, agencies shall apply especially rigorous robustness checks to analytic results and document what checks were undertaken. Agency guidelines shall, however, in all cases, require a disclosure of the specific data sources that have been used and the specific quantitative methods and assumptions that have been employed.’” (emphasis added)(p. 374).

We read this to mean that the Office of Management and Budget will refuse to consider any assumptions used in, e.g., the ICF or other model(s) as proprietary. **We also read this to indicate OMB recommends other agencies act similarly in promulgating their own required guidelines.** That is, in the name of transparency and reproducibility Congress and OMB have preemptively addressed certain materials requiring disclosure, such that denial under FOIA, privacy agreements, or otherwise is not supportable.

Given that it appears there would not exist any reason, proprietary or otherwise, to refuse the public access to the requested assumptions, we hope OMB and **Commerce/NOAA** enforce this position at every opportunity, and immediately encourage **Commerce/NOAA** to make a prohibition against using such tools as barriers to public access to data in its FDQA guidelines. Clearly, if it appears even one agency continues to use such a tactic to shield data on a matter of such major economic significance, Congress surely would intervene and prohibit such outside contracting, period. That is a result that appears easily avoidable, and indeed proscribed by FDQA’s requirements.

CCSP must also consider the FDQA requirements of “objective” and “unbiased” information, an error committed on a gross scale in the first, incomplete attempt at a National Assessment on Climate Change. The Data Quality Act requires agencies to issue guidelines ensuring and maximizing the “objectivity” of all information they disseminate. The OMB guidelines implementing the legislation define “objectivity,” and that definition includes a requirement that information be “unbiased” in presentation and substance. “Objectivity,” along with “unbiased,” is correctly considered to be, under the OMB guidelines, an “overall” standard of quality. 67 Fed. Reg. 8452, 8458. However, the OMB guidelines do not provide any explanation of how to eliminate bias from risk assessment.

For many years, risk assessments conducted by EPA and other federal environmental agencies have been criticized for being biased by the use of “conservative,” policy-driven, “default assumptions”, inferences, and “uncertainty factors” in order to general numerical estimates of risk when the scientific data do not support such quantitation as accurate. When such numerical assumptions are presented in any agency risk characterization, it is likely that members of the public who are unfamiliar with how the agency arrived at such numbers believe that the numbers are based on “sound science.” In actuality, the risk numbers are a result of co-mingling science with policy bias in a manner such that they cannot be disentangled. The question is whether the proposed agency guidelines have attempted to address this issue and how.

EXAMPLE OF CURRENTLY DISSEMINATED INFORMATION FAILING

ANY REASONABLE INTERPRETATION OF FDQA/OMB REQUIREMENTS

For the reasons detailed, *infra*, to the extent that **CCSP [Commerce/NOAA]** and/or any covered agency cites, refers or links to, or otherwise disseminates the following product of, *inter alia*, the White House Office of Science and Technology Policy, it is in violation of FDQA. Further, to the extent any **Commerce/NOAA** guidelines pursuant to OMB's FDQA guidelines permitting continued dissemination of this product, the first National Assessment on Climate Change ("National Assessment") (<http://www.usgcrp.gov/usgcrp/nacc/default.htm>), that guideline is unacceptable under the Federal Data Quality Act (FDQA).

The above-described and other failings of various draft FDQA guidelines that, facially, would arguably permit continued dissemination of such inappropriate data therefore must be corrected if they are to survive challenge as violative of FDQA. These mistakes must be avoided in future USGCRP/CCSP efforts.

Specifically, and as detailed below, FDQA prohibits – **and therefore, Commerce/ NOAA's FDQA guidelines must prohibit** -- dissemination of the first attempted National Assessment (NACC) – or any successor document or document purporting to “complete” the first NACC” if produced with the same flaws -- for the failure to satisfy the data quality requirements of “**objectivity**” (whether the disseminated information is presented in an *accurate, clear, complete* and *unbiased* manner and is as a matter of substance *accurate, reliable* and *unbiased*), and “**utility**” (the *usefulness* of the information to the *intended users* (per the US Global Change Act of 1990, these are Congress and the Executive Branch). See 67 FR 370. As the statutorily designated steering document for policymaking, NACC qualifies as “influential scientific or statistical information”, therefore it must meet a “reproducibility” standard, setting forth transparency regarding data and methods of analysis, “as a quality standard above and beyond some peer review quality standards.”

