

**REPORT ON THE MISUSE OF SCIENCE IN THE ADMINISTRATIONS  
OF GEORGE H. W. BUSH (1989-1993)  
AND WILLIAM J. CLINTON (1993-2001)**

By the Students in  
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<sup>1</sup> A one sentence description of the misuse of science and primary category of misuse (though other categories may be described in the full text).

# Editor's Introduction

## to a report on the Misuse of Science in the Administrations of George H. W. Bush (1989-1993) and William J. Clinton (1993-2001)

Roger A. Pielke, Jr.  
June, 2004

### Introduction

**T**his report is the result of a class project undertaken by the students at the University of Colorado enrolled in the Maymester 2004 course ENV5 (Environmental Studies) 4800: Critical Thinking: The Use, Misuse, and Abuse of Science in Policy and Politics. This introduction provides an overview of our objectives, methods, and results.

Before proceeding a disclaimer is in order: This report is being posted to the internet as a resource for those interested in the role of science in policy and politics. It has not been peer reviewed and is the compilation of 6 group projects conducted for an upper division course at the University of Colorado. I've learned a lot from the students' work and I hope that you will as well. The individual reports have been edited for style and consistency but not fact-checked or otherwise quality controlled. As with anything you find online, use beware!

### Objectives and Methods

The politicization of science has been newsworthy of late, particularly due to reports focused on the Administration of George W. Bush prepared by Congressman Henry Waxman<sup>2</sup> and the Union of Concerned Scientists (UCS).<sup>3</sup> Motivated by these and other issues, our class focused on the politicization of science, and in particular by the executive branch at the level of the White House.

We started with a broad definition of science as the systematic pursuit of knowledge. Politics we defined as the process of bargaining, negotiation, and compromise that determines, in the words of the political scientist Harold Lasswell, "who gets what, when, and how." Thus, the "politicization of science" refers to the use of the systematic pursuit of knowledge in processes of bargaining, negotiation, and compromise. While the term "politicization" is often pejorative, no one would suggest that science not be involved in politics. Rather, it is the misuse of science in politics that we seek to avoid. But pinning down the "misuse of science" is a challenging task, one that we took on as a class.

In addition to the rich set of pedagogical material for a

class on critical thinking associated with issues involving information in decision making, facts and values, science in society, etc., this course was focused on helping students to make conceptual sense of a distinction between policy and politics.

### Objectives

We had two objectives in preparing this report. First, we sought to add some rigor to the notion of "misuse of science." While both the Waxman and UCS reports provide valuable data on the misuse of science by the Bush Administration neither defines what, exactly, constitutes a "misuse of science" in sufficient detail to judge misuse in particular cases. In some cases we did not find a clear case of the misuse of science as alleged in the UCS or Waxman reports.

For instance, the UCS report states:

A growing number of scientists, policy makers, and technical specialists both inside and outside the government allege that the current Bush administration has suppressed or distorted the scientific analyses of federal agencies to bring these results in line with administration policy. In addition, these experts contend that irregularities in the appointment of scientific advisors and advisory panels are threatening to upset the legally mandated balance of these bodies.

Without clear, unambiguous standards of how we might identify "suppression" or "distortion," such terms are interpreted in the eye of the beholder and data on the misuse of science become little more than a Rorschach test for different individuals.

For example, the UCS report provides clear evidence that the Bush Administration has sought to impose political criteria in the appointment of scientists on certain federal advisory panels. However, a recent report<sup>4</sup> from the General Accounting Office provides ample evidence that there is no record of how common place such practices are in the context of (in 2003) 948 federal advisory committees with 62,497 members, with committees classified as "scientific and technical" having 7,910

<sup>2</sup> <http://www.house.gov/reform/min/politicsandscience/>.

<sup>3</sup> [http://www.ucsusa.org/global\\_environment/rsi/index.cfm](http://www.ucsusa.org/global_environment/rsi/index.cfm).

<sup>4</sup> GAO, 2004. Federal Advisory Committees: Additional Guidance Could Help Agencies Better Ensure Independence and Balance, available at <http://www.gao.gov/cgi-bin/getrpt?GAO-04-328>.

members on about 400 committees, or across time. In addition, although there are mandates for geographical, disciplinary, and other types of balance, there are no formal policies or laws about political balance. While selecting members of such committees based on their political views is distasteful for a number of reasons, there remains no clear statement of what constitutes a proper process or outcome for constituting such committees.

The Waxman Report does not provide much guidance either. It identifies “three principal ways in which the Bush Administration has pursued its agenda: by manipulating scientific advisory committees, by distorting and suppressing scientific information, and by interfering with scientific research and analysis.” But manipulation, distortion, suppression, and interference are all very broad concepts impossible to apply in particular contexts without more precision and specificity.

A second objective was to focus attention on the misuse of science. While groups as diverse as the Marshall Institute and Union of Concerned Scientists have identified science in politics as worthy of attention, the focus easily shifts to the politics of the day and attention to the underlying issue is lost. For example, the focus of both the UCS and Waxman reports, as well as reactions to them, has been largely on the Bush Administration and not the misuse of science. While the actions of the Bush Administration deserve scrutiny, so too do those underlying conditions that make politicization possible independent of who happens to sit in the White House.

### Methods

We began our research project by carefully evaluating the UCS and Waxman reports, along with a book by the Hoover Institution called “Politicizing Science.”<sup>5</sup> We asked of each case presented in these studies what, exactly, was the misuse of science? We systematically went through each of the cases in order to develop a short list of types of misuse. In many, but certainly not all, of the cases we were able to identify a clear misuse of science.

Before describing the four criteria, we classified two types of use of science presented in many of the cases in the UCS and Waxman reports that we did not feel clearly rose to a misuse of science. These two categories are “cherry picking” and “dueling experts.” A misuse may be present in cases of cherry picking and dueling experts but to make such an argument requires additional interpretation on a case-by-case basis.

### Cherry Picking

When making an argument people often selectively choose or present information that makes their case look

as strong as possible. Not only is this an effective tactic in argumentation; because there are (a) a diversity of perspectives on facts, and (b) many valid ways to understand “facts,” cherry picking is inescapable. For example, the federal budget deficit might be correctly presented in terms of a percentage of GDP or as an absolute dollar amount, depending upon the message that one wishes to convey. Another example is weather forecasts. Different television stations often predict different high temperatures for the next few days and the viewer is able to favor one over another for any number of reasons. Cherry picking is related to “mischaracterization of science,” a misuse discussed below; however the simple act of cherry picking is not sufficient evidence of misuse. In addition, cherry picking is not the same as “suppression” which implies an active effort to keep information hidden, such as occurred when the Bush Administration kept from Congress a report on the costs of its proposed prescription drug benefit plan.<sup>6</sup>

### Dueling Experts

On complex scientific subjects there are typically many valid ways to interpret data and present findings. This is part of the richness of science, particularly regarding highly complex topics. In cases where experts disagree a decision maker frequently can and must select among expert opinions. This is exactly how the adversarial legal process works. Simply because experts disagree is not a sufficient basis for identifying a misuse of science. While it would make things easier if there were a hard and fast way for non-experts to weight scientific evidence (e.g., by looking at the absolute number of studies, counting scientific options, factoring in prestige, etc.) such rules do not always work out. Science routinely overturns past understandings with new paradigms. However, as with cherry picking, it is possible to mischaracterize science by relying on experts, as discussed below.

We identified four different types of the misuse of science in policy and politics, Mistake, Mischaracterization, Delegitimization, and Arguing Politics/Morals through Science.

### Mistake

A mistake is an unambiguous factual error. We did not judge intent to be relevant; a mistake is a mistake. An example of a mistake is provided in the Waxman report in its discussion of the Arctic National Wildlife Refuge: “Agency data indicated that calving occurred primarily inside area 1002 for 11 of the past 18 years, but [Interior] Secretary [Gail] Norton’s final response said that calving occurred primarily outside the area for 11 of the past 18 years.”

<sup>5</sup> Gough (Ed.), *Politicizing Science*, Hoover Institution Press, Stanford, CA, 2003. <http://www-hoover.stanford.edu/publications/books/polscience.html>.

<sup>6</sup> Pear, R. 2004. Agency Sees Withholding of Medicare Data From Congress as Illegal, New York Times, May 4, Page 23.

### Mischaracterization

A mischaracterization of science refers to the intentional or unintentional characterization of a body of research or a particular finding in a way that is simply incorrect or clearly misleading. There is clearly room for interpretation as to what constitutes mischaracterization versus cherry picking. Here are several examples:

The Waxman report argues that the following example shows a misuse of science:

"The White House even sought to replace [in an EPA report] the scientifically indisputable statement that "[c]limate change has global consequences for human health and the environment" with a statement about the "complexity of the Earth system and the interconnections among its components."

We would call this cherry picking and not a misuse of science, because both statements are scientifically supportable. They do however carry different implicit connotations, much as does presenting deficit data as a percentage of GDP (versus absolute dollars).

