

**OVERSIGHT HEARING ON SCIENTIFIC ADVISORY
PANELS AND PROCESSES AT THE ENVIRON-
MENTAL PROTECTION AGENCY AND LEGISLA-
TIVE HEARING ON S. 543, THE SCIENCE ADVI-
SORY BOARD REFORM ACT OF 2015**

HEARING

BEFORE THE

SUBCOMMITTEE ON SUPERFUND, WASTE
MANAGEMENT, AND REGULATORY OVERSIGHT
OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

MAY 20, 2015

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OVERSIGHT HEARING ON SCIENTIFIC ADVISORY PANELS AND PROCESSES AT THE ENVIRONMENTAL PROTECTION AGENCY AND LEGISLATIVE HEARING ON S. 543, THE SCIENCE ADVISORY BOARD REFORM ACT OF 2015

WEDNESDAY, MAY 20, 2015

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON SUPERFUND, WASTE MANAGEMENT,
AND REGULATORY OVERSIGHT,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:34 a.m. in room 406, Dirksen Senate Building, Hon. Mike Rounds (chairman of the subcommittee) presiding.

Present: Senators Rounds, Crapo, Boozman, Fischer, Inhofe, Markey, and Booker.

**OPENING STATEMENT OF HON. MIKE ROUNDS,
U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA**

Senator ROUNDS. Good morning, everyone.

The Environment and Public Works Subcommittee on Superfund, Waste Management, and Regulatory Oversight is meeting today to conduct an oversight hearing on Scientific Advisory Panels and Processes at the Environmental Protection Agency and Legislative Hearing on S. 543, the Science Advisory Board Reform Act of 2015.

The Environmental Protection Agency is tasked with developing environmental regulations that impact every American in every State across the entire Country. These regulations affect the water we drink, the air we breathe and the land we use.

The EPA has affirmed science is to be “the backbone of EPA decisionmaking.” The Science Advisory Board and the Clean Air Scientific Advisory Committee, which are made up of scientific experts, are to supply the EPA with independent scientific and technical advice on a wide range of topics, from hydraulic fracturing, to ozone emissions, to stream and wetland connectivity. The EPA is to rely on this advice to assist them in crafting and issuing appropriate environmental regulations.

Unfortunately, in recent years EPA regulations have been driven not by science but by politics. The EPA has not submitted critical agency science or technical information to the Science Advisory Board for review prior to implementing major regulations such as

greenhouse gas rules for cars and trucks, new source performance standards for coal-fired power plants, and ozone regulations, despite statutory authority to do so.

Rather than allowing the science to drive the regulations, the EPA is carrying out the Administration's political agenda through regulations with questionable science supporting them. For example, at an Environment and Public Works subcommittee hearing yesterday, we heard testimony that the EPA focused on the wrong issues when requesting the SAB to review an EPA-led study that became a scientific foundation for the overly burdensome Waters of the U.S. Rule that is due out in the near future. EPA, to achieve its goal of expanding jurisdiction, made the science fit into their preplanned agenda and the result will be a tremendous example of Federal overreach.

In addition, due to not using proper science to begin with, as reported yesterday by the New York Times, the EPA engaged in its own lobbying campaign, under a questionable legal basis, to garner support for this rule.

Despite the fact that the SAB is to be an independent body that provides independent advice to the EPA, many SAB members are receiving EPA grants, which not only lends itself to conflict of interest issues, but also ties the hands of SAB members who may not be inclined to provide dissenting views or disagree with agency science.

When members do disagree with EPA science, there is little opportunity for members to express dissenting views. We have also seen many instances in which members of these boards are reviewing their own scientific work without recusing themselves.

This diminishes any possibility that these boards will offer a truly impartial opinion regarding the validity of the science EPA is relying on. For example, a recent CASAC review showed that 21 of 25 panelists had their own work cited by the EPA and meeting minutes did not note a single recusal.

Further, there is little opportunity for public participation or comments in these scientific reviews and there is minimal State, local and tribal representation on these boards. The 47-member chartered SAB includes only three members from two States—California and Vermont. Additionally, the panels tasked with advising the EPA on hydraulic fracturing and water body connectivity did not include representatives from any States.

As a result of these reviews, the EPA implements regulations that affect the entire Country, yet there is minimal State participation on these boards and when there is, the vast majority of the Country remains unrepresented.

S. 543, the Science Advisory Board Reform Act of 2015, aims to address these problems by inserting more transparency and accountability in the SAB process. If passed, it will allow for more public participation in the SAB review process, more accountability for the members of the board, and provide for more transparency for Congress and the public regarding the science behind EPA regulations.

The EPA should rely on the most up-to-date and sound science as the foundation for every regulation implemented by the agency. It is vital that this scientific review process be done in a trans-

parent manner, undertaken by experts who can provide an impartial and independent opinion, and with sufficient representation by those who would be affected by these regulations.

I would like to thank our witnesses for taking the time to be with us today and I look forward to hearing your testimony.

I would like to recognize my friend, Senator Markey, for a 5-minute opening statement.

**OPENING STATEMENT OF HON. EDWARD J. MARKEY,
U.S. SENATOR FROM THE STATE OF MASSACHUSETTS**

Senator MARKEY. I thank you, Mr. Chairman. Thank you for calling today's hearing to discuss EPA scientific advisory panels and scientific processes.

I would like to start by embarking on a little scientific journey through time without the help of quantum mechanics. In the 17th century, Galileo proved that the sun, not the earth, was at the center of the solar system. This revelation was, to put it mildly, not welcomed by society. Galileo was tried and convicted of heresy and sentenced to life under house arrest.

In 1992, more than 350 years later, after Galileo's condemnation, Pope John Paul II acquitted the father of science from his erroneous conviction.

Similarly, in the 19th century, Charles Darwin proposed the theory of evolution and was condemned for his findings. In 2008, in honor of Darwin's 200th birthday, the Church of England issued an apology saying that "when a big new idea emerges which changes the way people look at the world, it is easy to feel that every bold idea, every certainty is under attack and then to do battle against the new insights."

History's shoot-the-messenger approach to scientific discovery has evolved over time. Now political scientists in Washington are experimenting with new ways to use science as a weapon to thwart actions to protect public health and the environment.

In this century for example, my staff wrote a report on how the Bush administration dismissed academic experts from serving on the Center for Disease Control Scientific Advisory Panel charged with recommending safe blood lead levels for infants and replaced them with expert witnesses for the lead and paint industries.

A wide range of the regulations that keep us safe, from the food we eat to the technology we use to the air that we breathe, requires scientific guidance. In 1978, Congress created EPA's Scientific Advisory Board to provide just that.

Unfortunately, the Science Advisory Board Reform Act of 2015 will cripple the scientific process at the EPA. Quite simply, this bill is a solution in search of a problem. For example, EPA currently reviews potential financial conflicts of interest for board members privately, the same way that it is done for most of the Federal advisory committees.

This bill requires that board members' personal financial information, which could include information in their tax returns or information about their family's finances be made publicly available.

Some say this is a needed transparency measure but I note this provision could result in the mandatory public disclosure of more information than even United States Senators are required to

make. This provision will have a chilling effect on the participation of qualified scientists.

The bill would also require that the board provide written response to public comments it receives on its work. Since current law prevents the board from considering any public comments without holding a public meeting, the board could be forced into indefinite public meetings to address comments which then generate more public comments that require more public meetings without ever getting to finish their scientific report.

This bill also changes the board's membership. Currently, membership is based solely on scientific expertise. The bill would require EPA to consider where experts work, not just what they know.

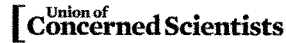
I would also like to note that the committee marked up S. 544, the Secret Science Reform Act of 2015, before even holding a hearing on the topic and over the objections of every Democrat on the committee.

In any credible scientific process, the conclusions are made after you do the experiment, so the committee got it exactly backward. Let us not get it backward with EPA's Scientific Advisory Board as well.

We might not agree on the regulations that EPA proposes, but we should all be able to agree that the scientists should be free to provide advice without onerous requirements and restrictions.

Finally, I ask unanimous consent that letters from the Union of Concerned Scientists and the American Lung Association be included in the record.

Senator ROUNDS. Without objection.
[The referenced information follows:]



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May 20, 2015

Senator Mike Rounds
Chairman
Subcommittee on Superfund, Waste Management and Regulatory Oversight
Senate Committee on the Environment and Public Works
Russell Senate Office Building
Courtyard 4
Washington, DC 20510

Senator Edward Markey
Ranking Member
Subcommittee on Superfund, Waste Management and Regulatory Oversight
Senate Committee on the Environment and Public Works
Dirksen Senate Office Building, Rm 255
1st and C Streets, N.E.
Washington, DC 20510

Dear Senators Rounds and Markey:

The Union of Concerned Scientists strongly opposes S. 543, the EPA Science Advisory Board Reform Act of 2015, which is expected to be discussed at your subcommittee hearing on May 20. This bill would greatly impede the Environmental Protection Agency's ability to protect public health informed by the best available science.

This bill would make it nearly impossible for the Board to do the crucial independent evaluations of EPA scientific analyses that enable the agency to protect public health. This bill opens the door for more corporate influence on the Board, because the bill directly stipulates that experts with financial ties to corporations affected by SAB assessments are "not excluded." This signal likely will increase the number of conflicted SAB panelists empowering companies to delay the SAB's work for years, if not decades. It strikes at the heart of the whole concept of independent reviews, and at a time when the ability of corporations to influence policy is already high.

At the same time this bill encourages corporate experts to join the SAB, it creates roadblocks for academic experts to meaningfully participate by banning experts'

participation in “advisory activities that directly or *indirectly* involve review and evaluation of their own work.” This effectively turns the idea of conflict of interest on its head, with the bizarre presumption that corporate experts with direct financial interests are not conflicted while academics who work on these issues are.

The bill permits SAB experts with published, peer-reviewed research to address topics on which they have credentials, provided that their expertise is publicly disclosed. But the language in the bill is so vague that it creates many more questions. Generally, experts have developed their knowledge base over time, and not purely through peer-reviewed publications. How is an academic scientist supposed to make that distinction? What happens if a scientist relies on expertise that is not specifically permitted in the bill? Will there be legal ramifications? Clearly, scientific experts will think twice before joining the SAB if it means they will have to consult their lawyers before they give advice.

The notion that a member of the SAB cannot fully participate in a discussion that cites the member’s own work is counterproductive and goes far beyond the common-sense limits imposed by the National Academies.

While hamstringing experts, the bill offers almost limitless opportunities for public comment, opportunities that only benefit moneyed special interests. For example, for each major advisory activity, the Board must convene a public information-gathering session “to discuss the state of the science” related to that activity.

It is possible, under this requirement, that the Board may find itself repeatedly re-examining “the state of the science” on climate change or the harmful effects of certain toxins – each time it made an assessment that touched on either climate change impacts or reducing air pollution.

In addition, both the EPA, before it asks for the Board’s advice, and the Board itself, would be required to “accept, consider, and address” public comments on the agency’s questions to the Board. As the SAB deliberates, it must also encourage public comments “that shall not be limited by an insufficient or arbitrary time restriction.” In effect, these provisions turn a scientific evaluation into a public hearing, even though EPA must already accept public input on all its regulations.

The Board is required to respond in writing to each “significant” comment. In practice, it is difficult to see how the Board could impose any deadlines on accepting comment. Nor is it a reasonable expectation on the Board’s membership of pro bono experts.

Last year, the nonpartisan Congressional Budget Office estimated that implementing the mandates in a House bill nearly identical to this bill would cost the EPA about \$2 million over a four-year period. These are funds that could be put to much better use by a cash-strapped agency.

This bill would not improve the work of the Board, and would make it more difficult for the EPA to receive the independent science advice it needs to do its work. We strongly urge your opposition.

Sincerely,

A handwritten signature in black ink, appearing to read "A. Rosenberg", written in a cursive style.

Andrew A. Rosenberg, Ph.D.
Director, Center for Science and Democracy
Union of Concerned Scientists



May 19, 2015

U.S. Senate
Washington, DC 20510

Dear Senator:

We are writing to express our opposition to S. 543, the EPA Science Advisory Board Reform Act of 2015. Our organizations are dedicated to saving lives and improving public health.

Science is the bedrock of sound regulatory decision making. The best science underscores everything our organizations do to improve health. The EPA Science Advisory Board Reform Act of 2015 will undermine the scientific basis for EPA policy, specifically by compromising the integrity of the panel that reviews that science.

EPA's Science Advisory Board (SAB) is composed of independent scientific and technical experts who are tasked with evaluating the science and providing advice that EPA uses to inform its decision making. The current law provides for balanced panels and experts with diverse backgrounds.

This legislation will impose a hiring quota on the SAB that would require ten percent of members to be selected for qualifications other than their scientific expertise. This bill will compromise not only the scientific integrity of the SAB, but also its independence, as the quota would open the door for representatives of the regulated industries to serve on the board.

Further, the bill will also, in some cases, prohibit SAB members from participating when their own research is involved – even indirectly. This requirement could block participation of the “best and the brightest” researchers in a particular field at the very time their expertise is needed to accurately inform the regulatory process.

Finally, the SAB is currently governed by the Federal Advisory Committee Act and already has a public comment system in place. S. 543 would add on the burdensome requirement that the SAB respond to individual comments in writing, a requirement that could be so time-consuming as to render the board unable to carry out its function.

We urge the U.S. Senate to stand up for sound science and public health protections, and vote NO on S. 543.

Sincerely,

Allergy and Asthma Network
American Lung Association
American Public Health Association

American Thoracic Society
Trust for America's Health

Senator MARKEY. I look forward to hearing from the witnesses and I yield back the balance of my time.

Senator ROUNDS. Thank you, Senator Markey. We appreciate your sharing of your thoughts.

I would now like to recognize Senator Boozman for a statement on his legislation, S. 543, the Science Advisory Board Reform Act of 2015.

Senator Boozman.

**OPENING STATEMENT OF HON. JOHN BOOZMAN,
U.S. SENATOR FROM THE STATE OF ARKANSAS**

Senator BOOZMAN. Thank you, Chairman Rounds and Ranking Member Markey, very much for holding this hearing.

Thank you for being here to testify and participate with your comments.

Senator Manchin could not join us today. He and I introduced the Science Advisory Board Reform Act earlier this year. However, rather than provide an individual statement, I would like to read a joint statement that Senator Manchin and I prepared together.

Again, I want to thank Senator Manchin and his staff. They work very, very hard to solve problems on a bipartisan basis.

With that, we believe that work to conserve the environment and protect human health should be science-based. Science is a vital tool to inform policymakers. When science is used to justify environmental policy, it must be verifiable and developed through an open and well structured process.

For these reasons, we have introduced the Science and Advisory Order Format. Our legislation will make modest improvements to the EPA science and advisory process. Our bill provides limited reforms. We hope our efforts will achieve further bipartisan support. That certainly is our goal.

S. 543 takes the following modest steps. First, it increases transparency. Specifically, it allows the public to submit comments on Science Advisory Board activities through an open process.

Second, our bill enables expanded board reviews, particularly of the risk or hazard assessments that are important to determine which potential regulations are needed most.

Third, our bill also standardizes the SAB member selection process. Specifically, the standardized process is based on structures that are laid out in the Federal Advisory Committee Act, the EPA's Peer Review Handbook and the National Academy's Policy on Committee Composition and Balancing Conflicts of Interest.

Fourth, our bill also ensures that any dissenting views on review panels are not silenced.

Fifth, our bill limits non-scientific policy advice from the Science Advisory Board.

Finally, it increases SAB disclosures in an effort to reduce conflicts of interest.

The bottom line is that the EPA, at times, provides for excellent scientific reviews. Other times, there are gaps in the process. Sometimes the review process is entirely bypassed or ignored.

We believe that enabling public comments and protecting dissenting views is important to make sure that the board becomes aware of its own blind spots. Standardizing the process will ensure

that excellent scientific reviews are reinforced and consistently carried out.

We believe the principles behind these reforms can be broadly supported. We are open to suggestions on how the bill can be improved. We want the final product to draw substantial support from both Democrats and Republicans because we are simply working to improve the process.

In fact, we have already accepted some criticisms and made changes. An earlier version prohibited board members from participating in advisory activities that directly or indirectly involved review or evaluation of their own work.

This provision was criticized as too broad since many items before the board are highly technical. Since prohibiting participation by certain members could create blind spots, we have amended the current version to allow such board members to participate as long as they fully disclose their involvement in the underlying work and as long as the work has been externally peer-reviewed.

This is an example of our determination to work in good faith and to make this bill as good as it can be. We hope our colleagues in both parties will be willing to engage in this legislation process so that we can advance a final bipartisan bill to the President's desk that can be signed into law.

Whether we are dealing with a Republican Administration or a Democratic Administration, many Americans feel uncertain that the regulatory process involves an adequately credible scientific review. We would all benefit from reforms to increase the credibility of the process.

On one final note, we strongly believe the Science Advisory Board is made up of highly dedicated, hardworking and skilled scientists. They provide their expertise to the EPA and provide a vital service to the public. Their work is often thankless.

Our legislation is intended to help these dedicated professionals perform their vital tasks independently and to improve the credibility of the agency.

With that, we thank the Chairman and Ranking Member for today's hearing and we look forward to considering the testimony of the witnesses. Thank you, Mr. Chairman and Ranking Member.

Senator ROUNDS. Thank you, Senator Boozman.

Our witnesses joining us for today's hearing are: Dr. Roger O. McClellan, Advisor, Toxicology and Human Health Risk Analysis; Ted Hadzi-Antich, Senior Staff Attorney, Pacific Legal Foundation; Alfredo Gomez, Director, Natural Resources and Environment Team, U.S. Government Accountability Office; Dr. Terry Yosie, President & CEO, World Environment Center; and Scott Faber, Vice President, Government Affairs, Environmental Working Group.

Now we will turn to our first witness, Mr. Roger McClellan, for 5 minutes. Mr. McClellan, you may begin.

Senator INHOFE. Mr. Chairman, let me interrupt for a moment to say a special welcome to Dr. McClellan. The last time he was here was when I had your job and I was sitting there as chairman of this subcommittee. It was in 1997. Welcome back.

**STATEMENT OF ROGER O. McCLELLAN, ADVISOR,
TOXICOLOGY AND HUMAN HEALTH RISK ANALYSIS**

Mr. McCLELLAN. Thank you very much. Good morning, Mr. Chairman and members of the subcommittee.

Thank you for the invitation to present my views on the importance of independent scientific advice to inform policy decisions to the Environmental Protection Agency and the importance of an efficient and effective Science Advisory Board.

I request that my complete written testimony be entered in the record as though read in its entirety.

By way of background, I have had a multifaceted career focusing on conduct and management of what I call issue resolving scientific research. A major portion of my career was spent providing leadership for two organizations, one funded primarily by the Federal Government and the second funded primarily by the chemical industry.

Recently, I have served as an advisory to public and private organizations on issues related to the impact of air quality on health.

Throughout my career, I have served on numerous advisory committees for government agencies, academic institutions, private organizations, including service on more than two dozen EPA committees. The independent views I relate today draw on that experience. Let me summarize my views.

First, sound, independent, scientific advice from competent scientists outside of organization is critical to the successful functioning of any science-based enterprise operating in the public or private sector, including the U.S. Environmental Protection Agency.

The EPA Science Advisory Board is a primary vehicle for the agency to obtain that kind of independent, scientific advice.

Two, the EPA's approach to creating and using scientific advisory committees and panels has continued to change over the 45-plus year history of the agency. Yet, I see numerous opportunities for further improving the efficiency and effectiveness of the Science Advisory Board.

Three, the scientific basis for all major EPA policies and regulations should be reviewed by the SAB. However, the SAB's mission should be sufficiently broad that it has the authority, which it should exercise from time to time, to offer scientific advice on issues identified by the SAB independent of requests from the agency.

Four, while scientific knowledge should inform all of EPA's policies and regulations, it should be recognized by scientists, policy-makers, legislators and the public that policies and regulations are ultimately policy judgments. They are often not dictated by the science alone but rather informed by it as there is often a range of justifiable policy decisions the regulator can make.

Five, the agency should strive to obtain the best possible evaluation of the strengths and the weaknesses of the scientific evidence relating to the issue at hand and should avoid placing undue emphasis and pressure on seeking consensus.

In my opinion, consensus is a social phenomenon grounded in ideology and is not always well suited to dealing with scientific issues.

Sixth, selection for service on the SAB or as a consultant should be based on the scientific credentials of the nominees without respect to their potential views or the policy or regulatory outcome on the issue being addressed. To date, the agency has focused on recruiting academic scientists and left untapped a large, large pool of highly competent individuals employed in the private sector.

Seven, all SAB activities should be transparent and open to the diverse public. The SAB does play a vital role in providing a forum for the public.

Eight, further improvements in EPA's advisory committee process should be built on a broad review of past EPA advisory committee activities and operations, both successes and failures.

Nine is the identification of best practices used by EPA, as well as other public and private organizations, a review of how the agency uses advice and input from the public and careful attention to how SAB members and consultants are appointed.

All processes should be transparent and individuals appointed based on their scientific credentials and the absence of any bias as to the potential policy or regulatory outcome of the issue at hand.

In my opinion, the proposed legislation is a positive step in the right direction to enhance EPA's SAB role in ensuring the quality of scientific information used to inform EPA's policies and regulations that impact the well being of every American.

