

**Before the
United State Environmental Protection Agency**

**CRE AUDIT REPORT:
EPA COMPLIANCE WITH THEIR GPRA MODERNIZATION ACT SCIENCE QUALITY OBJECTIVE**

In the Matter of Standards of Performance for)
Greenhouse Gas Emissions from New Source)
Stationary Sources: Electric Utility)
Generating Units; RIN 2060-AQ91) Docket No. EPA-HQ-OAR-2013-0495
)
Notice of Proposed Rulemaking)

March 13, 2014

The Center for Regulatory Effectiveness
1601 Connecticut Avenue, NW, Suite 500
Washington, DC 20009
202.265.2383
www.TheCRE.com

**CRE AUDIT REPORT:
EPA COMPLIANCE WITH THEIR GPRMA MODERNIZATION ACT SCIENCE QUALITY OBJECTIVE**

Introduction:

Auditing EPA's Adherence to their GPRMA Modernization Act Science Quality Commitment

The following is an audit of EPA's performance in complying with their binding GPRMA Modernization Act ("GPRMA") science quality commitment during the above-captioned NSPS Rulemaking for Greenhouse Gas from new electric power plants.¹ The GPRMA, signed by President Obama in January 2011, requires agencies to "measure, analyze, and communicate performance information to identify successful practices to spread and problematic practices to prevent or correct...."²

EPA's GPRMA science quality commitment is published on [Performance.gov](http://www.performance.gov) as "Strategy 3: Advancing Science, Research, and Technological Innovation."³ EPA explained on [Performance.gov](http://www.performance.gov) that Strategy 3 is one of "five cross-cutting fundamental strategies for changing the way the Agency works to achieve its results." Because EPA's Advancing Science strategy is both fundamental and cross-cutting, the agency will need to adhere to it in order to be able to meet all five of the agency's goals listed on [Performance.gov](http://www.performance.gov).

OMB's instructions to agencies for implementing GPRMA are contained in Circular A-11 (2013) *Preparation, Submission and Execution of the Budget*⁴ while OMB's specific requirements for ensuring that the agencies adhere to federal science quality standards are contained in OMB's Final Information Quality Bulletin for Peer Review ("Bulletin")⁵ which is one of the OMB documents implementing the Data (Information) Quality Act ("DQA"). OMB's peer review transmittal memo to agencies explained that the "Bulletin is one aspect of a larger OMB effort to improve the quality of the scientific information upon which policy decisions are based."

In summary, it is the DQA, though the Bulletin, which sets the peer review-related procedural science quality requirements that EPA must comply with while the GPRMA, though Circular A-11, sets the reporting requirements for EPA to inform OMB and Congress on their progress in achieving their science-related and other performance goals. Because the science quality standards and the reporting requirements are contained in different statutes and are implemented through different instrumentalities, enforcement is through two different OMB components, the Office of Information

¹ 79 Fed. Reg. 1430, *et seq.*

² Jacob J. Lew and Jeffrey Zients, Memorandum, "Delivering on The Accountable Government Initiative and Implementing the GPRMA Modernization Act of 2010," April 14, 2011, M-11-17, <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-17.pdf>.

³ See, <http://goals.performance.gov/agency/epa>.

⁴ See, http://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/a11_2013.pdf.

⁵ See, <http://www.whitehouse.gov/sites/default/files/omb/assets/omb/memoranda/fy2005/m05-03.pdf>.

Center for Regulatory Effectiveness

and Regulatory Affairs (“OIRA”), which is responsible for the DQA, and the Natural Resources Division which is responsible for EPA’s implementation of GPRMA.

This Audit Report is intended to inform – and be cited in – EPA’s Summary of Findings report that the agency is to deliver to OMB by May 16, 2014 for each of its strategic objectives, as required by Sec. 270.16 of OMB Circular A-11 which implements Sec. 1116(f) of the GPRMA.

EPA’s May 16th report will be their first such report under the recent “good government” law.⁶ Since the report will be EPA’s first under the new GPRMA reporting requirements, it will be precedent-setting. Therefore, CRE in its role as a regulatory watchdog,⁷ recommends and requests that EPA:

- 1) Publish their May 16th GPRMA performance report to OMB on their website; and
- 2) Include this Audit Report, via hyperlink or other citation, in their GPRMA Summary of Findings report.

The need for careful and transparent compliance by EPA with respect to the agency’s adherence to their mandatory science quality responsibilities was highlighted in a letter from CRE to the EPA Administrator dated February 3, 2014 and attached to this Audit Report.⁸ The attached letter details and documents that the OMB/OIRA peer review guidance is a legally binding legislative rule and that there is no indication, in the notice of proposed rulemaking or otherwise, that EPA has complied with the requirements of that peer review guidance. To summarize briefly, the CRE letter makes and discusses the following points:

- 1) The OMB/OIRA peer review Bulletin is a legislative rule, containing legally binding requirements, and the judicial review disclaimer at the end has no effect, under U.S. Supreme Court and D.C. Circuit precedents.
- 2) The Bulletin’s requirements apply to the NPRM’s technology assessment of carbon capture and storage (“CCS”) technology (including its cost and energy and environmental impacts).
- 3) The technology assessment of CCS contained in the notice of proposed rulemaking is a “highly influential scientific assessment” (“HISA”) to which more stringent Bulletin requirements apply.

⁶ For a brief overview of the importance of the good government laws that regulate the regulators, please see, *A Blueprint for OMB Review of Independent Agency Regulations*, p. 1 available at <http://georgewbush-whitehouse.archives.gov/omb/inforeg/comments/comment83.pdf>.

⁷ For more information about CRE, please see http://www.thecre.com/oira/?page_id=8.

⁸ See, Jim Tozzi Letter to Regina McCarthy, <http://www.thecre.com/forum10/wp-content/uploads/2014/02/letter-to-EPA-on-peer-review-ff2.pdf>.

Center for Regulatory Effectiveness

- 4) EPA is violating the Bulletin requirements for transparent peer review planning, with public participation in the planning.
- 5) EPA is violating the Bulletin by not sponsoring an independent external peer review of the CCS technology assessment contained in its notice of proposed rulemaking.
- 6) EPA is violating the Bulletin by not sponsoring a public meeting with the peer review panel and allowing public comments to be made to the peer reviewers during their review.
- 7) EPA must prepare and deliver a charge to the peer reviewers that will be made public.
- 8) EPA must advise the peer reviewers to prepare a peer review report that will be made public, and must publicly respond to the peer review report.
- 9) Neither prior peer review of the individual studies and data cited in the NPRM nor public comments on the NPRM can substitute for the independent external peer review and other requirements of the Bulletin.
- 10) When, as in this case, a technology assessment is a critical component of a rulemaking, the required peer review must be conducted before the public comment period in order to allow for informed public comment.
- 11) Before a final rule can be promulgated, the administrative record for the final rule must contain an EPA certification explaining how it has complied with the Bulletin.
- 12) OMB/OIRA must oversee compliance with the Bulletin, as specified both by statute and the Bulletin. OIRA cannot allow publication of a final rule unless the requirements of the Bulletin have been met.

Moreover, the letter explains that not only has EPA not complied with OMB's binding science quality requirements, but is also violating the peer review policy guidance in its *Peer Review Handbook*. As evident from the above recitation of facts, CRE's letter to the agency documented extensive non-compliance by the agency, in this rulemaking, with federal peer review standards.

This report will not take a position on the underlying issue of whether CCS technology is available; this document focuses only on the technical compliance issue of whether EPA has gone through the mandatory science quality assurance processes required by OMB under the DQA.

The rest of this Audit Report and comment to the docket is organized as follows. Following the discussion of EPA's imminent reporting duties under OMB budget Circular A-11, this report will:

Center for Regulatory Effectiveness

- 1) Discuss EPA's recent NODA and Technical Support Document (TSD) which provided yet further documentation in the administrative record that the NPRM contains a HISA subject to mandatory and participatory peer review processes;
- 2) Review the auditing methodology selected by the Administrative Conference of the United States (ACUS) as a "success" through their Model Agency Initiative, GAO's Quality Assurance Framework;
- 3) Conduct a compliance audit using GAO's process to assess EPA's compliance with the mandatory peer processes that the agency must go through with respect to the CCS HISA contained in the NPRM;
- 4) Develop a Finding based on the audit; and
- 5) Provide EPA with recommendations to enhance agency compliance with their legal obligations.

This space left intentionally blank

Data-Driven Strategic Reviews: Holding EPA Officials Accountable for Agency Performance

The issue of whether EPA is in compliance with their peer review obligations has repercussions well beyond the instant rulemaking. As discussed above, by May 16th of this year, EPA will file with OMB its initial Summary of Findings report under the GPRMA Modernization Act.

OMB explained what information is to be included in agency reports through Section 270.17 of Circular A-11 which stated:

Starting with the FY 2014 Annual Performance Report [agencies] will be required to include a progress update for each strategic objective. The progress update will summarize the results of the reviews conducted by agency leadership, including what progress has been made toward achieving intended outcomes, as well as a discussion of any challenges that have impeded progress. If applicable, the progress update will identify where the agency made noteworthy progress or where the agency is facing significant challenges...

We particularly want to call EPA's attention the portion of OMB's instructions which explain:

To keep the progress update short, the agency should use hyperlinks, citations or footnotes to supporting evidence or external links if available, such as published analyses, evaluations, research studies, historical trends on performance goals and other indicators, milestones, external factors, or other independent assessments that support the summary or are relevant to problems or opportunities discussed.