By contrast, with respect to the same EPA report both the Waxman and UCS reports argue that a misuse of science occurred when the White House deleted reference to a National Research Council report "requested by the White House itself—that confirmed human activity is contributing to climate change" (quote from UCS report). This would be a mischaracterization of science because according to the Waxman report, the EPA Administrator promised that the report would include "the most sophisticated science ever." In this case it was not simply the deletion of the reference to the NRC report that constituted the misuse, which would arguably be an instance of cherry picking. Rather it was the combination of the Secretary Whitman's characterization of the report as containing the most sophisticated science and then the deletion of the reference to the single most significant review of climate change during the Bush Administration (and conducted at the Administration's request). Secretary Whitman mischaracterized the EPA report scientific content. Had Administrator Whitman promised instead a report based on "selected science" and then had the White House deleted the NRC reference, there would be a much weaker claim for misuse.

### Delegitimization

Across a wide range of contexts – economics, military intelligence, science, etc. – there is little doubt that decision making is enhanced when information is provided by independent bodies. Such independence is important because the fidelity of information is often a critical factor in creating or selecting among policy alternatives. However, conflicts of interest, real or perceived, can delegitimize information-producing bodies

to such a degree that whatever information they produce is discounted in the decision making process, eliminating any chance for knowledge to contribute to effective decision making. The consequences of delegitimization were described in debate on the floor of the House by Eddie Bernice Johnson (D-TX) in May, 2004 when she spoke of the consequences of the alleged stacking of science advisory committees by the Bush Administration:

At a minimum, the number of cases and the range of scientific issues they encompass create the perception that the Federal science advisory process has been undermined by politics. The perception alone is damaging. Policymakers and the public must have confidence in scientific information and scientific advice provided by experts.

Policy and regulatory decisions are political. Science can inform our decisions and help us to understand the likely outcomes associated with different policy choices. However, science does not determine policy choices. This is our job. We must examine the processes we use to incorporate scientific information into our policy decisions, and we need constructive suggestions about how to ensure that political influence over the development of scientific information is minimized.<sup>7</sup>

While not illegal, the stacking of advisory committees with members chosen for their political, financial, or other criteria clearly runs the risk of delegitimizing the process of providing information to decision makers.

### Arguing Morals/Politics through Science

Some issues are debated in terms of science, but are really about underlying politics or moral issues. For example, the abortion debate in the United States is centered on religious and other value differences. No amount of scientific information can resolve this debate. Similar issues include the teaching of evolution versus creationism and debate over stem cells. Each issue has scientific aspects, but controversy over these topics hinges on factors well beyond science. For example, the Waxman report identifies stem cells as an example of the misuse of science by the Bush Administration. We agree that the Administration's characterization of the number of available stem cells represents either a mistake or mischaracterization. However, whether or not stem cell research should be allowed is not a scientific issue. Hence, any claims that science indicates that stem cell research should be allowed (or not allowed) would represent a misuse of science by arguing a moral issue through science. Of course, like other categories of misuse of science, and perhaps even more than others, making a case for arguing morals/politics through science requires interpretation and argument.

<sup>7</sup> [http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?position=all&page=H3147&dbname=2004\\_record](http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?position=all&page=H3147&dbname=2004_record).



## Altering Scientific Testimony

### OMB Altered Scientific Testimony on Global Climate Change Against Views of Scientist: Delegitimization

#### Overview

**D**uring the administration of George H. W. Bush (1989-1993) global warming became an important issue in both science and politics. The Bush administration was under pressure to make a decision about taking action to reduce greenhouse gas emissions.

On May 8, 1989, James Hansen, a leading scientist from NASA's Goddard Institute of Space Studies, prepared testimony for the Senate Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation, chaired by Senator Al Gore<sup>8</sup>. As is typically the case, as an employee of the executive branch, Hansen's testimony was reviewed by the White House Office of Management and Budget (OMB) prior to the committee hearing. In this instance OMB altered the scientific content of Hansen's testimony. This alteration can be characterized by two categories of the misuse of science in politics. The changes that were made to Hansen's testimony<sup>9</sup>, which will be described in greater detail in our analysis, resulted in a delegitimization of a scientific advisor and an example of arguing politics through science.

#### Analysis

##### *Delegitimization of a Scientific Advisor*

On November 9 and 10, 1987, Hansen appeared before the Committee on Energy and Natural Resources of the United States Senate<sup>10</sup>. On June 23, 1988, Hansen again appeared before the Committee on Energy and Natural Resources of the United States Senate<sup>11</sup>. On July 7, 1988 and September 22, 1988, Hansen appeared before the Committee on Energy and Commerce of the House of Representatives<sup>12</sup>. During each of these appearances Hansen claimed with great confidence that global warming would result in a global average temperature increase of 2-5 °C.

On May 8, 1989, Hansen appeared before the

Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation of the United States Senate. Hansen's prepared testimony was altered by the Office of Management and Budget. According to a press report, the OMB "made several, changes, including:

- Where Hansen said he believed human activities, from burning coal and oil to destroying rain forests, are the major causes of global warming, OMB said, "the relative contribution of natural processes and human activities" is 'scientifically unknown'.
- And where Hansen insisted that steps like increasing energy efficiency "would" lower carbon dioxide levels and make economic and environmental sense, OMB said those steps "should" do the job. While that seems like a minor difference, observers say, OMB's insistence on "should" is another indication of the White House's reluctance to commit itself to taking those steps."<sup>13</sup>

Following is a conversation from the hearing that occurred between Senator Al Gore and Hansen:

**"Senator Gore:** ... I am puzzled that you also say on that same point on page four of your statement that you want to stress that you do not really believe that and that as the computer models evolve, that conclusion will very likely evolve and should not be regarded as reliable.

I think I know the answer to the question I am about to ask you, but why do you directly contradict yourself in the testimony you are giving about this scientific question?

**Hansen:** ... The last paragraph in that section which seems to be in contradiction to that was not a paragraph which I wrote. It was added to my testimony in the process of review by OMB, and I did object to the addition of that paragraph because in essence it says that I believe that all scientific

<sup>8</sup> Committee on Commerce, Science, and Transportation: United States Senate, Subcommittee on Science, Technology, and Space. "Climate Surprises". Hearing: 8 May, 1989. 101st Congress.

<sup>9</sup> Tye, Larry. "Altered testimony angers scientists". The Boston Globe 9 May, 1989. City Edition: National/Foreign, pg 1.

<sup>10</sup> Committee on Energy and Natural Resources: United States Senate. "Greenhouse Effect and Global Climate Change". Hearings: 9 November, 1987 and 10 November, 1987. 100th Congress.

<sup>11</sup> Committee on Energy and Natural Resources: United States Senate. "Greenhouse Effect and Global Climate Change". Hearing: 23 June, 1988. 100th Congress.

<sup>12</sup> Committee on Energy and Commerce: House of Representatives, Subcommittee on Energy and Power. "Energy Policy Implications of Global Warming". Hearings: 7 July, 1988 and 22 September, 1988. 100th Congress.

<sup>13</sup> Tye, Larry. "Altered testimony angers scientists". The Boston Globe 9 May, 1989. City Edition: National/Foreign, pg 1.

conclusions that I just discussed are not reliable, and I certainly do not agree with that. ... We state that the testimony represents my scientific opinion, my scientific conclusions, not government policy, or a consensus of the scientific community. So, I think with these qualifications I do not believe that the science aspects in the testimony should be altered. But, my only objection is being forced to alter the science.

**Senator Gore:** So, the statements which were changed by the OMB were not statements about policy. They were statements about the scientific data, correct?

**Hansen:** That is right.”<sup>14</sup>

The alteration of Hansen’s testimony by OMB delegitimized science because it substituted the scientific assessment of Hansen with a scientific perspective more in line with the Bush Administration’s political views.

### *Arguing Politics Through Science*

The alteration of Hansen’s statement is an example of the Bush administration seeking to argue politics through science. The spokeswoman of the OMB, Barbara Clay stated, “the agency (OMB) has been responsible since the late 1920’s for reviewing testimony of administration officials before it is given to congressional committees. The practice ensures that testimony reflects the president’s policy and is consistent with the views of other departments... ‘We are a clearinghouse to ensure consistency of policy’”<sup>15</sup>.

Jerry Mahlman, another scientist that testified before the Subcommittee on Science, Technology, and Space, also

claimed to have had similar alterations to his testimony in February of 1989. Following is a short conversation between Senator Gore and Mahlman:

**“Senator Gore:** Dr. Mahlman, have you ever had an experience with OMB attempting to change your presentation of scientific conclusions to the Congress?

**Mahlman:** I have experienced a somewhat subdued version of a similar phenomenon.”<sup>16</sup>

This is another example consistent with Clay’s statement that the OMB routinely reviews testimony to ensure the consistency of the testimony with the current agendas of the executive body.

Marlin Fitzwater, the Whitehouse spokesman for the Bush administration, stated, “OMB ‘routinely’ reviews testimony ‘for conformity with administration policy’. While the review was made ‘by an OMB examiner about four levels down from the top ... the administration stands behind it’.”<sup>17</sup> Barbara Clay and Marlin Fitzwater backed up the fact that these changes were made, and Fitzwater went on to show that the Bush Sr. administration supported these changes, which were politically based.

