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The Integrity and Independence of Science Advice

ABSTRACT

An important recent debate in U.S. science and technology policy has been over the extent to which political preferences and conflicts of interest have inappropriately affected science advice to the President and Federal government agencies, and have affected the direction of science and regulatory decision making. This newsletter provides some context for the issue and discusses how the issue is unfolding.

BACKGROUND

Recent Charges Regarding Politicization of Science

Over the last year, several prominent individuals and groups have raised concern about the Bush Administration's use of scientific information in policy making. In August of 2003, Congressman Waxman of California released a report prepared by the minority (Democratic) staff of the House Government Reform Committee.¹ This

¹ The website that describes the investigation is at http://www.democrats.reform.house.gov/features/policies_and_science/index.htm. The minority committee report is at http://www.democrats.reform.house.gov/features/policies_and_science/pdfs/pdf_politics_and_science_rep.pdf.

report charged that the Bush Administration was inappropriately interfering in scientific research and in science advice to government. In February 2004, the Union of Concerned Scientists (UCS), a non-partisan but generally liberal non-profit organization, made similar charges in a report that was accompanied by a supporting statement signed by many leading scientists, including Nobel laureates, and members of the National Academy of Sciences.²

There are three distinct but related charges made both by Congressman Waxman and the UCS:

- Instead of relying on neutral, balanced, or "objective" science advice, the Bush administration is manipulating science to support pre-determined policies.

[tics_and_science/pdfs/pdf_politics_and_science_rep.pdf](http://www.democrats.reform.house.gov/features/policies_and_science/pdfs/pdf_politics_and_science_rep.pdf).

² The Union of Concerned Scientist Report, *Scientific Integrity in Policy Making* is available on the UCS website at http://www.ucsusa.org/global_environment/rsi/page.cfm?pageID=1449

- The Bush Administration frequently ignores scientific advice in its decisions.
- Instead of allowing the scientific community to determine priorities and directions using the traditional scientific processes, the Administration is restricting research in some fields of scientific inquiry (such as stem cell research or birth control) based on the agenda of the social conservatives or industry.

The President's critics charge that there have been misleading statements by the President, erroneous testimony to Congress, deliberately biased advisory committees, suppression of the results of government research, and restrictions on the ability of Federal scientists to speak freely. They charge that these actions have served to support the political positions of social conservatives or industry. The reports describe a large number of cases in which the critics charge that scientific advice was ignored or distorted, or advisory committee members were selected or rejected on political rather than scientific grounds. Most of the cases involve environmental issues, public health (especially involving the socially sensitive issues of sexually transmitted disease, abortion, or birth control), or national security.

On April 2, 2004 the White House Office of Science and Technology Policy issued a statement by Director John H. Marburger III that responded to the UCS report, and stated that all of the accusations were either false or insignificant.³ The UCS reviewed the Administration's statement and issued another report that reaffirmed the charges in

³ The OSTP response is available at <http://www.ostp.gov/html/ucs/ResponsetoCongressonUCSDocumentApril2004.pdf>

its previous report. In July 2004, the UCS issued an additional report describing additional incidents that they say support their charges.⁴ UCS has also continued to gather support from scientists—several thousand, including additional prominent members of the scientific community have signed on to the UCS statements on the subject. Examples of the some of the charges and rebuttals are in table 1.

The issue has also received attention in the presidential campaign. 48 Nobel-prize winning scientists signed a letter supporting Kerry for President, stating that, among other things, “Unlike previous administrations, Republican and Democratic alike, the Bush administration has ignored unbiased scientific advice in the policy-making that is so important to our collective welfare.”⁵

A related focus of concern has been over Office of Management (OMB) budget rules that affect the quality of data used in regulatory processes. OMB's Office of Information and Regulatory Affairs (OIRA), has authority to review, on behalf of the President, the adequacy and appropriateness of new regulations to be proposed by various federal agencies, and it has used this authority vigorously under its current director, Dr. John Graham, to question the quality of the scientific evidence used by agencies to support proposed regulations. In August 2003, OIRA issued a draft bulletin that proposed a standardized process for which all significant regulatory-science documents would be subjected to peer

⁴ The Union of Concerned Scientists. “Scientific Integrity In Policy Making: Further Investigation of the Bush Administration's Misuse of Science. Cambridge, MA. July 2004. It is also available at www.ucsusa.org.

⁵ Statement available at <http://www.johnkerry.com/pdf/nobels.pdf>

review by qualified specialists in appropriate technical disciplines.⁶

Although the stated intention of the proposed regulations was to strengthen the quality of science behind regulatory decisionmaking, the proposal quickly became controversial. It was criticized by many people in the scientific community, who felt that the rules were largely an attempt to stop or delay environment, safety, and health regulations when there is uncertainty in the science. It was also seen as an attempt to impose more centralized OMB control over the regulatory processes, and the conflict of rules were perceived to be biased against participation of academic scientists.