The reasons, as detailed, *infra*, include NACC's inappropriate use of computer models and data. Further, in developing the published version of NACC, the US Global Change Research Program (USGCRP) also failed to perform the necessary science underlying regional and sectoral analyses that, as Congress notified USGCRP at the time, was a condition precedent to the release of any National Assessment (even a draft). FDQA ratifies those objections, and is violated by continued dissemination of this product by any federal agency.

Additional rationale necessitating a prohibition on further NACC dissemination is provided by an extensive record obtained through the Freedom of Information Act (FOIA), that the purported internal “peer review” of the draft NACC did not in fact occur (this record also ratifies the inappropriate use of computer models, as also detailed). As the obtained documents demonstrate, commenting parties expressly informed USGCRP that they were rushed and as such were not given adequate time for substantive review or comment. USGCRP published and continues to disseminate the product nonetheless, as do all agencies such as **Commerce/NOAA** which reference, cite, link or otherwise disseminate NACC.

All of these failings ensure that dissemination of NACC violates FDQA's requirement, manifested in OMB's Guidelines and as necessarily manifested by **Commerce/NOAA's** final guidelines, that data disseminated by Federal Agencies meet standards of quality as measured by specific tests for objectivity, utility and integrity.

As you are also aware and as reaffirmed by OMB in its FDQA Final Guidance, though **Commerce/NOAA** is only now developing agency-specific guidelines and mechanisms, for complaints invoking OMB's Guidelines in the interim **Commerce/NOAA** should already have in place requisite administrative mechanisms for applying OMB's standards.

I. FDQA Coverage of the NACC

Be it as "third party" data or otherwise, NACC is inescapably covered by FDQA when disseminated by any other Federal Agency. First, it is noteworthy that, whatever the status of the governmental office produced NACC, as directed by the Executive Office of the President (EOP), the United States Global Change Research Program (USGCRP), producer of the National Assessment on Climate Change (NACC or Assessment) is subject to the Federal Data Quality Act (FDQA). FDQA covers the same entities as the Paperwork Reduction Act (44 U.S.C. Sections 3501 *et seq.*; see esp. 44 U.S.C. 3502(1)).

By statute the President serves as Chairman of the National Science and Technology Council ("NSTC"), operating under the White House Office of Science and Technology Policy ("OSTP"), and which has under its authority the Committee on Environment and Natural Resources ("CENR") (15 U.S.C. 2932 (originally "Committee on Earth and Environmental Sciences")). All of these offices are therefore EOP entities, subject to PWRA, thus FDQA.

Per 15 U.S.C. 2934 the President, as Chairman of the Council, shall develop and implement through CENR a US Global Change Research Program. The Program shall advise the President and Congress, through the NACC, on relevant considerations for climate policy. Though the composite USGCRP is an "interagency" effort staffed in great part by seconded employees from federal agencies, it remains under the direction of the President and is therefore a "covered agency" pursuant to 44 U.S.C. 3502(1).

Collectively and pursuant to statutory authority, under the direction of these Executive offices the USGCRP directed an effort statutorily dedicated in part to studying the state of the science and its uncertainties surrounding the theory of "global warming" or "climate change," producing a National Assessment on Climate Change ("NACC"). **Though originally produced prior to FDQA, the data asserted by the NACC (issued in final in December 2000; see <http://www.usgcrp.gov/usgcrp/nacc/default.htm>), as current or continued dissemination is subject to the requirements of the Federal Data Quality Act.**

II. Development of NACC

The Assessment was produced as follows:

1. Pursuant to and/or under the auspices of the Global Change Research Act of 1990, 15 U.S.C. 2921, *et seq.*, USGCRP is assigned the responsibility of producing a scientific assessment, particularly that which is at issue in this Petition, as follows:

“On a periodic basis (not less frequently than every 4 years), the Council, through the Committee, shall prepare and submit to the President and the Congress an assessment which –