The Bush administration attempted to alter the testimony of scientists in order to make the scientists’ views seem more uncertain than they actually were. However, the changes contradicted the personal views of the scientists. Therefore, the altering of their statements to coincide with the Bush Administration’s agenda concerning greenhouse emissions limits is misusing science in an effort to influence political debate over climate policy.

<sup>14</sup> Committee on Commerce, Science, and Transportation: United States Senate, Subcommittee on Science, Technology, and Space. “Climate Surprises”. Hearing: 8 May, 1989. 101st Congress.

<sup>15</sup> Kurkjian, Stephen. “Bush pressed on scientist’s testimony”. The Boston Globe 10 May, 1989. City Edition: National/Foreign, pg 3.

<sup>16</sup> Committee on Commerce, Science, and Transportation: United States Senate, Subcommittee on Science, Technology, and Space. “Climate Surprises”. Hearing: 8 May, 1989. 101st Congress.

<sup>17</sup> Tye, Larry. “Altered testimony angers scientists”. The Boston Globe 9 May, 1989. City Edition: National/Foreign, pg 1.

## Wetlands Delineation

### Administration Proposed Altering Wetlands Delineation Without Scientific Basis: Mischaracterization and Arguing Politics Through Science

In 1988 during George H. W. Bush's presidential campaign he pledged to adopt a national goal of "no net loss" that was recommended by the National Wetlands Policy Forum. Upon being elected, President Bush asked the Domestic Policy Council to prepare a plan for defining and achieving "no net loss" of wetlands. President Bush followed through on his pledge in 1989 by having the Corps, EPA, FWS, and SCS work together to issue a federal manual for "Identifying and Delineating Jurisdictional Wetlands, a government-wide definition of what lands would be subject to protection as wetlands"<sup>18</sup>. This new manual expanded on the Federal definition of a wetland and allowed a single indicator – such as hydric soils or wetlands vegetation to become the sole basis for a wetland designation. So far President Bush had done his part by allowing 74 million acres of previously unregulated land to become classified as "wetlands" by the new manual.

By 1991 President Bush had begun to feel pressure from agricultural landowners and developers who felt the 1989 wetlands manual included too much land within the definition of "wetlands." President Bush reversed his pledge and commitment of "no net loss" in 1991 when he offered a proposed modification to the 1989 wetlands manual. President Bush's new manual limited the amount of wetlands that would be protected. He was now requiring that evidence of all three wetlands indicators had to be present before the land was called a wetland. He also required that the land had to be flooded for at least 15 consecutive days or saturated to the surface for 21 days, compared to land only having to be flooded for 7 consecutive days or saturated to the surface for 18 days in the previous 1989 manual. Bush's new proposal would exclude millions of acres from federal protection. Many environmental groups opposed President Bush's wetlands manual proposal and sent more than 80,000 comments to the Environmental Protection Agency stating that the new proposal would "threaten half the baseline 100 million acres that Mr. Bush had pledged to save"<sup>19</sup>.

Whereas the 1989 manual was developed based on

scientific considerations, the 1991 proposed alterations had no grounding in science. The proposed alterations to the 1989 manual represent a misuse of science because President Bush was arguing politics through science and in the process delegitimizing the scientific process. That is, he was setting standards for wetlands based on political factors, specifically, the amount of land open to development as favored by certain constituents.

The misuse of science in the Bush Administration in delineating wetlands was discussed in a Committee on Interior and Insular Affairs hearing held on February 26, 1992, through the House of Representatives focusing on the effects of the President's proposed wetland policy on National Parks and Protected Areas. In this hearing questions were raised about the scientific legitimacy of President Bush's 1991 proposal.

- Chairman of the committee, George Miller stated in his opening statement, "Not only are the proposed changes to the wetlands manual damaging to our environment, but the process by which these changes were arrived at strongly suggests that political standards were used to the exclusion of scientific, environmental, or economic standards"<sup>20</sup>.
- Miller also goes on to state that under current law, the Federal Government regulates many of the activities in wetlands, and that these proposed changes simply reduce the scope of Federal regulation by defining wetlands to exclude half of the area covered by the existing manual.
- The rationale behind the changes was never discussed, and since the proposed changes were first disclosed not a single shred of scientific evidence has been cited to support them.
- The three-parameter approach to wetland delineation was criticized because these three factors did not occur uniformly in all regions that could be considered a wetland. For example, the study conducted by the California Department of Fish and Game in Dec. 1991 states that, "The parameters used to delineate a

<sup>18</sup> Islands Rivers Port And Terminals: An Association (IRPAT). <http://www.irpt.net/irpt.nsf/0/0011d58a73484c6486256d44000ac2b1?OpenDocument>.

<sup>19</sup> New York Times: Lexis Nexus. (2002)

The 1992 Campaign: Issues—The Environment; Clinton and Bush Show Contradictions in Balancing Jobs and Conservation.  
Quayle, in Last Push for Landowners, Seeks to Relax Wetlands Protections  
All Wet on Wetlands  
Bush Aides Say They Won't Relax Wetlands Rules.

<sup>20</sup> HR Hearing: Serial No. 102-22. Effects of the The President's Proposed Wetland Policy on National Parks and Protected Areas. Committee on Interior and Insular Affairs, House of Representatives, Feb. 26, 1992, pg. 1.



wetland were not valid in California and other arid and semi-arid areas of the west, therefore further strengthening the claims that there was a lack of scientific research and effort put into the new revisions to the 1989 manual<sup>21</sup>.

The Administrator of the Environmental Protection Agency, William Reilly, said that he was satisfied with the current wetlands rules that date back to 1987. Mr. Reilly also objected to President Bush's proposed wetlands manual. President Bush's proposal was eventually withdrawn by the White House; however, Administration officials continued to negotiate over a new revision of the manual. After the proposal was withdrawn President Bush signed the Energy and Water Development Appropriations Act which included a provision prohibiting the Army Corps of Engineers from expanding funds for the performance of wetland delineation using the 1989 interagency manual.

As the debate continued, Congress asked the National Academy of Sciences to conduct a study to determine what criteria should be used to classify a parcel of land a wetland. Before the study was finished, the Army Corps of Engineers returned to using the 1987 wetlands manual as its standard for wetlands delineation. Bob Adler, a senior attorney for the Natural Resources Defense Council, said, "We would view it as highly inappropriate for them to put out a new wetlands delineation manual until the National Academy of Science study is completed in about a year"<sup>22</sup>.

After the Bush Administration left office, the National Academy of Science published their report in 1995. The report concluded that a new federal delineation manual should be issued, and that it should modify the 1987 manual by broadening the determination of wetlands limits based on both current scientific understanding and almost ten years of regulatory practice. Currently to this day delineation methodology still does not encompass all areas that the National Academy of Science would define as wetlands.

### Appendix: Wetlands Definitions Over Time

In order to understand how President Bush misused science, it is essential to understand the background information regarding the 1987 wetlands manual, the 1989 wetlands manual, and the 1991 proposal to change the 1989 wetlands manual. Provided below are the wetlands manual definitions, who proposed the definition, and the pros and cons each wetland manual.

- 1987 wetlands manual: Designated an area "wetlands" if it remained saturated to the surface for at least 5 percent of the growing season, and if it contained hydrophytic vegetation such as cattails; all three indicators hydroic soils, periodic saturation, and wetland vegetation had to be present.

This manual was designed by the Army Corps of Engineers in the effort to protect wetlands. This definition excluded most lands that were used by farmers exempting them from most wetland regulations. According to the article "Wetlands Block Development," these farmlands accounted for approximately 87 percent of the nation's wetlands losses. The problem with this manual was that it varied among the regional Corps offices. There were too many differing opinions over what was classified as a wetland.

- 1989 wetlands manual: Expanded the federal definition of "wetlands" by designating a parcel of land, a wetland, if it remained saturated to 18 inches below the surface for 7 or more consecutive days.

This manual was called the "Interagency Wetlands Delineation Manual," and was jointly created by the Environmental Protection Agency, U.S. Fish and Wildlife Services, U.S. Army Corps of Engineers, and the U. S. Department of Agriculture to address the problems of inconsistency in wetlands delineation. This was done by merging existing field-tested wetlands delineation manuals, methods, and procedures by the four agencies. "The manual was reviewed and concurred in by an interagency committee composed of the four federal agencies. This committee was established for purposes of reconciling differences in wetlands delineation procedures and developing a single interagency manual for identification and delineation of wetlands"<sup>23</sup>.

Once this manual was enacted, farm areas that were once exempt from wetlands regulations were now classified as "disturbed areas." Due to that fact the developmental and agricultural communities criticized the manual. They felt that it was unjust of the federal agencies to expand regulatory jurisdiction without allowing them to be a part of the decision making process. On the contrary, environmentalist agreed with the 1989 wetlands manual because it protected 74 million acres of previously unregulated land that would now be considered "wetlands."

