OVERSIGHT HEARINGS ON SCIENCE AND ENVIRONMENTAL REGULATORY DECISIONS

Statement of
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My name is David Michaels. I am an epidemiologist. I am currently Research Professor and Associate Chairman of the Department of Environmental and Occupational Health at The George Washington University School of Public Health, and Director of the Project on Scientific Knowledge and Public Policy (SKAPP). From 1998 to January 2001, I served as Assistant Secretary of Energy for Environment, Safety and Health, and was responsible for protecting the health of workers, communities and the environment around the nation's nuclear weapons facilities.

I am also the author of "Doubt is their Product: How Industry's Assault on Science Threatens Your Health," which has just been published by Oxford University Press, in which I discuss in more detail many of the issues that the committees is focusing on today in this hearing.[1]

I would like to thank Chairperson Boxer, Ranking Member Alexander and the other members of the committee for inviting me to testify today. I am going to summarize my remarks and ask that my complete statement, and accompanying documents, be put into the record of this hearing.

Scientific evidence is a critically important component in regulatory decisions. Our entire system of protecting the public's health and environment is built on the foundational principle that regulatory agencies must base their decisions on the best science available.

Sadly, the Bush administration has not embraced this principle; in fact, over the last seven years, the White House and political appointees in our regulatory agencies have turned this principle on its head. Instead of using the best available science to guide policy decisions, they have ignored scientific experts, manufactured scientific uncertainty, and institutionalized changes that will damage our ability to protect human health and the environment.

Science has become a victim of the Bush Administration. In order to justify decisions to weaken regulatory actions, over and over again this administration has distorted the results of scientific studies and pretended that the effects of pollution and exposure to toxic chemicals are not well-enough understood to justify protecting the American public. This tactic, which I call "manufactured uncertainty," was developed and applied most successfully by the tobacco industry. The Bush Administration has embraced this technique, and built mechanisms into the federal regulatory process that encourage industries to manufacture uncertainty in order to slow progress on health protective regulations.

Fortunately, the science community has been vocal in responding to the worst of these actions, and thankfully not all have been successful. But this administration's actions have nonetheless damaged the system for developing and implementing public health protections, and threatened the health of Americans as a result.

Before outlining what I think are three major components of the George W. Bush Administration's anti-science agenda, it is valuable to revisit two science-related

controversies that arose early soon after the 2000 presidential election brought this Administration to power. Both involve the White House's willingness to manipulate or ignore scientific evidence to justify its decisions to weaken environmental regulation.

The first controversy involved arsenic. Immediately after taking office, the G.W. Bush White House suspended an EPA regulation aimed at reducing the allowable level of arsenic, a known human carcinogen, in drinking water. The regulation would have limited arsenic concentrations to the level recommended by the World Health Organization and already in effect in Europe.[2] The administration raised questions about the science underlying the new regulations – it had to; if the science was right, drinking water with arsenic-contamination at levels permitted under the old standard would increase the risk of bladder, lung and skin cancer.

Perhaps the administration did not expect the loud public outcry or the vehement response from the scientific community. A few months later, the National Academy of Sciences issued a report underscoring the need for the more protective standard[3] and the Bush Administration had to relent and re-issue the stronger standard.

The second controversy involves climate change. In his campaign for the presidency, George W. Bush promised to limit coal-burning power plants' emissions of carbon dioxide, a leading greenhouse gas. Less than two months after taking office, the President reneged on that promise, and, for the last seven years, the administration has not only taken no meaningful action to reduce these emissions, but has attempted to block efforts by states to limit greenhouse gases.