It is most important that changes resulting from legislation and equally important, that more rigorous EPA management focus on ensuring the transparency of the process that provides sound scientific advice to inform policy decisions and regulations with meaningful participation from all sectors of the U.S. economy.

I will be pleased to address any questions or comments later in the session.

Thank you very much for your attention.

[The prepared statement of Mr. McClellan follows:]

STATEMENT OF

Roger O. McClellan
Advisor, Toxicology and Human Health Risk Analysis
Albuquerque, New Mexico

Before the

Subcommittee on Superfund, Waste Management and Regulatory Oversight
Committee on Environmental and Public Works
U.S. Senate

Hearing Purpose:

- a) Oversight related to the panels and processes by which the Environmental Protection Agency receives independent advice
- b) Review of S.543, the Science Advisory Board Reform Act of 2015

May 20, 2015

Good Morning, Mr. Chairman and Members of the Subcommittee. Thank you for the invitation to present my views on the importance of independent scientific advice and an effective and efficient Science Advisory Board to inform the Environmental Protection Agency's policy decisions and regulations.

My biography is attached to this statement (Attachment 1). Since 1999, I have served as an Advisor to public and private organizations on issues related to air quality in the ambient environment and workplace drawing on more than 50 years of experience in comparative medicine, toxicology, aerosol science, and risk analysis. Prior to 1999, I provided scientific leadership for two organizations – the Chemical Industry Institute of Toxicology (1988-1999) in Research Triangle Park, NC and the Lovelace Inhalation Toxicology Research Institute (1966-1988) in Albuquerque, NM. The Chemical Industry Institute of Toxicology (now The Hamner Institutes for Health Sciences), was a not-for-profit research organization funded primarily by the chemical industry. The Lovelace Inhalation Toxicology Research Institute, continuing today as part of the Lovelace Respiratory Research Institute, was a non-profit research institute funded with both public and private funds. Both organizations, under my leadership, earned an international reputation for developing scientific data that informed the setting of important occupational and environmental health standards. During my career, I have held adjunct faculty appointments at 8 different universities and held major leadership roles in scientific organizations with membership from all sectors of the economy. I make this point since, in my opinion, the USA is fortunate to have many well-qualified scientists in all sectors of Society.

In my opinion, sound scientific advice from highly competent scientists and engineers is critical to the successful functioning of any science-based enterprise operating in the public or private sector. This includes the Environmental Protection Agency that develops policies and regulations that have substantial impact on the health and well-being of the American public, including those mediated through the U.S. economy. The EPA's policy decisions and the resultant promulgation of regulations must be informed by the best available scientific information independent of any preconceived ideological inclination as to a particular policy or regulatory outcome.

The testimony I offer today also draws on my experience serving on numerous scientific advisory committees for government agencies, academic institutions, non-profit entities, trade associations and private companies. This has included service on advisory committees to all the major federal agencies concerned with health issues, including service on many EPA Scientific Advisory Committees starting soon after the U.S. Environmental Protection Agency (EPA) was created by President Richard M. Nixon by Executive Order.

At the time EPA was created, I was serving as Chair of the Environmental Radiation Exposure Committee to the U.S. Public Health Service (USPHS). When the USPHS radiation protection activities were transferred to the new EPA, the Environmental Radiation Exposure Advisory Committee became advisory to the EPA along with dozens of other Advisory Committees that had operated as part of EPA's predecessor Agencies, such as the National Air Pollution Control Administration. The Bureau of the Budget, the predecessor to the current Office of Management and Budget, noted the large number of Advisory Committees and the

hundreds of consultants. The Bureau of Budget thought there must be a more efficient way for the new Agency to secure scientific advice. The EPA responded, after seeking informal consent from the Congress, by creating a Science Advisory Board (SAB) under the Chairmanship of the late Dr. Emil Mrak, then Chancellor of the University of California-Davis. The new SAB had umbrella committees organized along disciplinary lines; the key committees were Health, Engineering, and Ecology. I argued for an alternative structure with committees organized by issues or media. However, I lost the argument, with my colleagues noting that “birds of a feather” are comfortable together, and that Academic institutions are organized by disciplines. Recognizing that the radiation science field is different, that specific Committee was retained and I joined the SAB Executive Committee. Thus began my long involvement with EPA and its advisory processes.

In one of my files I have a photograph of Administrator William Ruckelshaus providing me a certificate confirming my appointment as Chair of the EPA’s Environmental Radiation Exposure Committee. As expected, most of the early advisory attention focused on each Committee advocating for a bigger share of the budget from the EPA’s newly created centralized Office of Research and Development. Only later would the SAB become involved with the other programmatic offices.

One of the first major issues EPA management brought to the SAB involved airborne Pb. The Natural Resources Defense Council (NRDC) had sued the EPA to have Pb listed as a criteria air pollutant under the Clean Air Act Amendments of 1970. When EPA lost the suit at the Appeals Court, it had to proceed with developing a Criteria Document to support its issuance of a National Ambient Air Quality Standard for Pb. Administrator Douglas Costle, on the advice of Dr. Mrak as Chair of the SAB, asked me to chair an *ad hoc* Committee to review the draft criteria document on airborne Pb. The Administrator appointed an appropriately diverse committee with multiple scientific and engineering disciplines represented. Within a week of the appointments being announced, I received a telephone call from one of the prospective Committee members telling me that he had two problems with the Committee. One problem, as he expressed it, was that two committee members were “lackeys or toadies of industry.” The second problem of concern to him was my serving as Chair – “I do not think you will advocate for a stringent airborne Pb NAAQS.” At the time I was an employee of the Lovelace Medical Foundation in Albuquerque, NM managing an Atomic Energy Commission funded program on the toxicity of airborne materials. I suggested that if the prospective member had any problems with the composition of the Committee or chairmanship he should contact Administrator Costle. Needless to say, the deliberations of the Committee, and especially the hallway conversations, were contentious. As the deliberations proceeded, the EPA wisely decided to remove the recommendation of a specific Pb NAAQS from the criteria document, recognizing that the level of the standard and averaging time were policy decisions that should be informed by science and not made by scientists. It is noteworthy that a significant amount of Committee time was spent receiving public comments. I am proud to note that when the *ad hoc* airborne Pb standard committee concluded its work, the lead attorney from the NRDC congratulated me on my leadership of the Committee.

Forty five years later I have five major concerns with EPA’s Advisory Committee activities: (a) the role of academic scientists versus scientists employed or engaged by industry,

(b) the important distinction between offering scientific advice to inform policy decisions versus scientists making and/or endorsing policy decisions, (c) the role of the SAB in offering independent science advice versus responding only to EPA requests for advice, (d) the role of the SAB committee activities as a forum for public comment, and (e) the need for a strong SAB Executive Committee to enhance the effectiveness of the multiple committees operating under the SAB umbrella.

Over the subsequent years, I have been a member of several dozen EPA Advisory Committees, including serving as Chairman of seven Committees and more than 20 years of service on the SAB Executive Committee. In those early decades, the SAB Executive Committee – consisting of about 12 individuals who chaired the major SAB committees or had at-large appointments – played a valuable role in coordinating the activities of multiple committees and, most importantly, advising the EPA Administrator on major scientific issues. This included the SAB offering both unsolicited advice and independently recommending the initiation of important advisory functions. I am disappointed that the current EPA SAB apparently no longer has that kind of Executive Committee.

I am proud to say that the activities of the *ad hoc* Committee that reviewed the Pb Criteria Document, which I noted earlier, had a small role in the Congress amending the Clean Air Act in 1978 to formally require the EPA Administrator to appoint a Clean Air Scientific Advisory Committee (CASAC). I am pleased to have served both as Chair of CASAC (1988-1992) and in one of the seven positions mandated by the Clean Air Act and as a consultant on numerous CASAC Panels that considered all of the criteria pollutants. I note the role of both members of CASAC and consultants. In my opinion, the appointment of CASAC members and consultants deserves equal attention. The consultants frequently out-number the seven CASAC members that are legislatively mandated. My last CASAC service was on the Particulate Matter (PM) Panel (2000-2007). The CASAC and the PM Panel struggled over the distinction between offering scientific advice and attempting to mandate the specific level of the NAAQS for PM_{2.5}. The majority of the Panel wanted to advise the Administrator that the annual PM_{2.5} National Ambient Air Quality Standard (NAAQS) must be reduced from 15 µg/m³ to 14 µg/m³ or lower. I was a minority on the Panel, arguing that the specific concentration level and statistical forms of the NAAQS were inter-related policy decisions that should be informed by science; however, the level and form are ultimately policy judgments that can only be made by the EPA Administrator. Science alone cannot identify the concentration and statistical form requisite to setting a NAAQS consistent with the language of the Clean Air Act. I have addressed this issue in a paper I authored entitled “Role of Science and Judgment in Setting National Ambient Air Quality Standards: How low is low enough?” *Air Quality and Atmospheric Health* 5: 243-258, 2012.

In addition to serving on numerous EPA Advisory Committees, I have served on Advisory Committees to essentially all of the federal agencies that are concerned with environmental and occupational factors influencing the health of individuals and populations. I have also served on various committees of the National Research Council and the Institute of Medicine of which I am a member. In many cases, the issues at hand have been at the interface between the physical and engineering sciences and the biological and medical sciences. Each of these disciplinary areas has different traditions and approaches to defining what is known and

unknown on a given subject. Issues in the life sciences are especially contentious because they are at the interface of science, the environment and health, where different individuals, including scientists, have strong personal ideological views as to a preferred policy outcome or regulation.

It is my professional opinion that scientific advisory committees offer the most useful advice to inform public policy when they examine all the scientific evidence relevant to the issue at hand, identifying the strengths and weaknesses of various facets of the science, including differences in the opinions of individual Board or Committee members on specific scientific matters. I am concerned that the differences in scientific views among Committee members are frequently down-played in a rush to create a consensus opinion. It is my view that consensus is best left to ideologically-based institutions such as religious organizations, labor unions and political parties. "Consensus" positions in the life sciences are frequently based on ideological positions and pressure, not necessarily science alone.

An issue of major concern for scientific advisory committees, irrespective of the issue being addressed, is how the deliberations and actions of the Committee are influenced by funding that the Committee members have received in the past or may receive during the course of future employment. This issue is of heightened interest as institutions, in both the public and private sectors, increasingly face severe constraints on financial support for scientific research. Indeed, the top priority for many organizations that are science-based is what can be done to make certain their scientific constituency receives its "fair share" of funding.

Many scientists hold the view that funding from federal agencies comes with no strings attached, while anyone receiving private sector funding is somehow indentured. In short, some individuals argue that academic scientists are free of bias and conflicts of interest, while industry affiliated scientists automatically have biases and conflicts of interest. I think such a viewpoint is open to question when the funding agency, such as the EPA, is also a regulatory agency. In my opinion, the agency needs to focus on reducing scientific uncertainty on a range of issues and take special precautions to avoid creating a funding environment focused on identifying new crises or creating more stringent regulations. In my opinion, the creation of a more stringent standard or regulation should not be viewed as a criterion of success for scientific research or scientific advisory bodies. Alternatively, I argue that the criterion of success for an advisory committee should be whether it appropriately examined all the scientific evidence, including both the strengths and weaknesses, so the information could inform policy judgments.

As an aside, I am of the opinion that private sector funding is of critical importance to advancing scientific knowledge and its application. However, the interface between industry-funded science and its use in informing policy decisions needs the same kind of scrutiny as the science created with public funding.

Let me return to the importance of distinguishing between an advisory committee's evaluation of the science, on the one hand, and its entering into the policy arena and offering policy judgments, on the other hand. This is dangerous turf because many policy makers would like to say the science "dictated" the outcome on specific difficult policy decision; that the Administrator was a mere bystander to the science. I addressed these issues in the paper I noted earlier.

An important underlying concern for the use of science to inform policy decisions is access to the underlying data for review and, indeed, re-analysis by others. This is an issue addressed in Senate Bill 544. In my opinion, any science used in the federal regulatory process should have been published in a high-quality peer-reviewed journal and, equally as important, the underlying data must be available to other qualified scientists for review and potential re-analysis. Key data used in the setting of several of the NAAQS in the past have not always met the second test. As one academic scientist noted, "I do not want some industrial-hired gun wading through my data." I applaud the Johns Hopkins University team that created the National Morbidity and Mortality Air Pollution (NMMAPS) data set, used extensively in the setting of several NAAQS, for making that data set publicly available to others. My colleague, Dr. Suresh Moolgavkar, and I have recently used the NMMAPS data set to explore alternative approaches to data analysis (Moolgavkar, SH, McClellan, RO, et al, Time-Series Analyses of Air Pollution and Mortality in the United States: A Subsampling Approach. *Environ. Health Perspectives* 121(1): 73-78, 2013.). I am concerned that in recent years the use of the NMMAPS data has been constrained.

Likewise, I applaud the National Institute of Occupational Safety and Health (NIOSH) and the National Cancer Institute (NCI) for seeking ways to make the Diesel Exhaust in Miners Study (DEMS) available to qualified investigators. Initiated in the early 1990s, DEMS was completed in 2012 with the publication of five exposure assessment papers and two seminal epidemiological papers (Attfield et al, The Diesel Exhaust in Miners Study: A Cohort Mortality Study with Emphasis on Lung Cancer, *J Natl Cancer Inst* 104:1-15, 2012; Silverman et al, The Diesel Exhaust in Miners Study: A Nested Case-Control Study of Lung Cancer and Diesel Exhaust, *J Natl Cancer Inst* 104:855-868, 2012)). The complete data set acquired by federal employees and collaborators at a cost of over \$12 million needs to be made available and evaluated by other scientists before it is used to establish federal regulations and standards. I am pleased that NCI ultimately released the key exposure assessment data in response to a Freedom of Information Act request and that both NCI and NIOSH developed ways for qualified scientists to access the DEMS epidemiological data.

With leadership from my colleague, Dr. Kenny Crump, the exposure assessment that is a crucial component of DEMS has been evaluated with funding from a coalition of industry trade associations (Crump, K. and C. Van Landingham, Evaluation of an Exposure Assessment used in Epidemiological Studies of Diesel Exhaust and Lung Cancer in Underground Mines, *Crit. Reviews in Toxicol.* 42(7):599-812, 2012). Dr. Crump identified major flaws and uncertainties in the methodology used in the original exposure assessment. Subsequently, with funding from an industry coalition, Dr. Suresh Moolgavkar and Dr. Kenny Crump replicated the epidemiological analyses of the original DEMS investigation and, more importantly, conducted additional analyses using alternative methods and exposure assessments, which have been published in peer-reviewed journals (Moolgavkar et al, Diesel Engine Exhaust and Lung Cancer Mortality – Time Related Factors in Exposure and Risk, *Risk Analysis*, in press, 2015; Crump et al., Reanalysis of the DEMS Nested Case-Control Study of Lung Cancer and Diesel Exhaust: Suitability for Quantitative Risk Assessment, *Risk Analysis*, in press, 2015). These analyses revealed major uncertainties in estimates of excess lung cancer risk associated with exposures of

non-metal miners to diesel exhaust over and above that associated with the primary well-established risk factor – cigarette smoking.

The critical question now is how both the results of the original NIOSH/NCI investigators and the subsequent results of Drs. Moolgavkar and Crump, using the same DEMS data set, will be evaluated and used to inform subsequent scientific analyses, such as their potential use in quantitative risk analysis and to inform public policy decisions and regulatory actions by EPA, NIOSH, the Occupational Safety and Health Administration and the Mine Safety and Health Administration. I have urged that the results of all the analyses should be considered on a level playing field, irrespective of when they were conducted, who conducted the analyses, or if they were conducted with public or private funding. Other individuals have advanced the view that the analyses conducted with industry support should be viewed as secondary because the industry support was alleged to focus on obtaining particular outcomes. These questions are being addressed by a Panel organized by the Health Effects Institute, a non-profit entity jointly funded by EPA and the private sector, primarily the manufacturers of combustion engines. That Panel's report will be of special interest since the hurdle of access to data was cleared allowing the Panel to focus on evaluating the results of the original investigators and subsequent analyses by other independent scientists.

Before leaving my discussion of service on EPA Advisory Committees, I would like to briefly note an EPA Committee I did not serve on – the CASAC Ozone Panel whose deliberations started in the early 2000s and concluded in 2008. When the CASAC Ozone Panel was being formed, I was encouraged by the Chair of CASAC to self-nominate for service on the Panel. I did so. Some months later I received a call from a Reporter asking if I had seen the letter a prominent ENGO had sent to SAB concerning my services on the Panel. I said no. He said you need to see the comments; they are not very flattering. I promptly called the SAB offices and inquired about the letter. The SAB staffer acknowledged receipt of not one, but two letters concerning my potential service and that of two well-qualified colleagues. I asked if he would share the letters with me. His response was "I think you will need to file a Freedom of Information Act (FOIA) request." I told him "That is ridiculous – my fax machine is available and if I did not receive the letters within an hour I will take the matter up with the Administrator and my elected Senators and Representatives." I promptly received the letters via fax. The letters from two different ENGOs were virtually identical. They questioned how I could be considered for membership on a CASAC Panel when I had previously served as President and CEO of the Chemical Industry Institute of Toxicology, a research laboratory principally funded by the chemical industry. To top it off, they suggested I was not qualified professionally to serve on the Panel since – "he was trained as a Veterinarian."

While I can appreciate that an agency may wish to solicit comments on nominees to particular Committees, I think it should be with the understanding that any comments received by the Agency will be shared with the nominee. Indeed, if an organization is moved to comment on a nominee, the organization should be willing to directly confront the nominee by sharing its concerns directly with the nominee. Appointments to scientific advisory committees should be made in an open and transparent manner and not influenced by *sub rosa* innuendos as to their qualifications. I will never know if those two letters influenced the Agency's decision to not appoint me to EPA's CASAC Ozone Panel.

I appreciate the Subcommittee on Super Fund, Waste Management and Regulatory Oversight of the Committee on Environment and Public Works holding this hearing and addressing the important topic of the processes by which EPA receives independent scientific advice, including the important role of the Science Advisory Board. I view this topic as part of a much bigger picture – how do we move the economy of the USA forward building on this nation’s remarkable pool of scientific talent?

Let me provide some context for this statement. I am regularly asked by fellow scientists, including those at regulatory agencies, as to what I think are the most important factors influencing human health. In some cases, the question is framed relative to revision of the National Ambient Air Quality Standards for particulate matter or ozone or some specific chemical. My answer is simple – in my opinion, the single most important risk factor for the health of the U.S. citizens and other populations around the world is their SOCIO-ECONOMIC STATUS (SES). Jobs and income matter! A study by Steenland et al (2004) showed that the mortality ratio for all-cause mortality for men in the lowest quartile of SES over the top quartile is about 2.00 (Steenland, K. and J. Walker, All-Cause and Cause-Specific Mortality by Socioeconomic Status Among Employed Persons in 27 US States, 1984-1997, *Am. J. Public Health 94(6)*: 1037-1042, 2004). In other words, there is a doubling of the mortality rate for individuals in the lowest quartile of SES versus those in the top quartile. Putting it another way, moving from the bottom quartile to the second quartile reduced the mortality ratio to 1.69 and a move from the second to the third quartile reduced the mortality ratio to 1.25. In short, an optimal way to improve the health of Americans is to create employment – JOBS.

Some individuals reading this may argue that I am off track relative to the topic subject of this hearing. I am on track – let me explain.

The USA has a remarkable pool of scientific and engineering talent. We have excellent colleges and universities that attract students from around the world, including the world’s most rapidly advancing economy – China. Historically, well-educated individuals have found an abundance of job opportunities in the USA. Indeed, many students who came from abroad elected to stay in the USA for the opportunities it affords. The current job market for professionals in the USA is the softest I have seen during my professional career spanning a half century. While I am optimistic the situation can change, major change will require many small and seemingly insignificant changes.

One change that is required is to start using ALL of the USA’s scientific and engineering talent as candidates to serve as members or consultants on Scientific Advisory Committees such as those assembled by the EPA. In the past, EPA’s scientific advisory committees have been composed largely of academic scientist and engineers. Using information from the EPA SAB website, I note that for the standing SAB only 2 individuals are affiliated with commercial firms, 3 individuals are apparently private consultants, 3 individuals are with NGOs, 3 individuals are with State Agencies and 36 individuals are affiliated with academic institutions. The SAB has 7 Standing Committees listed on its website with a total of 115 members. Some of these individuals are also on the primary SAB. Only 3 of these individuals are affiliated with major commercial firms selling products or commercial services, eight individuals are independent

consultants or with consulting firms, 7 are affiliated with State agencies, and 100 members are affiliated with academic institutions. I know many of these academicians personally; they are first-rate scientists or engineers. Do they represent the best and brightest of all the scientists and engineers in the USA? The answer cannot be Yes, since that would mean the millions of scientists and engineers employed in the private sector somehow do not measure up to the academic scientists.

Some will quickly note that those in the private sector have financial conflicts of interest that preclude their service on EPA Advisory Committees because of requirements of the Federal Advisory Committee Act (FACA). If FACA is used to deny the EPA of the talents of individuals from the private sector, then I think the solution is quite simple – Congress should change FACA. Some academic scientists and EPA managers would argue that individuals in the private sector are biased – their primary motivation is making certain their employer does the right thing and stays profitable. I am glad they have that motivation, it is important. It is consistent with the best interests of the USA. I have worked with many private sector firms and employees. I can assure you they understand the importance of getting the science right to ensure long-term profitability. In other words, individuals employed or funded by the private sector are just as interested in the quality of scientific information and seeing it used properly as are academics.