OMB Circular No. A-11 (2013), Sec. 270.17. [Emphasis added.]

CRE hereby requests that this Audit Report be included via hyperlink or citation in EPA's FY 2014 Summary of Findings delivered to OMB by May 16, 2014.

Including this Audit Report in the agency's report to OMB is particularly important since Sec. 1116(f) of the GPRMA Modernization Act requires that OMB "shall determine whether the agency programs or activities meet performance goals and objectives outlined in the agency performance plans and submit a report on unmet goals" to the Administrator, relevant Congressional committees, and to GAO.

It is important for all interested persons to recognize that Agency and OMB reporting under the new good government law is not merely a *pro forma* exercise because OMB explains that "sections 1116(g-i) of the GPRMA Modernization Act establish a framework for the Executive Branch to engage Congress on objectives that are not meeting a planned level of performance."⁹

⁹ OMB Circular No. A-11 (2013), Sec. 270.19.

Center for Regulatory Effectiveness

CRE notes that EPA has recognized the importance of peer review to achievement of agency objectives during their budget process. For example, the agency's *2013 Annual Performance Plan and Congressional Justification*¹⁰ document discusses agency budget requests for peer review resources:

- “(+ \$1,048.0/ +0.3 FTE) This increase supports the development, refinement and peer review of methodologies to examine and thoroughly estimate the employment impacts of Agency regulations. This effort also will help meet EPA’s public commitment in looking back at previous regulations. This includes 0.3 FTE and \$48.0 in associated payroll resources.”¹¹
- “(+ \$1,500.0) This increase will enable the Agency to incorporate recommendations from the National Academy of Sciences and utilize high-quality outside technical peer reviews of influential methods and models.”¹²

One reason why the program appraisal process is so important is that its goals include holding specific federal officials responsible for the agency’s performance of its duties. On this point CRE notes OMB’s instructions that the purposes of the review process should include:

- Holding “goal leaders accountable for knowing the quality of their data, for having a plan to improve it if necessary, and for filling critical evidence or other information gaps.”¹³
- Holding “goal leaders accountable for identifying effective practices by searching the literature, looking for benchmarks, and analyzing disaggregated data to find positive outliers across performance units.”¹⁴
- Holding “goal leaders accountable for validating promising practices with replication demonstrations or other evidence-based methods.”¹⁵

EPA compliance with its peer review responsibilities will require that goal leaders achieve the above-defined missions.

To ensure that CRE’s audit report is relevant to EPA in their fulfillment of their GPRA Modernization Act reporting duties, the study design for this report is based on the GAO guidance document, *Designing Evaluations: 2012 Revision* which was developed by the General Accountability Office in response to passage of the GPRA Modernization Act. GAO explained the purpose of their guidance document thusly,

¹⁰ United States Environmental Protection Agency, “*Fiscal Year 2013 Justification of Appropriation Estimates for the Committee on Appropriations*,” EPA-190-R-12-001.

¹¹ *Ibid.*, p. 426.

¹² *Ibid.*, p. 427.

¹³ OMB Circular No. A-11 (2013), Sec. 270.5. [Emphasis added]

¹⁴ *Ibid.*

¹⁵ *Ibid.*

Center for Regulatory Effectiveness

*The GPRA Modernization Act of 2010 raised the visibility of performance information by requiring quarterly reviews of progress towards agency and governmentwide priority goals. Designing Evaluations is a guide to successfully completing evaluation design tasks. It should help GAO evaluators—and others interested in assessing federal programs and policies—plan useful evaluations and become educated consumers of evaluations.*¹⁶

GAO has devoted substantial work to developing GPRA Modernization Act tools and analyses. The Congressional oversight body has designated “Managing for Results in Government” as one of their Key Issues.¹⁷

What is a Program Evaluation?

GAO explains that a program evaluation is

*a systematic study using research methods to collect and analyze data to assess how well a program is working and why. Evaluations answer specific questions about program performance and may focus on assessing program operations or results.*¹⁸

Continuing independent evaluation of EPA’s performance of their peer review duties with respect to CSS-related issues is needed because of the serious peer review problems identified by the agency’s Office of Inspector General (“OIG”) in its report, *Procedural Review of EPA’s Greenhouse Gases Endangerment Finding Data Quality Processes*.

The OIG found that EPA’s review of a key technical document “did not meet all OMB requirements for peer review of a highly influential scientific assessment primarily because the review results and EPA’s response were not publicly reported, and because 1 of the 12 reviewers was an EPA employee.”¹⁹

The OIG report highlights the need for watchdogs to give close scrutiny to EPA’s performance of their peer review duties since the OIG’s concerns remain largely unaddressed. For example, EPA’s *Peer Review Handbook* has not yet been revised as recommended below:

¹⁶ GAO, *Designing Evaluations: 2012 Revision*, GAO-12-208G, p. 1.

¹⁷ See, US General Accountability Office, *Key Issues/Managing for Results in Government*, http://www.gao.gov/key_issues/managing_for_results_in_government/issue_summary.

¹⁸ GAO-12-208G, p. 3.

¹⁹ US EPA, Office of Inspector General, *Procedural Review of EPA’s Greenhouse Gases Endangerment Finding Data Quality Processes*, 11-P-0702, September 26, 2011, At a Glance/What We Found.

We recommend that EPA (1) revise its Peer Review Handbook to accurately reflect OMB requirements for peer review of highly influential scientific assessments....²⁰ [Emphasis added]

As we mentioned earlier, CRE developed its study design based on GAO’s GPRA Modernization Act evaluation guidance document. The GAO guidance discusses a five component “design matrix” that is “a standard tool” used to “outline the components of the evaluation design....” The GAO design matrix components are: 1) a Researchable Question(s) -- What questions is the audit team trying to answer? 2) the Information Required and Source(s); 3) the study Scope and Methodology -- How will the team answer each evaluation question? 4) Limitations – What are the design’s limitations and how will it affect the product? and 5) What This Analysis Will Likely Allow GAO to Say.²¹ A summary design matrix for this compliance evaluation audit report is available below.

PERFORMANCE EVALUATION REPORT DESIGN MATRIX: EPA PEER REVIEW COMPLIANCE

Researchable Question	Information Resources	Scope and Methodology	Limitations	What Conclusions are Facilitated by the Analysis
Has EPA’s BSER determination complied with OMB’s peer review mandates?	EPA’s NPRM, OMB Final Peer Review Bulletin, EPA peer review guidance documents, EPA Information Quality Guidelines, EPA FY 2013 and FY 2014 Budget Justifications, EPA’s Peer Review Agenda website, and Letter from SAB to EPA of January 29, 2014.	Each OMB peer review mandate will be identified and the binary issue of whether EPA has complied with each specific mandate, based on the public record, will be addressed.	This report examines only whether EPA has complied with its peer review requirements with respect to its BSER determination. No other “good government” law compliance issues are examined. The question of CCS availability is not considered in this report.	The audit report will allow determination as to whether EPA has complied with legally binding rulemaking requirements.

²⁰ Ibid.

²¹ Ibid., Figure 2, p. 20.

EPA’s TSD Further Documents that the Agency’s Technology Assessment is a “Highly Influential Scientific Assessment” and that the Agency Responds in a Timely Manner to Substantive Legal Challenges

CRE noted in our February 3rd letter that the term “scientific assessment” is defined in OMB’s binding guidance document as “an evaluation of a body of scientific or technical knowledge, which typically synthesizes multiple factual inputs, data, models, assumptions....,” and expressly includes “technology assessments.” CRE also explained that EPA’s NPRM made explicit that their BSER determination was just such a synthesis.

The agency’s Technical Support Document (“TSD”) dated January 8, 2014 reiterated that their BSER determination for CCS was based “on a review of existing projects that implement CCS, existing projects that implement various components of CCS, planned CCS projects, and scientific and engineering studies of CCS.”²² Thus, the BSER determination is a scientific assessment as defined by OMB. Given the economic magnitude of issue, the inter-agency interest and other relevant factors discussed in our letter, the assessment is also a “highly influential” scientific assessment. With respect to the economic impact issue, it should be noted that Department of Energy leadership recently testified before Congress that first generation CCS technology would raise the wholesale price of electricity by 70-80%.²³

We draw two conclusions from EPA’s Notice of Data Availability and TSD:

- 1) EPA has further documented that their BSER determination is a HISA; and
- 2) EPA responds to substantive legal challenges to this rulemaking prior to their drafting the final rule.

GAO’s Quality Assurance Framework: An ACUS Best Practice/Model Agency Success Story

The Administrative Conference of the United States (ACUS) highlights GAO’s Quality Assurance Framework as part of a program to recognize agency best practices.²⁴ ACUS explains that

to assure that its work is professional, independent, objective, and reliable, all of GAO’s work is conducted using one quality assurance framework. Development of the framework was driven by the need to standardize the overall processes for ensuring that GAO could continue to provide accurate and high quality information to the Congress and the public despite increased demand and shrinking resources. The framework is comprised of a comprehensive set of

²² See, http://www2.epa.gov/sites/production/files/2014-01/documents/2013_proposed_cps_for_new_power_plants_tsd.pdf

²³ See, <http://www.thecre.com/forum10/?p=164>.

²⁴ See, <http://www.acus.gov/best-practices/>.

Center for Regulatory Effectiveness

*clearly defined, well-documented, and transparent standards and control procedures.*²⁵

Because of its recognition as a federal best practice, this audit report will be based GAO's Quality Assurance Framework.