- (1) integrates, evaluates, and interprets the findings of the [USGCR] Program and discusses the scientific uncertainties associated with such findings;
 - (2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and
 - (3) analyzes current trends in global change both human-induced (sic) and natural, and projects major trends for the subsequent 25 to 100 years.” (15 U.S.C. 2934).
2. The document at issue in this Petition, the “First National Assessment on Climate Change,” disseminates data rising to the requisite FDQA levels of “quality”, as described herein.
 3. USGCRP’s surge to release a flawed, partial, and partially unauthorized, report came despite requests of lawmakers and outside interests concerned with the issues at hand, to withhold releasing a such a document lacking particular required scientific foundations, in violation of several laws and public policy.

III. The Assessment violates the requirements of the FDQA in the following ways:

1. NACC Relies Upon and Promotes Improper Use of Computer Model Data

For the following reasons, NACC violates FDQA’s “objectivity” and “utility” requirements. As “influential scientific or statistical information”, NACC also fails for these reasons its “reproducibility” standard, setting forth transparency regarding data and methods of analysis, “a quality standard above and beyond some peer review quality standards.”

First, on behalf of this petition, Patrick Michaels, Professor of Environmental Sciences at University of Virginia, excerpts from his review of the NACC dated and submitted to USGCRP August 11, 2000, detailing concerns noted above that place the NACC in violation of FDQA. Where appropriate, additional *explanatory text* is included. **USGCRP made no apparent alterations of the original text in response to these comments, therefore the comments**

apply to NACC as disseminated.

“August 11, 2000...”

“The essential problem with the USNA [*elsewhere cited in these FDQA Comments as the NACC*] is that it is based largely on two climate models, neither one of which, when compared with the 10-year smoothed behavior of the lower 48 states (a very lenient comparison), reduces the residual variance below the raw variance of the data. The one that generates the most lurid warming scenarios—the Canadian Climate Centre (CCC) Model—produces much larger errors than are inherent in the natural noise of the data. That is a simple test of whether or not a model is valid...and both of those models fail. All implied effects, including the large temperature rise, are therefore based upon a multiple scientific failure. The USNA’s continued use of those models and that approach is a willful choice to disregard the most fundamental of scientific rules. (And that they did not find and eliminate such an egregious error is testimony to grave bias). For that reason alone, the USNA should be withdrawn from the public sphere until it becomes scientifically based.”

Explanatory text: *The basic rule of science is that hypotheses must be verified by observed data before they can be regarded as facts. Science that does not do this is “junk science”, and at minimum is precisely what the FDQA is designed to bar from the policymaking process.*

The two climate models used in the NACC make predictions of U.S. climate change based upon human alterations of the atmosphere. Those alterations have been going on for well over 100 years. Do the changes those models “predicted” for U.S. climate in the last century resemble what actually occurred?

This can be determined by comparison of observed U.S. annual temperature departures from the 20th century average with those generated by both of these models. It is traditional to use moving averages of the data to smooth out year-to-year changes that cannot be anticipated by any climate model. This review used 10-year running averages to minimize interannual noise.

The predicted-minus-observed values for both models versus were then compared to the result that would obtain if one simply predicted the average temperature for the 20th century from year to year. In fact, both models did worse than that base case. Statistically speaking, that means that both models perform worse for the last 100 years than a table of random numbers applied to ten-year running mean U.S. temperatures.

There was no discernible alteration of the NACC text in response to this fatal flaw. However, the NACC Synthesis Team, co-chaired by Thomas Karl, Director of the National Climatic Data Center, took the result so seriously that they commissioned an independent replication of this test, only more inclusive, using 1-year, 5-year, 10-year and 25-year running means of the U.S. annual temperature. This analysis verified that in fact both models performed no better than a table of random numbers applied to the U.S. Climate Data. Mr. Karl was kind enough to send the results to this reviewer.