One might ask why it is important to broaden the talent pool for service on EPA's Science Advisory Board and other Advisory Committees. One good reason is context. EPA's scientific committees deal with complex issues, not abstract scientific facts; it is science interpreted and used in the context of resolving complex issues. For example, the question is not just whether a chemical or technology is hazardous, but, also how can use of the chemical be changed or the technology advanced to reduce health hazards and increase efficiency and effectiveness. Private sector scientists and engineers deal with these concepts daily and could bring the concepts to bear in EPA Advisory Committee discussions. Everyone wins when all participants contribute to the dialogue on the issue under consideration and everyone takes something home to their university or private sector job.

In this regard, I think the remarkable advances made in diesel engine technology over the last several decades are an excellent example, as covered in a paper I co-authored (McClellan, R.O., T.W. Hesterberg and J. C. Wall, Evaluation of Carcinogenic Hazard of Diesel Engine Exhaust Needs to Consider Revolutionary Changes in Diesel Technology, *Regulatory Toxicol. Pharmacol.* 63: 225-258, 2012). In the 1970s and 1980s, new toxicological and epidemiological evidence emerged pointing to the potential lung cancer hazard of exposure to diesel engines using high-sulfur fuels. There was no question that exposure to high levels of exhaust were hazardous to health. However, there was considerable debate over whether the scientific knowledge was sufficiently robust to develop quantitative estimates of risk. In the face of uncertainty, EPA made a policy decision to move forward with stringent regulations for reduced diesel engine emissions of particulate matter and nitrogen oxides, and mandated the marketing of ultra-low sulfur fuel. The engine manufacturers and fuel refiners responded to the challenge. The diesel engines marketed today meet the new standards and, in combination with use of ultra-low sulfur fuel, are contributing to cleaner air. A quantitative estimate of the lung cancer risk of the old technology was not needed to advance the technology. The question now is how rapidly

the new technology will be deployed to replace old technology on the road and in off-road applications.

In preparation for this hearing, I reviewed the SAB website to determine the status of recent activities of the Board and its seven standing Committees [Chemical Assessment Advisory, Drinking Water, Ecological Processes and Effects, Environmental Economics Advisory, Environmental Engineering, Exposure and Human Health, and Radiation Advisory Committees].

A new Agricultural Science Committee is being formed. I hope its membership will be truly representative of America's substantial agricultural enterprise. Quite frankly, I was surprised by the size of the SAB staff, the modest number of reports completed over the last decade, the infrequent meetings of some of the Standing Committees, and the relative absence of any activities that were initiated by the SAB. If I were to encounter this situation in a private sector organization I was advising, I would suggest it was time for a rigorous retrospective assessment of the entire SAB operation and its processes. This would include assessing what has been done well, what is not working, and how the SAB can be best organized and managed to provide the EPA sound, independent scientific advice to inform policies and regulations that have substantial impact on the American people and the American economy.

The Bill, S 543, "EPA Science Advisory Board Reform Act of 2015" includes provisions that will strengthen the independent role of the SAB. However, the changes required by provisions in S. 543 will need to be augmented by substantial changes initiated by EPA management to create a more efficient and effective SAB to better serve the American public.

I will be pleased to address any questions you may have now or wish to forward to me.

Disclosure

The foregoing statement was prepared by me and represents my independent views and advice. I gratefully acknowledge financial support provided to me by Tronox Corporation to cover my expenses related to participation in this Hearing. I advise Tronox Corporation on air quality issues. Tronox Corporation is committed to using the best available scientific information to guide its operations and to endorsing the use of the best available scientific information to inform federal policies and regulations.

ATTACHMENT 1

BIOGRAPHY

ROGER O. McCLELLAN, DVM, MMS, DSc (Honorary),
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ROGER O. McCLELLAN serves as an advisor to public and private organizations on issues concerned with inhalation toxicology, comparative medicine, and human health risk analysis focusing on issues of air quality in the ambient environment and work place. He has over three decades of experience studying the human health hazards of exposure to diesel exhaust and promoting advances in diesel technology to minimize any health hazards. He received his Doctor of Veterinary Medicine degree with Highest Honors from Washington State University in 1960 and a Master of Management Science degree from the University of New Mexico in 1980. He is a Diplomate of the American Board of Toxicology and the American Board of Veterinary Toxicology and a Fellow of the Academy of Toxicological Sciences.

He served as Chief Executive Officer and President of the Chemical Industry Institute of Toxicology (CIIT) in Research Triangle Park, NC from 1988 through 1999. CIIT continues today as The Hamner Institute for Health Sciences. During his tenure, the organization achieved international recognition for development of scientific information under-girding important environmental and occupational health decisions and regulations. Prior to his CIIT appointment, Dr. McClellan was Director of the Inhalation Toxicology Research Institute, and President of the Lovelace Biomedical and Environmental Research Institute, Albuquerque, New Mexico. The Institute continues today as a core element of the Lovelace Respiratory Research Institute. During 22 years with the Lovelace organization, he provided leadership for development of one of the world's leading research programs concerned with the health hazards of airborne radioactive and chemical materials. Prior to joining the Lovelace organization, he was a scientist with the Division of Biology and Medicine, U.S. Atomic Energy Commission, Washington, DC (1965-1966), and Hanford Laboratories, General Electric Company, Richland, WA (1959-1964). In those assignments, he conducted and managed research directed toward understanding the human health risks of internally deposited radionuclides.

Dr. McClellan is an internationally recognized authority in the fields of inhalation toxicology, aerosol science, comparative medicine, and human health risk analysis. He has authored or co-authored over 350 scientific papers and reports and edited 10 books. In addition, he frequently speaks on risk assessment and air pollution issues in the United States and abroad. He is active in the affairs of a number of professional organizations, including past service as President of the Society of Toxicology and the American Association for Aerosol Research. He serves in an editorial role for a number of journals, including service since 1987 as Editor of Critical Reviews in Toxicology. He serves or has served on the Adjunct Faculty of 8 universities.

Dr. McClellan has served in an advisory role to numerous public and private organizations. He has served on senior advisory committees for the major federal agencies concerned with human health. This included services as past Chairman of the Clean Air Scientific Advisory Committee, Environmental Health Committee, Research Strategies Advisory Committee, and Member of the Executive Committee,

Science Advisory Board, U. S. Environmental Protection Agency; Member, National Council on Radiation Protection and Measurements; Member, Advisory Council for Center for Risk Management, Resources for the Future; Member, Health Research Committee, Health Effects Institute; and service on National Academy of Sciences/National Research Council Committees on Toxicology (served as Chairman for 7 years), Risk Assessment for Hazardous Air Pollutants, Health Risks of Exposure to Radon, Research Priorities for Airborne Particulate Matter, as well as the Committee on Environmental Justice of the Institute of Medicine. He has served on the Board of Scientific Councilors for the Center for Environmental Health Research of the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry and on the National Institutes of Health Scientific Advisory Committee on Alternative Toxicological Methods. He currently serves on the National Aeronautics and Space Administration Lunar Airborne Dust Toxicity Advisory Group.

Dr. McClellan's contributions have been recognized by receipt of a number of honors, including election in 1990 to membership in the Institute of Medicine of the National Academy of Sciences. He is a Fellow of the Society for Risk Analysis, the American Association for Aerosol Research, the Health Physics Society, and the American Association for the Advancement of Science. In 1998, he received the International Achievement Award of the International Society of Regulatory Toxicology and Pharmacology for outstanding contributions to improving the science used for decision making and the International Aerosol Fellow Award of the International Aerosol Research Assembly for outstanding contributions to aerosol science and technology. In 2002, he was inducted into the University of New Mexico Anderson School of Management Hall of Fame for contributions to the effective management of multi-disciplinary research organizations. He received the Society of Toxicology Merit Award in 2003 for a distinguished career in toxicology and the Society's Founders Award in 2009 for contributions to science-based safety/risk decision-making. In 2012, he received the Outstanding Career Achievement Award of the International Dose-Response Society for contributions to understanding dose-response relationships and the David Sinclair Award of the American Association for Aerosol Research for sustained excellence in aerosol research and technology.

In 2005, The Ohio State University awarded him an Honorary Doctor of Science degree for his contributions to comparative medicine and the science under-girding improved air quality. In 2006, he received the New Mexico Distinguished Public Service Award. In 2008, Washington State University presented Dr. McClellan the Regents Distinguished Alumnus Award, the highest recognition the University can bestow on an Alumnus.

Dr. McClellan has a long-standing interest in environmental and occupational health issues, especially those involving risk assessment, and air quality and in the management of multidisciplinary research organizations. He is a strong advocate of science-based decision-making and the need to integrate data from epidemiological, controlled clinical, laboratory animal and cell studies to assess human health risks of exposure to toxic materials and to inform policy makers in developing standards and guidance to protect public health.

Senator ROUNDS. Thank you, Dr. McClellan.
Now, we will hear from Mr. Ted Hadzi-Antich. You may begin.

**STATEMENT OF TED HADZI-ANTICH, SENIOR STAFF
ATTORNEY, PACIFIC LEGAL FOUNDATION**

Mr. HADZI-ANTICH. Thank you.

Good morning, Mr. Chairman and other distinguished members of the subcommittee.

My name is Ted Hadzi-Antich. I am a senior attorney with the Pacific Legal Foundation, a nonprofit organization dedicated to protecting individual liberty, property rights, and a balanced approach to environmental regulation.

I have been practicing environmental law for about 40 years. I have a good understanding of EPA's regulatory policies, including, for purposes of this testimony, EPA's interaction with the Science Advisory Board.

In my view, EPA is not using the board effectively, efficiently, or even wisely. Congress enacted the SAB organic statute in the 1970s to deal with public criticism that EPA's regulatory proposals lacked scientific and technical credibility. It created the board to provide an expert peer review looking at the science undergirding regulatory proposals by EPA.

Under the current statute, certain regulatory proposals must be submitted by EPA to the board for peer review, but the board, itself, has no responsibility to respond in any particular way to any particular regulatory proposal.

This issue really came to a head, in my view, starting in 2009 when EPA promulgated the first suite of greenhouse gas emission regulations under the Clean Air Act, including emission regulations for carbon dioxide.

Carbon dioxide is a ubiquitous natural substance. It is everywhere and it is in everything. When EPA started regulating carbon dioxide, it opened the door for Federal regulation of everything, everywhere in the Nation. That is a tremendous power for a Federal administrative agency to have.

The first suite of EPA regulations was promulgated without any input from the Science Advisory Board. As a matter of fact, EPA did not even submit the proposed rules to the Science Advisory Board to receive their review and comment.

After promulgating those regulations, EPA took the position that it does not have to submit any proposed rule to the Science Advisory Board unless there is an independent Federal statute other than the SAB organic statute that requires EPA to submit a regulatory proposal to another Federal agency as part of interagency interaction, and then only if, with regard to regulations under the Clean Air Act, there is a substantial likelihood that the regulation would have been significantly changed, if SAB were given the opportunity to review it.

These two policy decisions by the EPA, which add a veneer to the SAB organic statute, especially in the context of important regulations like carbon dioxide emissions, really undercut the very purpose of the SAB peer review requirement.

I think S. 543 goes a long way to deal with these situations. My recommendation is to consider three overarching issues in connection with the SAB review process.

One, every proposed regulation that EPA is required to publish in the Federal Register under the Administrative Procedures Act should be required to be submitted to the SAB for peer review.

Two, when EPA fails to comply with the SAB submittal requirement, that failure should be judicially reviewable under the standard provisions of the Administrative Procedures Act.

Three, with regard to the most important regulations governing the Nation as a whole, such as carbon dioxide, which impacts not only the national economy but pretty much every aspect of the national life, with regard to those regulations, SAB should be given the duty to respond in some appropriate way to the proposed regulation.

Thank you very much for the opportunity to provide this testimony.

[The prepared statement of Mr. Hadzi-Antich follows:]

May 20, 2015

Hearing on Oversight of the Environmental Protection Agency's Interaction with the Science
Advisory Board and S. 543, the Science Advisory Board Reform Act of 2015.

United States Senate
Senate Committee on Environment and Public Works
Subcommittee on Superfund, Waste Management, and Regulatory Oversight

Statement by
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Good morning, Mr. Chairman and other distinguished Members of the Subcommittee. As an attorney with Pacific Legal Foundation, a nonprofit, public interest organization dedicated to the protection of individual liberty, property rights, and a balanced approach to environmental regulation, I wish to thank you for this opportunity to provide my views regarding the manner in which EPA interacts with the Science Advisory Board ("SAB" or the "Board"), and ways in which that interaction may be improved. I have been practicing environmental law for about 40 years, and I have had extensive experience dealing with issues involving EPA's interaction with the Science Advisory Board. I started my legal career as an EPA lawyer and, since then, I have served in private practice, state government, teaching, and public interest. In my opinion, EPA could be using the Board more effectively, efficiently, and wisely. To that end, the Science Advisory Board organic statute, which is part of the Environmental Research, Development, and Demonstration Authorization Act, could be clarified to underscore the Board's important role. S. 543 heads in the right direction.

The Science Advisory Board was established by Congress in the 1970s in response to public criticism that EPA's regulatory proposals under the Clean Air Act and the Clean Water Act lacked technical credibility. See Joe G. Conley, *Conflict of Interest and the EPA's Science Advisory Board*, 86 Tex. L. Rev. 165, 168 (2007). A key element of the SAB's mission is to render advice to EPA "on a wide range of environmental issues and the integrity of EPA research." *Meyerhoff v. United States EPA*, 958 F.2d 1498, 1499 (9th Cir. 1992). The current SAB statute states that the Board's role in EPA rulemaking is to provide "its advice and comments on the adequacy of the scientific and technical basis of regulatory proposals." 42 U.S.C. § 4365(c)(2). The implementing regulations state that the Board's mission is to provide "expert and independent advice to the [EPA] in the scientific and technical issues facing the Agency." 40 C.F.R. § 1.25(c). Thus, the Board is intended to function as a peer review panel of experts to ensure that EPA's regulatory proposals are firmly rooted in sound science.

To implement the purpose of the Board, the statute provides that when “*any* proposed criteria document, standard, limitation, or regulation . . . under *any* authority of the Administrator is provided to any other Federal agency for formal review and comment, [EPA] . . . shall make available to the Board such proposed criteria document, standard, limitation, or regulation, together with relevant scientific and technical information in the possession of the Environmental Protection Agency on which the proposed action is based.” 42 U.S.C. § 4365(c)(1) (emphasis added). Clearly, “*any*” regulatory proposals is intended to mean all regulatory proposals. Moreover, the use of the word “shall” signifies that submittal of regulatory proposals to the SAB is nondiscretionary. *American Petroleum Inst. v. Costle*, 665 F.2d 1176, 1188 (D.C. Cir. 1981). However, under the current statute, the duty is solely upon EPA; the Board itself has no particular duty to respond to a submittal. That is, the Board may decide in its discretion to review the proposal with or without comment, or simply to do nothing. If the Board provides comments on the regulatory proposal, EPA is under no obligation to amend the regulatory proposal in response to those comments, or even to provide any reasons for refusing to do so.

In 2009, when EPA issued its first regulation governing greenhouse gas emissions, it failed to submit the regulatory proposal to EPA. Thus, EPA’s Greenhouse Gas Endangerment Finding under the Clean Air Act, by which EPA found that greenhouse gases pose a danger to human health and welfare, was not submitted for peer review to the Board. *See* 74 Fed. Reg. 66,496 (Dec. 15, 2009). Neither were subsequent regulations promulgated under the Clean Air Act governing greenhouse gas emissions for cars, 75 Fed. Reg. 25,324 (May 7, 2010), and trucks, 76 Fed. Reg. 57,106 (September 15, 2011).

In the aftermath of the greenhouse gas regulations, EPA took the position that it need not submit certain regulatory proposals to EPA unless (1) *another* statute requires EPA to submit a regulatory proposal for “formal review” to a federal agency, and (2) the person seeking to enforce the SAB submittal requirement proves that EPA’s failure to comply with the SAB statute was such that there is a substantial likelihood the regulation would have been significantly changed had SAB been given the opportunity to review it before it was finalized. These EPA positions dilute EPA’s duty to obtain scientific peer review of its regulatory proposals.

It is important to ensure that the SAB statute fulfills its intended purpose of providing scientific credibility to EPA’s regulations. If S. 543 moves forward, the intent of the SAB organic statute could be clarified by explaining that:

- (1) EPA must submit all of its regulatory proposals to the Board for peer review no later than the time it publishes a proposed regulation in the Federal Register for comment by the general public;
- (2) EPA’s failure to timely submit regulatory proposals to the Board is subject to judicial review under the standards set forth in the Administrative Procedure Act;

- (3) The Board must respond to any EPA submittal in writing within 90 days of the date it receives the regulatory proposal from EPA, or by the end of the comment period set forth in the Federal Register in which the regulatory proposal is published, whichever is later;
- (4) Permissible written responses from the Board include (a) commenting on the regulatory proposal and/or making recommendations for changes to the regulatory proposal, or (b) choosing not to comment or recommend changes, and providing reasons why it chose not to do so; and
- (5) EPA must consider the Board's responses and summarize in the preamble to the final rule published in the Federal Register the extent to which the regulatory proposal was changed in response to any comments or recommendations made by the Board, as well as EPA's reasons.

These five suggestions could clarify the SAB submittal requirement to ensure that EPA does not unilaterally refuse to submit any particular regulatory proposal to the Board for peer review. At the same time, it will streamline the SAB review process and make the Board accountable for actually providing peer review.

CONCLUSION

I thank the committee for this opportunity to provide this testimony and hope this analysis will help the committee as it deliberates improvements to the Science Advisory Board organic statute.

Respectfully submitted,
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Senator ROUNDS. Thank you for your testimony, Mr. Hadzi-Antich. We appreciate your testimony.

Our next witness is Mr. Alfredo Gomez from GAO. Mr. Gomez, you may begin.

STATEMENT OF ALFREDO GOMEZ, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT TEAM, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. GOMEZ. Thank you, Chairman Rounds, Ranking Member Markey and members of the subcommittee.

Good morning. I am pleased to be here today to discuss two Federal advisory bodies that review the scientific and technical basis for EPA decisionmaking. These are EPA's Science Advisory Board, which, as already noted, is authorized to review the adequacy of the scientific and technical basis of EPA's proposed regulations and the Clean Air Scientific Advisory Committee, which provides independent advice to EPA on air quality criteria.

My statement today summarizes preliminary observations from our ongoing work on which we plan to complete and issue a report in June 2015. I will focus on two main areas.

The first area is EPA's process for responding to congressional requests to the SAB and two, the extent to which CASAC has provided advice related to air quality standards.

The Environmental Research Development and Demonstration Authorization Act of 1978 requires the SAB to provide the EPA Administrator with scientific advice and to also provide scientific advice to designated congressional committees when requested.

CASAC is required to provide advice to the EPA Administrator with regard to EPA's national ambient air quality standards. The Clean Air Act requires EPA to set and periodically review and revise the air quality standards for certain air pollutants.

As Federal advisory committees, both the SAB and CASAC are subject to the Federal Advisory Committee Act. The head of each agency that uses Federal advisory committees is responsible for exercising certain controls over those committees.

For example, the EPA Administrator is responsible for establishing administrative guidelines and management controls that apply to all of the agency's advisory committees and for appointing a designated Federal officer for each advisory committee.

As required by FACA, the SAB and CASAC operate under charters that include information on their objectives, scope of activities and the officials to whom they report.

Regarding the first area of our study, our preliminary observations indicate that EPA's policies and procedures for processing congressional requests to the SAB do not ensure compliance with ERDDAA because the procedures are incomplete.

While these documents provide some direction for how EPA and the SAB are to process requests from congressional committees, the documents do not clearly outline how the EPA Administrator, the SAB staff office and members of the SAB panel are to handle a congressional committee's request for advice from the SAB.

EPA's policies and procedures lack clarity. Specifically, they do not clearly acknowledge that the SAB must provide scientific advice when requested by select congressional committees, nor state

which of two offices should process the request. Finally, they do not clearly establish procedures for determining questions the SAB would answer.

Second, regarding the extent to which CASAC has provided advice related to air quality standards, our preliminary observations indicate CASAC has provided certain types of advice related to the review of national ambient air quality standards.

According to a senior EPA official, CASAC has carried out its role in reviewing the air quality criteria and the air quality standards as required by the Clean Air Act. However, CASAC has never provided advice on adverse social, economic or energy effects of strategies to implement the air quality standards.

This is, in part, because, according to the law, air quality standards are to be based on public health and welfare criteria rather than on the social, economic or energy effects. In addition, EPA has never asked CASAC to do such a review.

In summary, EPA has developed additional policy documents to try to help clarify how to process congressional requests to the SAB but some questions remain about that process that could affect the SAB's compliance with ERDDAA.

Chairman Rounds, Ranking Member Markey and members of the subcommittee, this completes my statement. I would be happy to respond to any questions.