<sup>21</sup> HR Hearing: Serial No. 102-22. Effects of the President's Proposed Wetland Policy on National Parks and Protected Areas. Committee on Interior and Insular Affairs, House of Representatives, Feb. 26, 1992, page 56.

<sup>22</sup> New York Times: Lexis Nexus. (2002)

The 1992 Campaign: Issues—The Environment; Clinton and Bush Show Contradictions in Balancing Jobs and Conservation. Quayle, in Last Push for Landowners, Seeks to Relax Wetlands Protections  
All Wet on Wetlands  
Bush Aides Say They Won't Relax Wetlands Rules.

- 1991 proposal to change the 1989 wetlands manual: Land would be designated a wetland if it remained flooded for 15 consecutive days or saturated to the surface for 21 days. It would also have to have evidence of all three wetland indicators before the decision was granted.

President Bush proposed this new definition of wetland delineation because he was under pressure from farm groups and other landowners. Environmentalists opposed Bush's proposal because they argued that it would exclude millions of land from federal protection. The scientific community also challenged this manual because they believed that it lacked a technical basis. Bush had no scientific justification for why his 1991 proposal would be better than previously made manuals.

### Chronology

#### 1987

- The Army Corps of Engineers (Corps) released a manual for Delineation of Wetlands.
- The Environmental Protection Agency (EPA) initiated the National Wetlands Policy Form to gain insight into wetlands protection issues.

#### 1988

- The Form recommended adoption of "no net loss" for wetlands and suggested an action plan for reaching the goal. President Bush pledged his commitment.

#### 1989

- The Interagency Wetlands Delineation Manual was jointly released by the EPA, U.S. Fish and Wildlife Services, U.S. Army, and the U.S. Department of Agriculture to address problems of inconsistency in wetland delineation.

#### 1991

- Under pressure from farm groups and land owners, President Bush proposed a revision to the 1989 wetlands manual.

#### 1992

- The EPA received over 80,000 comments on Bush's 1991 proposal to the 1989 wetlands manual.

- Bush signed the Energy and Water Development Appropriations Act.
- Bush halted new environmental regulations and rewrote others to open natural resources to development.
- Vice President Dan Quayle is trying to loosen rules that prevent landowners from developing wetlands.
- Congress requested a study to be done by the National Academy of Science on wetland delineation.
- Before a decision had been made, the Corps returned to the use of the 1987 manual as standard for wetland delineation.

#### 1995

- The National Academy of Science published their report concluding that a new federal delineation manual should be issued and that it should modify the 1987 manual by brooding the determination of wetland limits based on both current scientific understanding and almost ten years of regulatory practice.

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## Mercury Emissions and a Political Trap

### Administration Set a Political Trap for Incoming Bush Administration Via a Last Minute Proposed Regulation: Arguing Politics Through Science

**M**ercury cycles in the environment as a result of natural and anthropogenic activities. Most of the mercury in water, soil, sediments, or plants and animals is in the form of inorganic mercury salts and organic forms of mercury (methylmercury). Mercury is a neurotoxin and when ingested, is almost completely absorbed into the blood and distributed to all tissues including the brain, and can cause brain damage and harming reproduction in women and wildlife.

Mercury accumulates most efficiently in the aquatic food web. Predatory organisms at the top of the food web generally have higher mercury concentrations. The amount of mercury mobilized and released into the biosphere has increased due to increased anthropogenic activities since the beginning of the industrial age. This increase of mercury in the environment has been the cause of increasing public concern in recent years.

In 1990 President George Bush ordered the Environmental Protection Agency (EPA) to conduct a comprehensive study of the overall environmental and human health effects of stationary fossil combustion emissions as an amendment to the Clean Air Act (CAA). The EPA report, completed in 1996 and sent to Congress in 1997, found that coal fired power plants are the largest source of human caused mercury emissions in the United States emitting about forty three tons per year. As a result, mercury emissions from electric utility steam generating units were added to the list of probable threats to public health and the environment.<sup>23</sup>

In the case of mercury emissions, the Clinton Administration misused science because it argued political issues through science at the end of its eight-year term. We discuss the misuse of science regarding mercury emissions during the subsequent Bush administration. Both the Clinton and Bush Administrations misused science in the case of mercury emissions.

The 1990 Clean Air Act Amendments brought about new awareness regarding the overall environmental and human health effects of stationary fossil combustion emissions.<sup>24</sup> Completed in 1996 and released to Congress in 1997, the Mercury Study Report to Congress

fulfills the requirements of the EPA to study toxic air pollution and determine if additional regulations are necessary in order to protect the environment and human health. The study reported that of all toxic pollution examined, mercury from power plant emissions posed the “greatest potential concern.”<sup>25</sup> The EPA's Science Advisory Board, established by Congress to advise the Agency on scientific and technical matters being used or proposed as the basis for Agency regulations, recommended in 1997 that the EPA not wait for additional data before releasing the report to Congress and moving forward with proposing regulations to control mercury emissions.<sup>26</sup> In addition, several other parties called for the immediate release of the report and urged the Clinton Administration to take action to reduce public exposure to mercury emissions. Despite EPA's data and public concern, however, the Clinton administration did nothing during its eight-year term to regulate mercury emissions.

It was only after the Clinton administration learned that George W. Bush had been elected in the 2000 presidential election that the EPA announced its intent to propose regulations to control mercury emissions. After a highly contentious and uncertain electoral process, Vice President Al Gore conceded to Bush on December 13, 2004 and on December 14, 2004 EPA administrator, Carol Browner, announced a proposal to slash mercury emissions by 90%. Industry and other parties questioned the cost and feasibility of compliance. Even Clinton-Browner defenders maintained that cutting emissions by ninety percent only “might” be attainable.<sup>27</sup> Moreover, Browner obtained a court order to make the draft regulations law by the time the Clinton administration left office with compliance mandated by 2008. Browner's strategy ensured maximum coverage around the next presidential election, leaving the administration in office after the election only four years to completely meet the new demands.

Some observers of the Clinton administration's lack of regulation of mercury emissions contend that the Administration avoided drafting such regulations in the wake of a presidential election in order to keep industry constituents content. They maintain that the Clinton administration eventually misused information regarding

<sup>23</sup> <http://www.epa.gov/oar/mercury.html>.

<sup>24</sup> <http://www.netl.doe.gov/coalpower/environment/mercury/regs.html>.

<sup>25</sup> Mercury Study Report to Congress, <http://www.epa.gov/oar/mercover.html>.

<sup>26</sup> [http://leahy.senate.gov/issues/environment/mercury/hg\\_time.html](http://leahy.senate.gov/issues/environment/mercury/hg_time.html).

<sup>27</sup> <http://tim.2wgroup.com/blog/archives/000469.html>.

mercury emissions to create a political trap for the purpose of putting the then-incoming Bush administration in a tight spot and providing a basis for criticizing the Bush Administration's environmental record. On the one hand, it would be devastating to industry and other sectors of the economy had Bush adopted the proposed regulations unchanged. On the other hand, if the Bush administration changed the Clinton Administrations proposed regulations, Democrats could charge (as they have since then) that Bush was "rolling back" mercury regulations.<sup>28</sup>

Since 2000 former Clinton administration officials, including Al Gore and Carol Browner, have criticized the George W. Bush administration's efforts to control mercury emissions and other air pollutants. It is fair to ask, if mercury emissions became such an important environmental issue as soon as Bush won the election in 2000, why the Clinton Administration did not act on mercury until after the election when the scientific record had not changed since 1997.

Misuse of science related to mercury emissions did not end with the Clinton Administration. The Bush administration suppressed a study by the EPA that found that a bipartisan Senate clean-air proposal would yield greater health benefits than the Administration's Clear Skies Act. The Clear Skies Act of 2003 – which the Bush administration portrayed as an improvement over the existing Clean Air Act – is a mandatory program to reduce and cap emissions of sulfur dioxide, nitrogen oxides, and mercury from power plants to seventy percent below 2000 levels.<sup>29</sup> The new regulations require a 50%-70% reduction by 2018 instead of the Clinton Administration's proposal to reduce emissions by 90% by 2008. However, critics of Clear Skies say that it will only delay reductions in mercury levels at a risk to public health, while saving the power and coal industries billions of dollars.<sup>30</sup> House Democratic leader, Nancy Pelosi feels that the Bush administration has issued regulations that fail to protect the public. "The administration is taking an approach that will take too long, do too little, and may not even be legal."<sup>31</sup>

The EPA has even concluded that the alternate proposal suggested by the Senate to reduce mercury and other

toxic emissions would cut pollutants earlier and in larger quantities than the Bush administration's Clear Skies Act. However, it wasn't until an internal EPA briefing outlining the costs and benefits of the alternative proposal was leaked to the Washington Post that the Agency released its findings to the senators.<sup>32</sup> EPA staffers say they were told not to undertake the normal scientific and economic studies called for under a standing executive order concerning mercury emissions and maintained that the Bush administration's proposal to regulate emissions from power plants was written using key language provided by utility lobbyists.<sup>33</sup> John A. Paul, a Republican environmental regulator from Ohio who co-chaired an EPA-appointed advisory panel concerning power plant emissions has reported that the Bush administration ignored years of research and chose a process "that would support the conclusion they wanted to reach." Other EPA veterans say they cannot recall another instance when the Agency's technical experts were cut out of developing such a major regulatory proposal. Bruce C. Buckheit, director of EPA's Air Enforcement Division who retired in 2003 after serving in major environmental posts during both Clinton's and Bush's administration observed: "There is a politicization of the work of the Agency that I have not seen before. A political agenda is driving the Agency's output rather than analysis and science." When scientific knowledge has been found to be in conflict with its political goals, the Bush administration has often manipulated the process through which science enter into its decisions.