“...the problem of model selection. As shown in Figure 9.3 of the Third Assessment of the United Nations Intergovernmental Panel on Climate Change, the behavior of virtually every General Circulation Climate model (GCM) is the production of a linear warming, despite assumptions of exponential increases in greenhouse forcing. In fact, only one (out of, by my count, 26) GCMs produces a substantially exponential warming—the CCC model [one of the two used in the NACC]. Others may bend up a little, though not substantially, in the policy-relevant time frame. The USNA specifically chose the outlier with regard to the mathematical form of the output. No graduate student would be allowed to submit a thesis to his or her committee with such arrogant bias, and no national committee should be allowed to submit such a report to the American people.

Even worse, the CCC and Hadley data were decadal smoothed and then (!) subject to a parabolic fit, as the caption for the USNA’s Figure 6 makes clear. That makes the CCC even appear warmer because of the very high last decadal average.

One of the two models chosen for use in the USNA, the Canadian Climate Center (CCC) model, predicts the most extreme temperature and precipitation changes of all the models considered for inclusion. The CCC model forecasts the average temperature in the United States to rise 8.1°F (4.5°C) by the year 2100, more than twice the rise of 3.6°F (2.0°C) forecast by the U.K. model (the second model used in the USNA). Compare this with what has actually occurred during the past century. The CCC model predicted a warming of 2.7°F (1.5°C) in the United States over the course of the twentieth century, but the observations show that the increase was about 0.25°F (0.14°C) (Hansen, J.E., et al., 1999: GISS analysis of surface temperature change. *Journal of Geophysical Research*, **104**, 30,997–31,022), or about 10 times less than the forecast [Hansen has since revised this to 0.5°C, which makes the prediction three times greater than what has been observed].... The CCC forecast of precipitation changes across the United States is equally extreme. Of all the models reviewed for inclusion in the USNA, the CCC model predicted more than twice the precipitation change than the second most extreme model, which interestingly, was the U.K. model [the other model used in the NACC]. The U.K. model itself forecast twice the change of the average of the remaining, unselected models. Therefore, along with the fact that GCMs in general cannot accurately forecast climate change at regional levels, the GCMs selected as the basis for the USNA conclusions do not even fairly represent the collection of available climate models.

Why deliberately select such an inappropriate model as the CCC? [Thomas Karl, co-Chair of the NACC synthesis team replied that] the reason the USNA chose the CCC model is that it provides diurnal temperatures; this is a remarkable criterion given its base performance....”

“The USNA’s high-end scenarios are driven by a model that 1) doesn’t work over the United States; 2) is at functional variance with virtually every other climate model. It is simply impossible to reconcile this skewed choice with the rather esoteric desire to include diurnal temperatures...”

Explanatory text: *It is clear that the NACC chose two extreme models out of a field of literally dozens that were available. This violates the FDQA requirements for “objectivity” detailed in the third paragraph of this Petition.*

Second, Dr. Michaels is clearly not alone in his assessment. Consider the comments of government reviewers, all received and possessed by USGCRP. For example, that styled **“Improper use of climate models”**, by William T. Pennell of Northwest National Laboratory, submitted through DOE (John Houghton) to Melissa Taylor at USGCRP:

“Although it is mentioned in several places, greater emphasis needs to be placed on the limitations that the climate change scenarios used in this assessment have on its results. First, except for some unidentified exceptions, only two models are used. Second, nearly every impact of importance is driven by what is liable to happen to the climate on the regional to local scale, but it is well known that current global-scale models have limited ability to simulate climate effects as this degree of spatial resolution. We have to use them, but I think we need to be candid about their limitations. Let’s take the West [cites example]...Every time we show maps that indicate detail beyond the resolution of the models we are misleading the reader.”

USGCRP received other comments by governmental “peer reviewers” affirming these modeling data transgressions:

“Also, the reliance on predictions from only two climate models is dangerous”. Steven J. Ghan, Staff Scientist, Atmospheric Sciences and Global Change, Pacific Northwest Laboratory.

“This report relies too much on the projections from only two climate models. Projections from other models should also be used in the assessment to more broadly sample the range of predicted responses.” Steven J. Ghan Staff Scientist, Atmospheric Sciences and Global Change, Pacific Northwest Laboratory.

“Comments on National Assessment. 1. The most critical shortcomings of the assessment are the attempt to extrapolate global-scale projections down to regional and sub-regional scales and to use two models which provide divergent projections for key climatic elements.” Mitchell Baer, US Department of Energy, Washington, DC.