[The prepared statement of Mr. Gomez follows:]

United States Government Accountability Office



Testimony
Before the Subcommittee on Superfund,
Waste Management, and Regulatory
Oversight, Committee on Environment
and Public Works, U.S. Senate

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EPA SCIENCE ADVISORY PANELS

Preliminary Observations on the Processes for Providing Scientific Advice

Statement of J. Alfredo Gómez, Director
Natural Resources and Environment

GAO Highlights

Highlights of GAO-15-636T, a testimony Before the Subcommittee on Superfund, Waste Management, and Regulatory Oversight, Committee on Environment and Public Works, U.S. Senate

Why GAO Did This Study

EPA formulates rules to protect the environment and public health. To enhance the quality and credibility of such rules, EPA obtains advice and recommendations from the SAB and CASAC—two federal advisory committees that review the scientific and technical basis for EPA decision making. ERDDAA requires the SAB to provide both the EPA Administrator and designated congressional committees with scientific advice as requested. Amendments to the Clean Air Act established CASAC to, among other things, provide advice to the Administrator on NAAQS.

This testimony reflects GAO's preliminary observations from its ongoing review that examines (1) the extent to which EPA procedures for processing congressional requests to the SAB ensure compliance with ERDDAA and (2) the extent to which CASAC has provided advice related to NAAQS.

GAO reviewed relevant federal regulations and agency documents, and interviewed EPA, SAB, and other relevant officials.

GAO is not making any recommendations in this testimony, but as it finalizes its work in this area, GAO will consider making recommendations, as appropriate.

View GAO-15-636T. For more information, contact J. Alfredo Gómez at (202) 512-3841 or gomezj@gao.gov

May 20, 2015

EPA SCIENCE ADVISORY PANELS

Preliminary Observations on the Processes for Providing Scientific Advice

What GAO Found

The Environmental Protection Agency's (EPA) procedures for processing congressional requests for scientific advice from the Science Advisory Board (SAB) do not ensure compliance with the Environmental Research, Development, and Demonstration Authorization Act of 1978 (ERDDAA) because these procedures are incomplete. For example, they do not clearly outline how the EPA Administrator, the SAB staff office, and others are to handle a congressional committee's request. While the procedures reflect EPA's responsibility to exercise general management controls over the SAB and all its federal advisory committees under the Federal Advisory Committee Act (FACA), including keeping such committees free from outside influence, they do not fully account for the specific access that designated congressional committees have to the SAB under ERDDAA. For example, EPA's policy documents do not establish how EPA will determine which questions would be taken up by the SAB. EPA officials told GAO that, in responding to congressional requests, EPA follows the same process that it would apply to internal requests for questions to the SAB, including considering whether the questions are science or policy driven or are important to science and the agency. However, EPA has not documented these criteria. Under the federal standards of internal control, agencies are to clearly document internal controls. Moreover, under ERDDAA, the SAB is required to provide requested scientific advice to select committees. By clearly documenting how to process congressional requests received under ERDDAA, including which criteria to use, EPA can provide reasonable assurance that its staff process responses consistently and in accordance with law. Furthermore, EPA's charter states that, when scientific advice is requested by one of the committees specified in ERDDAA, the Administrator will, when appropriate forward the SAB's advice to the requesting congressional committee. EPA policy does not specify when it would be "appropriate" for the EPA Administrator to take this action. Such specificity would be consistent with clearly documenting internal controls. GAO will continue to monitor these issues and plans to issue a report with its final results in June 2015.

The Clean Air Scientific Advisory Committee (CASAC) has provided certain types of advice related to the review of national ambient air quality standards (NAAQS), but has not provided advice on adverse social, economic, or energy effects related to NAAQS. Under the Clean Air Act, CASAC is to review air quality criteria and existing NAAQS every 5 years and advise EPA of any adverse public health, welfare, social, economic, or energy effects that may result from various strategies for attainment and maintenance of NAAQS. An EPA official stated that CASAC has carried out its role in reviewing the air quality criteria and the NAAQS, but CASAC has never provided advice on adverse social, economic, or energy effects related to NAAQS because EPA has never asked CASAC to do so. In a June 2014 letter to the EPA Administrator, CASAC indicated it would review such effects at the agency's request. According to a senior EPA official, the agency has no plans to ask CASAC to provide advice on such adverse effects.

Chairman Rounds, Ranking Member Markey, and Members of the Subcommittee:

I am pleased to be here today to provide some preliminary observations from our ongoing review of the Environmental Protection Agency's (EPA) Science Advisory Board (SAB) and the Clean Air Scientific Advisory Committee (CASAC). We are carrying out this work for the Senate Committee on Environment and Public Works and the House Committee on Science, Space, and Technology. As you know, the SAB and CASAC are federal advisory committees that review the scientific and technical basis for EPA's decision making.

These two federal advisory committees were established pursuant to statute. The Environmental Research, Development, and Demonstration Authorization Act of 1978 (ERDDAA) mandated that EPA establish the SAB and required the SAB to provide the EPA Administrator with scientific advice as requested. In 1980, Congress amended ERDDAA by adding a provision requiring the SAB to also provide scientific advice to designated congressional committees when requested.¹ CASAC was established pursuant to amendments to the Clean Air Act in 1977 to, among other things, provide advice to the Administrator with regard to EPA's National Ambient Air Quality Standards (NAAQS). The Clean Air Act requires EPA to set and periodically review and revise NAAQS for certain air pollutants, the emission of which cause or contribute to air pollution that may endanger public health or welfare.

As federal advisory committees, the SAB and CASAC must comply with the Federal Advisory Committee Act (FACA) and its implementing regulations.² For example, the SAB is required to operate in accordance

¹These designated committees currently include the Senate Committee on Environment and Public Works; the House Committee on Science, Space, and Technology; the House Committee on Energy and Commerce; and the House Committee on Transportation and Infrastructure.

²FACA governs the establishment, operation, and termination of advisory committees within the executive branch of the federal government. The General Services Administration (GSA) prepares regulations on federal advisory committees to be prescribed by the GSA Administrator and issues other administrative guidelines and management controls for advisory committees.

with charters.³ In addition, EPA must have procedures to ensure that the advice or recommendations of its federal advisory committees, including the SAB, are products of their independent judgment and not "inappropriately" influenced by EPA.⁴

Recent interactions between the House Committee on Science, Space, and Technology and the SAB related to specific SAB reviews on hydraulic fracturing and water body connectivity have raised questions with the Committee regarding whether the SAB is fulfilling its statutory obligations to provide scientific advice to the designated congressional committees.⁵ In addition, recent testimony received by the Committee has raised questions regarding whether CASAC advises EPA of any adverse public health, welfare, social, economic, or energy effects that may result from various strategies for attainment and maintenance of NAAQS as called for in the Clean Air Act.

This testimony reflects our preliminary observations from our ongoing review that examines (1) the extent to which EPA procedures for processing congressional committees' requests for scientific advice from the SAB ensure compliance with ERDDAA and (2) the extent to which CASAC has provided advice related to NAAQS.

To determine the extent to which EPA procedures for processing congressional committees' requests for scientific advice from the SAB ensure compliance with ERDDAA, we reviewed ERDDAA and its legislative history, the SAB's charters, legal cases involving the SAB, and EPA documents to determine how requests to the SAB from congressional committees were addressed. We also interviewed officials from the SAB staff office, EPA's Office of General Counsel, and EPA's Office of Congressional and Intergovernmental Relations (OCIR). To determine the extent to which CASAC has provided advice related to

³Charters must be filed with EPA and the congressional committees with legislative jurisdiction over the agency. The purpose of the advisory committee charter is to specify the committee's mission or charge and general operational characteristics.

⁴41 C.F.R. § 102-3.105(g) (2014).

⁵Hydraulic fracturing is a process used in natural gas wells where millions of gallons of water, sand and chemicals are pumped underground to break apart the rock and release the gas. Water body connectivity is the biological, chemical, and hydrologic connectivity of waters and the effects that small streams, wetlands, and open waters have on larger downstream waters such as rivers, lakes, estuaries, and oceans.

NAAQS, we reviewed the Clean Air Act, its legislative history, and legal cases involving the act. We also interviewed officials from the SAB staff office and EPA's Office of General Counsel.

We are conducting our work in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence we obtain will provide a reasonable basis for our findings and conclusions based on our audit objectives. EPA provided technical comments, which we incorporated, as appropriate.

Background

The SAB provides a mechanism for EPA to receive peer review and other advice in the use of science at EPA. The SAB is authorized to, among other things, review the adequacy of the scientific and technical basis of EPA's proposed regulations. The SAB and its subcommittees or panels focus on a formal set of charge questions on environmental science received from the agency.⁶ Depending on the nature of the agency's request, the entire advisory process from the initial discussion on charge questions with EPA offices and regions to the delivery of the final SAB report generally takes from 4 to 12 months.

CASAC provides independent advice to EPA on "air quality criteria."⁷ Under the Clean Air Act, as amended, CASAC is to review the criteria and the existing NAAQS every 5 years and make recommendations to EPA for new standards and revisions of existing standards, as appropriate. In addition, CASAC is directed to advise EPA of the areas in which additional knowledge is required to appraise the adequacy and basis of the NAAQS and describe the research efforts necessary to provide the required information. CASAC also is directed to advise EPA of the relative contribution to air pollution of concentrations of natural, as well as human activity and any adverse public health, welfare, social,

⁶The charge questions guide, but need not limit, the deliberations of the committee or panel.

⁷Under the Clean Air Act, air quality criteria must accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare, which may be expected from the presence of certain air pollutants in the ambient air.

economic, or energy effects that may result from various strategies for attainment and maintenance of the NAAQS. CASAC's advisory process is similar to the SAB's process, including the option of establishing subcommittees and panels that send their reports and recommendations to CASAC.

As federal advisory committees, the SAB and CASAC are subject to FACA, which broadly requires balance, independence, and transparency. FACA was enacted, in part, out of concern that certain special interests had too much influence over federal agency decision makers. The head of each agency that uses federal advisory committees is responsible for exercising certain controls over those advisory committees. For example, the agency head is responsible for establishing administrative guidelines and management controls that apply to all of the agency's advisory committees, and for appointing a Designated Federal Officer (DFO) for each advisory committee. Advisory committee meetings may not occur in the absence of the DFO, who is also responsible for calling meetings, approving meeting agendas, and adjourning meetings.⁸ As required by FACA, the SAB and CASAC operate under charters that include information on their objectives, scope of activities, and the officials to whom they report. Federal advisory committee charters must be renewed every 2 years, but they can be revised before they are due for renewal in consultation with the General Services Administration (GSA).

Unlike CASAC, which was established by amendments to the Clean Air Act, the SAB was established under ERDDAA, and since 1980, has been required to provide scientific advice to designated congressional committees when requested.⁹ According to SAB staff office officials, until recently, the SAB has responded to general congressional questions and concerns. However, in 2013, representatives of a congressional committee formally requested advice from the SAB regarding two reviews the SAB was conducting. According to EPA officials, this was the first time representatives of a congressional committee formally requested advice from the SAB. Both requests were addressed and submitted

⁸A DFO is required by FACA to chair or sit in attendance of each advisory committee meeting and is authorized to adjourn any such meeting whenever he/she determines it to be in the public interest. FACA also requires that no advisory committee shall conduct any meeting in the absence of that officer or employee.

⁹There is no similar statutory provision that requires CASAC to provide scientific advice to congressional committees.

directly to the SAB Chair and the Chair of the relevant SAB panel and sent concurrently to the SAB staff office and EPA Administrator.¹⁰ While ERDDAA does not specify a role for EPA in mediating responses from the SAB to the designated congressional committees, EPA identifies such a role for itself under FACA. Specifically, EPA points to the DFO's responsibility to manage the agenda of an advisory committee. Also, under FACA, EPA is responsible for issuing and implementing controls applicable to its advisory committees. Responses to the committee's requests for scientific advice were handled by the SAB staff office and EPA's OCIR. The SAB staff office and, later, OCIR responded to the committee's first request for advice, and OCIR responded to the committee's second request for advice. See table 1 for more information on these requests.

¹⁰The first request was copied to EPA's Acting Administrator.

Table 1: Congressional Committee's Formal Requests for Advice from the Scientific Advisory Board (SAB) and the Environmental Protection Agency's (EPA) Acknowledgments since 1980

| Congressional committee request letter | Nature of request | Agency acknowledgment |
|--|--|--|
| <p>May 2, 2013, by Representative Chris Stewart, Subcommittee on Environment, Committee on Science, Space, and Technology</p> | <p>The Committee requested that the SAB and its Hydraulic Fracturing Research Advisory Panel consider additional areas for inquiry as it began its examination of EPA's study of the potential impacts of hydraulic fracturing on drinking water resources. The Committee submitted 14 questions that it wanted the SAB and the panel to answer.</p> | <p>May 31, 2013—The SAB staff office acknowledged the Committee's letter. The SAB staff office responded to the Committee's request for advice and provided responses to 3 of the 14 questions outlined in the Committee's request. The SAB staff office also explained that the SAB would have an opportunity to independently consider the remaining 11 questions. The Committee's letter was provided to the SAB panel at its meeting on May 7– 8, 2013, and posted on the SAB website.</p> <p>December 11, 2013—EPA's Office of Congressional and Intergovernmental Relations (OCIR) acknowledged the Committee's letter. OCIR's Associate Administrator stated that an Aug. 4, 2011, SAB advisory report on EPA's draft <i>Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources</i> addressed many of the themes embodied in the remaining 11 questions contained in the House Committee's request. The Associate Administrator also stated that the Committee's questions not addressed in the 2011 report would require new research or would be considered once EPA has completed its <i>Draft Hydraulic Fracturing Drinking Water Assessment Report</i>.</p> |
| <p>November 6, 2013, by Representatives Lamar Smith, Chairman, Committee on Science, Space, and Technology and Chris Stewart, Subcommittee on Environment, Committee on Science, Space, and Technology</p> | <p>The Committee requested that the SAB and the SAB panel for the review of EPA's Water Body Connectivity Report address additional charge questions as part of their review.</p> | <p>December 16, 2013—EPA's OCIR acknowledged the Committee's letter. OCIR stated that EPA had begun an initial review of the questions, but that many of the questions were already being addressed under the existing charge questions being reviewed by the SAB panel or "went beyond the scientific review that is the expert technical panel's statutory focus."</p> |

Source: GAO analysis of EPA documents. | GAO-15-636T

Our Preliminary Observations Indicate That EPA's Procedures for Processing Congressional Requests to the SAB Do Not Ensure Compliance with ERDDAA

Our preliminary observations indicate that EPA's procedures for processing congressional requests for scientific advice from the SAB do not ensure compliance with ERDDAA because the procedures are incomplete and do not fully account for the statutory access designated congressional committees have to the SAB. Specifically, EPA policy documents do not clearly outline how the EPA Administrator, the SAB staff office, and members of the SAB panel are to handle a congressional committee's request for advice from the SAB. In addition, EPA policy documents do not acknowledge that the SAB must provide scientific advice when requested by select congressional committees.

EPA's written procedures for processing congressional committee requests to the SAB are found in the SAB charter and in the following two documents that establish general policies for how EPA's federal advisory committees are to interact with outside parties:

- *EPA Policy Regarding Communication Between Members of Federal Advisory Committee Act Committees and Parties Outside of the EPA* (the April 2014 policy), and
- *Clarifying EPA Policy Regarding Communications Between Members of Scientific and Technical Federal Advisory Committees and Outside Parties* (the November 2014 policy clarification).

Collectively, the SAB's charter, EPA's April 2014 policy, and EPA's November 2014 policy clarification provide direction for how EPA and the SAB are to process requests from congressional committees. However, these documents do not clearly outline procedures for the EPA Administrator, the SAB staff office, and members of the SAB panel to use in processing such requests.

At the time of the House committee's two requests to the SAB in 2013, the SAB charter was the only EPA document that contained written policy relating to congressional committee requests under ERDDAA. The SAB charter briefly noted how congressional committees could access SAB advice, stating: "While the SAB reports to the EPA Administrator, congressional committees specified in ERDDAA may ask the *EPA Administrator to have SAB provide advice* on a particular issue." (GAO italics) Beyond what the charter states, however, no EPA policy specified a process the Administrator should use to have the SAB review a congressional request and provide advice.

In response to a request from the SAB staff office that EPA clarify the procedures for handling congressional committee requests, EPA, through an April 4, 2014, memorandum informed the SAB that committee members themselves and the federal advisory committees as a whole should refrain from directly responding to these external requests. Attached to the memorandum was the April 2014 policy that stated: "if a FACA committee member receives a request relating to the committee's work from members of Congress or their staff, or congressional committees, the member should notify the DFO, who will refer the request to the EPA OCIR. OCIR will determine the agency's response to the inquiry, after consulting with the relevant program office and the DFO." This policy, however, did not provide more specific details on processing requests from congressional committees under ERDDAA.

In November 2014, EPA issued a clarification to the April 2014 policy, specifying that SAB members who receive congressional requests pursuant to ERDDAA should acknowledge receipt of the request and indicate that EPA will provide a response. The November 2014 policy clarification does not identify the SAB as having to provide the response. The November 2014 policy clarification also stated that the request should be forwarded to the appropriate DFO and that decisions on who and how best to respond to the requests would be made by EPA on a case-by-case basis. While the November 2014 policy clarification provides greater specificity about processing requests, it is not consistent with the SAB charter because the policy indicates that congressional committee requests should be handled through the DFO, whereas the charter indicates that they should be handled through the EPA Administrator and provides no further information. A senior EPA official stated that the agency considered that the charter and the November 2014 policy clarification differed in the level of detail, but not in the broad principle that the agency is the point of contact for congressional requests to the SAB (and SAB responses to those requests). However, under the federal standards of internal control,¹¹ agencies are to clearly document internal controls and the documentation is to appear in management directives, administrative policies, or operating manuals. While EPA has documented its policies, they are not clear because the charter and the November 2014 policy clarification are not consistent about which office

¹¹GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

should process congressional requests. Agency officials said that the SAB charter is up for renewal in 2015. By modifying the charter when it is renewed to reflect the language in the November 2014 policy clarification—that congressional requests should be forwarded to the appropriate DFC—EPA can better ensure that its staff process congressional committee requests consistently when the agency receives such a request.

Moreover, neither the April 2014 policy nor the November 2014 policy clarification clearly documents EPA's procedures for reviewing congressional committee requests to determine which questions would be taken up by the SAB, consistent with the federal standards of internal control. Because EPA's procedures for reviewing congressional committee requests are not documented, it will be difficult for EPA to provide reasonable assurance that its staff is appropriately applying criteria when determining which questions the SAB will address. EPA officials told us that internal deliberations in response to a congressional request follow those that the agency would apply to internal requests for charges to the SAB. Specifically, officials told us that EPA considers whether the questions are science or policy driven, whether they are important to science and the agency, and whether the SAB has already undertaken a similar review. However, these criteria are not documented. In addition, under ERDDAA, the SAB is required to provide requested scientific advice to select committees, regardless of EPA's judgment. As EPA has not fully responded to the committee's two 2013 requests to the SAB, by clearly documenting its procedures for reviewing congressional requests to determine which questions should be taken up by the SAB and criteria for evaluating requests, the agency can provide reasonable assurance that its staff process these and other congressional committee requests consistently and in accordance with both FACA and ERDDAA.

Furthermore, the charter states that, when scientific advice is requested by one of the committees specified in ERDDAA, the Administrator will, when appropriate, forward the SAB's advice to the requesting congressional committee. Neither the charter nor the April 2014 policy and November 2014 policy clarification specify when it would be "appropriate" for the EPA Administrator to forward the SAB's advice to the requesting committee. Such specificity would be consistent with federal standards of internal control that call for clearly documenting internal controls. Without such specification, the perception could be created that EPA is withholding information from Congress that the SAB is required to provide under ERDDAA. EPA officials stated that the EPA Administrator does not attempt to determine whether advice of the SAB contained in

written reports should be forwarded to the requesting committee and that all written reports are publically available on the SAB website at the same time the report is sent to the EPA Administrator. By modifying the charter or other policy documents to reflect when it is and when it is not appropriate for the EPA Administrator to forward the advice to the requesting committee, EPA can better ensure transparency in its process.

In general, under FACA, as a federal advisory committee, the SAB's agenda is controlled by its host agency, EPA.¹² As such, the SAB generally responds only to charge questions put to it by EPA although, under ERDDAA, the SAB is specifically charged with providing advice to its host agency as well as to designated congressional committees. In addition, it is EPA's responsibility under GSA regulations for implementing FACA to ensure that advisory committee members and staff understand agency-specific statutes and regulations that may affect them,¹³ but nothing in the SAB charter, the April 2014 policy, or the November 2014 policy clarification communicates that, ultimately, SAB must provide scientific advice when requested by congressional committees. For example, we found no mechanism in EPA policy for the SAB to respond on its own initiative to a congressional committee request for scientific advice unrelated to an existing EPA charge question. A written policy for how the SAB should respond to a congressional committee request that does not overlap with charge questions from EPA would be consistent with federal internal control standards. Moreover, such a policy would better position the SAB to provide the advice it is obligated to provide under ERDDAA and for EPA to provide direction consistent with GSA regulations for implementing FACA. We will continue to monitor these issues and, as we finalize our work in this area, we will consider making recommendations, as appropriate. We plan to issue our final results in June 2015.

¹²An advisory committee under FACA is a committee "established or utilized by" a federal agency for the purpose of obtaining advice or recommendations. 5 U.S.C. App. 2 § 3(2) (2015). The term "utilized" means "under the management and control" of the agency. See, e.g., *Town of Marshfield v. F.A.A.* 552 F.3d 1, 6 (1st Cir. 2008).