Ironically, the actions of the Bush and Clinton Administrations indicate their political goals on emissions are quite similar. Controlling emissions due to industrial activity will never be a politically "safe" move for any administration. Although the Bush administration's motives for misusing science to control its desired outcomes concerning power plant emissions are more obvious and publicized, it appears that the Clinton administration behaved similarly to keep its own industry constituents satisfied. At a minimum the Clinton Administration used science to set a political trap for the incoming Bush Administration.

<sup>28</sup> National Center for Public Policy, <http://www.nationalcenter.org/PRGoreEnvironment104.html>.

<sup>29</sup> U.S. Environmental Protection Agency, <http://www.epa.gov/air/clearskies/fact2003.html>.

<sup>30</sup> <http://www.unknownnews.net/040318epa.html>.

<sup>31</sup> [http://www.democraticleader.house.gov/issues/the\\_environment/bushrollbacks.cfm](http://www.democraticleader.house.gov/issues/the_environment/bushrollbacks.cfm).

<sup>32</sup> [http://www.ucsusa.org/global\\_environment/rsi/page.cfm?pageID=1320](http://www.ucsusa.org/global_environment/rsi/page.cfm?pageID=1320).

<sup>33</sup> <http://www.unknownnews.net/040319epa.html>.



## The Al-Shifa Missile Attack

### Administration Justified Decision to Attack Sudanese Factory Based on Mistaken and Mischaracterized Information: Mistake and Mischaracterization

#### Overview

On August 20, 1998, the United States launched several long-range Cruise missiles targeting the Al Shifa pharmaceutical factory in Khartoum, the capital of Sudan. The missile attack came two weeks after terrorist bombings of the U.S. embassies in Kenya and Tanzania, which the U.S. believed were the work of Osama bin Laden. The Clinton Administration claimed that the Al Shifa plant had a role in producing chemical weapons and had ties to Osama bin Laden's terrorist network, and that the attack was in retaliation for bin Laden's embassy bombings. The Sudanese government and others with knowledge of the Al Shifa plant claim that the plant produced only medicine and had nothing to do with chemical weapons, and that the attack was unjustified.

While at first glance this may appear to simply be a case of dueling expert opinions, the Clinton Administration, at the time of the attack, knew that they were acting on incomplete and inaccurate information – a clear misuse of science. The Administration's actions also delegitimized science in the policy process by relying on selective evidence to justify the attack.

The decision to bomb Al Shifa was made in tight secrecy, over a period of just six days by six people - President Clinton, Secretary of State Madeleine Albright, National Security Advisor Samuel R. Berger, Secretary of Defense William S. Cohen, the Chairman of the Joint Chiefs General Henry H. Shelton, and CIA Director George J. Tenet.<sup>34</sup> The four other members of the Joint Chiefs of Staff, who are generally included in decisions such as this, were excluded from the process, as was the FBI.

The Administration justified the attack with two primary pieces of information: First, it claimed that Al Shifa was funded by Osama bin Laden (who was believed to be responsible for the embassy bombings). Second, it claimed that the plant played a role in the production of VX nerve gas. Both of these claims were based on evidence known to be inconclusive by Administration decision-makers at the time of the attack.

#### Analysis

In making its decision to bomb the Sudanese factory the

Clinton Administration did not consult key experts, including members of the Joint Chiefs of Staff. The Joint Chiefs of Staff act as military advisors to the President, the Secretary of Defense, and the National Security Council.<sup>35</sup> Those Joint Chiefs excluded from the decision process were “the four men who know more about the use of force than anyone in the White House – the three generals and one admiral on the Joint Chiefs of Staff.” Although the President is not obligated by law to consult the Joint Chiefs, they are generally consulted, as military leaders, to review plans such as the one to bomb Al Shifa.<sup>1</sup> Journalist Seymour Hersh, author of one of the most complete investigative reports on the Al Shifa attack, wrote, “I can tell you that the members of the Joint Chiefs of Staff had an explanation for why they were cut out. They were cut out because they would have said 'no'.”<sup>36</sup>

Another agency excluded from the decision was the FBI specifically director Louis J. Freeh. Most of the intelligence concerning Al Shifa came from the CIA., an agency with no first-hand information from Khartoum since 1996. Due to a scandal involving fabricated information in intelligence reports, the CIA. “has treated Sudan as a denied area, off-limits to actual CIA officers” and because of this, has relied on second-hand information from foreign agents, who may have conflicting interests.<sup>37</sup> The FBI had a presence in Africa assisting with the investigation of the U.S. embassy bombings and had over 400 agents in eastern Africa with no legal restriction on entering the Khartoum.<sup>37</sup>

When the FBI appears to have the ability to gather more reliable information, why would the Administration not consult them? Seymour Hersh provides one explanation in “The Missiles of August”, “Freeh and many of his top aides believe that the FBI was excluded from White House deliberations on military retaliation because Clinton questions his political loyalty.”<sup>37</sup> If so, the Administration's first priority was not to gather all relevant information, but rather to knowingly compose its decision-making process with only those members they believed would approve of their political agenda – a misuse of science through the explicit exclusion of relevant expertise.

In addition, Administration officials knew that the

<sup>34</sup> The Missiles of August, Seymour M. Hersh, The New Yorker.

<sup>35</sup> “The Joint Chiefs of Staff,” <http://www.infoplease.com/ipa/A0004627.html>.

<sup>36</sup> Huffington, Arianna; “The Real Dirt on Sudan”; Action Report Online website; [http://www.fpp.co.uk/online/01/12/Clinton\\_Sudan2.html](http://www.fpp.co.uk/online/01/12/Clinton_Sudan2.html).

<sup>37</sup> Vest, Jason; “The Bombing of the Al Shifa Pharmaceutical Plant...”; The Village Voice, March 15, 1999.



information they were acting on was inaccurate. As their initial justification for the attack, President Clinton is quoted as saying "... the plant in Sudan (Al Shifa), which was associated with the bin Laden network, had to be destroyed."<sup>37</sup> However, a 1998 New York Times article tells of senior national security advisors, speaking on the condition of anonymity, conceding "that they had no evidence directly linking Mr. bin Laden to the factory at the time the President ordered the strike."<sup>38</sup> Also, it was made public after the attacks that one of the six members of the decision panel, Attorney General Janet Reno, raised concerns that the link between bin Laden and Al Shifa was not clearly backed by sufficient evidence. Hersh writes in "The Missiles of August" that "Justice Department officials say they understood that Reno warned the White House that it was not clear, based on the information then available, that the United States had enough evidence against bin Laden to meet the standards of international law."<sup>38</sup>

In addition, the Administration had inconclusive evidence that Al Shifa was producing chemical weapons, specifically VX nerve gas. The Administration's assertion rests on three claims: (1) Al Shifa produced no commercial products, (2) the plant was heavily guarded by the Sudanese military, and (3) the CIA had taken a soil sample from the plant grounds which was shown in laboratory tests to contain EMPTA, a chemical precursor to VX nerve gas.<sup>38</sup>

Evidence available at the time of the decision casts doubt on the accuracy of each claim. National Security Advisor Sandy Berger, one of the six decision makers, said Al Shifa "has no other commercial distribution as far as we understand. We have physical evidence of that fact and very, very little doubt of it."<sup>39</sup> While we have no direct evidence showing that the Administration knew this claim was untrue at the time of the bombings, it appears that this should have been extremely easy to discover. Al Shifa did indeed produce commercial products: In a letter to the U.N. in November 1998, former U.S. Attorney General Ramesy Clark says "The [Al Shifa] plant produced 50% of the pharmaceuticals available in the Sudan... It produced 90% of the antibiotics used for malaria which is the leading cause of death there... A single U.S. missile attack destroyed the single most important health facility in the Sudan and will cause thousands of deaths."<sup>40</sup> It also was known by the U.N. that Al Shifa was in the process of filling a contract with Iraq and the U.N. to provide \$200,000 worth of a veterinary drug to Iraq.<sup>40</sup> Based on this

information, U.S. officials admitted after the bombing their mistake and that the factory did indeed produce pharmaceuticals. For the U.S. to admit its mistake regarding such a seemingly easily verifiable piece of information speaks to the poor quality of American intelligence concerning the issue. In addition, a Frontline news story reported that the US acquired the information through "an internet search on the plant and used that as the basis for evidence that the plant was not producing pharmaceuticals."<sup>41</sup>

The second claim made by the Administration is that the Al Shifa plant was a heavily guarded military facility. Many eyewitness accounts from people outside the government refute this claim. According to the Associated Press, "There are no signs of secrecy at the plant. Two prominent signs along the road point to the factory, and foreigners have been allowed to visit the site at all hours."<sup>41</sup> Also, according to Thomas Carnaffin, a British engineer who worked at the plant for several years until April of 1998, "It was never a plant of high security. You could walk around anywhere you liked, and no one tried to stop you."<sup>41</sup> We did not find any evidence that the Administration knew they were wrong in saying this was a high security facility, but we also found no evidence to back up their claims, or a statement by a government official backing up their claims in the face of this scrutiny. At best, information existed at the time of the bombing that cast doubt on this claim.