The first component of the Bush Administration's approach to regulation that I would like to discuss is the widespread practice of ignoring scientific experts who identify environmental threats to public health. The issues facing the EPA are often complex, and the agency, and the entire federal government, needs the wisdom and advice of the nation's best scientists. For decades, the government has used the federal advisory committee system to tap this wisdom. The Bush Administration has rejected this approach by either disbanding certain advisory panels, or by dropping renowned scientists and replacing them with scientists whose job it is to defend polluters and obstruct regulation.[4] When there was protest in the scientific community, an HHS spokesperson bluntly stated that the secretary has the prerogative to solicit only advice he would want to hear.[5]

In other instances, the administration chose to ignore or isolate advisory committees that could not be disbanded. An important example of this is the congressionally mandated Clean Air Science Advisory Committee (CASAC), a group of the nation's pre-eminent scientists, appointed the Administrator of EPA. Yet agency political leadership has ignored CASAC's advice on recent proposals to prevent disease and disability caused by exposure to lead, ozone and particulate matter. As a former regulator, I understand that scientific information is not the only driver of regulation, and agency leaders do not have to accept all analyses and recommendations by advisory committees. EPA, however, has not disputed CASAC's conclusions; instead, the EPA has elected to simply ignore its

own advisory panel, and issue weaker regulations. To my knowledge, before 2006, CASAC had never written to an EPA Administrator complaining of the agency's rejection of its finding. However, in September 2006, CASAC's members sent a letter to EPA Administrator Johnson, asserting:

> (T)he Agency has rejected the CASAC's expert scientific advice with regard to lowering the level of the annual primary fine particle ($PM_{2.5}$) standard and establishing a new coarse particle ($PM_{10-2.5}$) standard — both of which are consistent with the recommendations of the nationally-recognized science, medical and public health groups such as those cited above — and, in addition, EPA has not followed our advice in setting a separate secondary $PM_{2.5}$ standard. We note that, since the CASAC's inception in the late 1970s, the Agency has always accepted the Committee's scientific advice with regard to final NAAQS [National Ambient Air Quality Standards] decisions. In view of this, we question whether you have appropriately given full consideration to CASAC's expert scientific advice — obtained through open, public processes — in your final decisions on the PM NAAQS.[6]

It is important to be very clear that examining in our nation's administrative procedures for regulating hazardous materials is not merely an interesting exercise for academics or scientists. As we recognize in public health, statistics are simply people with the tears wiped away. Exposure to air contaminants such as ozone and particulate matter kills thousands of Americans every year. In order to prevent these deaths and the untold illnesses that afflict many more, we must reduce exposure to these hazardous pollutants. EPA regulations are literally life or death decisions.

The second anti-science component of the Bush Administration's regulatory philosophy is its predilection to manufacturing scientific uncertainty. This involves manipulating, distorting or hiding the science, because this evidence is a most important driver of public policy decisions about environmental health. Examples of distorted science abound.

The most well-known was revealed in June 2005, when we learned from the front page of the *New York Times* and elsewhere that one Philip Cooney, chief of staff for the White House Council on Environmental Quality, edited a federal report on climate change to magnify the level of uncertainty. Suddenly the word "uncertainties" was preceded by "significant and fundamental." Or consider the following sentence: "The attribution of the causes of biological and ecological changes to climate change or variability is extremely difficult." Cooney added the "extremely."[7] While these were not policy documents, they exemplify the White House's refusal to accept scientists' overwhelming agreement about human-caused climate disruption. Instead, the White House voiced a position long championed by the fossil-fuel industries. This is not surprising, given Cooney's background. Before his appointment by the President, Cooney was a lobbyist with the American Petroleum Institute, and immediately following the *New York Times* report he left the White House for a post at ExxonMobil.[8] His job title may have changed, but his job description did not.

As late as June 2006, President Bush was still denying the significant role of human activity in global climate change.[9] A few weeks later, when the U.S. Supreme Court was hearing arguments on a suit that was attempting to compel the EPA to regulate carbon dioxide as a pollutant, the administration argued that the EPA's inaction was justified by the differences among scientists (specifically between those paid by the industry and everyone else). ''I think one thing that we ought to be able to agree on,'' asserted the deputy solicitor general, ''is that there is uncertainty surrounding the phenomenon of global climate change."[10]

The scientific evidence is so powerful, and the popular acceptance of that evidence so pervasive, that it is no longer credible to manufacture uncertainty about the causes of global warming. So the White House has moved on to manufacturing uncertainty about the public health impacts of severe climate change. This is a strategic retreat with the same objective: delay having to take any steps to reduce our use of fossil fuels. Call it Climate Change Uncertainty 2.0.