¹³41 C.F.R. § 102-3.125(c).

CASAC Has Provided Certain Types of Advice Related to Air Quality Standards

CASAC has provided certain types of advice related to the review of NAAQS. The Clean Air Act requires CASAC to review air quality criteria and existing NAAQS every 5 years and advise EPA of any adverse public health, welfare, social, economic, or energy effects that may result from various strategies for attainment and maintenance of NAAQS.¹⁴ According to a senior EPA official, CASAC has carried out its role in reviewing the air quality criteria and the NAAQS but has never provided advice on adverse social, economic, or energy effects of strategies to implement the NAAQS because EPA has never asked it to. This is in part because NAAQS are to be based on public health and welfare criteria, so information on the social, economic, or energy effects of NAAQS are not specifically relevant to setting NAAQS.

In a June 2014 letter to the EPA Administrator, CASAC indicated that, at the agency's request, it would review the impacts (e.g., the economic or energy impacts) of strategies for attaining or maintaining the NAAQS but stressed that such a review would be separate from reviews of the scientific bases of NAAQS.¹⁵ In response to such a request, the letter stated that an ad hoc CASAC panel would be formed to obtain the full expertise necessary to conduct such a review. According to a senior EPA official, the agency has no plans to ask CASAC to provide advice on adverse effects.

Chairman Rounds, Ranking Member Markey, and Members of the Subcommittee, this completes my prepared statement. I would be happy to respond to any questions that you or other members of the Subcommittee may have at this time.

¹⁴42 U.S.C. §§ 7409(d)(2)(B), (d)(2)(C)(iv) (2015).

¹⁵Information from EPA-requested reviews could be useful for the states, which implement the strategies necessary to achieve the NAAQS. EPA is required to provide states, after consultation with appropriate advisory committees, with information on air pollution control techniques, including the cost to implement such techniques. 42 U.S.C. § 7408(b)(1) (2015). According to a senior-level EPA official, EPA collects this information from other federal advisory committees, the National Academy of Sciences, and state air agencies, among others, and EPA fulfills this obligation by issuing Control Techniques Guidelines and other implementation guidance.

**GAO Contact and
Staff
Acknowledgments**

If you or your staff members have any questions about this testimony, please contact me at (202) 512-3841 or gomezj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this testimony. GAO staff who made key contributions to this testimony are Janet Frisch (Assistant Director), Antoinette Capaccio, and Greg Carroll.

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Senator ROUNDS. Thank you, Mr. Gomez.
We will now hear from our next witness, Dr. Terry Yosie. Dr. Yosie, you may begin.

STATEMENT OF TERRY YOSIE, PRESIDENT AND CEO, WORLD ENVIRONMENT CENTER

Mr. YOSIE. Thank you, Mr. Chairman, for the opportunity to testify today on the issue of the management of scientific advisory panels at the U.S. Environmental Protection Agency.

I appear today in a personal capacity as my employer, the World Environment Center, is a non-profit organization that conducts no advocacy activities.

My comments today will reflect several career experiences. From 1981 through 1988, I served as the Director of EPA's Science Advisory Board during the Administration of Ronald Reagan. I later served as Vice President for Health and Environment at the American Petroleum Institute and also as Vice President for Environment, Health, Safety and Security at the American Chemistry Council.

Effective management of scientific advisory processes at EPA should embody several important principles. These principles include the following.

The advice provided by scientific advisory committees should only be advisory in nature. In practice, this means that advisory committee reports should be explicitly taken into account during the policymaking process but they are not binding.

Second, appointments to scientific advisory panels should be made on the basis of merit rather than institutional affiliation or quotas. In 1982, President Ronald Reagan vetoed legislation that would have undermined this principle by requiring that appointments to EPA's Science Advisory Board be based on representation of specific interests rather than scientific merit.

If I may quote President Reagan, "this requirement runs counter to the basic premise of modern scientific thought as an objective undertaking. The purpose of the Science Advisory Board is to apply the universally accepted principles of scientific peer review to the research conclusions that will form the basis for EPA regulations, a function that must remain above interest group politics."

I believe that President Reagan's words echo across the decades and are directly relevant to the discussion we are having today.

Third, scientists can never answer all of the scientific questions, but they can and must help policymakers focus on the important scientific questions.

Fourth, most potential conflict of interest issues can be resolved by an appropriate level of transparency, but not all of them. I personally would take a dim view of any scientist who refuses to disclose the source of his or her research funding or who believes there is no conflict issue in reviewing one's own published work that may have an important bearing in a risk assessment.

On the other hand, I believe that scientists from industry, environmental groups and other institutions have important expertise that needs to be represented on scientific advisory panels. So long as no single interest group has disproportionate representation on an advisory committee and has representatives that qualify for ap-

pointment based on merit, I believe the Federal Advisory Committee Act's requirement for "balanced points of view" can be effectively met.

Fifth, priorities for peer review panels should remain focused on research and scientific assessment.

Sixth, scientists are under no obligation to serve on scientific advisory panels. Adding further non-scientific responsibilities to peer review panels will make the recruitment of qualified, independent scientists even more difficult.

With these principles in mind, I have several specific comments to offer regarding S. 543. They include the following.

Section 2(B) states that "at least 10 percent of the membership of the board are from State, local or tribal governments." This is similar to a provision that was the basis for President Reagan's veto of similar legislation in 1982.

The proposed legislation substitutes a quota for merit as the basis for a significant percentage of advisory committee appointments. In practice, this will distort the peer review process.

Section 3(D) of S. 543 requires the filing of a "written report disclosing financial relationships and interests" including EPA grants and contracts. This is appropriate but in addition, it is important not only to disclose EPA grants, but also grants or contracts supported by other Federal agencies, private industry or other institutions.

The proposed legislation would also require that public comments during Science Advisory Board reviews "shall not be limited by an insufficient or arbitrary time restrictions." By providing for unlimited time for public comments, S. 543 creates the perverse incentive of driving scientific advisory panels away from their focus on the underlying science and toward a role of referee among competing interest groups. I believe this provision of S. 543 should be removed.

In summary, as I reviewed the provisions of this bill, I am having a tremendous case of déjà vu that recalls my experience as Director of the Science Advisory Board during President Ronald Reagan's administration.

Then, as now, Congress proposed legislation that substituted quotas for scientific merit in the appointment of advisory committee members. Then, as now, proposed legislation would add burdensome new requirements to the operation of scientific advisory panels that compete with and diminish their ability to focus on their core purpose which is to provide independent evaluation of the quality of research and the scientific basis of proposed criteria, risk assessments and proposed standards.

Mr. Chairman, enactment of this proposed legislation will waste taxpayer dollars and further divert the focus away from the critical need of ensuring that scientific advisory panels advising the EPA deliver qualified, timely and effective scientific advice.

Thank you for the opportunity to testify and I will be pleased to answer any questions.

[The prepared statement of Mr. Yosie follows:]

**Oversight of Scientific Advisory Panels and Processes at the Environmental
Protection Agency
Subcommittee on Superfund, Waste Management, and Regulatory Oversight
Committee on Environment and Public Works
United States Senate**

**Testimony of
Terry F. Yosie, President and CEO
World Environment Center**

May 20, 2015

Thank you, Mr. Chairman, for the opportunity to testify today on the issue of the management of scientific advisory panels at the U.S. Environmental Protection Agency and their role in public health and environmental decision making. I appear in a personal capacity as my employer, the World Environment Center, is a non-profit organization that conducts no advocacy activities and takes no positions on public policy issues.

My comments today will reflect several experiences. From 1981-1988, I served as the Director of EPA's Science Advisory Board during the Administration of Ronald Reagan. Between 1988-1992, I was Vice President for Health and Environment at the American Petroleum Institute and, from 1999-2005, I was a Vice President at the American Chemistry Council responsible for environment, health, safety and security. During all the years of my post-government employment, up to the present time, I have actively served on a number of scientific advisory panels advising the U.S. government, including Boards and Committees of the National Academy of Sciences.

Effective management of scientific advisory processes at EPA should embody several important principles that I believe are also consistent with the law and best practices as implemented in both Republican and Democratic administrations. These principles include:

- ***The advice provided by scientific advisory committees should only be advisory in nature.*** Both the Federal Advisory Committee Act and the Environmental Research, Development, and Demonstration Authorization Act of 1978 (that legislatively established the EPA Science Advisory Board) embody this principle. In practice, this means that advisory committee reports should be explicitly taken into account during

the policymaking process, but they are not binding. The reason for such a principle is simple and compelling: many other factors in addition to science must be taken into account in finalizing a public policy decision such as economics and implementation feasibility. Neither the professional training of scientists, nor their subsequent careers, prepares them to offer specific insight or expertise concerning these non-scientific factors.

- ***Appointments to scientific advisory panels should be made on the basis of merit rather than institutional affiliation or quotas.*** In 1982, President Ronald Reagan vetoed legislation that would have undermined this principle by requiring that appointments to EPA's Science Advisory be based on representation of specific interests rather than scientific merit. If I may quote President Reagan, "this requirement runs counter to the basic premise of modern scientific thought as an objective undertaking...the purpose of the Science Advisory Board is to apply the universally accepted principles of scientific peer review to the research conclusions that will form the basis for EPA regulations, a function that must remain above interest group politics." I believe that President Reagan's words echo across the subsequent decades and are directly relevant to the discussion we're having today.
- ***Scientists can never answer all of the scientific questions, but they can help policymakers focus on the important questions.*** I believe that EPA Administrators, members of Congress and stakeholders frequently have very unrealistic expectations about what scientists and scientific peer review can deliver. I once worked for a very distinguished EPA Administrator who was upset that EPA's Clean Air Scientific Advisory Committee did not recommend a specific numerical limit for him to establish the national ambient air quality standard for particulate matter. Both environmental and industry groups frequently petition for the re-opening of scientific reviews even when no significantly new information is available. This leads to worse case outcomes such as the twenty years it took EPA to conduct its dioxin risk assessment.
- ***Most potential conflict of interest issues can be resolved by appropriate transparency—but not all of them.*** I personally would take a dim view of any scientist who refuses to disclose the source of his/her research funding or who believes there is no conflict issue in reviewing one's own published work that may have an important bearing in a risk assessment. On the other hand, I believe that scientists from industry, environmental groups and other institutions have important expertise that needs to be represented on scientific advisory panels. So long as no single interest group has disproportionate representation on an advisory committee and has representatives that

qualify for appointment based on merit, I believe the Federal Advisory Committee Act's requirement for "balanced points of view" can be effectively met.

- **Priorities for peer review panels should remain focused on research and scientific assessment.** Throughout the long history of peer review, executive branch policymakers, Congress, and interest groups have sometimes sought to expand scientific peer reviews beyond the scope of relevant scientific information. These have included requests for to review proposed standards in addition to the science underlying proposed standards, or recommendations that advisory panels review public comments along with scientific research and assessments. In my professional experience, these attempts at expanding the scope and priorities of the review process distort the concept and practice of scientific review, and are outside the purview of the capabilities of scientists serving on such panels.
- **Scientists are under no obligation to serve on scientific advisory panels. Adding further non-scientific responsibilities to peer review panels will make the recruitment of qualified, independent scientists even more difficult.** This is a continuing challenge given the many commitments that talented scientists already have. Requiring scientists to review public comments, in addition to EPA assessment documents, or to burden scientists with additional information requirements, will only further hinder the ability to recruit scientists to scientific review panels.

With these principles in mind, I have several specific comments to offer regarding S. 543. They include:

- Section 2(B) states that "at least ten percent of the membership of the Board are from State, local or tribal governments." This is similar to a provision that was the basis for President Reagan's veto of similar legislation in 1982. The proposed legislation substitutes a quota for merit as the basis for a significant percentage of advisory committee appointments. In practice, this will distort the peer review process. Let me provide an example. In 1986, the Science Advisory Board reviewed a draft EPA risk assessment to evaluate the potential health and environmental effects of stratospheric ozone depletion. The chemicals of concern at that time were chlorofluorocarbons (CFC). Various substitutes have replaced CFCs in commerce, yet some of these substitutes are now implicated in public health and environmental risks. If EPA were to ask the Science Advisory Board to review the risk assessment for any of the current substitutes, it would be required, under the proposed legislation, to recruit representatives of State, local and tribal governments for the peer review panel. There are many issues where

expertise from such constituencies is valuable and necessary, but I do not believe that their expertise in CFC substitutes is a main competency. Thus, the proposed legislation would substitute a quota for merit without adding an informed perspective on the critical scientific issues under review.

- Section 2(E) states that members “may not participate in advisory activities that directly or indirectly involve review or evaluation of their own work, unless fully disclosed to the public and the work has been externally peer-reviewed.” In other words, the proposed legislation would permit scientists to review their own work. I believe this provision will result in compromising the integrity of the scientific review process—and here’s why. Many risk assessment are highly dependent upon only a very few studies published by a small number of scientists. If one of the major study authors also serves on the advisory panel reviewing a risk assessment that relies upon his/her work, how is the integrity of the process then not compromised?
- Section 3(D) of S. 543 requires the filing of a “written report disclosing financial relationships and interests” including EPA grants, contracts, etc. I believe that more extensive financial disclosures about personal investments and portfolios will greatly discourage scientists from even considering participation in advisory panels. Scientists are like you and me—they don’t want government officials having access to their private investment portfolio data. Another important disclosure factor that is not considered by the legislation is the need to report whether the scientist on an EPA advisory panel is also under contract to advise any other institution on the same issues that come before the panel for review. In addition, it’s important not only to disclose EPA grants but also grants or contracts supported by other federal agencies, private industry or other institutions.
- In reviewing public participation, S. 543 proposes that “prior to conducting major advisory activities, the Board shall hold a public information-gathering session to discuss the state of the science related to the advisory activity.” As a point of reference, the Science Advisory Board conducted approximately 60-80 annual scientific reviews during the latter period of my tenure in the Reagan Administration. Had the S. 543 language been in effect during that time, I would have been required to organize 60-80 information-gathering sessions. The question I pose to this Subcommittee is: when would I have been able to actually organize the scientific reviews for which the Science Advisory Board is constituted? S. 543 adds a new, intrusive and expensive layer of bureaucracy to the scientific review process that would result in its breakdown and paralysis and directly undermine the peer review process.

- The proposed legislation also would require that public comments during Science Advisory Board reviews “shall not be limited by an insufficient or arbitrary time restrictions.” I’ve had a great deal of professional experience in integrating public comments into the scientific review process. Public comments can provide valuable information or perspective bearing on important scientific issues, and they deserve to be heard by advisory panels. Public comments can also provide input that is not related to the purpose of the scientific review, or they can be duplicative across the various business or environmental organizations that seek formal time on the agenda. One characteristic of many public requests for comments from both industry and environmental groups is that they seek to “flood the zone.” This means that multiple organizations with a common interest will make individual requests for comments on similar issues rather than coordinating their comments. By providing unlimited time for public comments, S. 543 creates the perverse incentive of driving scientific advisory panels away from their focus on the underlying science and towards a role of referee among competing interest groups. This provision of S. 543 should be removed.

In summary, as I reviewed the provisions of S. 543, I’m having a tremendous case of déjà vu that recalls my experience as Science Advisory Board Director during President Ronald Reagan’s Administration. Then, as now, Congress proposed legislation that substituted quotas for scientific merit in the appointment of advisory committee members. Then, as now, proposed legislation would add burdensome new requirements to the operation of scientific advisory panels that compete with and diminish their ability to focus on their core purpose—to provide independent evaluation of the quality of research and the scientific basis of proposed criteria, risks assessments and proposed policies and standards. Enactment of this proposed legislation will waste taxpayer dollars and will further divert the focus away from the critical need of ensuring that scientific panels advising the EPA deliver qualified, timely and effective scientific advice.

Senator ROUNDS. Thank you, Dr. Yosie.
Our next witness is Mr. Scott Faber. Mr. Faber, you may begin.

**STATEMENT OF SCOTT FABER, SENIOR VICE PRESIDENT,
GOVERNMENT AFFAIRS, ENVIRONMENTAL WORKING GROUP**

Mr. FABER. Thank you, Mr. Chairman. And thank you for the opportunity to testify.

By providing independent advice to the EPA Administrator, the Science Advisory Board has played a unique role in environmental protection for more than three decades. It is important to remember that the SAB is primarily focused on technical issues, not policy issues, and does not make risk management or regulatory decisions.

Its role is limited to offering advice on the scientific and technical basis upon which the agency makes its risk management and regulatory decisions. The SAB makes recommendations that are grounded in science, not politics.

We are concerned that S. 543 could inject politics and in some cases, delay into the Board's scientific and technical deliberations.

First, S. 543 would place the affiliation of potential Board members ahead of their scientific qualifications by establishing a quota for representatives of State, local and tribal governments. SAB members are called upon to provide their technical and professional expertise, not to represent the views of any particular agency or organization. By creating such a quota system, S. 543 could undermine the integrity of the SAB and the original intent of Congress.

Second, S. 543 would allow the appointment of Board members who have potential financial conflicts of interest, so long as those interests are disclosed. Under current law, EPA carefully evaluates the potential conflicts of interest of all Board members in accordance with FACA, which does permit waivers in some cases, and with the ethics requirements of FACA.

Like the quota system described in Section 2(b)(2)(B) of S. 543, a provision permitting Board members with conflicts would undermine the integrity, and potentially the impartiality, of SAB reviews.

Third, S. 543 would discourage qualified experts from agreeing to serve on the Board. In particular, Section 2(b)(3)(D) would have a chilling effect on participation by requiring public disclosure of SAB members' private financial information.

Fourth, S. 543 would create significant new and unnecessary burdens on the Board. In particular, S. 543 would require the SAB to provide written responses to all public comments, which in some cases can number more than 100,000 comments.

In addition, S. 543 would extend the public comment period beyond a Board meeting, even though FACA prevents the board from considering such comments without holding yet another public meeting.

This could create an endless cycle of meetings and comments that would ultimately impede and delay the Board's ability to provide the Administrator with its scientific and technical advice.

I am sure that the advocates for S. 543 intended this bill to increase transparency, empower scientists, avoid conflicts of interest and enhance the Board's scientific integrity. How, FACA already

provides important safeguards that prevent these conflicts of interest and ensure public access and input to the SAB's deliberations.

In summary, we are concerned the provisions of S. 543 would undermine the SAB's scientific integrity by making Board membership subject to organizational affiliation rather than merit; by increasing, not reducing, financial conflicts of interest; and by creating a needless cycle of meetings and comments that will only serve to delay action.

Like S. 544, the so-called Secret Science Reform Act of 2015, we are concerned that S. 543 could delay and ultimately deny to EPA the ability to improve air and water quality for all Americans.

In particular, S. 544 would sharply limit the science EPA can rely on by prohibiting the use of studies based on private health data, proprietary models and confidential business information.

S. 544 would also prohibit the use of long-term studies, workplace exposure studies, oil and chemical spill studies, and other research that is difficult or impractical to "reproduce" but that provides critical information about health effects.

What is more, S. 544 creates a troubling double standard by restricting the use of such studies in actions designed to protect public health but permitting them in actions that benefit industry, such as permit approvals and chemical registrations.

Taken together, we are concerned these bills would needlessly limit EPA's ability to rely upon basic science and needlessly limit the agency's ability to subject scientific and technical questions to review by the Science Advisory Board.

Thank you for the opportunity to testify.

[The prepared statement of Mr. Faber follows:]

**Testimony of Scott Faber
Senior Vice President
Environmental Working Group**

Before the

**Subcommittee on Superfund, Waste Management, and Regulatory Oversight
of the Senate Committee on Environment and Public Works**

on

S. 543, the EPA Science Advisory Board Reform Act of 2015

May 20, 2015

Thank you for the opportunity to testify. My name is Scott Faber and I am Senior Vice President of Government Affairs for EWG, a national environmental health organization.

EWG strongly opposes legislation designed to cripple the Environmental Protection Agency's ability to carry out its essential functions, including S. 543, the EPA Science Advisory Board Reform Act of 2015.

By providing independent advice to the EPA Administrator, the Science Advisory Board has played a unique role in environmental protection for more than three decades. The SAB is primarily focused on *technical* issues, not policy issues, and does not make risk management or regulatory decisions. Its role is limited to offering advice on the scientific and technical basis on which the agency makes its risk management and regulatory decisions. The Board makes recommendations that are grounded in science, not politics.

Unfortunately, S. 543 would inject politics and needless delay into the Board's scientific and technical deliberations.

First, S. 543 would place the affiliation of potential Board members ahead of their scientific qualifications by establishing a quota for representatives of state, local and tribal governments.

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SAB members are called upon to provide their technical and professional expertise, not to represent the views of any particular agency or organization. By creating such a quota system, S. 543 would undermine the integrity of the SAB and the original intent of Congress to enlist the advice of scientists “qualified by education, training and experience to evaluate scientific and technical information.”¹

Second, S. 543 would allow the appointment of Board members who have potential financial conflicts of interest, so long as those interests are disclosed. Under current law, EPA carefully evaluates the potential conflicts of interest of all Board members in accordance with federal law, which permits waivers in some cases, and with the ethics requirements of the Federal Advisory Committee Act (FACA). Like the quota system described in Sec. 2(b)(2)(B) of S. 543, a provision permitting Board members with financial conflicts would undermine the integrity, and potentially the impartiality, of SAB reviews.