“General comments: Bias of individual authors is evident. Climate variability not addressed...Why were the Hadley and Canadian GCMs used? Unanswered questions. Are these GCM’s [sic] sufficiently accurate to make regional projections? Nope”. Reviewer Stan Wullschleger (12/17/99).

William T. Pennell, Manager, Atmospheric Sciences and Global Change, Pacific Northwest Laboratory, cites the that “only two models are used” as a “limitation” on the product.

The final NACC currently disseminated by Commerce/NOAA shows these admonitions went unheeded.

Stated simply, the climate models upon which NACC relies struck out. Strike one: they can't simulate the current climate. Strike two: they predict greater and more rapid warming in the atmosphere than at the surface. The opposite is happening (see *e.g.*, http://www.ghcc.msfc.nasa.gov/MSU/hl_sat_accuracy.html). Strike three: they predict amplified warming at the poles, which are cooling instead (see *e.g.*, <http://www.washingtonpost.com/wp-dyn/articles/A40974-2002Jan13.html>). On top of this demonstrable lack of utility for their purported purpose, NACC knowingly misuses them. Repetition of this practice by CCSP will further violate FDQA. CCSP must build protections into its system more stringent than the proffered “Guiding Principles.”

2. Failure to Perform Requisite Scientific Review Violates FDQA

USGCRP’s development of NACC drew congressional attention to particular shortcomings. Specifically, leaders in the United States House of Representatives repeatedly attempted to ensure USGCRP and its subsidiary bodies follow the scientific method regarding particular matters, specifically the regional and sectoral analyses. Indeed the concerns had become so acute that these leaders successfully promoted a restriction prohibiting relevant agencies from expending appropriated monies upon the matter at issue, consistent with the plain requirements of the GCRA of 1990, through language in the conference report accompanying Public Law 106-74:

“None of the funds made available in this Act may be used to publish or issue an assessment required under section 106 of the Global Change Research Act of 1990 unless (1) the supporting research has been subjected to peer review and, if not otherwise publicly available, posted electronically for public comment prior to use in the assessment; and (2) the draft assessment has been published in the Federal Register for a 60 day public comment period.”¹

USGCRP did not perform the conditions precedent for valid science as cited in that language. Instead USGCRP produced and now disseminates a NACC knowingly and expressly without the benefit of the supporting science which not only is substantively required but which Congress rightly insisted be performed and subject to peer review prior to releasing any such assessment.

These attempts to rectify certain NACC shortcomings were made in advance of USGCRP producing the NACC, but were never rectified. These failures justify Petitioners’ request that USGCRP cease present and future NACC dissemination unless and until its violations of FDQA are corrected. In addition to NACC violating FDQA’s “objectivity” and “utility” requirements, as “influential scientific or statistical information”, NACC also fails its “reproducibility” standard, setting forth transparency regarding data and methods of analysis. Per OMB, this

¹ House Report 106-379, the conference report accompanying H.R. 2684, Department of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2000 (Pub.L. 106-74), p. 137.

represents “a quality standard above and beyond some peer review quality standards.”²

Given USGCRP’s refusal to wait for completion of the underlying science and their response to the relevant oversight chairmen, it is manifest that USGCRP ignored or rejected these lawmakers’ requests, including by the relevant oversight Chairmen and produced a deeply flawed Assessment, knowingly and admittedly issuing a “final” Assessment without having complied with Congress’s direction to incorporate the underlying science styled as “regional and sectoral analyses,”³ while also admitting that the requisite scientific foundation would be completed imminently. For these same reasons dissemination presently violates FDQA.

3. First, Incomplete Attempt at a “NACC” Was Not in Fact Peer Reviewed

Finally, NACC suffers from having received no authentic peer review, in violation of FDQA’s “objectivity” and “utility” requirements. As “influential scientific or statistical information”, for these reasons NACC also fails the “reproducibility” standard, setting forth transparency regarding data and methods of analysis, “a quality standard above and beyond some peer review quality standards.”