The final claim the Administration made about Al Shifa was that the CIA had taken a soil sample from the property that contained EMPTA, a chemical precursor to VX nerve gas. In evaluating this claim, consider an interview by Seymour Hersh with a senior inspector from the Organization for the Prohibition of Chemical Weapons (OPCW) (the inspector remained anonymous due to OPCW regulations). The OPCW is an international agency responsible for monitoring compliance with the chemical weapons treaty that was ratified by more than 100 countries, including the U.S. According to the inspector, the OPCW has a standardized set of collection procedures for dealing with samples of suspected chemical weapons materials, and these procedures were not followed with the sample in question. These procedures require a portion of the sample to be sent to three different laboratories – the Al Shifa sample was only analyzed in one lab. The inspector also says "We go to extraordinary lengths to make sure that the samples taken from the field are the same ones that arrive in our laboratories."

<sup>38</sup> Risen, James and Weiner, Tim; "Decision to Strike Factory in Sudan Based on Surmise Inferred From Evidence"; New York Times, Sept. 21, 1998.

<sup>39</sup> American Claims About Al Shifa Put To The Test; [http://www.espac.org/al\\_shifa\\_pages/al-shifa\\_4.html](http://www.espac.org/al_shifa_pages/al-shifa_4.html).

<sup>40</sup> Eyewitness Sudan: America's Future; <http://free.freespeech.org/americanstateterrorism/africa/EyewitnessSudan.html>.

<sup>41</sup> Zill, Oriana; "The Controversial U.S. Retaliatory Missile Strikes"; <http://www.pbs.org/wgbh/pages/frontline/shows/binladen/bombings/retaliation.html>.

According to Seymour Hersh, "The CIA's standards for its analysis of the soil sample found in Sudan, as described to me in a series of background interviews with two senior American intelligence officials, fall far short of the standards announced by the OPCW."<sup>41</sup>

In addition, regardless of the procedures followed, the inspector says, due to the highly reactive nature of the chemical, "EMPTA is unlikely to have been found, unaltered, in the ground, as the CIA has told journalists" because it would break down quickly once in the soil. In addition to the chemical not remaining in the soil for long, the inspector said it is unlikely to end up there in the first place. "No way it came out of a smokestack or in the effluent. The only way this material could be in the ground is if somebody had emptied a flask... and then taken a sample. That's credible."<sup>41</sup>

### Conclusion

In gathering their intelligence and justifying a decision to bomb, Clinton Administration officials were aware, at the time of the bombing, that they were not collecting scientifically sound evidence. They based claims of Al Shifa producing no commercial products on an internet search, claimed that it was a highly guarded facility when many first hand accounts say it was not, and did not follow collection procedures published by the organization that oversees such matters. The Clinton Administration also selectively excluded from the decision making process people and agencies who may have opposed their agenda, ignored doubts from people who were involved in the decision, and have since admitted that they had no evidence at the time supporting their main claim – that Al Shifa was funded by Osama bin Laden. In a New York Times article from September 21, 1998 Clinton Administration officials admitted that the process was flawed: "Senior Administration officials concede that they made inaccurate statements about the plant on August 20 and did a poor job of publicly stating their case against the factory."

### Chronology

#### 1997

- December 1997 CIA collects soil sample that contains EMPTA, a precursor to VX nerve gas.

#### 1998

- 7 August 1998 Terrorist bombs badly damage the United States embassies in Kenya and Tanzania. Hundreds of people, twelve American, are killed in the attacks.

- 14 August 1998 President Clinton is Briefed about a possible attack on the Al-Shifa pharmaceutical factory in Sudan
- 20 August 1998 The United States government, having claimed that Osama bin Laden was behind the bombings in Kenya and Tanzania, launched military attacks on facilities said to be part of bin-Laden's infrastructure inside Afghanistan. Washington also chose to attack the al-Shifa pharmaceutical factory in northern Khartoum, the capital of Sudan, alleging that it was making chemical weapons as part of Osama bin-Laden's infrastructure of international terrorism. The al Shifa plant was totally destroyed in the American attack.
- 20 August 1998 The German ambassador to Sudan, Werner Daum, immediately challenged United States claims about the factory. He was in communication with Advisors in Germany hours after the attack claiming: "One can't, even if one wants to, describe the Shifa firm as a chemical factory."
- 22 August 1998 Tom Carnaffin, a British engineer who had helped to build the al-Shifa factory, and who had worked there as a technical manager for four years, challenged American claims that it could have been used to manufacture chemical weapons: "I have intimate knowledge of that factory and it just does not lend itself to the manufacture of chemical weapons."
- 24 August 1998 Associated Press reported that: "There are no signs of secrecy at the plant. Two prominent signs along the road point to the factory, and foreigners have been allowed to visit the site at all hours."
- 26 August 1998 A United States intelligence official, giving an official briefing to the media on the American missile strikes admitted that the ties between bin-Laden and the al-Shifa factory were not as clear cut as it may seem.
- 27 August 1998 The United States government eventually conceded that the al Shifa factory had in fact been commercially producing medicines and drugs. The factory had won a \$200,000 contract to send medicines to Iraq

## Environmental Tobacco Smoke

### Administration Justified Executive Order Banning Second-Hand Smoke on a Report Known to be Flawed and Controversial: Mischaracterization

#### Introduction

In August of 1997, the Clinton Administration enacted an Executive Order to ban smoking in all federal buildings. The Administration justified the Executive Order by relying on a 1992 EPA report, *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders* which stated that environmental tobacco smoke (ETS), more commonly known as second-hand smoke, caused lung cancer and was an extremely harmful carcinogen. However, prior to 1997 the Congressional Research Service (CRS), the United States House Committee on Agriculture (Subcommittee on Specialty Crops and Natural Resources), and the United States House Committee on Energy and Commerce (Subcommittee on Health and Environment) found that the procedures used in the EPA study on ETS were inappropriate and its findings were inconclusive. Despite the controversy over the EPA report, the Clinton Administration used the EPA report as a primary justification for its action. Subsequent to the Clinton Administration's decision, a federal court concluded in 1998 that the EPA report was flawed.

The ban on smoking, still law today, proved politically popular and may have been justifiable based on information available in 1997 other than the single EPA report. However, in this instance the Clinton Administration misused science in relying on the controversial EPA report as the primary justification of its ETS policy. A large body of evidence suggests that the administration ignored information identified by several Congressional committees and the CRS that found methodological problems with the EPA report in order to justify its actions based on science. Independent of the worth or popularity of the outcome, misusing science undermines the legitimacy of science in the policy process.

#### Analysis

Throughout its tenure, the Clinton Administration took a strong stance on the negative health effects of smoking.

The Clinton Administration announced in 1998, "President Clinton has worked with congressional leaders of both parties to craft tough legislation that will help reduce teen smoking, protect non-smokers from the dangers of second hand smoke, continue to educate people on the dangers of smoking and help current smokers quit."<sup>42</sup> On August 9, 1997, Bill Clinton signed an executive order banning smoking in all federal facilities.<sup>43</sup> In support of this action, the Administration cited a 1992 EPA report on Environmental Tobacco Smoke (ETS) that classified second-hand smoke as a dangerous carcinogen.<sup>44</sup> For example, in an August 1997 radio address, Vice President Al Gore cited the report,

Second hand smoke isn't just unpleasant; it is a risk to public health. Our Environmental Protection Agency puts it in the same category as asbestos, radon and benzene—and those are some of the most dangerous of all carcinogens [...] The answer as to what to do is simple—we've got to do more to protect people from second-hand smoke in our public places and clean up the air that all of us share.<sup>45</sup>

However, prior to President Clinton's executive order, the cited report was subject to review by the House Committee on Agriculture (July 1993), the House Committee on Energy and Commerce (July 1993), and the Congressional Research Service (November 1995). Each determined that the procedures taken by the EPA in producing their report were scientifically questionable and perhaps politically motivated. The report was also subject to a lawsuit filed by six tobacco companies in early 1993.