GAO's Quality Assurance Framework: A Brief Overview

Once a study has been designed, the next step is to conduct is according to the principles explicated in GAO's Framework. The Framework is based on publicly available government auditing standards. These audit standards are publicly available and contained in a reference document known as *The Yellow Book*.²⁶ GAO explains that "Given the current challenges facing governments and their programs, the oversight provided through auditing is more critical than ever." The Congressional watchdog further explains that

*The professional standards and guidance contained in this document, commonly referred to as generally accepted government auditing standards (GAGAS), provide a framework for conducting high quality audits with competence, integrity, objectivity, and independence. These standards are for use by auditors of government entities....*²⁷

The Yellow Book identifies several distinct types of audits, such as financial audits. The type of audit relevant to evaluating EPA's performance of their peer review responsibilities is called a "Performance Audit" which is defined by GAO "as audits that provide findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria."²⁸

GAO's audit methodology is based on three core elements: criteria, condition, and effect. These three elements, plus a cause if a deficiency is found, are the basis of a finding.²⁹ The finding is a logical conclusion drawn from analyzing data to understand what happened. *The Yellow Book* strongly emphasizes that "Auditors must obtain sufficient, appropriate evidence to provide a reasonable basis for their findings and conclusions."³⁰

GAO defines performance audit Criteria by stating:

²⁵ See, <http://www.acus.gov/best-practices/success-story/government-accountability-officequality-assurance-framework-agency/>

²⁶ See, <http://www.gao.gov/yellowbook/overview>.

²⁷ United States General Accounting Office, *Government Auditing Standards: 2011 Revision*, GAO-12-331G, ("*Yellow Book*") p. 5.

²⁸ *Yellow Book*, p. 17.

²⁹ See *Yellow Book*, Sec. 6.73-Sec. 6.77.

³⁰ *Yellow Book*, Sec. 6.56.

Center for Regulatory Effectiveness

*Criteria represent the laws, regulations, contracts, grant agreements, standards, specific requirements, measures, expected performance, defined business practices, and benchmarks against which performance is compared or evaluated.*³¹

OMB's Final Information Quality Bulletin for Peer Review constitutes this report's audit criteria. By using the OMB guidance document, this report adheres to GAO's statement that "Auditors should use criteria that are relevant to the audit objectives and permit consistent assessment of the subject matter."³²

Condition is simply "a situation that exists."³³ In our case, the Condition is the NPRM cited at the start of these comments and the relevant public record including EPA's Science Inventory³⁴ and Peer Review Agenda. EPA explains that their "Peer Review Agenda, which is required by the Office of Management and Budget Final Information Quality Bulletin for Peer Review, lists all planned and ongoing peer reviews of 'influential scientific information' and 'highly influential scientific assessments' (as defined by the Bulletin)."³⁵

The Yellow Book states that the "effect is a clear, logical link to establish the impact or potential impact of the difference between the situation that exists (condition) and the required or desired state (criteria)."³⁶ Effect is not an abstract concept, rather "[e]ffect or potential effect may be used to demonstrate the need for corrective action in response to identified problems or relevant risks."³⁷

When a situation has been documented to be materially deficient from what it should be, the next step is to identify a cause. *The Yellow Book* explains

*The cause identifies the reason or explanation for the condition or the factor or factors responsible for the difference between the situation that exists (condition) and the required or desired state (criteria), which may also serve as a basis for recommendations for corrective actions. Common factors include poorly designed policies, procedures, or criteria; inconsistent, incomplete, or incorrect implementation; or factors beyond the control of program management. Auditors may assess whether the evidence provides a reasonable and convincing argument for why the stated cause is the key factor or factors contributing to the difference between the condition and the criteria.*³⁸ [Emphasis added]

³¹ *Yellow Book*, Sec. 6.37.

³² *Ibid.*

³³ *Yellow Book*, Sec. 6.75

³⁴ <http://cfpub.epa.gov/si/>

³⁵ http://cfpub.epa.gov/si/si_public_pr_agenda.cfm

³⁶ *Yellow Book*, Sec. 6.77

³⁷ *Ibid.*

³⁸ *Yellow Book*, Sec. 6.76.

Center for Regulatory Effectiveness

GAO's discussion of "cause" above highlights that it can "serve as a basis for recommendations for corrective actions." The corrective actions EPA needs to take to remediate the critical procedural deficiencies in this rulemaking are clearly stated in the Recommendation section of this letter.

It is important that EPA take the corrective actions described in the Recommendations section on a timely basis, prior to a planned final or draft final rule being sent to OMB because, as CRE explained in our February 3rd letter and reiterates here, the peer review deficiencies documented herein are:

- "compromising the ability and rights of the public and CRE to comment on a rulemaking proposal on carbon capture and storage technology which contains analysis addressing its commercial availability that has been peer reviewed in accordance with the legally binding requirements of the Data Quality Act."

We can see, therefore, that the auditor's job includes (1) determining what standards should be applied to evaluating a specific situation, (2) assessing the situation that actually exists, and (3) evaluating the effect of any deviation between the situation that exists and the situation that should exist. Thus, in our case, the auditor's job is to assess whether the technology assessment underlying EPA's CCS BSER determination was developed and performed in accord with OMB's data quality peer review bulletin.

GAO's audit procedures include evidentiary standards

GAO specifies detailed sets of evidentiary standards, many of them tailored to specific audit purposes. *The Yellow Book* explains that "[t]he concept of sufficient, appropriate evidence is integral to an audit."³⁹ GAO further explains that "In assessing the sufficiency of evidence, auditors should determine whether enough evidence has been obtained to persuade a knowledgeable person that the findings are reasonable."

Testing the EPA's CCS HISA Against OMB's Peer Review Requirements

CRE's February 3rd letter cited five specific mandatory criteria that EPA was required to adhere to in their peer review of their CSS HISA:

1. Publication in EPA's Peer Review Agenda and Plans;
2. Requirement for Independent Peer Review by Diverse Experts;
3. Timely Public Participation;
4. Peer Reviewers' Report and Agency Response; and
5. Certification of Compliance.

³⁹ *Yellow Book*, Sec. 6.57.

Center for Regulatory Effectiveness

It is important to note that all five of the above criteria are written by OMB in mandate language (“shall, etc.”) not in recommendation-style language using words such as “should” or “encouraged.”

CRE will test EPA’s NPRM and associated public administrative record against each of the five criteria to measure agency performance of their peer review duties in the CCS rulemaking according to GAO’s audit standards as discussed below.

First, for each of the five criteria discussed in CRE’s February 3rd letter, this report identifies the specific OMB peer review requirement—the criteria—being tested.

Second, this report identifies the condition. By way of analogy, if the criteria being tested was the Administrative Procedure Act’s requirement that public notice of rulemakings be provided, the condition we would consider is the existence (or not) of an NPRM.

Third, we evaluate the condition to see if it meets the criteria, *i.e.*, determine whether the condition complies with the criteria (an NPRM published in the *Federal Register* would affirmatively demonstrate that the APA’s requirement for public notice of a rulemaking was given).

Fourth, we discuss the effect of any discrepancy between criteria and condition.

Fifth, we describe the immediate cause of any deficiency we identify.

Test 1: EPA Publication of CCS Peer Review Plans in the Agency’s Peer Review Agenda

Criteria: Agency Publication of a Peer Review Plan for the CCS HISA.

OMB’s *Federal Register* notice for their Final Information Quality Bulletin for Peer Review explicitly mandates that agencies publish detailed peer review plans. Specifically, under the heading “Peer Review Planning” OMB states:

*1. Peer Review Agenda: Each agency shall post on its Web site, and update at least every six months, an agenda of peer review plans. The agenda shall describe all planned and ongoing influential scientific information subject to this Bulletin.*⁴⁰

OMB further details their Peer Review Plan requirements specifying ten (10) elements that agencies must include in their plans. Each of the ten elements peer review plan elements is a separate criterion on which EPA compliance is being evaluated. The ten OMB requirements for information that “[e]ach peer review plan shall include” are:

- 1) Basic information. “A paragraph including the title, subject and purpose of the planned report, as well as an agency contact to whom inquiries may be directed to learn the specifics of the plan”⁴¹

⁴⁰ 70 Fed Reg 2676.

Center for Regulatory Effectiveness

- 2) Does the information under review constitute a HISA? “whether the dissemination is likely to be influential scientific information or a highly influential scientific assessment;”⁴²
- 3) Timing. “the timing of the review (including deferrals);”⁴³
- 4) Type of Review Procedure. “whether the review will be conducted through a panel or individual letters (or whether an alternative procedure will be employed);”⁴⁴
- 5) Public Comment Opportunities. “whether there will be opportunities for the public to comment on the work product to be peer reviewed, and if so, how and when these opportunities will be provided”;⁴⁵
- 6) Providing Public Comment to Peer Reviewers. “whether the agency will provide significant and relevant public comments to the peer reviewers before they conduct their review”;⁴⁶
- 7) Number of Peer Reviewers. “the anticipated number of reviewers (3 or fewer; 4–10; or more than 10);”
- 8) Required Areas of Expertise for Peer Reviewers. “a succinct description of the primary disciplines or expertise needed in the review”;⁴⁷
- 9) Who Selects Peer Reviewers. “whether reviewers will be selected by the agency or by a designated outside organization;”⁴⁸ and
- 10) Who Nominates the Peer Reviewers. “whether the public, including scientific or professional societies, will be asked to nominate potential peer reviewers.”⁴⁹

EPA’s Peer Review Handbook (3rd Edition), also discusses the agency’s peer review publication processes but in considerably less detail than required by OMB. Nonetheless, the Handbook does state that “EPA will make its peer review plans for highly influential scientific

⁴¹ Id.