Third, S. 543 would discourage qualified experts from agreeing to serve on the Board. In particular, Sec. 2(b)(3)(D) would have a chilling effect on participation by requiring public disclosure of SAB members’ private financial information. In addition, Sec. 2(b)(7) would needlessly limit the number of terms a Board member could serve, frustrating the SAB’s access to individuals with specialized expertise.

Fourth, S. 543 would create significant new and unnecessary burdens on the Board that are ultimately designed to delay EPA action. In particular, S. 543 would require the SAB to provide written responses to all public comments – which in some cases number more than 100,000. In addition, S. 543 would extend the public comment period beyond a Board meeting – even though FACA prevents the board from considering such comments without holding yet another public meeting. This would create an endless cycle of meetings and comments that would ultimately impede and delay the Board’s ability to provide the Administrator with its scientific and technical advice.

¹ 42 U.S.C. 4365

Advocates for S. 543 claim these reforms would increase transparency, empower scientists, avoid conflicts of interest and enhance the Board's scientific integrity.² However, the Federal Advisory Committee Act already provides important safeguards that prevent conflicts of interest and ensure public access and input to the SAB's deliberations. What's more, the Board already has launched initiatives to solicit even greater public participation.³ More generally, the Office of Science and Technology Policy⁴ has taken steps to ensure the scientific integrity of agency actions and the EPA has adopted its own Scientific Integrity Policy,⁵ consistent with the Information Quality Guidelines of the Office of Management and Budget.⁶

In summary, these provisions of S. 543 would undermine the SAB's scientific integrity by making Board membership subject to organizational affiliation rather than merit; by increasing, not reducing, financial conflicts of interest; and by creating a needless cycle of meetings and comments that will only serve to delay action.

As the Union of Concerned Scientists has noted, S. 543 and S. 544, the so-called "Secret Science Reform Act of 2015," are elements of a broader strategy to delay and ultimately deny to EPA the ability to improve air and water quality for all Americans.

In particular, S. 544 would sharply limit the science EPA can rely on by prohibiting the use of studies based on private health data, proprietary models and confidential business information. S. 544 would also prohibit the use of long-term studies, workplace exposure studies, oil and chemical spill studies, and other research that is difficult or impractical to "reproduce" but that provides critical information about health effects. What's more, S. 544 creates an outrageous

²<http://www.boozman.senate.gov/public/index.cfm/press-releases?ID=2d5d3849-5c88-4cac-a0e5-5a6afb4e5a05>

³<http://yosemite.epa.gov/sab/sabproduct.nsf/WebSABSO/PublicInvolvement?OpenDocument>

⁴<https://www.whitehouse.gov/the-press-office/memorandum-heads-executive-departments-and-agencies-3-9-09>

⁵http://www2.epa.gov/sites/production/files/2014-02/documents/scientific_integrity_policy_2012.pdf

⁶https://www.whitehouse.gov/sites/default/files/omb/infoereg/iqg_oct2002.pdf

double standard by restricting the use of such studies in actions designed to protect public health but permitting them in actions that benefit industry, such as permit approvals and chemical registrations.

Taken together, these bills would needlessly rob EPA of the ability to rely upon basic science and needlessly limit the agency's ability to subject scientific and technical questions to review by the Science Advisory Board. We urge you to oppose S. 543 and S. 544.

Thank you for the opportunity to testify.

Senator ROUNDS. Thank you for your testimony, Mr. Faber.

The Senators will now each have 5 minutes for questions. I will begin.

Mr. Gomez, under ERDDAA, the Science Advisory Board is required to be responsive to congressional requests for scientific advice. You note that the EPA does not have documented procedures for reviewing congressional requests.

When Congress submits requests to the SAB, the SAB should acknowledge the request and reply that the EPA will provide a response.

How does this lack of a clear process and reliance on EPA to respond to Congress affect the SAB's ability to provide Congress with an independent response to their request?

Mr. GOMEZ. The SAB is required under ERDDAA to provide scientific advice to congressional committees that request it. As you noted, we said in my statement that EPA does not have complete procedures and it is not clear exactly how who should do it or which office.

We also in our report have a graphic that shows what the status is of these two requests that have come through. In one case, EPA's office did acknowledge the receipt of the request and then 7 months later, it also noted the remaining questions that had not been answered.

There were 14 questions in total in the initial response. Three were answered. EPA then said there was a previous report that had addressed some of the themes of that request. That is not complete yet, so EPA has noted that if there are other questions, it will have to wait until one of the draft reports EPA is doing is completed before the SAB can take up that question.

Senator ROUNDS. Part of our role here in an oversight capacity is to find ways in which the EPA could perhaps do a better job of being more transparent with their dealings with the Science Advisory Board.

Do you have any recommendations with regards to how that process should work when we have requests such as from Congress where the EPA is literally the location where we will get the data back but the request is to the SAB? Can you talk about that a little bit? Is there a process that needs to be fixed?

Mr. GOMEZ. Definitely, it is very much about transparency. What we found is that when a request comes over, it was not clear who was to respond. In one case, it was the SAB staff office. In another case, it was EPA's Office of Congressional and Intergovernmental Relations.

We are looking to really make it clear, make the procedures clear in terms of how EPA is supposed to respond. EPA, under FACA, is required to manage the agenda of the SAB. We want that to be clear so that everyone can see who responds and what questions the SAB should take.

EPA also has the ability to not only prioritize the requests, but also to sequence them so that it can provide a response because it is required under ERDDAA to do so.

Senator ROUNDS. You note that there have been two formal requests from Congress asking for advice from the SAB. These were both made approximately 2 years ago. Both of them have to deal

with issues relevant to the committee today, hydraulic fracturing and the soon to be released WOTUS Rule.

My concern is that we are being confronted with these issues today, yet the SAB has not given Congress the relevant information were requested to investigate these issues in the first place.

How do EPA regulations impact the ability of the SAB to respond to Congress in a timely manner? Are there specific guidelines and rules under which the EPA currently operates that restrict the SAB from being able to come back and provide that independent information?

Mr. GOMEZ. With regards to the issue of timeframes, there is no requirement under ERDDAA that the SAB respond by a certain time. EPA, through FACA, is allowed to set the agendas and to prioritize what the SAB will take up. It can sequence those requests.

To the extent that EPA has to balance the requests that it provides to the SAB, the charge questions that it provides, and then requests from Congress, as you have noted, can affect the timeliness of the response. That is something EPA has to balance.

Senator ROUNDS. Thank you, sir.

Senator Markey.

Senator MARKEY. Thank you, Mr. Chairman.

Dr. Yosie, in your testimony, you said this bill “will waste taxpayer dollars and will further divert the focus away from the critical need of ensuring that scientific panels advising the EPA delivery qualified, timely and effective scientific advice.”

You were the director of EPA’s Science Advisory Board from 1981 to 1988 during the Reagan administration. You made reference to this bill. But when President Reagan vetoed a similar bill in 1982, didn’t his veto statement compare the premise of the bill to a Stalinist term called Lysenkoism, in which science is manipulated to reach a predetermined ideologically based conclusion?

Mr. YOSIE. The term to which you are referring, Lysenkoism, refers to a gentleman by that name who was Joseph Stalin’s advisor who substituted Soviet ideology for replacing ordinary, well understood laws about biology and so forth.

That terminology was used in the Reagan White House press release vetoing the bill that I referred to in my testimony.

Senator MARKEY. Mr. Chairman, by unanimous consent, I would like to put President Reagan’s veto statement in the record.

Senator ROUNDS. Without objection.

[The referenced information follows:]

VETO—S. 2577

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

RETURNING

WITHOUT MY APPROVAL S. 2577, A BILL TO AUTHORIZE
APPROPRIATIONS FOR ENVIRONMENTAL RESEARCH, DEVELOPMENT,
AND DEMONSTRATION FOR THE FISCAL YEARS 1983
AND 1984, AND FOR OTHER PURPOSES



OCTOBER 22, 1982.—Ordered to be printed

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WASHINGTON : 1982

To the Senate of the United States:

I am returning without my signature S. 2577, the "Environmental Research, Development and Demonstration Act of 1983."

It should be understood that my disapproval of this legislation will in no way interfere with the conduct of any of the research programs of the Environmental Protection Agency. Pursuant to the Department of Housing and Urban Development—Independent Agencies Appropriations Act of 1983, which I signed into law on September 30, 1982, EPA will spend \$220.8 million on its research activities in fiscal year 1983. The appropriations authorized for research in 1983 are 10 percent higher than in 1982, reflecting this Administration's commitment to putting environmental regulation on the soundest possible scientific footing.

While S. 2577 is unacceptable as a whole, I want to commend Congressman Cooper Evans of Iowa for contributing to this bill an amendment to authorize the Senior Environmental Assistance Program. Congressman Evans' amendment provides the authority for EPA to continue promoting meaningful employment opportunities for older Americans in Federal, State, and local agencies, as they accomplish important short-term environmental protection projects. The amendment is based on a highly successful demonstration project carried out by EPA in conjunction with the Administration on Aging and the Department of Labor. I believe the amendment would further this Administration's goals of providing productive, meaningful employment to older workers, and providing the benefits of a cleaner, safer environment to future generations.

Nevertheless, enactment of S. 2577 would represent a major step backward in achieving the goal of assuring that our vitally important environmental research programs reflect the best judgment of the scientific community, unhampered by partisan or interest group politics.

S. 2577 would mandate that the EPA Science Advisory Board membership include representatives from "States, industry, labor, academia, consumers, and the general public." This requirement runs counter to the basic premise of modern scientific thought as an objective undertaking in which the views of special interests have no role. The purpose of the Science Advisory Board is to apply the universally accepted principles of scientific peer review to the research conclusions that will form the basis for EPA regulations, a function that must remain above interest group politics.

In addition, under the statutes governing actual promulgation of EPA rules, the Administrator is obligated to seek public comment from any and all interested parties and to weigh such comment in shaping final rules. That is the stage of the rulemaking process at which involvement of special interest viewpoints is appropriate, not the earlier stage of developing a sound scientific understanding of the research findings that may be relevant to a particular rulemaking or class of rules.

Environmental regulation involves scientific, political, social, and economic judgments. The laws mandating protection of our air, water, and land against harmful pollution reflect this necessity to balance a wide range of factors. But for the entire regulatory process to function effectively, it must have as its starting point an objectively developed review of the state of scientific knowledge. The Science Advisory Board is vital to the preparation of this objective scientific review; to require that the Board become a political entity, with representatives from various special interests, would completely undermine the use of scientific knowledge in EPA rulemaking.

The maintenance of a free, essentially self-governing scientific research community is one of the great strengths of our Nation. To undermine this tradition by requiring that the scientists appointed to the EPA Science Advisory Board wear the label of "industry" or "labor" or "consumer" is a modern-day version of Lysenkoism to which I must strongly object.

In addition to imposing these new requirements on the procedures for selecting the EPA Science Advisory Board, S. 2577 contains a number of other objectionable features. It authorizes spending that is \$46.4 million above the previously enacted appropriation bill; it mandates an increase in the proportion of funds devoted to basic research from 15 percent to 20 percent, which will take funds away from high-priority research needed for the support of regulatory proceedings; it mandates a duplicative and wasteful effort to create another national environmental monitoring network; and it mandates a number of research activities that are inconsistent with the previously enacted appropriation.

For these reasons, I am returning S. 2577 without my signature.

RONALD REAGAN.

THE WHITE HOUSE, *October 22, 1982.*

Ninety-seventh Congress of the United States of America

AT THE SECOND SESSION

*Begun and held at the City of Washington on Monday, the twenty-fifth day of January,
one thousand nine hundred and eighty-two*

An Act

To authorize appropriations for environmental research, development, and demonstration for the fiscal years 1983 and 1984, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as the "Environmental Research, Development, and Demonstration Act of 1983".

GENERAL AUTHORIZATIONS

SEC. 2. (a) There are authorized to be appropriated to the Environmental Protection Agency for environmental research, development, and demonstration activities:

- (1) \$55,685,000 for fiscal year 1983 and \$59,026,000 for fiscal year 1984 for activities authorized under the Clean Air Act;
- (2) \$40,790,000 for fiscal year 1983 and \$43,237,000 for fiscal year 1984 for activities authorized under the Federal Water Pollution Act;
- (3) \$25,906,000 for fiscal year 1983 and \$27,460,000 for fiscal year 1984 for activities authorized under the Safe Drinking Water Act;
- (4) \$31,579,000 for fiscal year 1983 and \$33,474,000 for fiscal year 1984 for activities authorized under the Solid Waste Disposal Act;
- (5) \$6,469,000 for fiscal year 1983 and \$6,857,000 for fiscal year 1984 for activities authorized under the Federal Insecticide, Fungicide, and Rodenticide Act;
- (6) \$1,586,000 for fiscal year 1983 and \$1,681,000 for fiscal year 1984 for radiation activities authorized under section 301 of the Public Health Service Act;
- (7) \$13,770,000 for fiscal year 1983 and \$14,602,000 for fiscal year 1984 for interdisciplinary activities;
- (8) \$28,149,000 for fiscal year 1983 and \$29,838,000 for fiscal year 1984 for activities authorized under the Toxic Substances Control Act;
- (9) \$53,530,000 for fiscal year 1983 and \$56,742,000 for fiscal year 1984 for energy activities, of which—
 - (A) \$20,128,000 in fiscal year 1983 and \$21,336,000 in fiscal year 1984 is for the Energy Control Technology Research Program;
 - (B) \$6,889,000 in fiscal year 1983 and \$7,302,000 in fiscal year 1984 is for the Energy Health Effects Research Program;
 - (C) \$11,484,000 in fiscal year 1983 and \$12,173,000 in fiscal year 1984 is for the Energy Ecological Effects Research Program;

(D) \$3,000,000 in fiscal year 1983 and \$3,180,000 in fiscal year 1984 is for the Energy Monitoring Research Program; and

(E) \$12,029,000 in fiscal year 1983 and \$12,751,000 in fiscal year 1984 is for the Acid Rain Research Program; and

(b) There are authorized to be appropriated to the Environmental Protection Agency, Office of Research and Development, \$9,721,000 for fiscal year 1983, and \$10,304,000 for fiscal year 1984, for program management and support.

(c) When the Administrator of the Environmental Protection Agency finds it in the public interest, the Administrator may utilize funds authorized in subsection (a) or (b) for the purpose of conducting appropriate scientific and professional reviews of research and development grant, contract, and cooperative agreement applications and to enter into cooperative agreements to conduct such reviews.

(d) Funds may be transferred between the categories listed in subsections (a) and (b) except that no funds may be transferred to any particular category listed in subsection (a) or (b) from any other category or categories listed in any such subsection if the total of the funds so transferred to that particular category would exceed 10 per centum thereof, unless—

(1) a period of thirty legislative days has passed after the Administrator of the Environmental Protection Agency or his designee has transmitted to the Speaker of the House of Representatives and to the President of the Senate a written report containing a full and complete statement concerning the nature of the transfer involved and the reason therefor; or

(2) each committee of the House of Representatives and the Senate having jurisdiction over the subject matter involved before the expiration of such period, has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

(3) No funds authorized for appropriation pursuant to this Act may be used for any activities other than those authorized by this Act.

(e)(1) The Administrator shall establish a separately identified program of continuing, long-term environmental research and development for each activity listed in subsection (a) of this section. Unless otherwise specified by law, at least 20 per centum of the total funds appropriated to the Administrator for each activity listed in subsection (a) of this section shall be obligated and expended for such long-term environmental research and development under this subsection.

(2) The Administrator shall prepare an annual report on the performance of the program established under paragraph (1) of this subsection and shall submit the report to appropriate legislative and appropriation committees of the Senate and House of Representatives at the time the President's budget is submitted to Congress. The report shall include—

(A) a list of funded long-term research projects in each activity listed in subsection (a),

(B) the nature, status, and major results of funded long-term research projects,

(C) how the results of funded long-term research projects are likely to be used and what steps are being taken to foster their use, and

(D) any other pertinent information on the performance of the program established under this subsection.

(f) Appropriations made pursuant to the authority provided in section 2 of this Act shall remain available for obligation and expenditure, or for obligation and expenditure, for such period or periods as may be specified in Acts making such appropriations.

(g) At least thirty days prior to issuing any general notice of major reduction in force in any fiscal year, the Administrator shall inform the appropriate legislative and appropriation committees of the Senate and House of Representatives in writing of the reasons for the reduction and the impact of the reduction on carrying out the provisions of this Act.

ENVIRONMENTAL MONITORING

SEC. 3. (a) Of the funds authorized to be appropriated to the Administrator of the Environmental Protection Agency for environmental research and development under section 2, \$43,253,000 for fiscal year 1983 and \$46,030,000 for fiscal year 1984 are authorized for environmental monitoring activities which are authorized under the Federal environmental statutes and which support development of a continuing national environmental monitoring program. The Administrator, in consultation and cooperation with the heads of the National Bureau of Standards, the United States Geological Survey, the National Institutes of Health, the National Oceanic and Atmospheric Administration, and other Federal and State agencies involved in environmental monitoring activities, shall take such actions on a continuing basis as may be necessary and appropriate to ensure that the national environmental monitoring program called for in this subsection is comprehensive and national in scope and will allow effective and efficient implementation of the Federal environmental statutes, valid assessments of environmental quality in all media, and accurate determination of the impact of environmental protection programs on environmental quality.

(b) The Administrator shall proceed with the development of the national environmental monitoring program called for in subsection (a) by first developing a national monitoring program for air quality, the features of which shall be applied, where appropriate and useful, to monitoring programs for other media. The Administrator shall prepare, in consultation and cooperation with the heads of appropriate Federal and State agencies involved in environmental monitoring activities, a plan for the design and implementation of the monitoring program called for in this subsection. The plan shall—

(1) include a statement of objectives for the program which conform with and are supportive of the goals of such a program as set forth in subsection (a), steps to achieve these objectives, measures of program performance, program participants and their responsibilities and activities in support of the program, and any other pertinent information which may be necessary for successful implementation and appropriate evaluation of the program;

(2) be reviewed by the National Academy of Sciences, with the results of the review being included in the plan along with the Administrator's response to this review; and

(3) be submitted to the appropriate legislative committees of the Senate and House of Representatives one year after the enactment of this Act, and thereafter biannually, following

review and update of the plan by program participants, the National Academy of Sciences, and the Environmental Protection Agency.

(c) On the last day of fiscal year 1984, the Administrator shall issue a report on the state of air quality and the factors affecting air quality based on data gathered through the monitoring program established under this section. The report shall be updated and reissued on the last day of each subsequent fiscal year.

(d) The Administrator shall take such actions on a continuing basis as may be necessary or appropriate—

(1) to promote the development and use of accurate and reliable procedures for gathering environmental data of verifiable accuracy; and

(2) to ensure that any environmental datum which is included in the data base of the environmental monitoring programs established pursuant to subsections (a) and (b) has been subjected to validated quality assurances procedures.

ENERGY RESEARCH

SEC. 4. (a) Appropriations authorized for energy research under section 2(a)(9) shall be used for environmental research associated with (1) synthetic fuels production; (2) the extraction, processing, transportation, and combustion of coal, oil, natural gas, and other fossil fuels; and (3) other energy development activities and their related problems, including indoor air pollution, that may pose a threat to public health and environmental quality.

(b) In complying with subsection (a) the Administrator is directed—

(1) to establish and thereafter maintain a long-term health and ecological effects research program on energy-related pollutants whose aim shall be to identify those pollutants most harmful to public health and environmental quality and to elucidate, for those pollutants found most harmful, the relationship between exposure and health effects;

(2) to take whatever steps are necessary and appropriate to ensure that the research program called for in paragraph (1) is effectively coordinated with related research programs of the National Institutes of Health, the Department of Energy, the Department of Commerce, and other Federal agencies involved in such research;

(3) to establish and thereafter maintain a monitoring program on energy-related pollutants which conforms with the requirements set forth in section 3;

(4) to include in the report on air quality required under section 3(c) a section reporting the emission and dispersion of energy-related air pollutants based on the data gathered from the monitoring program established under paragraph (3).

(c) The Administrator shall continue to be responsible for conducting, and shall continue to conduct, development and demonstration of energy-related pollution control technologies as necessary to fulfill the requirements of the Clean Air Act, the Federal Water Pollution Control Act, and other pertinent pollution control statutes.

(d) Energy-related environmental research projects authorized to be administered by the Environmental Protection Agency under

this Act shall not be transferred administratively to any other Federal or State agency or reduced through budget amendment.

RESEARCH PROGRAM CONCERNING INDOOR AIR QUALITY

SEC. 5. (a) The Congress finds, on the basis of reports prepared by the General Accounting Office and the National Academy of Sciences, that due to the absence of a statutory mandate for a single Federal agency to undertake and coordinate research, development, and demonstration efforts concerning indoor air pollution—

(1) Federal programs in this field are fragmented and underfunded; and

(2) an adequate information base concerning potential indoor air quality problems is not being developed by the Federal Government.

(b) The Administrator shall carry out a research program under this section with respect to indoor air quality. Such program shall be designed to (1) gather data and information on all aspects of indoor air quality in order to contribute to the understanding of health problems associated with the existence of air pollutants in the indoor environment, and (2) coordinate Federal, State, local and private research, development, and demonstration efforts relating to the improvement of indoor air quality.