OMB responded to the numerous public comments by clarifying the purpose and narrowing the scope of the requirements, by allowing more agency flexibility in carrying out the requirements, and in other ways that were responsive to the comments.⁷ A revised bulletin was issued in April 2004.

The Role of Scientific Information in Policy Making in the United States

A key reason that the integrity of scientific information is an important question in the United States is that a considerable portion of all policymaking is carried out by federal regulatory agencies. These agencies are

⁶ Office of Management and Budget. "OMB Proposes Draft Peer Review Standards for Regulatory Science." August 29, 2003.

⁷ Office of Information and Regulatory Affairs, US Office of Management and Budget. "Revised Information Quality Bulletin for Peer Review." April 15, 2004. Also, "Summary of Public and Agency Comments on Proposed Bulletin on Information Quality and Peer Review, Including Responses by OMB," April 15, 2004.

given authority by acts of Congress to make policy decisions; i.e., to promulgate "regulations," according to certain enumerated criteria. In addition, the actions of the agencies are governed by a more general piece of legislation, the Administrative Procedure Act, which spells out not what agencies are to do, but how they are to do it. This act requires that agency decisions be supported by a public record of the information they took into account when making those decisions. Further, under this act, citizens who disagree with the decisions that agencies make may file lawsuits against those agencies, and one of the grounds for filing such a suit is that the information used does not represent the best available information, including scientific information. The possibility of such suits creates a strong incentive for the agencies to pay close attention to relevant scientific information, and it also creates a strong incentive for various interest groups to support or conduct research projects expected to yield scientific findings that are consistent with their policy preferences. Thus, arguments over the quality of the science used in regulation often become a key part of the debate over regulatory actions.

A related reason for concern about the integrity of science advice to government is that most federal agencies have official advisory committees made up of experts and representatives of interest groups that are intended to be mechanisms through which government can improve its understanding of the complexities of important public issues. The structure, functions and composition of such advisory committees are in most instances governed by the Federal Advisory Committee Act, or FACA. Under FACA, advisory committees are required to have members whose views are balanced with respect to the subject of the

advisory committee, and meetings are required to be publicized in advance, and, with a few limited exceptions (such as national security considerations), are required to be open to the public.

ANALYSIS

This analysis focuses on three issues:

- Is there merit to the charges, or the criticisms just ordinary politics?
- How significant is the issue to the substance of U.S. science and technology-related policy?
- How significant is the issue politically?

To analyze this issue, some discussion of the boundaries between science and politics is necessary. In the United States, there is a general consensus that:

- Decisions should be made as much as possible on objective and unbiased science. Scientific and regulatory agencies are expected to be politically independent, and although the directors of these agencies are typically appointed by the President, they are expected to act in a non-political manner. The members of science advisory committees for Federal agencies are generally expected to be appointed on scientific rather than political grounds.
- Science, on the other hand, is never completely unbiased and objective. Science, especially at the state of the art, is subject to some interpretation. For this reason, advisory committees with balanced membership (as noted

previously) play a critical role in science-related decisionmaking.

- There should be ultimate political control over science. In democracy, elected officials are ultimately responsible for government funding and regulation. Most science and technology issues involve both questions of facts and values, and decisions about societal values are the proper realm of policy and politics, not science.
- Scientific processes should be allowed to proceed without political interference. Political influence should not attempt to influence scientific results.⁸

These views are frequently in tension, and the borders between science and politics are not always clear. It is not uncommon for politicians to interpret scientific findings in ways that fit their own political views (such in deciding when evidence of global warming is sufficiently certain to warrant taking strong policy action). Similarly, it is not uncommon for scientists to assert their scientific authority on issues that go beyond questions of scientific fact (such as in judging whether environmental or health risks are acceptable or not, or whether stem cell research is ethical). Moreover, the scientific community is not politically neutral on all issues. There is a common perception that academic scientists, and especially environmental scientists tend to be liberal politically, whereas engineers and industrial and military scientists tend to be more conservative.

⁸ It is appropriate, however, for politics to regulate science, with regard to such subjects as laboratory or environmental safety, or the use of human subjects in research.

In general, there is an expectation that Presidents should appoint people with strong scientific credentials and balanced views, should listen to these views and allow the views to be heard, and then make decisions based on these views as well as other policy and political considerations. It is expected that the scientists that the President appoints may be slightly biased towards the President's point of view, but this bias should not be blatant, and that the scientists should act as scientists, not as political appointees. It is also expected that the President will implement policies that reflect his political views, and that the President will be held responsible for his actions in elections.

Is There Merit to the Charges?

Given this context, how serious and valid are the charges made against the Bush Administration? It is clear that many scientists believe that the Bush Administration's actions exceed the traditional and acceptable limits on the influence of politics on science. Rather than allowing a neutral scientific debate and then making decisions on the science, many scientists believe that the Bush Administration is trying to influence the scientific debates in order to put biased information into the political process, and that this is being done in a way that exceeds what is normal and acceptable. On the other hand, the Bush administration supporters may believe that the normal scientific processes in some fields of science may naturally result in a greater influence of scientists who are opposed to the Administration's political views, and that the Administration is only counteracting these natural tendencies to produce more "balanced" advice.