⁴² Id.

⁴³ Id.

⁴⁴ Id.

⁴⁵ Id.

⁴⁶ Id.

⁴⁷ Id.

⁴⁸ 70 Fed Reg 2676-2677.

⁴⁹ 70 Fed Reg 2677.

Center for Regulatory Effectiveness

assessments and influential scientific information available for public comment through the Science Inventory.”⁵⁰

Condition: The situation that exists is that there is no mention of a peer review concerning CCS technology availability on EPA’s Peer Review Agenda⁵¹ either as a HISA⁵² or even simply as an Influential Scientific Assessment.⁵³ There is also no reference to a CCS peer review on EPA’s list of Influential Products with Completed Peer Reviews.⁵⁴

It is important to note that the public record contains a letter from SAB Chair to the EPA Administrator dated January 29, 2014 discussing the current rulemaking which stated that the SAB was deferring “to EPA’s legal view... that the portion of the rulemaking addressing coal-fired power plants focuses on carbon capture... are not within the scope of the Clean Air Act.”⁵⁵ The SAB letter also stated that:

*Research and information from the EPA, Department of Energy, and other sources related to carbon sequestration merit scientific review by the National Research Council or the SAB. Indeed, the Board notes that Section 704 of the Energy Independence and Security Act of 2007 directly calls for the National Research Council to review such research conducted by the Department of Energy and that this review has not yet occurred. The SAB asks the EPA to explore options for conducting such a review in a timely manner.*⁵⁶ [Emphasis added]

Evaluation: EPA has not complied with OMB’s non-discretionary mandate to publish containing the ten required information components. EPA has not even complied with their internal, and far less stringent, Peer Review Handbook requirement to make “its peer review plans for highly influential scientific assessments and influential scientific information available for public comment....” The legal assertion made by an unnamed EPA official to the SAB regarding the scope of the Clean Air Act do not obviate the agency’s statutory peer review duties under the Data Quality Act.

Effect: There are three primary effects from EPA’s non-compliance with OMB’s peer review published notice, (1) the rulemaking process is materially deficient, (2) the public, including CRE, are deprived of their right to participate in the rulemaking by commenting on the peer review documents, and (3) the agency plans to establish precedential regulatory policy in absence of the required scientific record.

⁵⁰ U.S. Environmental Protection Agency, *Peer Review Handbook* (3rd Edition), p. 19.

⁵¹ See, http://cfpub.epa.gov/si/si_public_pr_agenda.cfm.

⁵² See, http://cfpub.epa.gov/si/si_public_pr_agenda.cfm#HISA.

⁵³ See, http://cfpub.epa.gov/si/si_public_pr_agenda.cfm#ISI.

⁵⁴ See, http://cfpub.epa.gov/si/si_public_pr_agenda_archive.cfm.

⁵⁵ See, Science Advisory Board Letter to Gina McCarthy, January 29, 2014, (“SAB Letter”) [http://yosemite.epa.gov/sab/SABPRODUCT.NSF/RSSRecentHappeningsBOARD/6646907111A3A35385257C70006F5F22/\\$File/EPA-SAB-14-003-unsigned.pdf](http://yosemite.epa.gov/sab/SABPRODUCT.NSF/RSSRecentHappeningsBOARD/6646907111A3A35385257C70006F5F22/$File/EPA-SAB-14-003-unsigned.pdf).

⁵⁶ Ibid.

With respect to the precedent-setting nature of the NSPS CCS rulemaking, it should be noted that 17 State Attorneys General and the senior environmental official of an eighteenth state, have sent the EPA Administrator a letter transmitting a white paper which explained that it is EPA which has stated that “once it has issued regulations for an air pollutant from *new* sources in a particular source category under the CAA § 111(b), it has legal authority to regulate emissions from *existing* sources of that air pollutant within the same source category.”⁵⁷

Cause: GAO’s *Yellow Book* explained common factors responsible for the failure of an agency program to comply with applicable criteria includes “inconsistent, incomplete, or incorrect implementation...”⁵⁸ There are three evident causes for EPA not adhering to the peer review publication notice requirement:

- 1) EPA did not follow the requirements set forth in OMB’s peer review bulletin;
- 2) EPA’s internal peer review guidance, published in their Peer Review Handbook, does not conform to the OMB bulletin even though the agency Inspector General has told the agency they need to revise their guide to conform to OMB requirements; and
- 3) EPA did not even follow the lower, deficient, peer review publication notice requirements in their Handbook.

Test 2: Independent Peer Review by Diverse and Varying Experts

Criteria: All HISA’s must be peer reviewed.

OMB’s peer review bulletin requires that peer reviews be conducted by diverse experts with relevant learning and experience. Specifically, OMB states:

*The group of reviewers shall be sufficiently broad and diverse to fairly represent the relevant scientific and technical perspectives and fields of knowledge.*⁵⁹

The bulletin places great emphasis on the ensuring that peer reviewers are independent of the agency sponsoring the peer review, informing agencies in substantial detail as to the independence requirements they must observe:

Independence: In addition to the requirements of Section II (3)(c), which shall apply to all reviews conducted under Section III, the agency—or entity selecting the reviewers—shall bar participation of scientists employed by the sponsoring agency unless the reviewer is employed only for the purpose of conducting the peer review (i.e., special government employees). The only exception to this bar

⁵⁷ See, <http://www.nationaljournal.com/free/document/download/4554-1>. [Note omitted, Emphasis in original]

⁵⁸ *Yellow Book*, Sec. 6.76.

⁵⁹ 70 Fed Reg 2676.

Center for Regulatory Effectiveness

would be the rare case where the agency determines, using the criteria developed by NAS for evaluating use of “employees of sponsors,” that a premier government scientist is (a) not in a position of management or policy responsibility and (b) possesses essential expertise that cannot be obtained elsewhere. Furthermore, to be eligible for this exception, the scientist must be employed by a different agency of the Cabinet-level department than the agency that is disseminating the scientific information. The agency’s determination shall be documented in writing and approved, on a nondelegable basis, by the Secretary or Deputy Secretary of the department prior to the scientist’s appointment.”⁶⁰

OMB also established requirements in their instructions to agencies for rotating peer reviewers, in essence preventing external peer reviewers from becoming captive of the agency. The only exception permitted by OMB is in cases where the specific reviewer’s “participation is essential and cannot be obtained elsewhere.”⁶¹

Condition: The condition is that there is no public record pertaining to a peer review of EPA’s CCS BSER determination.

Evaluation: Since (1) the BSER determination is a HISA, (2) HISA’s are required by OMB to undergo independent peer review and (3) there is no public record of such review, EPA has not complied with OMB’s peer review directive.

Effect: The public, EPA itself, and Congress are being denied the opportunity to review and comment on EPA’s highlight influential scientific assessment of carbon capture and storage technology availability.

Cause: The cause of the condition materially differing from the criteria is EPA not carrying out there mandatory peer review responsibilities.

Test 3: Public Participation in the Timely, Independent Peer Review Process

Criteria: The public must be given opportunities to participate in the peer review process both orally and in writing unless infeasible.

Whenever feasible and appropriate, the agency shall make the draft scientific assessment available to the public for comment at the same time it is submitted for peer review (or during the peer review process) and sponsor a public meeting where oral presentations on scientific issues can be made to the peer reviewers by interested members of the public. When employing a public comment process as part of the peer review, the agency shall, whenever practical, provide peer

⁶⁰ Ibid.

⁶¹ Ibid.

Center for Regulatory Effectiveness

*reviewers with access to public comments that address significant scientific or technical issues.*⁶²

An additional OMB requirement on agencies with respect to public participation in the peer review process is that it not cause delays in the agency's processes,

*To ensure that public participation does not unduly delay agency activities, the agency shall clearly specify time limits for public participation throughout the peer review process.*⁶³

Condition: The condition is that (1) EPA has made no statement or other demonstration that peer review of the HISA is infeasible or inappropriate, (2) EPA has not submitted their draft highly influential scientific assessment for peer review, and (3) EPA has not convened a public meeting that allows the public to provide peer reviewers with comment.

Evaluation: It could be reasoned that the requirement for public participation has not yet been triggered since the draft scientific assessment has not yet been made available to peer reviewers. Under this scenario, there would be no material deviation between criteria and condition. On the other hand, the agency has submitted the draft HISA to the public for comment via the NPRM. Therefore, the agency is therefore obligated by the OMB DQA requirements to provide the public with additional written and oral opportunities to comment on the HISA when it is sent to the peer reviewers so that interested persons may comment directly on the peer review issues set forth for the external reviewers prior to agency preparation of the intended final rule. Since the agency has not yet set a timeframe for the additional, non-discretionary comment opportunities, promulgation of a legally-valid final rule is being delayed in violation of OMB mandates.

Effect: The effect of the delay in public participation in the independent peer review process is to create additional public comment opportunities.

Cause: The cause of the condition materially differing from the criteria is EPA not clearly specifying a timeframe for carrying out its peer review responsibilities.