Once an advisory committee was chartered pursuant to the Federal Advisory Committee Act (FACA) in 1998, Dr. John Gibbons’ communication of January 8, 1998 to the first Designated Federal Officer (DFO) Dr. Robert Corell indicates a sense of urgency was communicated to the panel by political officials. Further, statements in the record and major media outlets, including but in no way limited to those from certain anonymous if purportedly well placed sources, indicate a perception among involved scientists that political pressures drove the timing and even content of this draft document. This is manifested by the lack of opportunity to comment for parties whose comment was formally requested as part of a “peer review” of NACC.

This sense of urgency is reflected in, among other places, comments the Cooler Heads Coalition obtained via the Freedom of Information Act, made by parties from the National Laboratories asked by the Department of Energy to comment on the Draft. In addition to an emphasis on speed as opposed to deliberation, the report’s emphasis on “possible calamities” to the detriment of balancing comments which were widely offered, and rampant criticism of the

² Attachments “B” establish the record of Congress, detailing for USGCRP its more obvious scientific failures which now lead to NACC now violating FDQA, noting USGCRP’s apparent failure to comply with such conditions and seeking assurance that such circumstances would be remedied. USGCRP via OSTP drafted a response to House Science Committee Chairman Sensenbrenner, evasively failing to specifically address the concerns raised by these Members. Chairmen Sensenbrenner and Calvert specifically took issue and/or disputed these non-responses in the July 20, 2000 letter, reiterating their request for compliance with the law’s requirements. Nonetheless, the failings persist.

³ See Attachments “B”. This despite that the two principal NACC sections are “Regions,” and “Sections.” (see <http://www.gcrio.org/nationalassessment/overvpdf/1Intro.pdf>).

reliance on only two significantly divergent models for the pronouncements made, these comments are exemplified by the following samples from well over a dozen such complaints accessed through FOIA, **also received by and in the possession of USGCRP**:

- 1) “This review was constrained to be performed within a day and a half. This is not an adequate amount of time to perform the quality of review that should be performed on this size document” (Ronald N. Kickert, 12/08/99);
- 2) “During this time, I did not have time to review the two Foundation Document Chapters” (Kickert, 12/20/99);
- 3) “Given the deadline I have been given for these comments, I have not been able to read this chapter in its entirety” (William T. Pennell);
- 4) **“UNFORTUNATELY, THIS DOCUMENT IS NOT READY FOR RELEASE WITHOUT MAJOR CHANGES”** (CAPS and bold in original)(Jae Edmonds);
- 5) “This is not ready to go!” (William M. Putman).

These comments reflect an alarming implication of timing over substance, and of a product whose final content appears predetermined. Patrick Michaels’ comments, and the absence of apparent change in response to his alarming findings, reinforces this troubling reality. Notably, the product was released and continues to be disseminated without offering an actual peer review or otherwise addressing the concerns expressed.

In conclusion, previous USGCRP efforts in this realm, particularly the National Assessment on Climate Change, egregiously failed to meet FDQA and/or OMB guidelines regarding Data Quality. As a consequence, Commerce/NOAA’s FDQA Guidelines must prohibit continued dissemination of the NACC, through reliance, reference, link, publication or other dissemination. To avoid repetition of this regrettable waste of millions of taxpayer dollars, agency embarrassment, and litigation, CCSP must ensure that politics is purged from future research, and that these efforts strive to meet federal requirements for “sound science.”

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IV. Overview Comments on Chapter 13:

Climate Change Science Program – Reporting and Outreach (Principally “2. For Decisionmakers”)

Page 149, Line 25, through Page 151, Line 40

“Reporting and Outreach” is where the products of the entire CCSP reach the public and the political process. The result is climate change policy, which can range from inaction, to actions such as the Kyoto Protocol, to proposals for drastic reductions in greenhouse emissions.

That policy continuum has been very ill-served in recent years, due principally to deeply flawed outreach to the professional community. In order to improve the credibility of federal outreach, we support establishing a “Reporting and Outreach Oversight Committee” (ROOC), as described herein.

V. Specific Comments on Chapter 13:

Page 149, Line 25, through Page 151, Line 40

The reasons for the establishment of this “ROOC” Committee are numerous, some of which are manifested in the CCSP proposal itself. As the proposal notes, much of current outreach has been carried out through the USGCRP. This will likely continue in the future.