I believe the members of this committee witnessed an example of this. In October of 2007, CDC Director Julie Gerberding testified before the Senate Environment and Public Works Committee about climate change and public health. However, her testimony was severely edited by the White House, which cut it from12 pages to 6 and removed the pages that described the potential adverse health effects – including rising rates of asthma, heat stress, and some bacterial infections – that the U.S. can expect to see as the climate changes.[11,12] It appears that while the Bush administration has realized that it is no longer possible to deny anthropogenic climate change, they will continue to block references to its effects until it becomes impossible to deny such findings.

This refusal to accept findings that have strong scientific support but no absolute proof is exemplified in the secret documents revealed last week about the White House's efforts to protect the shipping industry at the peril of the endangered North Atlantic Right Whale.

During a process that began four years ago, NOAA's National Marine Fisheries Service developed a rule that would protect endangered North Atlantic right whales by slowing the speed at which ships can travel in some East Coast waters during certain times of year. Scientists have warned that the loss of just one more pregnant female could doom the species, whose current population is around 300. Since NOAA sent the rule to the OMB in February 2007, White House officials have been raising baseless objections that have delayed the rule's enforcement – and in the meantime, two right whales have been seriously injured and another possibly killed by collisions with ships.[13]

One particularly ludicrous challenge to the rule came from the office of Vice President Cheney, which according to NOAA "contends that we have no evidence (i.e., hard data) that lowering the speeds of "large ships" will actually make a difference." In response, NOAA described the records and analyses that demonstrated vessel speed is a much better predictor of whale fate than vessel size, and pointed out that "There are no

experimental data … to establish the relationship of ship speed and size relative to injury to different species of whales."[14]

Christie Todd Whitman, the first head of the Environmental Protection Agency under President G. W. Bush, once said, "The absence of certainty is not an excuse to do nothing."[15] But, for this administration, it appears to serve as exactly that. A basic tenet of public health and environmental regulation is that it must be made on the basis of the best available evidence. We cannot afford to wait until scientific certainty is reached because, in many cases, it cannot and will not be reached. In this example, it is likely the right whale would become extinct before the experimental data requested by the Vice President could be obtained.

The third component is what I call institutionalizing uncertainty. In the last few years, the White House has instituted a number of procedural changes governing the ways scientific information is produced, communicated, analyzed, synthesized and acted upon. I have no doubt that the objective of these measures is to limit the ability of future administrations to protect the public's health and environment.

Most recently, the Government Accountability Office documented a crisis in EPA's Integrated Risk Information system (IRIS), which produces, in GAO's words, "a database integral to the agency's mission of protecting human health and the environment." The nation needs the latest, most credible assessments of risks associated with chemical exposures. The IRIS system currently contains many outdated assessment, and each year, approximately 700 new chemicals enter commerce. As a result, for the IRIS system to be useful, it must be productive in developing and updating assessments. The GAO noted that in the last two years, the EPA has finalized only four assessments. The EPA actually sent many times that number of assessments to the White House's Office of Management and Budget, but the OMB has failed to complete its review of them, thereby obstructing release of this hazard information to the public.[16]

The IRIS program, as developed by the EPA, involves the public input of the top scientists in the country, and includes the opportunity for scientists working for manufacturers of the chemicals in question to make extensive comment on the work of the agency. In spite of this, over the past few years OMB has been requiring additional review for IRIS assessments, and last year it told EPA that a new interagency review process is required for all new assessments.