Test 4: Peer Reviewers' Report and Agency Response

Criteria: The White House, through OMB's peer review bulletin directs that (1) peer reviewers prepare a report, (2) the report be made public on the agency's website and (3) and the agency discuss the report in the preamble of their proposed rulemaking.

Transparency: The agency—or entity managing the peer review—shall instruct peer reviewers to prepare a report that describes the nature of their review and their findings and conclusions. The peer review report shall either (a) include a verbatim

⁶² Ibid.

⁶³ Ibid.

Center for Regulatory Effectiveness

copy of each reviewer's comments (either with or without specific attributions) or (b) represent the views of the group as a whole, including any disparate and dissenting views. The agency shall disclose the names of the reviewers and their organizational affiliations in the report. Reviewers shall be notified in advance regarding the extent of disclosure and attribution planned by the agency. The agency shall disseminate the final peer review report on the agency's Web site along with all materials related to the peer review (any charge statement, the peer review report, and any agency response). The peer review report shall be discussed in the preamble to any related rulemaking and included in the administrative record for any related agency action.⁶⁴ [Emphasis added]

Condition: The condition is that (1) EPA has not published the CCD BSER determination peer review on their website made no statement or other demonstration that peer review of the HISA is infeasible or inappropriate, (2) EPA has not submitted their draft highly influential scientific assessment for peer review, and (3) EPA has not convened a public meeting that allows the public to provide peer reviewers with comment.

Evaluation: It could be reasoned that the requirement for public participation has not yet been triggered since the draft scientific assessment has not yet been made available to peer reviewers. This possibility is ruled out, however, because of OMB's requirements that the peer review report be discussed in the preamble of the NPRM. Since the NPRM contains no discussion of the required peer review, the condition materially differs from the rulemaking criteria set forth by OMB in the bulletin.

Effect: The effect of EPA's non-compliance with requirements to discuss the peer review report in the NPRM is that the public comment Notice is materially deficient, depriving CRE and other interested persons of their right to comment to the agency on the peer review.

Cause: The reason why EPA's NPRM is deficient is because the agency did not apply OMB's peer review mandates to the rulemaking.

Test 5: Agency Certification of Peer Review

Criteria: EPA is required to certify their compliance with OMB's peer review requirements. This is true for both influential scientific information and HISAs.

Certification in the Administrative Record.

*If an agency relies on influential scientific information or a highly influential scientific assessment subject to this Bulletin to support a regulatory action, it shall include in the administrative record for that action a certification explaining how the agency has complied with the requirements of this Bulletin and the applicable information quality guidelines. Relevant materials shall be placed in the administrative record.*⁶⁵

⁶⁴ Ibid, p. 2675. [Emphasis added]

⁶⁵ Ibid., p. 2677. [Emphasis added]

Center for Regulatory Effectiveness

Condition: The condition is that there is no record of EPA's certification of their compliance with OMB's DQA peer review requirements.

Evaluation: EPA's is in violation of OMB's requirement to certify that the agency has conducted the legally-required peer review process.

Effect: EPA will not be able to send a valid final rule to OMB for its review prior to commissioning and completing an independent peer review, with public participation, of the agency's BSER determination.

Cause: EPA non-compliance with OMB's Final Information Quality Peer Review Bulletin is the cause of the agency not being able to complete the NSPS rulemaking.

FINDING: EPA is Substantively Out of Compliance with the Minimum Acceptable Peer Review Standards

The researchable question which this performance evaluation audit was designed to answer is: Has EPA's BSER determination complied with OMB's peer review mandates? In developing the finding, we are keenly aware of the requirement to provide a "sufficient, appropriate evidence to provide a reasonable basis" for our findings.

There were three steps to developing this report's finding. The first task was assessing whether EPA has, as of the date of this report, substantively complied with the mandatory portions of OMB's Final Information Quality Bulletin for Peer Review. If specific instances of substantive agency non-compliance with the requirements were identified, the next task would be assessing the relevance and significance of those instances to the rulemaking. The final step would be to determine the time-sensitivity of any missed requirements, *i.e.*, assessing whether peer review compliance could take place in the future without a serious breach of rulemaking requirements occurring.

The first task appears to be easiest as there no record of EPA complying with the five mandatory peer review tasks set forth by OMB. Before reaching any conclusion, however, it is necessary to examine the agency's assertion in the record, made by an unnamed staffer "from EPA's Office of Air and Radiation" to the agency's Science Advisory Board that "the portion of the rulemaking addressing coal-fired power plants focuses on carbon capture and that the regulatory mechanisms for addressing potential risks associated with carbon sequestration are not within the scope of the Clean Air Act."⁶⁶

The assertion by the unnamed EPA staffer is peculiar for two reasons. One, the preamble of the January 8, 2014 NPRM states, "This action proposes...based on partial implementation of carbon capture and storage as the best system of emission reduction" which treats carbon capture and carbon storage (sequestration) as an integrated regulatory action. It should be noted that the NPRM does not

⁶⁶ SAB Letter, p. 2.

Center for Regulatory Effectiveness

even contain an acronym for carbon capture independent of the integrated CCS process. The second peculiarity about the staffer's assertion is that it cited no specific statutory authority or legal analysis but, instead, makes a claim regarding the Clean Air Act which is not the even the statutory source of the peer review requirement on EPA. As previously discussed, the statutory authority for OMB's peer review requirements derives from the Data Quality Act, not the Clean Air Act. Moreover, OMB's peer review instructions contain authority to waive peer review requirements only in very limited, carefully defined instances.

It is important for the auditor to recognize that (1) the definition of HISA is contained in OMB's peer review bulletin, not Clean Air Act and (2) EPA has not explained how their BSER determination does not meet OMB's definition of a HISA. Furthermore, the text of SAB's letter makes explicit that, irrespective of EPA's legal assertion, the SAB believes that the agency's CCS determination requires external peer review:

*The SAB asks the EPA to explore options for conducting such a review in a timely manner. The Board also advises the agency to monitor technological progress on carbon capture as the regulation is implemented.*⁶⁷

Thus, this Audit Report concludes that EPA is substantively out of compliance with the mandatory portions of OMB's peer review peer review bulletin.

After the specific instances of EPA non-compliance with peer review requirements are identified (all five OMB peer review mandates), the next step is to identify the relevance, if any, to the rulemaking from the lack of peer review. In order to understand the significance of agency non-compliance with peer review requirements, it is necessary to understand of the very purpose of peer review,

*Peer review is an important procedure used by the scientific community to ensure that the quality of published information. Peer review can increase the quality and credibility of the scientific information generated across the federal government.*⁶⁸

Thus, the purpose of peer review is to ensure that published agency science meets certain minimum quality standards. The very high level of importance of science quality to EPA regulations was made explicit by the agency itself in its Fiscal Year 2014 "Justification of Appropriation Estimates for the Committee on Appropriations" which stated that "Science and research continue to be the foundation of all our work at the EPA."⁶⁹ Since science quality is essential to all of EPA's

⁶⁷ Ibid.

⁶⁸ Memorandum for Heads of Departments and Agencies from Joshua B. Bolten, "Issuance of OMB's "Final Information Quality Bulletin for Peer Review," December, 16, 2004.

⁶⁹ United States Environmental Protection Agency, "Fiscal Year 2014 Justification of Appropriation Estimates for the Committee on Appropriations," April 2013, p. vii, available at <http://www2.epa.gov/sites/production/files/documents/cjfy14.pdf>.

Center for Regulatory Effectiveness

regulatory work, including this rulemaking, the agency's non-compliance with minimum science quality standards is very material to the rulemaking.

The final step in the development of our finding was to assess how the agency's to-date non-compliance with peer review requirements is likely to affect the timing of the rulemaking. If the agency is able to conduct the peer review in the future without violating any rulemaking or peer review precept, then the non-compliance would not necessarily have any effect on a final rule's timing. In some ways, the timing issue is the least significant aspect of the finding since the agency always has the option of withdrawing the NPRM and restarting the rulemaking from scratch.

In our case, EPA has violated a specific rulemaking requirement established by OMB in the peer review bulletin; discussing the peer reviewers report in the NPRM. As was discussed in Test 4 above, OMB directs that the "peer review report shall be discussed in the preamble to any related rulemaking and included in the administrative record for any related agency action."⁷⁰

Because there is not yet a peer review report for the public to comment on, this rulemaking's NPRM is materially deficient. Although the deficiency does not necessitate withdrawing the January 2014 NPRM, it will require that EPA publish a Further Notice of Proposed Rulemaking or similar document, to announce and accept comment on the peer review report. Such comment would not be in lieu of the other OMB peer review public participation requirements.

After carefully evaluating OMB's peer review requirements and EPA's responses to the requirements, our finding is: EPA is substantively out of compliance with minimum acceptable peer review standards. EPA will need to comply with the mandatory portions of OMB's peer review bulletin before developing a final rule for OMB's review. Any EPA final rule promulgated prior to agency completion of their peer review duties would not be legally valid.

Recommendations

CRE recommends and requests that EPA:

- 1) Link to or otherwise cite this audit report in its GPRA Modernization Act of 2010 Summary of Findings report to be delivered to OMB by May 16, 2014;
- 2) Initiate the public, participatory peer review activities mandated by OMB and the DQA; and
- 3) Following completion of their peer review duties, publish a Further Notice of Proposed Rulemaking requesting comment on the peer review report.