It is also clear that the charges raised against the Bush Administration are, for the most part, being made by people who are opposed to the Bush Administration's policy goals. Some of the charges are not that the science advice was distorted, but rather that the decisions did not give adequate weight to the science advice in making decisions that the critics oppose. Congressman Waxman is a Democrat who has long supported environmental policies that differ from the President's. The Union of Concerned Scientists, while a non-partisan organization, has generally taken policy positions on the environment and arms control that are more consistent with the views of the Democratic Party than the Republican Party. The UCS statement, however, has gained the support of many prominent scientists who are not usually active on political issues.

How Significant is the Issue for U.S. Science and Technology-Related Policy?

What are the effects of political interference on science and technology policy? The direct effects of political interference are that decisions regarding regulations and funding may be made more in accordance with the President's philosophy, and may be subject to less scrutiny and debate, than would be the case without the political interference. In many cases, the Bush Administration would have been able to make the same decisions, but the decisions would have been easier to criticize if the science advice was more in conflict with the decision.

In the long term, there is a potentially more serious effect of deterioration in the quality of information used to make public decisions. If a President from one party increases politicization of science advice, it

is likely that the next President for the other party will do the same in the other direction. The result is an increasing politicization of science advice, a decline in the quality of science advice (and possibly a decline in the quality of scientists who participate in such advice), and a decline in the quality of decisionmaking on science and technology issues. There has been concern about this trend since the closure of the Congressional Office of Technology Assessment in 1995, which served as a respected neutral source of information on science and technology issues.

The increasing politicization of science advice can also be seen as part of a trend of recent decades towards a “permanent campaign” mode of governance.⁹ This phrase refers to Presidents and members of Congress continually operating in a manner that is focused on the next election; the distinction between campaigning and governing has largely disappeared. Political consultants and pollsters occupy key staff positions of public officials; political fundraising has become a continual activity of elected officials. The increasing politicization of science can be seen as part of this continual campaign, as both sides of the debate try to position themselves for the next election.

How Significant is the Issue Politically?

What is the likely effect of this issue in the 2004 Presidential campaign? The issue is unlikely to have a major direct effect on the Presidential election. Few people in the

general public are likely to base their vote on concerns about the quality of science advice. Scientists and people who care about the quality of science advice are not a major block of swing voters. The people who care most are the people who already oppose the Bush Administration on environmental, public health, and national security issues.

The issue may have some effect on the election in that it adds support to broader charges that President Bush does not listen to advice (e.g. on Iraq weapons of mass destruction), is not open to ideas, and is beholden to special interests (e.g., social conservatives and industry). To the extent that the issue contributes to broader doubts about the wisdom of the Bush Administration’s decisionmaking, or about the role of big business in government, the issue of scientific integrity may contribute to overall doubts about the Bush Administration. Similarly, the political support of noted scientists, who are generally a respected group, may help Senator Kerry. These factors may influence some voters, but are unlikely to be decisive in the election, especially in the industrial “battleground” states, such as Pennsylvania, Ohio, Michigan, and Florida, whose electoral votes are expected to determine the election outcome.

⁹ See, for example, Ornstein, Norman J. and Thomas E. Mann, eds., *The Permanent Campaign and its Future*. American Enterprise Institute and The Brookings Institution. Washington, 2000.

Table 1. Examples of Charges and Rebuttals*

Union of Concerned Scientists Charge	Administration Response
The Bush Administration has consistently sought to undermine the viewpoint that human caused emissions contribute to global warming	President Bush has acknowledged the role of human activity in increased atmospheric concentrations of greenhouse gases, and has launched a major, scientific effort to improve understanding of global climate change.
Administration omitted critical language on climate change from the EPA Report on the Environment	EPA decided that instead of the brief 4-page treatment of climate science contained in its initial draft report, it would be more thorough to refer readers to the Strategic Plan for the Climate Change Science Program.
EPA proposed rules for regulating power plants' mercury emissions contained paragraphs lifted verbatim from industry documents	The language at issue was derived from two memoranda submitted as public comments. The use without citation was unfortunate but insignificant.
The Administration either withdrew factual information or pushed misleading information on the use of condoms and the relationship between abortion and breast cancer.	Information is constantly being updated, occasionally resulting in temporary removals of information from brochures and websites.
The Administration misrepresented evidence on the likely use Iraq's aluminum tubes in a weapons program.	There was uncertainty about the evidence.
The Administration has used political criteria in selecting members of scientific advisory committees.	Panels are viewed from a broad perspective to ensure diversity; this may include gender, ethnicity, professional affiliations, geographical location, and perspectives.

* Note: These are only small selection of the examples cited in the UCS report, and both the charges and Administration response are briefly summarized. For more information, see the full documents cited previously in this newsletter.