While it has probably been the most important federal reporting and outreach apparatus on climate change in recent years, USGCRP has been exposed through litigation and the Freedom of Information Act to be perhaps the most biased office addressing climate change in the entire federal apparatus. This occurred because senior management has largely been composed of people with fairly uniform, extreme views on climate change. This may stem largely from the fact that very little of that senior management consisted of trained atmospheric scientists. Instead, selection of that management was a political decision undertaken by the previous Administration and that management left in place a similarly extremist infrastructure.

Consequently, in order for CCSP Reporting and Outreach to meet a more normal standard for balance, the entire USGCRP staff must be examined for balance by the new ROOC. As a start, ROOC should order USGCRP to sever relations with previous employees who are now serving as consultants, or to ask for letters of resignation which will allow for further consideration after re-evaluation. [See explanation in large part of the necessity of this step, at CEI letter to Adm. Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary for Oceans & Atmosphere and Dr. James R. Mahoney Assistant Secretary for Oceans & Atmosphere (18 October 2002), found at <http://www.cei.org/gencon/027,03333.cfm>].

A persuasive body of evidence exists of the bias and radical nature of the recent USGCRP.

° Page 150, Line 5. The “monthly Congressional seminar series”, was profoundly one-sided, consisting largely of scientists who were in agreement with the more lurid view of climate change. Scientists with different views were either completely absent from the list of speakers, or were only

allowed to present if there was opposing “balance”. That “balance” was highly selective, while those championing the lurid view of climate change were unopposed.

This would never have occurred in USGCRPs funding were vetted through a ROOC-style committee.

°The USGCRP coordinated production of the 2000 “National Assessment” of the potential effects of global warming, which gave rise to much of the subsequent “Climate Action Report” released in 2002. In the Assessment, USGCRP chose to flout the normal ethic of science, in which models must conform to observations before they can be used to determine effects with any credibility.

USGCRP’s contravention of scientific norms resulted in litigation under numerous statutes, an FDQA petition to cease dissemination of the Climate Action Report and National Assessment, as well as a hearing by the congressional committees, both during its development and a subsequent inquiry by the House Oversight and Investigations Subcommittee in 2002. Again a ROOC-overseen USGCRP would not have committed to such a biased seminar series or such a scientifically controversial attempt at a National Assessment.

Reporting and Outreach problems on climate change have not been confined to USGCRP. In fact, they are endemic in virtually every large federally-funded entity involved. That is largely because of the nature of the scientific community, discussed briefly below. Once this nature is recognized, corrective administrative measures, such as creating of the ROOC, can be taken to counter its inherent bias.

Understanding the Sociology of Global Change Science

How could the scientific community have accepted the bias of the Seminar Series and the National Assessment, and what does this portend for the future? That community encouraged excesses. And, unless CCSP management is cognizant of the sociology of global change science this tendency will continue or even worsen.

Dramatically increasing the research budget for global climate change, as is proposed in the current document, not only rewards past misfeasance but increases the pressure on scientists to accentuate negative aspects of climate change and to display the issue without balance. This is a natural product of the reward structure for academic research, which is largely predicated upon the amount of federal funding that a scientist brings to his University. Equivocal “problems” do not merit \$4 billion per year in a federal market where health care, environmental, and social concerns compete for funding. Only those presented in the most lurid fashion receive funding.

Threatening that funding stream places the individual scientist at a disadvantage compared to others competing for a finite federal outlay. Consequently, the CCSP must be aware that the science community, in general, will react negatively to members who may question the severity of environmental issues that are receiving substantial funding.

CCSP needs to actively counter this tendency by making Reporting and Outreach support to USGCRP and other applicants contingent upon a demonstrated diversity of reasonable scientific outlook. This was clearly lacking in the committee that directed the National Assessment. A Reporting and Outreach Oversight Committee, such as that detailed below, would have encouraged a proper diversity.