⁷⁰ OMB Peer Review Bulletin, p. 38. [Emphasis added]

Center for Regulatory Effectiveness

1601 Connecticut Avenue, NW

Washington, DC 20009

Tel: (202) 265-2383 Fax: (202) 939-6969

contact@TheCRE.com www.TheCRE.com

February 3, 2014

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

Dear Administrator McCarthy:

We are writing to advise you of a clear failure by EPA to comply with legally binding OMB data quality peer review rules in proceeding with publication of its notice of proposed rulemaking concerning new source performance standards for carbon dioxide emissions from fossil fuel-fired electric utility generating units. The NPRM signed by you was published in the *Federal Register* on January 8.¹ Issuance of a final rule without compliance with the OMB peer review guidance would be a violation of law because it would violate a number of OMB peer review mandates.

This letter is not being submitted at this time as a formal comment on the NPRM. CRE will be submitting formal and more extensive comments that will encompass this issue. We are writing this separate letter at this time because we believe that this matter is especially urgent since it involves highly important national energy and scientific integrity issues. Moreover, the non-compliance detailed herein is compromising the ability and rights of the public and CRE to comment on a rulemaking proposal on carbon capture and storage technology which contains analysis addressing its commercial availability that has been peer reviewed in accordance with the legally binding requirements of the Data Quality Act.

Executive Summary

The proposed new source performance standards are based on a scientific assessment of the technical feasibility, cost, and energy impacts of implementing partial carbon capture and storage (“CCS”) at new fossil fuel-fired electric utility plants. EPA’s

¹ 79 Fed Reg. 1430 (Jan. 8, 2014).

Center for Regulatory Effectiveness

proposed technology assessment is a “highly influential scientific assessment” (“HISA”) under the definition of a HISA in the 2005 OMB information quality peer review guidance.²

The OMB guidance contains “requirements” for the conduct of impartial outside peer reviews of such assessments. The U.S. Court of Appeals for the D.C. Circuit determined in *Prime Time Int’l, Inc. v. Vilsack*³ in 2010 that OMB guidance issued pursuant to the Information Quality Act is legally binding. Other legal precedents from the U.S. Supreme Court and the D.C. Circuit confirm that the peer review guidance is a legally binding and enforceable “legislative rule.” Yet the NPRM does not contain any reference to the OMB guidance or discussion of the agency’s compliance with it.

At this time, EPA has already failed to comply with multiple requirements of the OMB guidance, both for HISAs and for other influential scientific information. Those deficiencies must be corrected and the NPRM’s technology assessment subjected to independent external peer review, with public participation in the peer review planning and conduct, before the rulemaking can go forward, and certainly before it could be sent to OMB for review as a final rule.⁴

I. The NPRM Contains and Relies on a Technology Assessment of Partial CCS that is a HISA under the OMB Peer Review Guidance.

The subject rulemaking is being conducted pursuant to the new source performance standards (“NSPS”) provisions of the Clean Air Act. (Sec. 111, 42 U.S.C. § 7411.) Those provisions require that the standards be based on a determination of the best system for emission reduction (“BSER”). Determination of a BSER requires conduct of a technology assessment that takes into account multiple factors. The BSER

² 70 Fed. Reg. 2664-77 (Jan. 14, 2005).

³ 599 F.3d 678, 685 (D.C. Cir. 2010).

⁴ EPA’s non-compliance with procedural legal requirements is the only issue being analyzed in this letter. However, deep doubt regarding the availability of CCS technology for commercial power plants has been expressed by both industry and environmentalists. For example, Greenpeace’s Norway affiliate recently stated that “It was never true that effective CCS technology was readily available, no more in 2006 than today.” (“The Norwegian carbon capture and storage nightmare,” January 24, 2014, *TheForeigner*.) A May 2008 report by Greenpeace International, ([False Hope: Why carbon capture and storage won’t save the climate](#)) stated, “The Intergovernmental Panel on Climate Change (IPCC) does not expect CCS to become commercially viable until at least the second half of this century.”

Center for Regulatory Effectiveness

must have been “adequately demonstrated,” “taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements.” 42 U.S.C. § 7411(a)(1). As the NPRM acknowledges, this NSPS determination process requires inter-related determinations of technical feasibility, reasonableness of cost, achievability of certain emission reductions, and energy impacts on both national and local levels. Fed. Reg. at 1462. EPA has some discretion in weighing these various factors, but the exercise of that discretion must be underpinned by sound scientific/technical assessment (including costs).

The OMB peer review guidance sets out requirements for peer review of all “influential scientific information” (“ISI”) and for “highly influential scientific assessments” (“HISA”s). The provisions for ISI allow for exercise of considerable discretion, while the provisions for HISAs, which are layered on top of the requirements for ISI, are more numerous and mainly mandatory.

The OMB guidance is careful to distinguish between ISI and HISAs. A key term in the HISA definition concerns the meaning of the term “assessments.” The OMB guidance also exhibits a careful distinction between what is discretionary and what is mandatory, based on use of the terms “requirements,” “shall,” and “must,” as opposed to arguably non-mandatory terms such as “should,” “may,” and “encouraged.”

The term “scientific assessment” is defined in the OMB guidance as requiring a synthesis of various inputs. The OMB guidance definition states that it means “an evaluation of a body of scientific or technical knowledge, which typically synthesizes multiple factual inputs, data, models, assumptions, and/or applies best professional judgment to bridge uncertainties in the available information.” The definition expressly includes “technology assessments.” 70 Fed. Reg. at 2675.

The subject NPRM clearly incorporates a technology assessment of partial CCS as the best technology for reduction of carbon dioxide emissions from fossil fuel-fired power plants. The NPRM proposes to conclude that partial CCS is BSER and the basis for the proposed NSPS because it is technically feasible and available and can be implemented at a reasonable cost and without undue negative impacts on energy supplies. The proposed technology assessment in the NPRM relies on numerous data sources and evaluations. Those sources include multiple reports on technical feasibility, including costs, from DOE’s National Energy Technology Laboratory, a federal inter-agency task force, the Pacific Northwest National Laboratory, the Joint Global Change Research

Center for Regulatory Effectiveness

Institute, the University of California, Davis, the Intergovernmental Panel on Climate Change, individual authors, the U.S. Geological Survey, the International Energy Administration, and government consultants. EPA states in the NPRM that its proposed assessment of the technical feasibility of partial CCS is supported by an extensive literature record and commercial experience:

*The EPA proposes to find that partial CCS is feasible because **each step** in the process [capture, transportation, storage] has been demonstrated to be possible through an **extensive literature record** [and experience at commercial operations].*

79 Fed. Reg. at 1471 (emphasis added). The “extensive literature record” supporting the various “steps” in the EPA technology assessment, including costs, is detailed in numerous footnoted citations and textual descriptions. See 79 Fed. Reg. at 1471-84.

It is hard to imagine how it could be any clearer that the EPA proposal incorporates a technology “assessment,” as it is “an evaluation of a body of scientific or technical knowledge, which typically synthesizes multiple factual inputs, data, models, assumptions, and/or applies best professional judgment to bridge uncertainties in the available information.”

The OMB guidance definition of a HISA states that a “scientific assessment” is “highly influential” if it “(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.” 70 Fed. Reg. at 2675. The NPRM does not contain any specific cost estimates for implementing CCS, but it is highly likely that the cost would exceed \$500 million in a given year. The technology assessment as a whole is almost certain to be controversial, and it is clearly “precedent-setting.” It is also obviously of “significant interagency interest,” as evidenced by the NPRM’s significant reliance on numerous DOE studies and the report of an interagency task force.⁵

⁵ The interagency task force report is cited numerous times in the technology assessment portion of the NPRM. It was convened pursuant to directives in a Presidential Memorandum dated Feb. 3, 2010, and was delivered to the President on August 12, 2010. The Task Force was co-chaired by DOE and EPA and included more than 100 representatives from 14 federal departments and agencies: State, Treasury, Justice, Interior, Agriculture, Commerce, Labor, Transportation, Energy, OMB, EPA, FERC, OSTP, and CEQ. The report relied on extensive literature and input from outside experts and stakeholders.

II. The OMB Peer Review Guidance is Legally Binding.

That OMB guidance issued under the Information Quality Act (“IQA”) is legally binding, having the “force of law,” has already been determined by *Prime Time Int’l, Inc. v. Vilsack*, 599 F.3d 678, 685 (D.C. Cir. 2010). In *Prime Time*, the D.C. Circuit stated that a provision in OMB guidance issued under the IQA was “binding,” and referenced a statement from the Supreme Court’s opinion in *United States v. Mead Corp.*, 533 U.S. 218, 226-27, in which the Court held that “administrative implementation of a particular statutory provision qualifies for *Chevron* deference when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority.” (Emphasis added) Subsequent to the issuance of the decision, the Department of Justice was very concerned that CRE opined that the *Prime Time* decision concluded that the IQA is judicially reviewable. This concern on the part of the Department of Justice led them to request that the court make clear that IQA is not judicially reviewable; the court refused to honor that request.⁶

The IQA (also known as the “Data Quality Act”), 44 U.S.C. § 3516 note, was enacted as a supplement to the requirements of the Paperwork Reduction Act (“PRA”) provisions authorizing and directing OMB to issue “Rules and regulations” to ensure and maximize the quality of information disseminated by federal agencies. 44 U.S.C. §§ 3516 and 3504(d)(1). The IQA expressly incorporated those PRA provisions and others. The OMB peer review guidance states that it is promulgated under the legal authority of the IQA and other OMB authorities. 70 Fed. Reg. at 2666, 2667.