In addition to heaping further delays onto an already extensive process, this new interagency review process gives OMB and other federal agencies that might be affected by IRIS assessment more power than EPA scientists when it comes to adding new assessments to the IRIS database. EPA must send draft assessments to OMB; OMB provides comments and questions to EPA from OMB and other federal agencies; and then EPA revises the assessments to address those comments and provides OMB with a document describing how it has addressed each issue that was raised. Only after OMB verbally informs EPA that all issues are resolved (to OMB's satisfaction) can EPA send the assessments for external peer review.

To agencies like the Department of Defense (DoD), protecting human health and the environment is not a primary concern. DoD is concerned with national security first and foremost, and as a general rule oppose efforts to force them to clean up toxic waste. At interagency meetings, the Pentagon advocates for its needs, and the needs of its contractors, many of whom are responsible for the accumulation of huge quantities of toxic waste near military bases. DoD scientists currently are welcome to participate in the public process in which scientists comment on proposed IRIS assessments. The new structure will give those agencies who clearly oppose more protective standards the opportunity to challenge EPA's science in secrecy, so the public and the scientific community can't even monitor what's going on.

We would never permit a structure which would allow the EPA, in secret, to delay military activities; why should we permit a system in which DoD, in secret, has the ability to block EPA efforts to protect human health and the environment?

But this is only the most recent example of efforts by the White House to install systems to handcuff regulatory agencies, particularly the EPA. This is being accomplished though requirements that submit more decisions and products into processes, some open and others hidden, that allow conflicted parties the opportunity to influence the agencies' work.

Fortunately, the science community has spoken loudly and forcefully against some of the Bush Administration's efforts, and as a result, the processes that have been put into place are somewhat less onerous than those originally proposed by the White House. One striking example was an attempt to require onerous reviews of nearly every form of technical or scientific information produced by federal agencies. These requirements were described as peer review, but Donald Kennedy, former editor in chief of *Science*, made it clear that he did not think what OMB proposed should even be called peer review.[17] After objections from, among other organizations, The National Academy of Sciences and the American Association for the Advancement of Science, the White House issued peer review guidelines that were less burdensome to agencies. The deleterious effects of the guidelines are still significant, however, severely delaying important public health efforts.

Parenthetically, it has recently been revealed that Philip Morris, the tobacco giant, was the driving force behind the legislation authorizing these new requirements in an obscure appropriations rider called the Data Quality Act. This was just one of several successes of the cigarette manufacturer's ''Sound Science Project'' aimed specifically at the Environmental Protection Agency's attempts to classify secondhand tobacco smoke as a carcinogen.[18]

A second example of institutionalizing uncertainty was the recent attempt by the White House to compel agencies to follow a one-size-fits-all risk assessment model that was clearly aimed at making pollution and toxic chemicals appear less hazardous in EPA risk assessments. A panel chosen by the National Academy of Sciences evaluated the

proposal and, in what I think may be an unprecedented statement, advised the White House not to attempt to improve the proposal, but instead, kill it entirely because it was so ill-advised. Here are two excerpts from the NAS panel's evaluation:

> Overall, the committee concludes that the potential for negative impacts on the practice of risk assessment in the federal government…would be very high if the currently proposed bulletin were implemented.
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> and
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> On the basis of its review, the committee concludes that the OMB bulletin is fundamentally flawed and recommends that it be withdrawn.[19]

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Through federal regulations, our nation has made great progress in reducing toxic exposures and protecting the public's health. That progress must not stop, because much remains to be done.

In the not too distant future, I am hopeful that the political leadership responsible for our public health and environment will be committed to the independent scientific evaluation of the risks posed by carbon emissions, air pollutants, lead, mercury and countless other toxic chemicals.

When this happens, we will surely view the activities of the current White House and the political leadership of the EPA with the same dismay and outrage with which we now look back on the deceits Big Tobacco perpetrated. But by then, the price already paid in preventable illnesses and premature deaths, in destroyed habitats and extinct species, will have been enormous.

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