The 1992 EPA report on ETS determined that there was a direct correlation between exposure to ETS and an increased risk of lung cancer. The report also listed ETS as a Class A carcinogen—the most deadly type—along with radon and other toxic chemicals. In arriving at their conclusions, the EPA used a meta-analysis<sup>46</sup> of 31 pre-existing studies on the health affects of second hand smoke. In July 1993, the Subcommittee on Specialty

<sup>42</sup> President Clinton: Leading the Fight to Reduce Teen Smoking. (May 20, 1998). Retrieved May 20, 2004 from: <http://clinton5.nara.gov/textonly/WH/Work/052098.html>.

<sup>43</sup> Code of Federal Regulations. (1997). Title 3-The President, Executive Order 13058, August 9, 1997. Washington D.C.: U.S. Government Printing Office.

<sup>44</sup> United States. Environmental Protection Agency. *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*. (Dec. 1992). National Service Center for Environmental Publications. Washington.

<sup>45</sup> Clinton and Gore Discuss U.S. Efforts to Reduce Smoking. (August 11, 1997) Retrieved May 18, 2004. <http://usembassy-israel.org.il/publish/press/whouse/archive/1997/august/wh20812.htm>.

<sup>46</sup> Meta-analysis: a method designed to increase the reliability of research by combining and analyzing the results of all known trials of the same product or experiments on the same subject.

Crops and Natural Resources (Committee on Agriculture) held a hearing on the 1992 EPA report. Witnesses testified as to the validity of the claims made in the EPA report on ETS. All witnesses came to similar conclusions: the EPA came to a conclusion that ETS was a health hazard before the study was completed, the studies on ETS used in the meta-analysis were inconsistent and most findings were not statistically significant, and the EPA report selectively relied on data.<sup>47</sup>

In July of 1993, the House Subcommittee on Health and Environment (Committee on Energy and Commerce) reviewed the EPA report as well. Committee Chairman, Thomas J. Bliley, Jr. (D-VA), identified the need for the review; "Instead of evaluating scientific issues objectively and providing balanced information to the public, the EPA has been found on a number of occasions to have manipulated or suppressed data in a manner that has resulted in unnecessary alarm and confusion."<sup>48</sup> The Committee criticized EPA's apparent inability to separate political agendas from scientific process. The hearing also identified problems with the methods by which data was acquired, analyzed and presented. The stacking of review panels to reflect a certain political agenda was also deemed to be inappropriate. The Committee found that "[...] in the case of ETS there appears to have been a conscious use of science and the scientific process to achieve a political agenda that could not otherwise be justified."<sup>49</sup> The Energy and Commerce committee's findings give further weight to the testimony made by witnesses to the Subcommittee on specialty crops and natural resources.

Although there were no partisan politics involved with the House Committees' reviews with respect to the Clinton Administration, as both Committee Chairmen were Democrats, it is important to note that Chairmen Bliley and Rose were representatives from the tobacco states of Virginia and North Carolina, respectively. It is not unreasonable to assume that the Chairmen called the hearings because the report had clear implications for the tobacco industry.

In 1995, a Congressional Research Service report headed

by Stephen Redhead and Richard E. Rowberg reviewed the EPA study on ETS. The report states:

For a variety of reasons, EPA's conclusions have been controversial. While many in the scientific community have accepted the EPA conclusions, others have criticized them. First, the findings in the studies were mixed, and of the 30 studies examined by EPA (one Japanese study could not be used because of the presentation of data), 24 found an increased risk, though only five were statistically significant at the 95 percent level, and six actually found a negative risk (with one statistically significant). Of the eleven U.S. studies, eight found a positive risk and three found a negative risk, though none was statistically significant [...] The magnitude of the potential risk from lung cancer death from ETS is not readily determined directly from the results of the epidemiologic studies<sup>49</sup> (except, of course, in those studies where no risk is estimated).<sup>50</sup>

Findings of the CRS report identify the failures and uncertainties inherent in the procedures used by the EPA in producing the report on ETS.

In 1998, following the 1993 lawsuit filed by tobacco companies against the EPA, a federal district judge, William Osteen, concluded that six chapters of the EPA study on ETS were flawed. The judge ruled:

In conducting the ETS Risk Assessment, EPA disregarded information and made findings on selective information; did not disseminate significant epidemiologic information; deviated from its Risk Assessment Guidelines; failed to disclose important findings and reasoning; and left significant questions without answers. EPA's conduct left substantial holes in the administrative record. While so doing, EPA produced limited evidence, then claimed the weight of the Agency's research evidence demonstrated ETS causes cancer.<sup>51</sup>

The tobacco companies who filed suit reacted positively to the judge's ruling. Despite the court ruling,<sup>52</sup> the Clinton Administration did not overturn its executive order

<sup>47</sup> Witness testimonies can be found in: United States House of Representatives. Hearing Before the Subcommittee on Specialty Crops and Natural Resources of the Committee on Agriculture. (1993). Review of the United States Environmental Protection Agency's Tobacco and Smoke Study, July 21, 1993. Washington D.C.: U.S. Government Printing Office.

<sup>48</sup> United States House Committee on Energy and Commerce. Health and Environment Subcommittee. Thomas J. Bliley, Jr. (July 21, 1993). Retrieved May 18, 2004. <http://www.pipes.org/Articles/Bliley.html>.

<sup>49</sup> Epidemiologic Studies: of or relating to epidemiology, the branch of medicine that deals with the study, distribution and control of disease in population.

<sup>50</sup> United States CRS Report for Congress Environmental Tobacco Smoke and Lung Cancer Risk. (November 14, 1995). Retrieved May 18, 2004. <http://www.forces.org/evidence/files/crs11-95.htm>.

<sup>51</sup> United States Federal Court Decision. Judge William Osteen. (July 17, 1998) Retrieved May 18, 2004. <http://www.forces.org/evidence/epafraud/files/osteen.htm>.

<sup>52</sup> R.J. Reynolds Tobacco Company Press Release. (July 19, 1998). Statement in Response to Judge Osteen's Ruling in the EPA Lawsuit. Retrieved May 19, 2004, from: <http://www.forces.org/evidence/epafraud/files/rjrpr.htm>.



banning smoking in federal facilities.<sup>53</sup> Because the Clinton Administration did not overturn its ban when the science originally used to justify the ban was shown to be flawed, this suggests that the Clinton Administration's Executive Order was based on factors well beyond science. An irony of this case is that the Clinton Administration likely did not have to rely to the EPA report to make its case for the ban on smoking in federal buildings, as the policy proved popular. But in seeking a scientific justification for its actions the Administration, perhaps by mistake, exposed itself to charges that it had misused science.

### Conclusion

The Clinton Administration used a study that was determined to be faulty in enacting a policy that banned smoking in federal facilities. The existence of the reviews completed by the House Committees and the Congressional Research Service imply that the large body of evidence available to the executive branch concerning the problems with the EPA report on ETS was ignored. The simple solution would have been for the Administration to cite a less controversial and contested report in their reasoning behind a ban on smoking. The Administration failed to acknowledge a large body of evidence outlining the inappropriate nature of the study and instead used it to promote policy decisions.

### Chronology

#### 1992

- December, 1992: EPA report on ETS published

#### 1993

- Early, 1993: Six tobacco companies file suit against EPA for improper risk assessment procedures taken

in ETS report.

- July, 1993: Democrat led, U.S. House Committee on Energy and Commerce analyzes procedures taken by the EPA in forming their conclusions.
- July 1993: Democrat led, U.S. House Subcommittee on Specialty Crops and Natural Resources (Committee of Agriculture) also analyzes procedures taken by the EPA in forming their conclusions.

#### 1995

- November, 1995: U.S. CRS publishes a report for Congress on Environmental Tobacco Smoke and Lung Cancer Risk.

#### 1997

- August, 1997: Clinton and Gore promote and enact policy banning smoking in all federal facilities.

#### 1998

- July, 1998: Judge Osteen rules that the EPA report on ETS is faulty, however, ban on smoking in federal facilities still stands. Tobacco companies agree with this ruling.

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<sup>53</sup> Biskepic, J. (1998, July 20). Despite Ruling, Smoking Bans Are Here to Stay, Officials Say. The Washington Post, pp. A04.