The *Prime Time* holding is in line with U.S. Supreme Court precedent and other D.C. Circuit case law. In *Chrysler Corp. v. Brown*, the Supreme Court held that regulations have the “force and effect of law” when they are issued pursuant to legislative authority to implement a statute and are promulgated pursuant to any procedural requirements imposed by Congress, such as the notice-and-comment requirements of the APA. 441 U.S. 281, 302-03 (1979). The D.C. Circuit has elaborated on those basic principles by holding that a regulation has the force and effect of law if it appears on its

⁶ The Dept. of Justice motion is available at http://thecre.com/pdf/20100603_Government_DQA_Appeal_to_Court.abrev.pdf. In denying the motion, the court did not issue an opinion.

Center for Regulatory Effectiveness

face to be binding, as indicated by its use of mandatory language. *Cement Kiln Recycling Coalition v. U.S. EPA*, 493 F.3d 207, 216 (D.C. Cir. 2007); *Elec. Privacy Info. Ctr. v. U.S. Dept. of Homeland Security*, 653 F.3d 1, 7 (D.C. Cir. 2011). The OMB peer review guidance was issued following extensive formal notice and comment⁷ and uses mandatory language for those provisions it describes as “requirements.”

Although the OMB guidance contains a disclaimer regarding judicial reviewability (70 Fed. Reg. at 2677), such a disclaimer cannot transform the guidance from a binding legislative rule into a non-binding advisory. A similar disclaimer in EPA “guidance” was expressly given no effect by the D.C. Circuit in *Appalachian Power Co. v. U.S. EPA*, 208 F.3d 1015, 1022-23 (D.C. Cir. 1015). The court characterized such a disclaimer as “boilerplate,” and held that the guidance imposed binding obligations subject to judicial review because it required, ordered, and dictated what must be done. Likewise, the disclaimer in the OMB peer review guidance does not have any effect because the guidance contains numerous mandatory “requirements” for what must be done. An agency cannot, by fiat, immunize itself or other agencies from judicial review of non-compliance with legislative rules.

The OMB peer review guidance has been recognized as mandatory by the EPA Inspector General. On September 26, 2011, the Inspector General transmitted to you (as AA OAR) a report focusing on whether EPA had complied with OMB’s and its own peer review requirements in issuing its greenhouse gas endangerment finding.⁸ The Inspector General concluded that EPA had not complied with OMB’s peer review “requirements” for HISAs in certain respects. He also recommended that EPA revise its internal PEER REVIEW HANDBOOK “to accurately reflect OMB requirements...”⁹

⁷ OMB issued an initial draft in the *Federal Register* for public comment, then a revised draft for public comment. The National Academies commented extensively. When the revised draft was issued, the three Presidents of the National Academies (National Academy of Sciences, National Academy of Engineering, and National Institute of Medicine) praised the revised guidance as “point[ing] to a new and constructive era of scientific engagement in public policy-making.”
<http://www8.nationalacademies.org/onpinews/newsitem.aspx?recordid=s04152004>.

⁸ PROCEDURAL REVIEW OF EPA’S GREENHOUSE GASES ENDANGERMENT FINDING DATA QUALITY PROCESSES. EPA Office of Inspector General, Report No. 11-P-0702, Sept. 26, 2011. See, e.g., the “At a Glance” section at the beginning of the report, and Ch. 2, p. 13 *et seq.* (titled “EPA’s TSD Peer Review Methodology Did Not Meet OMB Requirements for Highly Influential Scientific Assessments”). See also the Press Statement by Inspector General Elkins on Sept. 28, 2011, available at http://www.epa.gov/oig/reports/2011/IG_Statement_Greenhouse_Gases_Endangerment_Report.pdf.

⁹ EPA, with OMB concurrence, disagreed with the Inspector General as to whether the endangerment finding was a HISA that triggered certain OMB peer review requirements.

EPA had revised its PEER REVIEW HANDBOOK in 2006 to reflect much of the OMB guidance. However, at the same time, it used non-mandatory language (such as “may,” “can,” or “should”) in place of OMB’s mandatory language. It also inserted a new and extensive legal disclaimer stating that the HANDBOOK was not a rule or regulation, was not enforceable, and that its use of terms such as “should” did not connote a legal requirement. In many places, the HANDBOOK states merely that the OMB guidance “calls for” certain peer review procedures.¹⁰ The HANDBOOK has not been further revised pursuant to the Inspector General’s recommendations to “reflect OMB requirements.”

As noted below in section III, in a number of instances the current NSPS/CCS rulemaking and technology assessment violate not only OMB mandates, but also policy guidance in EPA’s PEER REVIEW HANDBOOK.

III. EPA Is Violating the Requirements of the OMB Guidance for HISAs.

1. Peer Review Agenda and Plans

EPA is required to post notice of an upcoming peer review on its peer review agenda, and to set out a peer review plan containing ten specific items of information. The agency must establish a mechanism for allowing the public to comment on the adequacy of the peer review plan, and it must consider any such public comments. 70 Fed. Reg. at 2675-76.

The EPA PEER REVIEW HANDBOOK reflects this requirement at 19-21. The HANDBOOK also states that if peer review of a work product is not planned, an explanation should be included in the agency’s Science Inventory.

EPA’s peer review agenda and plans are part of its Science Inventory, but in this case the Science Inventory contains no agenda item or plan for peer review of the highly influential technology assessment contained in the NPRM, nor any explanation of why a

¹⁰ The 2006 revision of the HANDBOOK was the 3d edition. The legal disclaimer was put at the beginning on p. iii. The previous version of the HANDBOOK, the 2d edition, issued in 2000, contained a much briefer legal disclaimer at p. 49.

peer review is not needed or appropriate. The Science Inventory home page¹¹ and the peer review Agenda home page¹² describe peer review agendas and plans as “required” by the OMB guidance.

2. Requirement for Independent Peer Review by Diverse Experts

All HISA’s must be peer reviewed. The only exception is official reports of the National Academy of Sciences [sic – should probably be National Academies].¹³ The group of peer reviewers must be “sufficiently broad and diverse to fairly represent the relevant scientific and technical perspectives and fields of knowledge.” Agencies shall consider nominations from the public and professional societies. 70 Fed. Reg. 2675-76. The peer reviewers must be independent of the sponsoring agency. *Id.* Public comment on a rulemaking proposal is not a substitute for peer review. *Id.* at 2665.

EPA has not announced a peer review or selected a panel, perhaps because it considers that the studies it relies on have been previously peer reviewed in some fashion – although it does not discuss prior peer review in the NPRM. However, assuming this is a HISA that is a synthesis of a number of studies and disciplines (*e.g.*, engineering and economics), the only exception to a new, independent peer review of the technology assessment for NSPS/CCS is that made for official NAS reports, and there is no such report. The EPA HANDBOOK does not reflect this limited exception.

3. Public Participation

“Whenever feasible and appropriate,” the agency “shall” sponsor a public meeting where oral presentations on scientific issues can be made to the peer reviewers by interested parties, and “whenever practical” the agency “shall” “provide the peer reviewers with access to public comments that address significant scientific or technical issues.” 70 Fed. Reg. at 2676. The EPA PEER REVIEW HANDBOOK reflects this requirement, stating that it is a “responsibility” of the agency decisionmaker (at 23), but it also uses “should” instead of “shall” (at 49).

¹¹ <http://cfpub.epa.gov/si/>.

¹² http://cfpub.epa.gov/si/si_public_pr_agenda.cfm.

¹³ 70 Fed. Reg. at 2671.

There is no indication at this time that EPA intends to sponsor the kind of peer review required for HISAs, much less that it will sponsor a public meeting with the peer reviewers and provide them with significant public comments.

4. Peer Reviewers' Report and Agency Response

The agency must instruct the peer reviewers to prepare a peer review report that will be made public. 70 Fed. Reg. at 2675, 2676. In the case of HISAs, the agency must prepare a written response to the report. The EPA HANDBOOK reflects this requirement as a “responsibility” of agency personnel at 25-26. EPA has not indicated that it will sponsor an independent peer review of the technology assessment contained in the NPRM.

5. Certification of Compliance

If an agency relies on either ISI or a HISA to support regulatory action, it “shall include in the administrative record for that action a certification explaining how the agency has complied with the requirements of this Bulletin and the applicable information quality guidelines.” 70 Fed. Reg. at 2677. Absent such a certification, it is clear that OMB could not, as a matter of law, approve a final rule incorporating ISI or a HISA.

The EPA HANDBOOK contains a flowchart (at 4) that refers only to a “certification in the preamble” of a final rule and refers to three additional sections of the HANDBOOK, and one of those sections in turn refers to a “template” in Appendix C. All of the referenced sections of the HANDBOOK avoid reference to a certification of “compliance” with OMB “requirements.” Instead, they instruct staff to “discuss,” in the final rule’s preamble, the peer review and “how EPA implemented the provisions of the OMB Bulletin.” The template language referred to provides language for a final rule using ISI or a HISA that similarly avoids reference to “certification” of “compliance” with OMB “requirements.” The sample language states: “This regulatory action was supported by **[influential scientific information or a highly influential scientific assessment]**]. Therefore, EPA conducted a peer review in accordance with OMB’s Final Information Quality Bulletin for Peer Review. ...” At C-4.

IV. In Particular, Prior Outside Peer Review of Materials Referenced and Discussed in the NPRM Does not Satisfy the Requirements of the OMB Guidance for a HISA Unless the HISA is Relying on an Official NAS report.