(c) The Administrator may establish such committees, comprised of individuals representing Federal agencies concerned with various aspects of indoor air quality, and such advisory groups, comprised of individuals representing the scientific community, industry, and public interest organizations, as may be necessary to assist the Administrator in carrying out the research program required by this section. The Administrator shall also consult and coordinate with State and local officials and other interested parties having concerns related to the program carried out under this section.

(d) The research program required under this section shall include, but not be limited to—

(1) research, development, and demonstration concerning the identification, characterization, and monitoring of indoor air pollution sources and levels (including research, development, and demonstration relating to (A) the measurement of various pollutant concentrations and their strengths and sources, (B) high-risk building types, and (C) instruments for indoor air quality data collection);

(2) research relating to the effects of indoor air pollution on human health;

(3) research, development, and demonstration relating to control technologies to prevent or abate indoor air pollution (including the development, evaluation, and testing of individual and generic control devices and systems); and

(4) the dissemination of information to assure the public availability of the findings of the Administrator pursuant to the research, development, and demonstration activities under this section.

(d)(1) Not later than one year after the date of the enactment of this Act, the Administrator shall submit to the Congress a plan for the implementation of the research program required under this section.

(2) Not later than thirty-six months after such date of enactment, the Administrator shall submit a progress report, including an assessment of future research needs.

(3) Not later than fifty-four months after such date of enactment, the Administrator shall submit to the Congress a final report setting forth the results of the program, assessing the state of knowledge concerning the risks to human health associated with indoor air pollution, assessing the need for further research, and making such recommendations as may be appropriate.

(4) The progress report and the final report submitted under this subsection shall be submitted to the National Academy of Sciences within a reasonable period before the dates required for submittal to the Congress and, when submitted to Congress, such reports shall contain any comments provided by the National Academy of Sciences.

(e) Nothing in this section shall be construed to authorize the Administrator to carry out any regulatory program or any activity other than research, development, and demonstration and the related reporting, information dissemination, and coordination activities specified in this section. Nothing in this section shall be construed to limit the authority of the Administrator or any other agency or instrumentality of the United States under any other authority of law.

(f) Of the funds appropriated pursuant to the authorization contained in section 2(a)(9) of this Act for each of the fiscal years 1983 and 1984, the sum of \$4,000,000 is authorized to be appropriated to carry out this section.

SENIOR ENVIRONMENTAL ASSISTANCE PROGRAM

SEC. 6. (a) To carry out the purposes of this Act, the Administrator of the Environmental Protection Agency is directed to develop a Senior Environmental Assistance Program, designed to assist Federal, State, and local environmental agencies in carrying out programs authorized under this Act.

(b) In providing assistance under subsection (a), the Administrator shall utilize, to the fullest extent possible, existing older American employment programs, as provided for in section 105(b)(4) of Public Law 95-478.

(c) The Administrator shall not make any grant to, or enter into any agreement with, any State, or local environmental agency for funding of any activities under this section unless such agency certifies that such activities will supplement and not supplant any existing jobs.

SEC. 7. Of the funds appropriated from the Hazardous Substance Response Trust Fund for fiscal year 1983 and fiscal year 1984, \$15,000,000 may be expended for research and development activities for each fiscal year. It is the sense of the Congress that the costs of those research and development activities associated with or necessitated by the actual or threatened release of hazardous substances, as those terms are defined under Public Law 96-510, be paid for out of that fund created by Public Law 96-510, the Comprehensive Environmental Response Compensation and Liability Act of 1980.

SCIENCE ADVISORY BOARD

SEC. 8. (a) Section 8(b) of the Environmental Research, Development, and Demonstration Authorization Act of 1978 (Public Law 95-155) is amended to read as follows:

"(b)(1) The Board shall be comprised of at least nine members appointed by the Administrator from nominees recommended to the Administrator by a nominating committee. The nominating committee shall include representatives of Federal research agencies including but not limited to the National Institute of Occupational Safety and Health, National Institute of Environmental Health Sciences, National Cancer Institute, National Science Foundation, and the National Academy of Sciences and the Executive Director and representative members and former members of the Science Advisory Board. The nominating committee shall be chaired, in consultation with the Administrator, by the National Institute of Environmental Health Sciences. The nominating committee shall solicit from the general public, through notice in the Federal Register, candidates for nomination to the Board. The Administrator may require such information from the nominees to the Board as the Administrator deems necessary, and the Administrator shall publish in the Federal Register the name, address and professional affiliation of each nominee.

"(2) Each member of the Board and nominee to the Board shall be qualified by education, training, and experience to evaluate scientific and technical information on matters referred to the Board under this section. The Administrator shall select persons nominated for the Board to ensure that Board membership is fairly balanced in terms of the points of view represented and the functions to be performed by the Board. In order to provide this balance, the Board membership must represent the States, industry, labor, academia, consumers, and the general public; and the nominating committee established under paragraph (1) shall make certain that this requirement is met when selecting nominees to the Board which in turn are recommended to the Administrator for selection as members of the Board.

"(3) The terms of the members of the Board shall be one to three years, and shall be staggered so that the terms of no more than one-third of the total membership of the Board and its committees shall expire within a single fiscal year. Each member of the Board shall serve the full length of that member's term unless that member is unable, for involuntary reasons, to discharge his or her duties as set forth in this section or has violated the regulations promulgated pursuant to paragraph (5).

"(4) If a vacancy on the Board is not filled by the Administrator within ninety days of the occurrence of that vacancy, the nominating committee established under paragraph (1) shall meet and appoint, within sixty days, a member of the Board to fill that vacancy from the list of nominees recommended to the Administrator under paragraph (1) in accordance with the selection criteria set forth in paragraph (2).

"(5) In order to ensure the objectivity of the Board, the Administrator shall promulgate, within one hundred and twenty days after the date of the enactment of this paragraph, regulations regarding conflicts of interest with respect to the members of the Board."

(b) Section 8(e)(2) of such Act (Public Law 95-155) is amended by adding at the end thereof the following: "The Board's advice and

comments and the response of the Administrator shall be included in the record with respect to any proposed rule and published in the Federal Register in accordance with the requirements of the environmental statutes and the authority of the Administrator."

(c) The provisions of this section relating to the qualifications, appointments, and terms of members of the Board shall take effect upon the expiration of the terms of members serving on the Board as of the date of enactment of this Act.

THOMAS P. O'NEILL, JR.,

Speaker of the House of Representatives.

STROM THURMOND,

President of the Senate pro tempore.

I certify that this Act originated in the Senate.

WILLIAM F. HILDENBRAND, *Secretary.*

By MARILYN COURTOT, *Assistant Secretary.*

○

Senator MARKEY. Thank you.

This bill requires that 10 percent of Board members be from State, local and tribal governments. The Scientific Advisory Board does highly specialized work. For example, the Board is reviewing the safety of trimethylbenzene which is a byproduct of the petroleum refining process and ethylene oxide, which is used in the production of industrial chemicals.

Might EPA have to select Board applicants who do not have the necessary scientific expertise if it has to meet quotas for certain types of applicants?

Mr. YOSIE. There are several comments I would make on that, Senator Markey.

One is that if there is a 10 percent quota to have people from States, local governments or tribal areas represented on advisory committees, and if those representatives do not have the sufficient scientific understanding of the issues in review, that would require the Science Advisory Board to then probably add another 10 percent to the size of the advisory committee to compensate for the lack of expertise.

To me that is not a theoretical exercise. I will give you a concrete example. During the Reagan administration, I was responsible for organizing the peer review of the risk assessment related to stratospheric ozone depletion, a serious global challenge. In fact, it was one of the most successful environmental agreements that had ever been implemented in history.

Many of the compounds that were implicated in stratospheric ozone were called chlorofluorocarbons. They were phased out. There is now a substitute generation of compounds that are also now under review for health and environmental risks.

As I look at the universe of the scientific community that has expertise in stratospheric ozone substitute chemicals, I am very skeptical that State or local governments or tribal areas are going to have the requisite knowledge on those issues.

That is not to say that those organizations cannot be or should not be represented on many other important scientific reviews. Fracking is a good example of that. I think there are clearly a lot of State and local issues dealing with ozone standard development and State and local governments have technical experts on those matters.

My concern is that by implementing an across the board quota for every single advisory panel of the Science Advisory Board, you will end up disproportionately increasing the size committee, adding people who do not understand the science and I think that is not a useful exercise in using taxpayer dollars.

Senator MARKEY. Thank you, Dr. Yosie.

Mr. Gomez, in GAO's opinion, did the EPA's Scientific Advisory Board comply with the law in its response to the House Science Committee's request?

Mr. GOMEZ. EPA has not completed the response. It is required under ERDDAA to respond to the congressional committees. We have to wait and see.

As I noted earlier, there is a partial response. EPA has indicated that it will address the questions in the future. We will have to

wait and see. There are only two requests that have been sent through.

Senator MARKEY. Thank you.

Thank you, Mr. Chairman.

Senator ROUNDS. Senator Inhofe.

Senator INHOFE. Thank you, Mr. Chairman.

I remember so well because I was there and would like to just review for a moment the chronology. First of all, we all remember Climategate. That came in November. Just a matter of hours after Climategate, which totally trashed the credibility of the IPCC, in fact there are several quotes. The London Telegraph called this perhaps the greatest scientific scandal of our time. I could read a lot of others but I do not have time to do that.

That is what happened and right after that is when the Director, Lisa Jackson, in this very room when I asked her, you are going to have an endangerment finding and it has to be based on science. What science will you use? She said, the IPCC. I have all that in a transcript.

It was kind of interesting because that was a matter of just hours after this scandal took place. With that in mind, Mr. Hadzi-Antich, in 2010, I requested an Inspector General investigation into the EPA's endangerment finding, what I just now described, the agency's basis for all of the climate regulation. This is the basis we have been working with.

The IG reported the EPA did not follow proper peer review procedures and should have sent the findings to the SAB for review. Why do you suppose the SAB did not review the endangerment finding? Do you have any thoughts?

Mr. HADZI-ANTICH. Senator, that is the \$64,000 question. When EPA promulgated the endangerment finding that carbon dioxide and other greenhouse gases pose a danger to human health and welfare, it did so without any input from the Science Advisory Board.

Again, this was a regulation of national importance because carbon dioxide is everywhere and in everything. The EPA has never explained why it did not send such an important finding to the SAB before promulgating the regulation.

Senator INHOFE. I have to stop you there. You have answered the question and I appreciate it very much.

You probably agree with the statement made by Dr. Richard Lindzen of MIT when he said the regulation of carbon is a bureaucrat's dream. If you regulate carbon, you regulate life itself. Do you agree with that?

Mr. HADZI-ANTICH. I do, indeed, sir.

Senator INHOFE. Mr. Gomez, based on your review of the SAB's organic statute, if Congress requested that the SAB review the endangerment finding or any of the climate regulations, does the SAB have an obligation to respond to Congress, yes or no?

Mr. GOMEZ. The short answer is yes.

Senator INHOFE. Dr. McClellan, on the subject of hydraulic fracturing review, there are zero State and local experts for the 46-member chartered SAB. There are only 3 from States. Two of them are from California and one peer from Vermont.

A large part of the Country is under-represented in reference to geographic diversity. Can you talk about how EPA selects members and why it seems that well qualified experts were excluded from the panel?

We are talking about the hydraulic fracturing panel and I am the right one to ask that question because in my State of Oklahoma in 1948, they had the first hydraulic fracturing in Duncan, Oklahoma, the makeup of the committee.

Mr. MCCLELLAN. The question is?

Senator INHOFE. The question is, can you talk about how the EPA selects members and why it seems that well qualified experts like us are under-represented?

Mr. MCCLELLAN. I would say there is no clarity to the process by which individuals were selected and it is obvious that States and regions of the Country where clearly hydraulic fracturing was used and is being used, there are knowledgeable people, knowledgeable scientists and engineers of the process.

I have no idea why the EPA did not take advantage of the opportunity to consider individuals from those areas with the requisite knowledge.

Senator INHOFE. Dr. McClellan, you heard what I asked Mr. Hadzi-Antich in terms of why do you suppose they would use, for the science to back up the request that was made, the IPCC just hours after the disclosure of Climategate and the scandal they went through?

Mr. MCCLELLAN. I think that was a clear negligence on the part of EPA senior officials in their failure to utilize the SAB. I would say during the time period that I served on the SAB, if we had knowledge of that, we would have "volunteered" our services. We would have requested the authority to proceed with organizing a committee to address that important issue.

That is why I emphasized the importance of SAB independently having the ability to identify issues that need to be addressed.

Senator INHOFE. Thank you.

Senator ROUNDS. Thank you.

I am going to go back to Ranking Member Markey for 5 minutes and then I will move to Senator Boozman.

Senator INHOFE. Is this a second round we are starting?

Senator ROUNDS. Yes, but I will allow the Ranking Member to go first.

Senator MARKEY. Thank you, Mr. Chairman, very much.

Just for the record, the endangerment finding was made by the Bush administration, Administrator Johnson, back in 2008. It was not actually accepted by Dick Cheney but that was the finding that was made.

The ultimate endangerment finding was based upon the National Academy of Sciences, the IPCC, other peer review sources and it was actually upheld in court, just so we get that out there. The original decision was made by the Bush administration.

I also want to make it clear as well that is consistent with decision made by Ronald Reagan back in 1982 in vetoing the bill that you referred to, Dr. Yosie.

Mr. Faber, is it true that currently whenever the Scientific Advisory Board wants to respond to a public comment in writing, it has to convene a public meeting?

Mr. FABER. That is right, Senator.

Senator MARKEY. The Scientific Advisory Board Reform Act of 2015 would require that the Board provide written responses to public comments it receives on its work. Is it true that if the Scientific Advisory Board is forced to respond in writing to every significant comment it receives, it will have to keep convening public meetings until the public stops sending comments and as a result, that is, in theory, something that could drag on forever?

Mr. FABER. That is correct, Senator. It would create a significant disincentive for SAB members to participate if they had to respond to thousands and thousands of public comments.

Senator MARKEY. Is it also true that during any rulemaking process that uses Scientific Advisory Board information the EPA would have to respond in writing to any public comment at that time so that the public will have ample opportunity to weigh as well?

Mr. FABER. That is right, Senator.

Senator MARKEY. Mr. Gomez, your testimony said the Science Advisory Board must respond to any congressional request from the specified committees. Taken to the extreme, could a committee submit an unlimited number of requests to the SAB without regard to the amount of money appropriated by Congress for scientific analysis? Would that pose a constitutional problem?

Mr. GOMEZ. That is a possibility. That is something that could happen. EPA, under FACA, is allowed to set the agenda, to set the priorities, to sequence the work and to try to balance the work from the congressional committees and also from EPA. We view it as sort of mediating what may be coming from congressional committees.

Senator MARKEY. Taken to an extreme, Mr. Faber, it could result in paralysis?

Mr. FABER. Absolutely, you could significantly drain EPA and SAB resources depending on the types and number of requests that would come from Congress.

Senator MARKEY. Dr. Yosie, you said in your testimony, the training and careers of scientists does not prepare them to offer specific insight or expertise concerning non-scientific factors.

Do you disagree that the Scientific Advisory Board should be providing scientific advice to EPA and not advice on non-scientific topics? Do you all agree with that? Dr. McClellan?

Mr. MCCLELLAN. Yes, I think science only and stay out of the policy arena.

Mr. HADZI-ANTICH. Yes.

Mr. GOMEZ. Yes.

Mr. YOSIE. Yes.

Mr. FABER. Yes.

Senator MARKEY. This bill requires SAB members to make their personal financial information public, introduces a substantially new work law by requiring written responses to public comments and prioritizes quotas over scientific merit for membership.

I would like each of you to answer yes or no. Do you agree that this bill could discourage scientists from participating in scientific advisory boards, lead to long delays in the release of SAB reports and prevent EPA from being able to select the best scientists to serve on these panels? Mr. Faber.

Mr. FABER. Yes.

Mr. YOSIE. Yes.

Mr. GOMEZ. We do not take a position on pending bills.

Mr. McCLELLAN. I do not believe so, sir, no. The requirements in place now are not really remarkably different from that. I can say that I take a hard look every time I am asked to serve on a Federal advisory committee as to what I have to disclose with regard to my personal financial matters and those of my wife.

Senator MARKEY. Thank you.

Thank you, Mr. Chairman.

Senator ROUNDS. Senator Boozman.

Senator BOOZMAN. Thank you, Mr. Chairman.

Ranking Member, the Senator from Massachusetts, raised some concerns about the bill. I hope we can work in good faith.

The examples you mentioned concerning the world being flat and things like that, I think it is important to remember that the people who were blocking that were the establishment or the people in power.

All we are trying to do with this bill is make sure good science is represented and that we have the complete mix of science rather than those in power, whether this President or the next President. We cannot do anything about past Presidents but again, just making sure that we have a good frame work so that everybody is represented.

There has been talk about disclosure. The bill only requires financial disclosure of items related to the work on the SAB, not private financial information. Again, this is something that we can work on and make some adjustments or whatever.

I do think there is a level of disclosure that needs to be required so that we will know where the people are coming from.

Dr. Yosie, you mentioned the fact of State representation and the situation that we are going to have people not qualified. This is an effort to make sure our States in situations where these things have tremendous impact on them, that their scientists, the people in situations like that, have representation on the Board.

Again, we can look at numbers and percentages. Ours is actually less. I believe on the Clean Air Science Advisory, one in seven is required to be from the States. This is something not new.

As the graph demonstrated, right now I think we have a situation where the States are not always represented. Certainly we can find good people from the States that do have the qualifications. Again, we would be willing to work with the particular numbers.

Can you respond to that?

Mr. YOSIE. I have several brief comments.

One is certainly during my time as Science Advisory Board Director we routinely had representatives of State and local governments, and in some cases, tribal areas represented on scientific advisory panels.

The specific example that you referred to, the Clean Air Scientific Advisory Committee, has a statutory requirement that a State representative be included. In that specific instance, it is appropriate because of the ambient air quality standards review process the committee is responsible for reviewing the scientific content for. The States have a lot of strength on science in that particular matter.

My particular concern was not to have a blanket requirement because the Science Advisory Board conducts dozens of scientific reviews every single fiscal year and not all of them are applicable to the expertise that you would find in a State, local or tribal area.

Certainly, we had a number of State, local and tribal representatives and certainly more than just two States.

Senator BOOZMAN. I appreciate that. I think the graph illustrates.

Again, we are trying to figure out how to do that? When you were in charge, you were able to do that. How do we do that such that we make sure there is representation? We would be quite willing to work with anyone in that regard.

Mr. Hadzi-Antich, we appreciate your suggestions. I guess the question I have is do you agree that the reforms in our bill could sometimes result in a more robust regulatory action while at other times those reforms could lead to scaling back of proposals?

I say that because, again, we are trying to get a bill that operates in good faith and gets the science out there. Would you agree theoretically we could have a more robust enforcement in some areas and less robust than currently?

Mr. HADZI-ANTICH. If this answers your question, I think it is important to have more robust enforcement. Right now there are all sorts of obstacles to judicial review of EPA's interaction with the Science Advisory Board.

The easy fix for that would simply be to make EPA's interactions judicially reviewable under the current procedure set forth in the APA. It would make it clearer for EPA, for the SAB and for the general public.

Senator BOOZMAN. And not bypass the SAB?

Mr. HADZI-ANTICH. Exactly.

Senator BOOZMAN. That seems to be the theme of your testimony.

Thank you, Mr. Chairman.

Senator ROUNDS. Senator Inhofe.

Senator INHOFE. Mr. Chairman, let me respond to my good friend from Massachusetts. I recognize that he was not a member of the U.S. Senate in December 2009. That was right after the scandal came out.

When I talk about the scandal, the endangerment finding on which the decision was made has to be science. We asked Lisa Jackson, then Director of the EPA, what science she was going to rely on, so it has nothing to do with what might have happened or not happened in 2008 or the Bush administration.

I asked her, you are going to come out with an endangerment finding. I remember that time because I was getting ready to go to Copenhagen as a one-man truth squad, as I recall at that time, and I did.

I said, you have to base your endangerment finding on science. What science will you use? I had the transcript and all this. It was going to be the IPCC.

Let me ask one question of you, Mr. Hadzi-Antich. Does it make sense when you have a scandal, I quoted the Guardian saying pretending this is not a real crisis is not going to make it go away. The Daily Telegraph noted the scandal could well be the most serious scandal in scientific history. The Atlantic Magazine said the stink of intellectual corruption is overpowering.

Why do you think, knowing this, after these accusations were made all over the world, not just here in the United States, but primarily most of them in western Europe, they would use that board and their science to come up with their endangerment finding?

Mr. HADZI-ANTICH. I personally do not see any reasonable rationale for that, especially in light of those disclosures. I do not see any reason for not having submitted the endangerment finding to the Science Advisory Board for peer review.

Senator INHOFE. I think the IG agrees with you because in a speech on the floor shortly after that, I said, in the IG report on the endangerment finding “the IG confirms the endangerment finding was rushed, biased and flawed.” Again, it was in this very committee hearing that she made the decision that was what she was going to use on which to base her science.

I do not have anything else.

Senator ROUNDS. Thank you.

Mr. Markey, go ahead. Then I will finish up with closing remarks.

Senator INHOFE. Let me ask a question of the Chair. Senator Markey and I are very close friends. We can go back and forth for a long period of time. We have to determine who is going to get the last word.

Senator MARKEY. You can have the last word. The Majority always has the last word.

Senator INHOFE. That is a great idea.