Interestingly, there is another large community of climatologists not as inherently biased toward the lurid on climate issues as many Federal entities, and has substantial experience in Reporting and Outreach on climate science. This is the American Association of State Climatologists (AASC), a scientific society of about 200, including State Climatologists and their professional staffs. Perhaps they are less strident because these individuals serve daily as the interface between climate issues and the public, requiring quotidian hand-on experience with weather data and the impact of climate. Daily immersion in this activity can lead to the conclusion that the climate world, in fact is not coming to a rapid end, but rather that there is a great deal of social adaptation that takes place. Whatever the reason, this community tends to be much less alarmist on the climate change issue than the USGCRP and other federal organizations, and it is also very effective at public communication.

Other public commentary on CCSP, submitted by Roger Pielke, President of the American Association of State Climatologists, makes it quite clear that AASC is very willing to lend its expertise to CCSP, particularly in the areas of climate impacts and proper communication of science, and in communicating the limitations of climate science. In its CCSP commentary, AASC notes:

- Human activities have an influence on the climate system. Such activities, however, are not limited to greenhouse gas forcing and include changing land cover and aerosol emissions, which further complicated the issue of climate prediction. Furthermore, climate predictions associated with human disturbance of the climate system have not demonstrated skill in projecting future variability and changes in such important climate conditions as growing season, drought, flood-producing rainfall, heat waves, tropical cyclones and winter storms. These types of events have a more significant impact on the United States than annual global temperature trends.

A search of USGCRP outreach documents reveals no analogously unequivocal statement about the limitations of climate science. This alone argues for active inclusion of AASC in the Reporting and Outreach activities of the CCSP.

Further, AASC notes:

- General circulation models which have been applied to project changes in global and regional climate for periods of decades into the future need to be viewed as hypotheses about the behavior of the atmosphere in response to human disturbance. The validity of such models is uncertain because our understanding of all relevant climate factors (and their relationships and interactions) is incomplete. New research should be based only upon

hypotheses that can be verified by observed data. This underscores the need to continue (and, in fact, enhance) the long-term climate monitoring system in the United States so that, for example, climate models can be properly tested.

At the December Planning meeting for the CCSP, USGCRP consultant (and former coordinator for the National Assessment) Michael MacCracken argued that testing the GCMs that were used in the Assessment on observed temperatures over the United States during the period of greenhouse enhancement was not appropriate. The fact that USGCRP is at such variance with AASC, whose leadership is certainly on a scientific par with USGCRP, indicates there is a vigorous debate over what scientific information may appropriately be presented to the public. The disparity of informed scientific opinion is *prima facie* evidence for the need for enhanced scientific diversity in important Reporting and Outreach activities of the CCSP.

Specific Recommendations

- CCSP establish a “Reporting and Outreach Oversight Committee” (ROOC) specifically designed to be inclusive. Membership should be from the scientific, environmental and industrial communities, with special attention paid to the fact (noted above) that the scientific community is itself economically biased towards exaggeration of funded or potentially funded environmental threats.
- Because of their scientifically controversial nature stemming from lack of appropriate oversight diversity, ROOC should request removal of the “National Assessment” from USGCRP communications as well as a web submission explaining why it had to be removed; in addition to the FDQA reasons detailed, *supra*, is the fact that **the supposed NACC of October 2000 failed to comply with the statutory list of areas to be explored, thus not qualifying and leaving USGCRP to still have not presented a NACC, over a dozen years after the statute’s passage.**
- Because it is largely based upon the National Assessment, Chapter 6 of the Climate Action Report-2002 should similarly be withdrawn by its publisher, the Environmental Protection Agency, along with appropriate explanatory literature.
- All federal funding disbursed through the CCSP for Reporting and Outreach must be approved by that Committee. The Committee will attach particular importance to the scientific and policy diversity that resides in any organization whose funding it oversees.
- As a centerpiece of CCSP Reporting and Outreach, the ROOC coordinate the staffing and development of a new or, actually, **First** “National Assessment” of potential effects of climate change on the United States, superseding the unlawful version; in addition, the next “Climate Action Report” should contain text on the impact of climate change based upon the new Assessment. ROOC should enlist a much more diverse coordinating staff for the new Assessment, in particular including the expertise of the American Association of State Climatologists.

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