After the NPRM was originally signed by you on September 20, 2013, a Science Advisory Board work group recommended that it undergo additional peer review. The agency responded in a teleconference during which it argued that the CCS technology was already demonstrated as feasible and that a study by DOE that the agency was relying on had previously been peer-reviewed by DOE. The agency argued that the existing projects and DOE peer review were sufficient under the agency's peer review policy. It also stated that there was no new science involved. There is no indication that the agency ever mentioned the requirements of the OMB peer review guidance. In addition, it is clear that the NPRM assessment of CCS as BSER is based on multiple studies and publications. Nevertheless, the SAB Work Group reversed its recommendation for additional peer review based on the representations made by EPA staff.¹⁴

The OMB guidance requires independent group peer review of highly influential technology assessments. The technology assessment of CCS as BSER contained in the NPRM clearly meets the definition of a "highly influential scientific assessment." There is nothing in the peer review agenda section of the agency's Science Inventory to explain why this is not so.

For HISAs, the only exception to a new independent peer review of the technology assessment in the NPRM, as stated in the OMB guidance, would be an official report of the National Academy of Sciences. 70 Fed. Reg. 2675-76. OMB explanation in the preamble to its guidance makes this even clearer, stating:

Section III(2) clarifies that the principal findings, conclusions and recommendations in official reports of the National Academy of Sciences that fall under this section [on requirements for HISAs] are generally

¹⁴ Memorandum dated Nov. 12, 2013 from James R. Mihelcic, Chair of SAB Work Group to Chartered SAB and SAB Liaisons, recommending additional peer review (available at [http://yosemite.epa.gov/sab/sabproduct.nsf/18B19D36D88DDA1685257C220067A3EE/\\$File/SAB+Wk+GRP+Memo+Spring+2013+Reg+Rev+131213.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/18B19D36D88DDA1685257C220067A3EE/$File/SAB+Wk+GRP+Memo+Spring+2013+Reg+Rev+131213.pdf)); memorandum dated Jan. 7, 2014, from James R. Mihelcic, reversing the previous recommendation (available at [http://yosemite.epa.gov/sab/sabproduct.nsf/F43D89070E89893485257C5A007AF573/\\$File/SAB+work+grp+memo+w+attach+20140107.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/F43D89070E89893485257C5A007AF573/$File/SAB+work+grp+memo+w+attach+20140107.pdf)).

presumed not to require additional peer review. All other highly influential scientific assessments require a review that meets the requirements of Section III of this Bulletin.

70 Fed. Reg. at 2671 (emphasis added). Since there is no such NAS report being relied on, any prior peer review, whether by EPA or sponsored by DOE, is not sufficient to comply with the OMB requirements. Moreover, there is no explanation in the peer review agenda portion of the Science Inventory explaining why the agency has concluded that the type of independent peer review required by the OMB guidance is not necessary. Such an explanation, as noted above, is required as a matter of policy by the EPA PEER REVIEW HANDBOOK (at 43).

V. Compliance with the Peer Review Requirements Should Be Achieved at the Earliest Possible Time, and Certainly before any Draft Final Rule is Sent to OMB for Review.

Although timing of a HISA peer review is not expressly addressed in the substantive portion of the OMB guidance, the discussion in the preamble strongly recommends that peer review be completed prior to issuance of an NPRM. The OMB guidance preamble states:

When an information product is a critical component of rule-making, it is important to obtain peer review before the agency announces its regulatory options so that any technical corrections can be made before the agency becomes invested in a particular approach or the positions of interest groups have hardened. If review occurs too late, it is unlikely to contribute to the course of a rulemaking. Furthermore, investing in a more rigorous peer review early in the process “may provide net benefits by reducing the prospect of challenges to a regulation that later may trigger time consuming and resource-draining litigation. [Footnote omitted]

70 Fed. Reg. at 2668. The EPA Peer Review HANDBOOK contains a policy statement that “[i]n general, peer review should be completed prior to issuance of the proposed regulation.” At 15.

Center for Regulatory Effectiveness

Since EPA has not sponsored the necessary independent HISA peer review prior to issuance of the NPRM, it appears that it might be necessary for peer review to focus on the NPRM itself as the draft information work product.

VI. EPA Actions Necessary to Achieve Compliance

EPA must do the following at a minimum in order to comply with the OMB peer review requirements before it can issue any final rule, and before OMB's Office of Information and Regulatory Affairs ("OIRA") can consider approving any final rule pursuant to E.O. 12866:

1. EPA must post a peer review plan in the peer review Agenda on its Science Inventory and establish a mechanism whereby the public can comment on the plan. It should also consider inviting public and/or professional society nominations for the independent peer review group. Further, although apparently not strictly required, EPA should post a draft charge to the peer reviewers and request comment on the draft charge.
2. EPA must select a group of peer reviewers. The selected peer reviewers must be independent from the agency, be impartial experts, and be sufficient in number to fairly and impartially represent expertise in the technical, economic, environmental science, geology, and energy areas addressed in all aspects of the NPRM's evaluation of CCS technology. The peer reviewers must be free of any conflict of interest. Selection should be in conformance with National Academy procedures, as indicated in the OMB guidance.
3. EPA must develop a charge for the peer reviewers that instructs them to address all the technology assessment issues (including costs) reflected in the NPRM, while avoiding allowing any policy considerations that would bias their deliberations and conclusions to intrude. The charge must also include instruction on the information quality standards in OMB's 2002 general IQA government-wide guidance. The agency (either in the charge or otherwise) must instruct the peer reviewers to prepare a written report stating their conclusions in response to the charge, and advise them that the report will be made public.
4. EPA must give the peer reviewers access to all materials relevant to their review.

Center for Regulatory Effectiveness

5. EPA must sponsor at least one public meeting of the peer review group at which interested members of the public can make oral comments. It must also provide an opportunity for written public comments. EPA must ensure that the peer reviewers have access to all significant public comments on the scientific/technology evaluation issues.
6. Upon completion of the peer review, EPA must make available to the public the peer reviewers' report, the charge, and the reviewers' names, affiliations, and areas of expertise.
7. EPA must provide a written response to the peer review report in which it discusses whether and why it agrees or disagrees with its conclusions.
8. EPA must include in the administrative record for any final rule that relies on ISI or a HISA a "certification" explaining how the agency has complied with the OMB peer review guidance and the applicable (2002) general information quality guidelines.

VII. OMB's Role

The OMB guidance recognizes that OMB is responsible for overseeing compliance with its rules regarding the quality of disseminated information, which include the peer review guidance. This is a statutory responsibility under 44 U.S.C. § 3504(d)(1), which is incorporated by reference into the IQA. The OMB peer review guidance states that "OIRA [of OMB], in consultation with OSTP, shall be responsible for overseeing implementation of this Bulletin." 70 Fed. Reg. 2667. OIRA could not approve a final NSPS rule based on CCS without ensuring that its peer review guidance had been complied with. At this time, it would be impossible for OIRA to do so.

VIII. Questions for EPA

1. Will EPA post a peer review agenda and plan on its Scientific Inventory website and seek public comment on the plan?
2. Does EPA agree that the technology assessment (involving technical feasibility, costs, and energy impacts) of partial CCS as BSER for an NSPS for fossil fuel-fired electricity generating plants is a HISA? If not, why not? Has EPA done cost

Center for Regulatory Effectiveness

estimates for implementation of a NSPS based on partial CCS? If so, where can they be found by the public?

3. In that EPA failed to perform a peer review prior to the issuance of its NPRM as required by both EPA and OMB guidelines will EPA sponsor an independent peer review of the CCS technology assessment contained in the NPRM with an opportunity for public comment in writing and orally at a public meeting of the peer reviewers and in compliance with all other OMB requirements? Will EPA keep the public comment period open during this period?
4. Does EPA agree that it cannot send a final rule to OMB for final review until it fulfills the requirements set forth in (1), (2) and (3) above, and that the determination of “fulfillment” will be made in consultation with OIRA and OSTP?

IX. Requested Timeframe for EPA Response to this Letter

We request that EPA respond to the above questions not later than the end of the public comment period on March 10. Upon doing so, EPA should provide the opportunity for the public to comment on its answers. If EPA prefers not to provide answers to the aforementioned questions by March 10, then it should extend the public comment period to allow the public sufficient time to comment on its answers to those questions.

We are asking for a prompt response to the above questions so that we can ensure that the public will not be deprived of sufficient opportunity to comment formally on the agency’s assessment. Subsequent to the close of the public comment period we will be providing the public with an opportunity to comment and learn of new developments through a dedicated Interactive Public Docket (an “IPD”) on the CRE website at <http://www.thecre.com/forum10/>.

Center for Regulatory Effectiveness

Thank you for your careful consideration of this matter.

Respectfully,



[Jim J. Tozzi](#)

Member, CRE Advisory Board

cc: EPA Assistant Administrator for Air and Radiation
Administrator, OIRA
Director, OSTP
Secretary of Energy
EPA Deputy Administrator
EPA Peer Review Coordinator for OAR
EPA Assistant Administrator for ORD
Chair, EPA Science Advisory Board
EPA Science Advisor
Chair, EPA Science Policy Council
EPA Inspector General
Chair, EPA Office of Science and Technology Policy Peer Review Advisory
Group
Chair and Ranking Minority Member of the Senate Committee on Environment
and Public Works
Chair and Ranking Minority Member of the House Committee on Energy and
Resources