Senator MARKEY. The reason that I know that is that I used to be in the Majority.

Senator INHOFE. Let me ask, did you like it better?

Senator MARKEY. Honestly, my mother always said the most important question in life is answering the question of compared to what, so yes. This is not as good.

Senator ROUNDS. Being the chairman is best because I still get the last word.

Senator MARKEY. I remember December 2009 very well. I remember it because then I was the chairman, I was in the Majority. I was the chairman of the Select Committee on Energy Independence and Global Warming.

Senator Inhofe and I actually debated his perspective on CNBC, on Fox and we went on show after show debating his position and my own position back then. I would actually contend though that science has not been questioned fundamentally and that the planet is dangerously warming. Last year was the warmest year ever recorded.

Actually, off the coast of Massachusetts in January of this year, we had temperature readings of 21 degrees above normal in our

ocean, which to a certain explains why we had 110 inches of snow and Anchorage, Alaska only had 20 inches of snow this year. They actually had to truck in snow to start the Iditarod dog race this year because of that warming of the Arctic and the change in the flow of the cold air coming down and hitting the warm, warm ocean off the Atlantic, off Massachusetts.

This is just further corroboration of the accuracy of the finding that the planet is warming and that there are consequences for the planet. At the end of the day, the question is, do we want to make sure the scientific process does stay intact and that there is integrity to it?

I would just ask you, Dr. Yosie, what would be the implications from your perspective if all of the scientists were required to have their income tax returns made public? What would be the level of success you would have in recruiting scientists to do this work?

Mr. YOSIE. You would always get some scientists who would volunteer to serve on panels. Those would not necessarily be those who have the most esteemed qualifications and training for the review you are seeking to organization.

Senator MARKEY. I tend to agree with you. I think we have to be very careful as we wade into this area. I think it is absolutely imperative that we do have the best scientists and that we also make sure they are properly vetted as well but that there is a certain confidentiality to their own personal records or else I think we will have a significant discouragement factor that will limit the full pool of the best scientists that we have in the United States to be giving advice to the Federal Government.

I think that is true whether it is a Democratic or Republican President. We want the best people to be volunteering but we also have to protect them from being turned into political piñatas. If they are willing to serve, I do not think personal attacks upon their integrity should be a part of this process.

I would just say that from my perspective, I think this is a highly illuminating hearing. I think moving forward, we should just exercise great caution so that we do not create a discouragement to the best and brightest participating in a very important public process.

I thank you, Mr. Chairman.

Senator ROUNDS. Thank you.

Senator Boozman.

Senator BOOZMAN. I appreciate that, Senator Markey. We really would be very willing to work with you in that regard. Certainly, we do not want that to happen either.

Dr. Yosie, you do agree though that financial disclosure of items related to their work on the SAB should be disclosed?

Mr. YOSIE. That is important to maintaining the integrity of the process.

Senator BOOZMAN. That is truly what we are trying to do. That should not dampen anybody from serving. That probably will dampen some from serving, but that is probably an appropriate damper.

Mr. YOSIE. It is a judgment call. I think we want to do a thorough vetting of people who are under consideration for appoint-

ment to these panels, but I think being overly intrusive in terms of stock portfolios or income tax returns, I think is an abuse.

I think you will see highly qualified and talented scientists who run away from wanting to be appointed to such processes.

Senator BOOZMAN. We hope we can work with all of you on this and again, get a product that is good in the sense that we have integrity with the process. That really is the key so that we do not prevent some of the things you mentioned earlier.

Thank you.

Senator ROUNDS. Senator Inhofe.

Senator INHOFE. Thank you, Mr. Chairman.

We have done this so often now, I do not need notes.

I can remember in one of our debates, going from memory, approximately every 30 to 40 years we do have changes in patterns. In 1895 was the first time they started using the term global warming because things got warming for a 30-year period from 1895 to about 1918. Then we went into a cooling period. That lasted until 1945. You are talking about approximately the same length of time.

They actually used another ice age. I remember even the covers of magazines like Newsweek and others, each time this happened, they came up with Alaska polar bears dying and all these things. Then they completely reversed it when another 30-year trend comes.

In 1945, that was the year of the greatest surge of CO₂ at that time that had been recorded, right after World War II. That precipitated not a warming period but a cooling period that lasted until about 1975. We know what has happened since that time.

Climate is always changing. We understand that. The other day on the floor, I made that point when Senator Whitehouse had an amendment. I said, yes, I agree with the amendment because the amendment was saying climate is changing. Everyone understands that.

The issue here, though, was, in order for them to do what they wanted to do on this massive change, keep in mind this was not always Democrats because the first bill introduced was the McCain-Lieberman bill. The last time I checked, Lieberman was an Independent and McCain was a Republican. That was in 2002 and they reintroduced in 2005.

It has been reintroduced and my good friend from Massachusetts has had a bill and some came over from the House when he was in the House and some did not. Nonetheless, people are getting kind of worn out on this and all the hysteria that the world is coming to an end and the fact this has been going on for a long period throughout recorded history.

Now we have a situation where the public is saying, we are not as interested as we were. The last Gallup poll was about 3 weeks ago. Of the environmental concerns, global warming was next to the last. Going from memory, I think it was out of 40 concerns. That used to be No. 1 or No. 2.

I think there has been a lot of doubt. The American people are looking at this. Confession is good for the soul. I say to my friend, Senator Markey, back when this first started, I assumed everything was correct until in your State of Massachusetts, Dr. Richard

Lindzen, an MIT professor came out with the quote I gave about regulation of carbon is regulating life. He established some doubt.

On the Senate floor, I talked about that and scientists started calling and saying why they were rejected from participation in the IPCC. It is on the record. I talked about this 10 years ago.

Now we have the situation where in December 2009, the Administrator of the EPA, knowing she had to rely on some science to come up with an endangerment finding, which President Obama wanted it to happen, I asked her at that time on what science she was going to base it and that was the IPCC.

Again, I will not repeat all of these things. I have 40-some criticisms on Climategate associated with that, trashing the science of IPCC. It does not serve any useful purpose to repeat that at this time.

That is the only thing I was trying to get across. It was based on science that I think was flawed science. Many of the scientists agreed with me.

Senator MARKEY. Would the Senator yield?

Senator INHOFE. Sure, I will yield.

Senator MARKEY. I agree with you that confession is good for the soul. It took 350 years for the Catholic Church to go to confession. Finally, Pope John Paul II pardoned Galileo which was great news in the Catholic Church that finally confession had taken place.

The good news is now that Pope Francis, a Jesuit, who is a chemist, is going to issue an encyclical on climate change. He is convinced of the science so we have come a long way as a church, especially when they name a Jesuit as the Pope who was a chemist.

I think there is increasingly going to be that linkage.

Senator INHOFE. What is the question?

Senator ROUNDS. Actually, the amount of time you could yield to him has now expired.

Senator MARKEY. I have found in the Senate that many questions actually come in the form of answers when Senators are speaking.

I thank the Senator.

Senator INHOFE. Let me say that I genuinely have a love for this guy. It is the hypocrites that I do not like. He is not a hypocrite, he really believes this stuff.

Senator ROUNDS. It is nice to be the Chairman because I get the last word.

If there is anything I think comes from a discussion like this where there are not a lot of people here, but those who are, clearly have an interest in working and solving problems.

There was a term used today that I think we could all learn from. I believe the term was Lysenkoism. If there is one thing we all agree on, it is that we do not want Lysenkoism. You will find there are folks right now who will look at what has happened at the EPA and there is a question of whether or not they have actually used the Science Advisory Board appropriately in the manner in which everyone, Republican, Democrat or Independent, wanted it done in the first place.

If you want credibility and trust in government, you have to be able to look at the independent science advisors, trust them, trust

they come from multiple facets of life with a great deal of experience.

Senator Boozman has proposed a bill in which he wants to spread that out. He wants it across the Country. He is frustrated because what he sees right now is it does not appear as though with an open process, people are trusting the science is being utilized and accessed the way it was intended in the first place.

The question is whether or not those individuals who serve on it are being picked in a fair manner. Those are valid questions and are something I believe an oversight committee has the ability and responsibility to ask the questions.

We ask the question because neither Republicans nor Democrats want Lysenkoism. The word of the day, Lysenkoism, is something I think we can all agree is something we do not want when it comes to the EPA or any other agency of the Federal Government creating laws, regulations or otherwise influencing the average lives of American citizens.

With that, I do have some additions to the record. I ask unanimous consent to submit two additional statements for the record, a statement from the American Chemistry Council and a statement from the Council of State Governments West. Without objection, so ordered.

[The referenced statements follow:]



**Statement of the American Chemistry Council Before the
U.S. Senate Committee on Environment and Public Works
Subcommittee on Superfund, Waste Management, and Regulatory Oversight
Regarding a Scoping Hearing Entitled, "Oversight of Scientific Advisory Panels and
Processes at the Environmental Protection Agency."**

May 18, 2015

The American Chemistry Council (ACC)¹ requests that this statement be entered into the record for the May 20, 2015 hearing on "Oversight of Scientific Advisory Panels and Processes at the Environmental Protection Agency." We thank Chairman Rounds for holding this hearing to examine an issue that has broad ramifications for improving the scientific foundation of U.S. Environmental Protection Agency (EPA) decisions.

ACC supports Congressional efforts to improve practices and procedures that relate to the scientific advice received by EPA. We frequently participate as constructive stakeholders in reviews conducted by EPA's Clean Air Scientific Advisory Committee (CASAC) and the Science Advisory Board (SAB) including many of its standing committees. ACC has also been following closely the practices of the SAB Chemical Assessment Advisory Committee (CAAC), which reviews the assessments of the EPA Integrated Risk Information System (IRIS) program.

While stakeholders have seen some changes over time in the SAB practices to enhance the independence and integrity of the review process, we believe there are still many opportunities for improvement. S. 543, the Science Advisory Board Reform Act of 2015, will be helpful in that it codifies many of the current SAB practices to help ensure that they continue to be in place.

¹ The American Chemistry Council (ACC) represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. ACC is committed to improved environmental, health and safety performance through Responsible Care®, common sense advocacy designed to address major public policy issues, and health and environmental research and product testing. The business of chemistry is an \$812 billion enterprise and a key element of the nation's economy. It is the nation's largest exporter, accounting for twelve percent of all U.S. exports. Chemistry companies are among the largest investors in research and development. Safety and security have always been primary concerns of ACC members, and they have intensified their efforts, working closely with government agencies to improve security and to defend against any threat to the nation's critical infrastructure.



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Page 2

Codification of these practices might also lead to necessary cultural changes within the SAB office. Important codifications outlined in the bill include:

- ensuring that each member of the Board has sufficient qualifications to evaluate the materials under review;
- ensuring that timely notifications are published in the Federal Register regarding solicitation of nominees to serve;
- ensuring that potential nominees file appropriate financial relationship statements;
- ensuring that the Board does not accept an unduly narrow scope or charge; and
- ensuring that the public has an opportunity to provide additional comments to the Board following Board meetings.

Furthermore, S. 543 includes provisions that will strengthen the role of stakeholders and stakeholder input. In FY 2012, the SAB announced Initiatives to Enhance Public Involvement.² Although the SAB initiative was a step forward, more can be done. S. 543 provides constructive solutions for addressing stakeholder involvement. For example:

- 1) Currently stakeholders are provided with a three minute window to provide scientific comments at the beginning of the review and also to provide clarifying comments after panel discussions. Three minutes is simply not sufficient time to provide cogent and substantive comments, particularly comments on technical or scientific matters. In fact, the SAB's approach to managing the public comment period (timers and buzzers) have the unfortunate effect of limiting input.
- 2) Even if stakeholders had sufficient time to provide comments, SAB members are under no obligation to consider or respond to public comments. A mandate to respond to public comments will necessarily ensure that comments from external stakeholders with relevant and credible scientific information and knowledge are given appropriate consideration.

We have one recent example that illustrates shortcomings in the SAB process. The CAAC panel recently released their final draft review of the EPA IRIS Trimethylbenzenes (TMB) Toxicological Review. On June 8th the chartered SAB will review this final report. To inform this review, there were three teleconferences, one in-person meeting and two draft reports. The public had an opportunity to provide written and oral comments (3 minutes) during each meeting and teleconference. ACC and other stakeholders commented at every available step.

² See: <http://yosemite.epa.gov/sab/sabproduct.nsf/Web/PublicInvolvement?OpenDocument>

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ACC informed the CAAC orally and in writing at the last two teleconferences, before the draft reports were written and released, that the EPA Pesticides program had released a Final Rule exempting complex C9, C10-C11, and C11-12 aromatic hydrocarbon fractions from the requirement of a tolerance. This is directly relevant to the TMB review as TMBs never occur in isolation, but are always found in the environment associated with the C9 hydrocarbon fraction, a view that is also supported by the EPA draft IRIS report. Interestingly, despite bringing this to the CAAC's attention at multiple points in the process, not one CAAC panel member ever asked about the Final Rule and the latest draft report makes no mention of it. The report mentions that the IRIS program may want to consider some mixtures and other related chemicals and their toxicity and provides citations IRIS staff may want to consider. Yet the report never mentions that the EPA Final Rule be considered as part of the available data. The CAAC has not explained why they disregarded the final EPA rule.

Moreover, at a CAAC public meeting for the review of a different IRIS chemical, a panel member stated that a study should be rejected simply because it was funded by industry. This is of great concern. Unfortunately, neither the CAAC chair nor any SAB staff commented on this perspective. This comment was not reflected in the draft report of the CAAC, but the study was rejected and the rationale provided was quite thin. Interestingly, while the underlying data for the study the CAAC preferred are not publicly available (a concern that has been noted by the CAAC), the underlying data are available for the industry funded study.

ACC has a few final recommendations to help foster an improved SAB process. All science, regardless of who produces it, or who funds it, should be judged on its merits—based on its quality and relevance. Of course funding sources should be disclosed, but what matters most is scientific rigor, which is often documented and measurable. The Society of Toxicology (SOT) has adopted a policy statement regarding disclosure³ and ACC recommends that the SAB adopt a similar Position Statement that would be adhered to by the SAB and all Board members.

In addition, consistent with recent concerns expressed by the NAS, and journals such as *Science* and *Nature*,⁴ it would also be helpful for the Position Statement to instruct Board members to consider the reproducibility and availability of studies and data they may rely upon. A policy change fostered within the SAB office and expressed clearly to all SAB panel members, including members of the Clean Air Scientific Advisory Committee, will go a long way toward ensuring that all sound scientific information is considered in all SAB reviews.

³ See SOT position statement available at: <http://toxicology.org/pr/PrinResearch.asp>. On this matter, the SOT states: "Research should be judged on the basis of scientific merit, without regard for the funding source or where the studies are conducted (e.g., academia, government, or industry)."

⁴ See: <http://www.sciencemag.org/content/346/6210/679.full>



"Serving Western Legislatures"

The Council of State Governments West

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May 19, 2015

Honorable Mike Rounds
United States Senator
Chairman, Superfund, Waste Management, and Regulatory Oversight
Subcommittee
410 Dirksen Senate Office Building
Washington, DC 20510-6175

Honorable Edward Markey
United States Senator
Ranking Member, Superfund, Waste Management, and Regulatory
Oversight Subcommittee
456 Dirksen Senate Office Building
Washington, DC 20510-6175

Dear Senator Rounds and Senator Markey,

On behalf of the Council of State Governments West (CSG West), thank you for the opportunity to contribute to the Superfund, Waste Management, and Regulatory Oversight Subcommittee's hearing on oversight of scientific advisory panels and processes at the Environmental Protection Agency (EPA). We appreciate your leadership and the subcommittee's interest in hearing from Western state legislators.

As a nonpartisan, nonprofit organization serving Western state legislatures, CSG West is dedicated to preserving the role of states as "laboratories of democracy" and fostering effective cooperation with relevant federal agencies in areas of shared jurisdiction while limiting unnecessary federal intrusion in areas of state responsibility. In no other region in our country is effective federal and state cooperation more important than in the West where federal agencies work with relevant state and local agencies on a number of critical issues affecting the sustainability of our region, including the management of our natural resources and the protection of wildlife.

Over the past several years CSG West, through resolutions and correspondence, has urged Congress and federal agencies to communicate and consult with Western states in a substantive and timely manner when considering amendments to the Water Pollution Control Act as well as other federal laws. Moreover, CSG West has urged federal agencies to adhere to Presidential Executive Order 13132, issued August 4, 1999, requiring federal agencies to "have an accountable process to ensure meaningful and timely input by state and local officials in the development of regulatory policies that have federalism implications."

Enclosed for your reference are copies of CSG West resolutions related to proposed amendments to the Federal Water Pollution Control Act and water-related federal rules, regulations, directives, orders and policies.

Despite our organization's call for greater consultation with Western states, communication challenges remain. In many instances state consultation by federal agencies, including U.S. EPA, has taken place in the latter part of the policy development process, placing states and regional organizations such as CSG West in a reactionary position to a proposed regulation or interpretation as opposed to engaging states on the front-end of the process to ensure that state perspectives are taken into account.

In addition to the state consultation challenges limited state representation exists in EPA advisory panels. U.S. EPA advisory panels play an important role in providing independent advice to the EPA Administrator and other high level administration officials on a number of technical issues, including the development of rules related to the jurisdiction and application of the Clean Water Act, Clean Air Act and other regulations that impact state authority. Because they provide an independent voice to complex, technical matters, it is imperative that such advisory boards be comprised by a wide array of stakeholders, including state level representatives. However, states are largely underrepresented in EPA advisory panels.

Below are some examples related to the lack of state/local participation on EPA advisory panels:

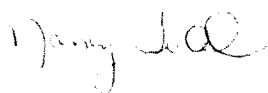
- Of the 47 members of EPA's Chartered Science Advisory Board, only three are from state and local governments.
- EPA's Hydraulic Fracturing Research Advisory Panel, a subpanel of the Science Advisory Board designed to review EPA science on hydraulic fracturing and water, has no state/local/tribal experts on the panel. Thirteen state/local/tribal experts were nominated including from Western states and local governments, but none were selected by EPA.
- For the Science Advisory Board "Connectivity" Panel, which was reviewing a highly influential scientific assessment designed to inform EPA's authority over "waters of the U.S." under the Clean Water Act, EPA did not pick any of the nine qualified state/local experts the 27-member panel. As the Western Governors' Association recently testified: "It is worth noting that the SAB panel for the review of the EPA water body connectivity report included no state representatives. The report was therefore developed without the regulatory expertise, scientific resources and on-the-ground knowledge possessed by state professionals."
- For EPA's Clean Air Scientific Advisory Committee Ozone Review Panel₁, which provided the critical advice for Administrator Gina McCarthy's proposed ozone regulations, only one of the 22 panelists came from a state/local perspective.

- For EPA's seven-member chartered Clean Air Scientific Advisory Committee, whose recommendations establish the range to be considered by EPA in setting national air pollution standards, not a single member has come from EPA Region 6 (AR, LA, NM, OK, TX), Region 7 (IA, KS, MO, NE), Region 8 (CO, MT, ND, SD, UT, WY), or Region 10 (AK, ID, OR, WA) since at least 2010.

CSG West recognizes that the federal government has a vital role to play in advancing national priorities. However, it is imperative that federal agencies substantially engage states when developing or enacting regulations which affect state jurisdictions, and ensure that advisory panels designed to provide an independent voice include greater state representation. We encourage you and the members of the subcommittee to address these challenges with the hope that our state and federal engagement can be strengthened for the benefit our states and communities.

Once again, thank you for your consideration of these important issues. If you or your staff has any questions, please feel free to contact CSG West Executive Director, Edgar Ruiz, at (916) 553-4423.

Sincerely,



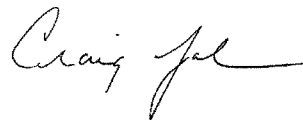
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Chair, CSG West
Colorado State Senate



Representative Jeff Thompson
Chair-Elect, CSG West
Idaho House of Representatives



Representative Sam Hunt
Vice Chair, CSG West
Washington House of Representatives



Representative Craig Johnson
Immediate Past Chair, CSG West
Alaska House of Representatives



Representative Lance Pruitt
Chair, CSG West State &
Federal Relations Committee
Alaska House of Representatives



Representative Cindy Evans
Vice Chair, CSG West State &
Federal Relations Committee
Hawaii House of Representatives

CC:

Senator James M. Inhofe (OK), Chairman, U.S. Senate Committee on Environment & Public Works

Senator Barbara Boxer (CA), Ranking Member, U.S. Senate Committee on Environment & Public Works

Enclosures

- CSG West Resolution 2014-03 on water-related federal rules, regulations, directives, orders and policies.
- CSG West Resolution 2011-03 regarding U.S. EPA and the U.S. Army Corp of Engineers' draft guidance on identifying waters protected by the Clean Water Act.
- CSG West Resolution 2010-01 regarding amendments to the Federal Water Pollution Control Act, as proposed by S. 787 and H.R. 5088 in the 111th Congress.

Senator ROUNDS. Once again, I would like to thank our witnesses for taking the time to be with us today. I would also like to thank my colleagues who attended this hearing for their thoughts and their questions.

The record of this hearing will be open for 2 weeks which brings us to Wednesday, June 3, 2015.

With that, Ranking Member Markey, thank you. Thank you other members for your participation today.

With that, this hearing is adjourned.

[Whereupon, at 11 a.m., the subcommittee was adjourned.]