## Firing of William Happer

### Administration Fired DOE Political Appointee for Expressing Scientific Views Perceived Not to Support Administration's Agenda: Delegitimization

#### Introduction

The Office of Energy Research was established by the Department of Energy Organization Act of 1977 to manage the fundamental research programs in basic energy sciences, biological, and environmental sciences, and computational science.<sup>54</sup> Section 209 of the Act stated, "...There shall be within the Department an Office of Energy Research to be headed by a Director, who shall be appointed by the President, by and with the advice and consent of the Senate."<sup>55</sup>

During July of 1991 Dr. William Happer was nominated by President George H.W. Bush to serve as the Director of Energy Research at the U.S. Department of Energy (DOE). Previously William Happer was a professor in the Department of Physics at Princeton University and was a leading authority on laser spectroscopy and optical pumping of spin-polarized nuclei.<sup>56</sup> According to the Department of Energy Research Act of 1977, Happer's duties as the Director of Energy Research were to: "...advise the Secretary of Energy on DOE's Research and Development programs; gaps or duplication in DOE Research and Development programs..."<sup>57</sup>

The Director of Energy Research reports to the Secretary of Energy who serves as a member of the President's Cabinet.<sup>58</sup> When the Clinton Administration took office in January of 1993, Hazel R. O'Leary was appointed by President Clinton as the Secretary of Energy and kept Happer on as the Director of Energy Research. In his own words he stated, "I was soon the only 'holdover' from the previous Bush Administration in the Department of Energy."<sup>59</sup>

In May of 1993, Happer was fired by Secretary O'Leary because he was, according to his recollection of O'Leary's explanation for his termination, "unacceptable to Al Gore and his environmental advisors."<sup>60</sup> Happer had recommended, due to "gaps" in the DOE Research and Development program, that further research about

climate change and ozone depletion is necessary before pursuing political action. The Clinton Administration misused science by delegitimizing the scientific process by firing a Presidential appointee whose views on science did not support the Administration's political agenda.

#### Analysis

By all indications Happer lost his job because he made public statements about the science of ozone depletion and climate change that conflicted with Vice President Al Gore's views on the same subjects. In his book *Earth in the Balance* the Vice President writes, "...one of the main reasons I ran [for Vice President] was to try to elevate the importance of the [environmental] crisis as a political issue."<sup>61</sup> Vice President Gore's views on global climate change and ozone depletion stood in contrast to those espoused by Happer, discussed below, even though in 1993 there was ample scientific basis for both perspectives.

At a meeting of the Federal Coordinating Council on Science, Engineering and Technology (FCCSET) in early 1992 during the George H. W. Bush Administration, Robert Watson, who was the chief scientist for NASA's Mission to Planet Earth, spoke about how increases in greenhouse gas emissions could cause global warming and how atmospheric ozone depletion might increase exposure to cancer-causing ultraviolet radiation. During this statement by Watson, Dr. Happer interrupted to disagree. He argued that knowledge of the interactions controlling climate are incomplete and uncertain.<sup>62</sup> On ozone depletion, Happer expressed the need for better research by urging FCCSET to endorse setting up a network of instruments to monitor the "discrepancy" between predicted levels of uv-B, normally blocked by stratospheric ozone, and the actual levels of uv-B measured at the Earth's surface. Happer explained that most of the ground measurements of uv-B are now made at airports, where chemical pollutants in the ambient air are apt to upset the readings.<sup>63</sup> After Clinton took office,

<sup>54</sup> The Office of Science Website. <http://www.sc.doe.gov/sub/about/About-overview.htm>.

<sup>55</sup> The Office of Science Website. [http://www.sc.doe.gov/sub/about/History/Intro\\_hs.htm](http://www.sc.doe.gov/sub/about/History/Intro_hs.htm).

<sup>56</sup> Goodwin, Irwin. "Happer leaves DOE under Ozone Cloud for Violating Political Correctness." *Physics Today* June 1993: 89-91.

<sup>57</sup> The Office of Science Website. [http://www.sc.doe.gov/sub/about/History/Intro\\_hs.htm](http://www.sc.doe.gov/sub/about/History/Intro_hs.htm).

<sup>58</sup> U.S. History.com Website. <http://u-s-history.com/pages/h1409.html>.

<sup>59</sup> Happer, William. "Harmful Politicization of Science" (Original Document).

<sup>60</sup> Happer, William. "Harmful Politicization of Science" (Original Document).

<sup>61</sup> Gore, Albert. *Earth in the Balance: Ecology and the Human Spirit*. New York: Houghton Mifflin Company, 1992: p. 8.

<sup>62</sup> Goodwin, Irwin. "Happer leaves DOE under Ozone Cloud for Violating Political Correctness." *Physics Today* June 1993: 89-91.

<sup>63</sup> Goodwin, Irwin. "Happer leaves DOE under Ozone Cloud for Violating Political Correctness." *Physics Today* June 1993: 89-91.

Watson became the associate director for environment in the White House Office of Science and Technology Policy. Happer continued to press for more research on climate change and ozone depletion as the Director of Energy Research.

On Monday, April 26, 1993, Happer testified before the House Subcommittee on Energy and Water Development on DOE research. Happer declared that better scientific evidence on climate change is needed before taking action.<sup>64</sup> Happer stated:

...When I look at the geological history over the last 600 million years where we have pretty good data—over most of that period of time, the amount of carbon dioxide in the air has been twice, five times, ten times, even 20 times what it is now. So this is an unusual time in the earth's history. We have very little CO<sub>2</sub>. I personally believe that we need to take these things seriously, but I don't believe we should panic. I think we should act on the basis of fact.<sup>65</sup>

Happer's views about ozone depletion were also at odds with Vice President Gore's outlook on the issue. Dr. Happer believed that more research was needed to understand the ozone issue. At the hearing on April 26, 1993, Happer stated:

Of course, we are all very concerned about the impact of man's activities on our environment. All of us, I think, are environmentalists in one way or another. In the case of ozone, that is something that affects us to the extent that it affects the ultraviolet light reaching the ground.

As I look at the ozone problem, I think a neglected part is that we do not have good measurements of ultraviolet light at ground level. We have lots of lovely measurements of upper layers of ozone in the stratosphere, but when we look around at what we know about ultraviolet light, the data is very sparse and what data we have shows very little change. If anything it shows a slight decrease.

One of the aims of the DOE program is to get better data on ultraviolet light at ground level. It is clear that there is something wrong, perhaps with the instruments, perhaps with our theories. I think we can zero in on that if we can hold to that research program.

With respect to global climate change, DOE has had a long history working with a program to study the effects of increasing carbon dioxide and other greenhouse gases. One thing we don't understand very well is the role of clouds. We have a major initiative to try and understand clouds better. As you get more warming, more CO<sub>2</sub>, perhaps the cloud cover changes, and the clouds dominate much of the earth.

Soon after his testimony, Happer found out that his advice was no longer needed. He states, "Secretary O'Leary called me in to say that I was unacceptable to Al Gore and his environmental advisors, and that I would have to be replaced...[S]he did not elaborate on the exact reasons for Gore's instruction."<sup>66</sup>

Ironically, a very similar case surfaced during the George W. Bush Administration when Dr. Robert Watson was not reappointed to the top position on the preeminent international global warming study panel. After the release of the 2001 report, Exxon Mobile lobbied the Bush Administration for Dr. Watson's ouster.<sup>67</sup> Watson says, "It is possible that the Bush Administration didn't like the message I was conveying from the IPCC..."<sup>68</sup> This instance is somewhat parallel to the Happer case because, by all accounts, Watson was removed for very similar reasons as Happer during the previous administration.

Of course, every administration has the right to pick its own political appointees based on political consideration. However, removing a political appointee because of their views on science runs the risk of delegitimizing the process of science in the policy process by suggesting that scientific advice is a function of political affiliations. One commentator, likely aligned with Happer, argued, "you can't make sound environmental policy without sound science, which makes Mr. Gore's intolerance of scientific heterodoxy troubling."<sup>69</sup> Because the Clinton Administration fired Happer without a public justification, they allowed a perception that he lost his job for expressing views of science in opposition with Gore's climate change and ozone depletion views, i.e., for reasons of science alone, but it is more likely that Happer was fired simply because he support its political agenda, which is an obvious reason for termination of any political appointee. The Clinton administration could have avoided misusing science in this instance by announcing that

<sup>64</sup> Goodwin, Irwin. "Happer leaves DOE under Ozone Cloud for Violating Political Correctness." *Physics Today* June 1993: 89-91.

<sup>65</sup> Hearing Before a Subcommittee on Energy and Water Development: April 26, 1993. *Energy and Water Development Appropriations for 1994*: p. 613-614.

<sup>66</sup> Happer, William. "Harmful Politicization of Science" (Original Document).

<sup>67</sup> Waxman, Henry A. "Politics and Science in the Bush Administration." August 2003: p. 16.

<sup>68</sup> Tierramerica Website. <http://www.tierramerica.net/2002/0616/idiialogos.shtml>.

<sup>69</sup> Jenkins, Holman. "Al Gore Leads A Purge." *The Wall Street Journal* 25 May 1993: A1.

## Chronology

### 1977

- 1977- The Office of Energy Research is established by the Department of Energy Organization Act of 1977.

### 1991

- July 1991- Dr. William Happer is appointed by the George Bush Sr. Administration as the Director of Energy Research for the U.S. Department of Energy.

### 1992

- Early 1992- Conflict between Dr. Happer and Dr. Watson at a FCCSET meeting.

### 1993

- January 1993- President Bill Clinton and Vice-President Al Gore take office.
- Early 1993 (around March)-Hazel R. O'Leary is appointed as Secretary of Energy by President Clinton.
- April 26th 1993-Dr. William Happer, Director of the Office of Energy Research, testifies to the Subcommittee on Energy and Water Development
- May 1993- Dr. William Happer is fired by Hazel R. O'Leary, Secretary of Energy.